

LIBERTY LAKE — 2046

CITY OF LIBERTY LAKE
2026-2046
COMPREHENSIVE PLAN
DRAFT

VERSION 5.21.26

DRAFT

MISSION STATEMENT

Provide services with integrity by developing a partnership with residents and businesses, which focuses on quality of life, environment, and economic vitality.

VISION STATEMENT

TOGETHER, we make a welcoming and flourishing community, united by the pursuit of enriching the quality of life for every resident, planning growth that respects our natural environment, and promoting a vibrant economy.

DRAFT

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LIBERTY LAKE — 2046

DRAFT CITY OF LIBERTY LAKE

INTRODUCTION

FOR THE 2026 COMPREHENSIVE PLAN

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A. Introduction

The City of Liberty Lake's Comprehensive Plan is more than just a policy document—it's our community's roadmap for the future. It helps guide everyday decisions about growth, development, and how we invest limited public resources to best serve residents, businesses, and visitors.

At the heart of the plan is a shared vision for how we want Liberty Lake to look and feel in the years ahead. That vision was first shaped through community workshops in 2000–2002 and adopted by the City Council in 2003. Today, as part of the 2026 periodic update, we are revisiting and refreshing that work to reflect current needs, values, and opportunities in our community.

This Comprehensive Plan sets out goals and policies that reflect our priorities for the next 20 years. The goals describe where we want to go, and the policies outline the steps we'll take to get there. Together, they provide a framework for making consistent, thoughtful decisions that keep Liberty Lake a vibrant, welcoming, and resilient community.

What is the GMA and how does it affect the City of Liberty Lake?

The Washington State Growth Management Act (GMA) was established in 1990 to provide a framework for local land use planning and the regulation of new development. As a result, Liberty Lake is required to maintain and implement a Comprehensive Plan prepared in accordance with the provisions of the Growth Management Act and the Countywide Planning Policies adopted for Spokane County. Our Comprehensive Plan must include chapters or elements addressing land use, housing, economic development, transportation, parks, recreation and open space, utilities, essential public facilities, capital facilities, and climate change and resiliency. In addition to these mandatory elements, the City of Liberty Lake has also chosen to include optional elements addressing governance, urban design, cultural and historical resources, and community services. By law, the plan elements must be consistent with one another.

The Growth Management Act includes fifteen goals to guide the preparation of local comprehensive plans and the development regulations to implement the plan. The following goals are not listed in priority order and all must be taken into consideration:

1. Urban growth - Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
2. Reduce sprawl - Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
3. Transportation - Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
4. Housing - Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.

5. Economic development - Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.
6. Property rights - Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.
7. Permits - Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability
8. Natural resource industries - Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.
9. Open space and recreation - Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.
10. Environment - Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
11. Citizen participation and coordination - Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.
12. Public facilities and services - Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.
13. Historic preservation - Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance
14. Shorelines - Utilize the goals and policies of the Shoreline Management Act, as set forth in RCW 90.58.020, for shorelines of the state.
15. Climate change and resiliency - Ensure that comprehensive plans, development regulations, and regional policies, plans, and strategies adapt to and mitigate the effects of a changing climate

What is the purpose of Comprehensive Plans?

The Comprehensive Plan is a set of goals, policies, maps, images, and strategies that delineate how we would like the City of Liberty Lake to grow and mature physically, socially, and economically. The residents of Liberty Lake developed a vision statement that outline what the future of the City will be. Our future will include a distinct central business district, an aesthetically pleasing environment achieved through design standards and preservation of

natural beauty, improved transportation alternatives and more pedestrian friendly development, conservation of our natural environment and thoughtful landscaping, more diversity in businesses and services that lead to strong economic development, more housing variety, and unity within the City and surrounding communities, governments, and businesses. The City's Comprehensive Plan serves as a roadmap for making our vision a reality that will keep Liberty Lake a great place to live, work, and play.

In addition to expressing the community's vision, the Comprehensive Plan serves several other important purposes. Statutorily, it fulfills the requirements of Washington State's Growth Management Act (GMA), ensuring Liberty Lake addresses key elements such as land use, housing, and transportation, while maintaining the City's eligibility for state funding. Functionally, it provides a consistent framework for decision-making, giving residents, officials, and developers clear direction about the City's priorities. Operationally, it guides daily work by shaping budgets, infrastructure investments, and development regulations, all of which must align with the plan.

What are the elements of the City of Liberty Lake Comprehensive Plan and how were they developed?

The Comprehensive Plan is based on the City's Vision Statement that was adopted in the summer of 2001. That vision statement was as follows:

> "The Liberty Lake community will maintain an environment that preserves and enhances natural surroundings through the harmony of planned architectural design and green space. Our community will achieve its quality of life by creating a safe, friendly environment in which community involvement promotes recreational opportunities and civic pride. Liberty Lake encourages and supports leading edge technology and a progressive business environment, which ensures a diverse, prosperous, and financially secure community."

This Vision Statement has been refreshed and updated several times, through the City's Strategic Planning process. The most recent reads as follows:

> "TOGETHER, we make a welcoming and flourishing community, united by the pursuit of enriching the quality of life for every resident, planning growth that respects our natural environment, and promoting a vibrant economy."

In 2002, the City launched a community visioning process through a series of Planning Commission workshops, a public hearing, and a community survey. Residents were asked to share input on services, housing, employment, and other issues shaping Liberty Lake's future. This feedback helped create element-specific vision statements and options for an Interim Urban Growth Area (IUGA). The Planning Commission forwarded these recommendations to the City Council, which approved the element vision statements in September 2002 to guide development of the Comprehensive Plan's goals and policies.

From fall 2002 through spring 2003, additional workshops and hearings refined each element of the plan. After agency review, the Liberty Lake City Council adopted the City's first Comprehensive Plan in September of 2003.

In 2015, the City of Liberty Lake completed its first periodic update of the Comprehensive Plan since its 2003 adoption. The process included coordination with Spokane County, neighboring jurisdictions, service providers, and targeted stakeholders, along with public workshops, surveys, and hearings to gather community input.

The update emphasized maintaining Liberty Lake's quality of life while planning for growth, focusing on housing variety, economic vitality, environmental protection, urban design, and coordinated infrastructure. Technical analysis, including updated population projections (2015–2037) and a Land Quantity Analysis, provided the foundation for policy development.

Following review and public hearings, the City Council adopted the updated Comprehensive Plan in October 2015, extending the planning horizon to 2037 and reaffirming the community's long-term vision for growth and development.

The 2026 periodic update began with an in-person kick-off meeting in October 2024, followed by a virtual session in November 2024. A similar presentation was given to the City Council, Planning Commission, and a variety of stakeholder groups. Public engagement was a central focus of this update, with targeted outreach to topical stakeholders, tabling at community events, and online opportunities offered throughout the process. A summary of these engagement activities is included in **Appendix A**.

Another key emphasis of the update was ensuring compliance with several major amendments to the Growth Management Act recently adopted by the Washington State Legislature. These changes include directing cities to help address the state's housing shortage by expanding housing choices and planning for affordability. They also require cities to take action on climate change by reducing greenhouse gas emissions, improving the community's resilience to climate impacts, and incorporating climate planning into comprehensive plans

In 2025, the Legislature adopted **SB 5558**, extending the 2026 GMA periodic-update deadline to **December 31, 2026**. The extension was intended to give local governments sufficient time to incorporate new state planning requirements into their comprehensive plans. The Legislature noted that additional time will help jurisdictions conduct more thorough planning, support public engagement, and ensure updates are coordinated and legally sound

The City initiated formal review of the comprehensive plan update in April 2026, when the Planning Commission conducted its first full review of the draft plan. A special City Council workshop followed in late April to discuss key policy themes and provide early direction. During this period, the draft plan was also circulated for SEPA, Commerce, and other agency review throughout the spring of 2026 Proposed development code amendments were submitted to Commerce for their required review during the spring and early summer of 2026.

The Planning Commission held a public hearing on the draft plan in mid-summer 2026, followed by a City Council public hearing later that summer. The adopting ordinance then proceeded through first and second readings in late summer and early fall of 2026, followed by City Council adoption of the RCW compliance resolution in the fall of 2026.

In parallel, the remaining development code amendments moved through their own review track. SEPA review for these amendments occurred during the summer of 2026, with Commerce review continuing into early fall 2026. The Planning Commission held a public

hearing on the development code amendments in late summer 2026, followed by a City Council public hearing in the fall of 2026. The adopting ordinance for these amendments then moved through first and final readings during the fall of 2026.

Revisions to this Comprehensive Plan

Planning is an ongoing process, and as new data becomes available or community conditions change, the Comprehensive Plan will need to be revised and amended. While the plan is intended to provide stability and direction, it must also remain responsive to emerging challenges and opportunities. The City's vision statement provides long-range guidance that helps ensure these ongoing updates continue to reflect the community's values and priorities. As specific goals or policies are achieved, revisions of the plan may be required to continue progress toward the overall vision and goals. Amendments to the plan can be requested by the City Council, Planning Commission, City Staff, or by any affected citizen on an annual basis. The Planning Commission shall review the proposed amendment and hold a public hearing to solicit public comments. After further review, a formal recommendation will be made to the City Council for approval or denial. The City Council will hold an additional public hearing, make modifications if necessary, and approve or deny the proposed amendment. By reviewing and updating the plan on a regular basis, the City of Liberty Lake can rely on this document in decision making and can maintain public interest and support of the planning process.

In addition to the annual process of soliciting proposals for potential revisions to this Comprehensive Plan, the City is required to conduct an extensive review of the Plan and the corresponding development regulations every ten years. Between full updates, the City must also complete an implementation progress report every five years. This "check-in" tracks how well the Comprehensive Plan is being carried out, especially around housing goals and development trends. It is not a full update but a way to measure progress and make mid-course corrections if necessary. Liberty Lake's next check-in will be due in 2031.

Planning Context

Since its incorporation in 2001, the City of Liberty Lake has been one of the fastest-growing communities in Spokane County. In 1990, the area that is now Liberty Lake had a population of roughly 600 residents. By 2000, that number had grown to 3,265, and at the time of incorporation in 2001, the City's population was 4,480. Growth continued rapidly, reaching 7,620 residents in 2010 and 8,975 by 2015. By 2025, the population was estimated at 14,110.

It is important to note that nearly all residential areas within the City have now been platted or are governed by approved special area plans that define the type and intensity of future development. According to Spokane County's adopted growth forecasts, Liberty Lake's population is projected to reach 21,934 by 2046. The City's own analysis of growth trends since the 2010 Census suggests that this population will likely be reached earlier—around 2042. At full buildout, Liberty Lake's population is expected to reach approximately 22,000.

The City's Land Capacity Analysis is included in **Appendix B**.

Figure 1.1: Population Projections

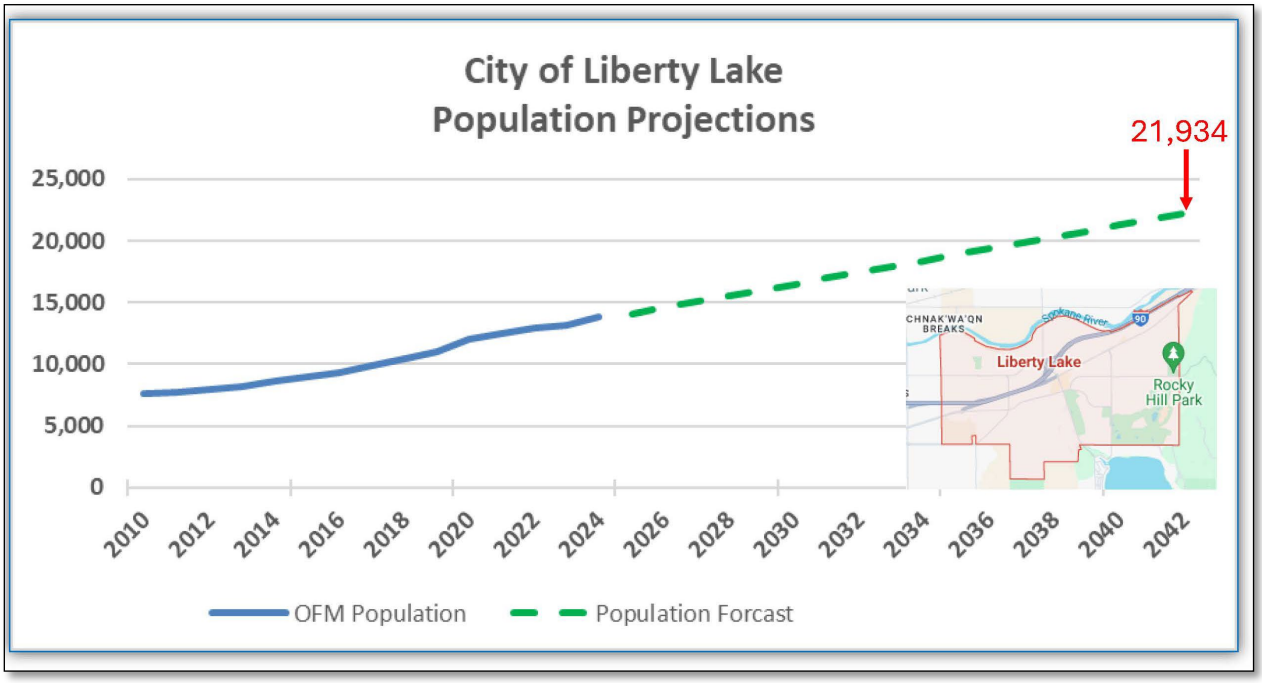


Figure 1.2: Growth Comparison

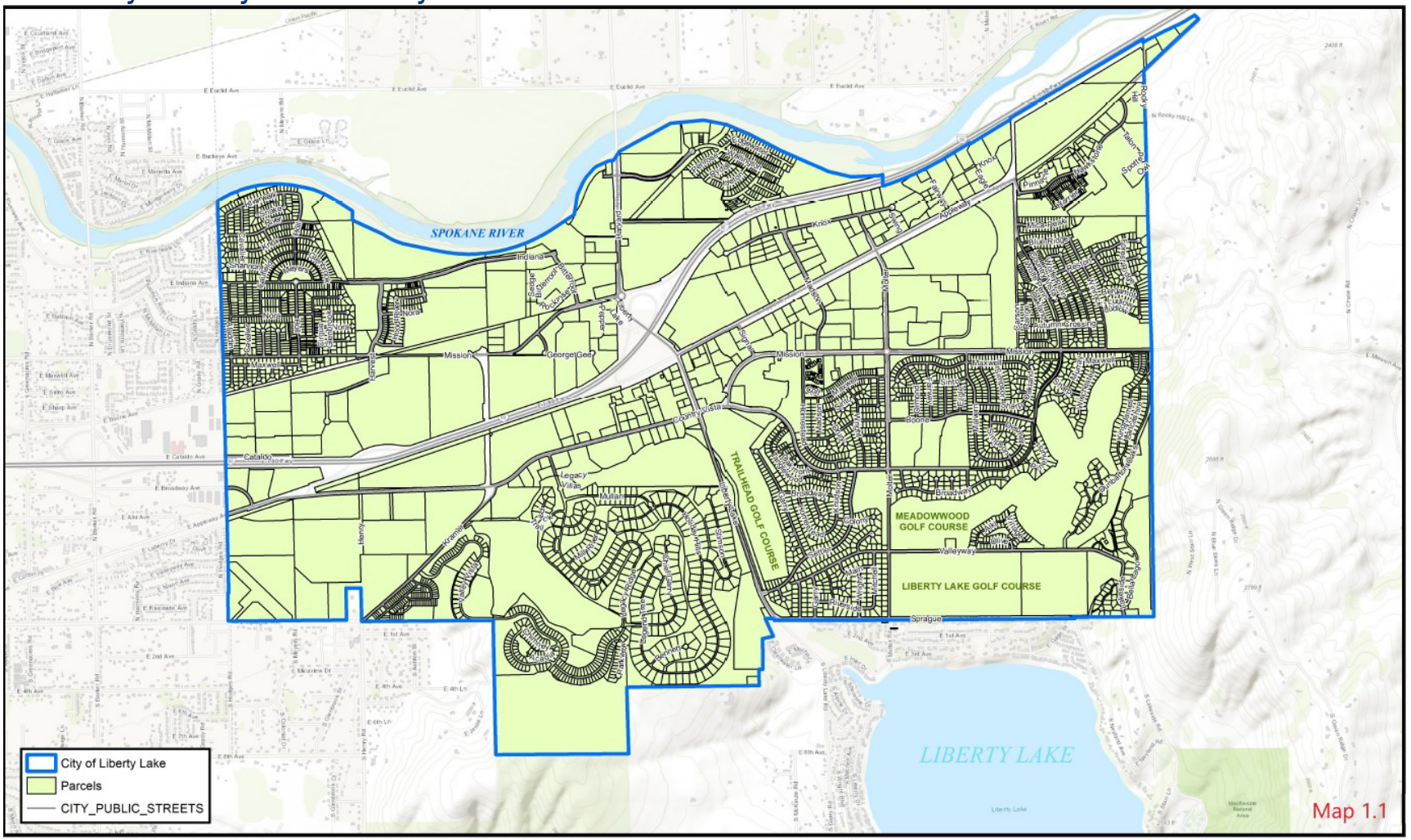
FIRST ROUND -- Spokane County Population Estimates

	Baseline Data (OFM)		OFM Regression (Adjusted)			
Jurisdiction	**Share2023**	**Pop2023**	**Share2046**	**Pop2046**	**Δ_{pop}23-46**	**$\Delta_{\%}$23-46**
Spokane County (Whole)	**100.00%**	**554,600**	**100.00%**	**654,665**	100,065	18.0%
Unincorporated County (inclusive)	**29.46%**	**163,390**	***30.38%***	**198,870**	35,480	21.7%
Unincorporated Outside UGA Only	**16.94%**	**93,934**	***15.07%***	**98,642**	4,708	5.0%
Unincorporated Inside UGA Only	**12.52%**	**69,456**	***15.31%***	**100,228**	30,772	44.3%
Incorporated Spokane County (sum)	**70.54%**	**391,210**	**69.62%**	**455,795**	64,585	16.5%
Airway Heights	**2.03%**	**11,280**	**2.74%**	**17,945**	6,665	59.1%
Cheney	**2.37%**	**13,160**	**2.53%**	**16,535**	3,375	25.6%
Deer Park	**0.89%**	**4,925**	**0.96%**	**6,290**	1,365	27.7%
Fairfield	**0.11%**	**600**	***0.09%***	**600**	0	0.0%
Latah	**0.03%**	**185**	***0.03%***	**185**	0	0.0%
Liberty Lake	**2.37%**	**13,150**	**3.35%**	**21,934**	8,784	66.8%
Medical Lake	**0.89%**	**4,915**	***0.75%***	**4,915**	0	0.0%
Millwood	**0.35%**	**1,925**	**0.30%**	**1,974**	49	2.6%
Rockford	**0.10%**	**570**	**0.10%**	**636**	66	11.7%
Spangle	**0.05%**	**280**	***0.04%***	**280**	0	0.0%
Spokane	**41.96%**	**232,700**	**39.11%**	**256,057**	23,357	10.0%
Spokane Valley	**19.37%**	**107,400**	**19.60%**	**128,313**	20,913	19.5%
Waverly	**0.02%**	**120**	**0.02%**	**131**	11	9.3%
Source	*CALC*	*OFM*	*REGRESSION*	*CALC*	*CALC*	*CALC*

Notes: CALC = Calculated Value, OFM = Office of Financial Management, Δ = delta, or 'change in', inclusive = includes both inside and outside the urban growth area.

Note that the italic "Share2046" values in italics represent hand adjustment to avoid negative growth.

Figure 1.3: City of Liberty Lake Boundary





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GOVERNANCE ELEMENT

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A. Introduction

Effective governance is the foundation for how Liberty Lake plans for the future, engages with residents, and implements the goals of the Comprehensive Plan. The Governance Element outlines the City's commitment to transparent decision-making, responsible stewardship of public resources, and ongoing collaboration with community members, partner agencies, and regional jurisdictions. As Liberty Lake continues to grow, this element provides guidance for how the City will communicate with the public, evaluate potential annexations, uphold property rights, and ensure that local regulations and planning processes remain consistent with the Washington State Growth Management Act. Together, these policies support a responsive, well-informed, and community-driven approach to governing that reinforces Liberty Lake's long-standing vision and values.

B. Governance Goals & Policies

Governance Goal 1: Actively involve residents, businesses, and property owners in the governance of the City.

Governance Policy 1.1: The City shall use the website, email, social media, newsletters, local newspapers, special announcements and other techniques to keep the community well-informed.

Governance Policy 1.2: The City shall neither propose to annex nor accept requests to annex unincorporated territory located outside the urban growth area.

Governance Policy 1.3: Evaluate proposed expansions to the UGA and potential annexation areas based on the following criteria:

a. The ability to provide public services at the City's adopted levels of service;
b. Whether annexation would eliminate an unincorporated island or could be expanded to eliminate an unincorporated island;
c. Whether the annexation would follow logical boundaries, such as streets, waterways, parcels, sections, or substantial topographic features;
d. Whether the annexation would eliminate an irregularity or irregularities in the City's boundaries, thereby improving service delivery; and
e. Consistency with the Goals and Policies of this Comprehensive Plan.

Governance Policy 1.4: Regulations developed by the City of Liberty Lake will not result in an unconstitutional taking of private property and shall be evaluated as provided for in RCW 36.70A.370.

Governance Policy 1.5: Encourage and utilize volunteer services consistent with volunteer and public safety.

Governance Policy 1.6: Review and update this Comprehensive Plan and the City's Development Regulations at least every 10 years in accordance with the provisions of the Washington State Growth Management Act.



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CULTURAL & HISTORICAL RESOURCES

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A. Introduction

Although Cultural Resources is not a required Comprehensive Plan element under the state Growth Management Act, the City of Liberty Lake values the protection and preservation of its cultural and historical resources. While the area around Liberty Lake is not included within the city limits, much of the culture and traditions that exist today began there and were carried on by the greater Liberty Lake.

B. Cultural and Historical Goals and Policies

Cultural Resources Goal 1: Protect archaeological and historic sites and structures.

Policy 1.1: Identify and evaluate archaeological and historic sites to determine which should be preserved.

Policy 1.2: Maintain City-owned cultural resources in an appropriate manner.

Cultural Resources Goal 2: Promote the appreciation of Liberty Lake's diverse heritage, as expressed by its cultural resources.

Policy 2.1: Nominate significant cultural resources to the local, state, and national Historic Registers. The Cultural Resources Inventory should be used as a reference in the identification of significant structures and places eligible for nomination.

Policy 2.2: The City may consider hiring a staff member to manage the following steps and strategies, which may be implemented in order to guide the identification, nomination, and ongoing preservation of the City's historical resources:

a. Identification of Historical Properties: A comprehensive process should be implemented to identify existing and potential historical properties within the City. This should involve community input, expert assessments, and thorough research to create an inclusive list of historical resources.
b. Nomination Process: Once identified, properties that meet established criteria may be nominated for inclusion on an official register of historical properties. This nomination process should be transparent, ensuring the public and stakeholders have opportunities for input before final decisions are made.
c. Ongoing Maintenance and Preservation: The City should strive to preserve registered historical properties in good condition through ongoing monitoring, regular assessments, and following maintenance guidelines. This approach would need to include a commitment to funding and supporting preservation efforts for these properties, particularly those under the City's ownership.
d. Access to Information: City planners, developers, property owners, and citizens should have easy access to the necessary information about historical properties to make informed decisions. This information could be made available through digital platforms, public meetings, and other accessible means.
e. Integration into Planning Tools: Historical properties could be integrated into the City's planning tools to ensure that land use decisions consider the impact on these resources. This would require collaboration between a diverse range of

stakeholders, including those whose heritage and traditions are directly connected to the properties.

f. Sustained Support for Preservation Programs: If implemented, the City would need to ensure long-term stability and reliability of support for this historical and cultural preservation program, in order to successfully implement this process and the achievement of the preservation goals outlined in this element.

Cultural Resources Goal 3: Recognize that the arts contribute to the character of the physical, mental, social, and economic well-being of the community and encourage public and private commitment and investment.

Policy 3.1: Provide a program of public education concerning the need to preserve and incorporate cultural resources and keep the public informed of actions to carry out plans.

Policy 3.2: Provide incentives such as bonus densities and lot coverage to encourage the use of open space and public art which celebrates the people and spirit of the Liberty Lake community within public and private developments.

Policy 3.3: Encourage permanent displays of art in new public facilities

C. History and Background

Liberty Lake's Cultural and Historical Heritage

The culture we cherish today began long before the formation of the City of Liberty Lake. The Liberty Lake area was inhabited by Native Americans centuries before the first white settlers came to the area. In 1808, David Thompson, a fur trader, arrived in the area and was soon followed by missionaries. Native Americans still occupied Liberty Lake and surrounding areas as the white settlers began to arrive. According to the book entitled Memories of Liberty Lake by Mildred Brereton and Evelyn Foedish, an early fur trader named Ross Cox told tales of the Indians holding horse races on the plains. These horse races were a part of an annual feed on the shores of Liberty Lake that was hosted by Andrew Seltice, Chief of the Coeur d'Alene Indians. After dinner, everyone enjoyed the horse races and athletic events where prizes were given out. Many families stayed overnight to hear Tecomtee, a Couer d'Alene Tribe member sing Indian songs out over the Lake.

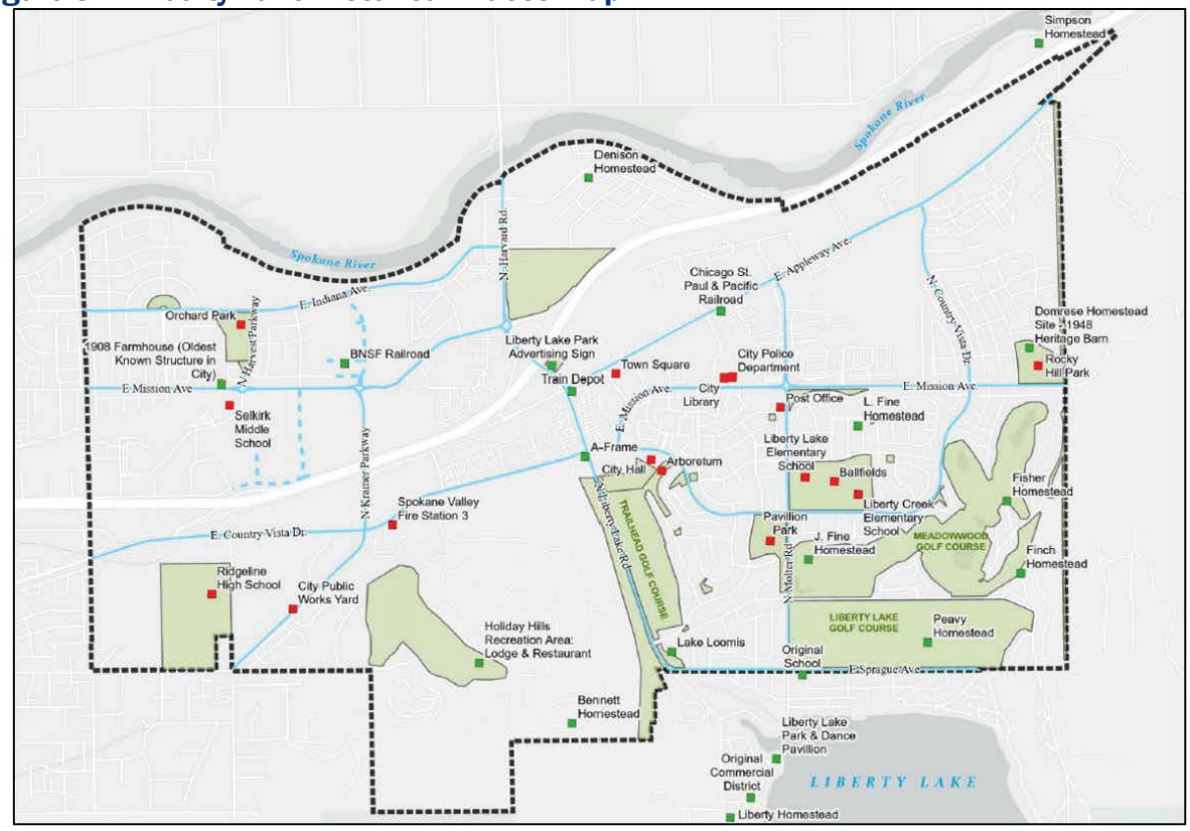
Liberty Lake was originally named Lake Grier, but was later re-named after a Frenchman from Canada, Etienne Eduard Laliberte, who came to Liberty Lake in 1871 after changing his name to Stephen Liberty while carrying mail over the Mullan Trail to Rathdrum. Stephen Liberty and his family homesteaded on the west side of the lake, and he was known as a friend and spokesman for the Native Americans and was especially close with Chief Andrew Seltice of the Coeur d'Alene Indians.

Other early settlers may have been drawn to the Liberty Lake area and other parts of the west by the Homestead Act of 1862. The Homestead Act declared that any citizen or intended citizen could claim 160 acres - one quarter square mile - of surveyed government land. Claimants must "improve" the plot with a dwelling and grow crops. After five years, if the original filer was still on the land, it was his property, free and clear. According to records from the Bureau of Land

Management, there were eight homesteads between 1884 and 1907, in the area now within the City limits.

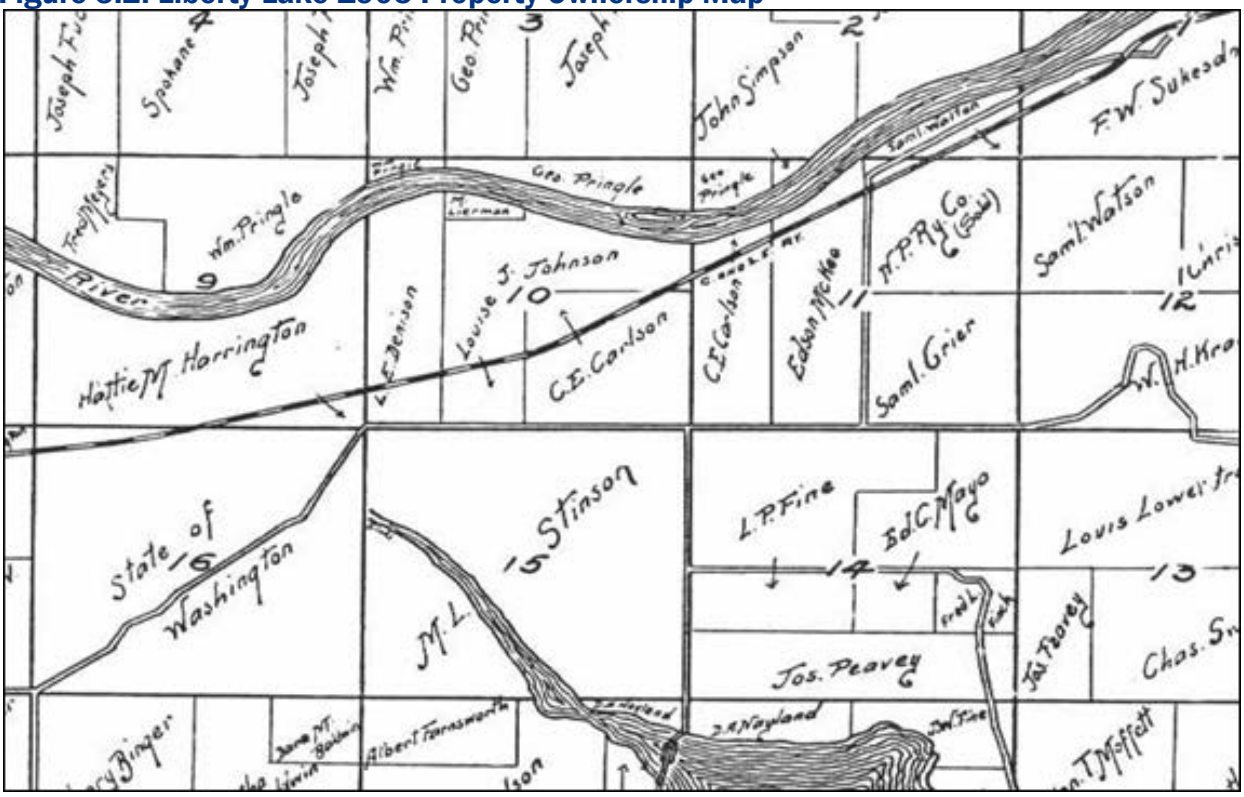
The first homesteader was James Fisher. Fisher was issued a land patent on May 15, 1884. The next to homestead was Joseph Peavy, in the early 1880's. Peavy, the area's first blacksmith, also carried mail along the Mullan Trail with his friend Stephen Liberty, who homesteaded on the west side of Liberty Lake. Levi P. Fine and John J. Fine homesteaded in the early 1880's. The Fine family lived in Liberty Lake long enough to see the new schoolhouse, discussed below, built about ¼ mile south of them on land they had donated. John Simpson was issued a land patent on April 20, 1891. Charles Denison was issued a land patent on June 8, 1895. George Bennett homesteaded in the late 1880's and finally, Fred Finch was granted a land patent on March 8, 1907. See **Figure 3.1** for an overview of these former homestead locations.

Figure 3.1: Liberty Lake Historical Places Map



The following **Figure 3.2** is a township map of Spokane County showing ownerships of acreage property that is dated September 1, 1905. Several homesteads were still owned by the original families at that time.

Figure 3.2: Liberty Lake 1905 Property Ownership Map



The Spokane Valley Irrigation company, also known as the Spokane Valley Land and Water Company, was organized in 1899 by D.C. Corbin, a well-known Spokane entrepreneur. Corbin also developed the Greenacres area. The irrigation line, circa 1903, brought water from the Spokane River and Liberty Lake through the Valley View Golf Course area and along the Outlet Channel trail, then across to the Holiday Hills site today for irrigating the Greenacres district. The company was formed at a time when a portion of Liberty Lake extended up to the northwest above Sprague Avenue and formed a small body of water called Lake Loomis. After the discovery of the Spokane Aquifer, irrigation from wells came into practice.

Also, around the turn of the century, a schoolhouse for the Liberty Lake area was being discussed. One location that was being considered for the schoolhouse was Harvard and Appleway in the middle of what is now the City of Liberty Lake. It was decided, however, to build the schoolhouse at what is now the southeast corner of Sprague and Molter Road. The school was originally a little white building and was later replaced with a larger red brick building in 1912 and continued in use until 1959. Residential construction began on the site in the 1960's.

In the early 1900's, during the late fall, winter, and early spring, Valley area farmers and ranchers would take advantage of a break from ranch work and get together on Saturday night at Spokane Bridge near the Washington/ Idaho border for dancing to the music of the times, then referred to as “hillbilly music” and in modern times referred to as “Country/Western Music”, from around 8 p.m. till dawn.

Another winter activity for the locals was the “500 card parties” at one of the area ranches on Saturday night. The basic card game involved tables of four with partners sitting across from

each other and working their way up toward a top table by collecting points, with the winners of the evening prize being the partners that reach the top table or 500 points.

During periods of heavy snow, Saturday night hayrides were available with a team of four horses, complete with sleigh bells that pulled a bob sled holding about 20 couples sitting on a mattress of straw. The ride toured from Liberty Lake to Newman Lake and around to Spokane Bridge where they could enjoy the dance hall.

By the early 1900's, several resorts were being developed around Liberty Lake, and the Lake was quickly becoming a vacation destination for the residents of Spokane and other surrounding areas. Pleasure boats that toured the lake were one of the many amenities that entertained visitors. The Spokane Inland Empire Railway began running electric trains in 1903 from Spokane to Liberty Lake that took around 45 minutes one way. A round trip to and from the Lake cost around 75 cents. The train originally stopped at a 6' x 6' station located at the intersection of the highway of the time, which is near where the intersection of Mission Avenue and Harvard Road is today. Emmett Denison, a descendant of the homesteader, lived at the junction and he would meet the train at the depot with his horse drawn stage and transport visitors south to the Lake for 25 cents. As Liberty Lake's popularity increased, the station became a depot with signage that identified it as Liberty Lake junction.

More people visited the Lake around 1907, when the railroad installed a spur line along today's Liberty Lake Road to bring visitors closer to the lake. The Spokane Inland Empire Railroad developed the Liberty Lake Park in 1908-1909, which became very popular for picnics and other gatherings. Traffic steadily increased from 1910 to 1913 with a two-car train running every half-hour in1910, and by 1913 a five-car train ran every half-hour on Sundays and holidays, or when large weekday picnics were scheduled. The years 1910 to 1915 were the peak for the Liberty Lake Park running every half-hour in1910, and by 1913 a five-car train ran every half-hour on Sundays and holidays, or when large weekday picnics were scheduled. The years 1910 to 1915 were the peak for the Liberty Lake Park and Liberty Lake became known as "Spokane's Inland Seashore"

The park’s natural beauty that included many different tree varieties and unusual flowers, mixed with the many attractions, made the park very popular. Visitors could rent boats from the Liberty Lake Boat Company for joy rides, enjoy the live band music and dancing at the Pavillion (its historic spelling), stay at the hotel or one of the many resorts, rent swimming suits at the Hurtig Bath House, fish, picnic, savor the dining options, or just relax. As in the days of Tecomtee, the music from the Pavillion could be heard throughout the area. All Valley picnics and other business parties became a tradition at the Lake for many people each summer, and in the winter, people could enjoy ice skating on the Lake. Automobiles were becoming popular in the 1920's and visitors could either arrive to the Lake by train or along Sprague / Appleway Avenue and then down Molter Road by car. Because of the popularity of fruit orchards in the Spokane Valley, fruit stands with apples lined Sprague Avenue throughout the valley area, causing it to be renamed “The Appleway”.

The 1920's brought major changes to Liberty Lake. All Valley picnics began in 1922, and 1924 saw the biggest crowd ever for the annual 4th of July celebration. 14,000 people attended the festivities that year, with 9,000 of them arriving by train. With the onset of the automobile as the transportation mode of choice, the trains that had brought so many visitors to Liberty Lake

quit running by June of 1927. The beautifully maintained Liberty Lake Park was sold in 1934 and was re-named Silver City. It was converted to more of a carnival atmosphere with a ferris wheel, a swing ride, and an unusual carousel. Hand-carved wooden tigers, horses, frogs, cats, and dogs circled the elaborately crafted carousel built by artists and engineers of the Herschell-Spillman Company in 1913.

The carousel remained at the park until 1961 and today it is in the Henry Ford Museum at Dearborn, Michigan. The town was also beginning to develop around the Lake with more homes and supporting businesses and services being constructed. Farming continued with much of the land being covered in orchards and eventually grass fields.

By 1951, Liberty Lake was becoming known as a suburb of Spokane and development was limited to the Lake area, south of Sprague Avenue. The Liberty Lake Golf Course, the first of the three golf courses in Liberty Lake, was constructed on the northeast corner of Sprague Avenue and Molter Road in 1959. By the 1960's, many of the original attractions around the Lake were gone. The dance pavilion at the old Liberty Lake Park was destroyed by fire in the late 1950's and was torn down by the early 1960's. Spokane County bought and created the almost 3000-acre Spokane County Regional Park in 1966, which became the only public beach access, however, a public boat launch was also available on the north side of the Lake. Unfortunately, the water quality of Liberty Lake had begun to decline, with algae covering much of the lake. By the end of the 1960's, more resorts had closed, and the Liberty Lake Park area was converted into a housing development. In 1991, the last resort on the Lake at Sandy Beach closed. Lodging today is primarily limited to the hotels located within the City limits

The 1970's brought a surge in activity north of Sprague Avenue that would eventually be encompassed within the City of Liberty Lake. The large hill on the west side of the City, formerly known as Carlson Hill, became known as Holiday Hills, a ski and snowmobile recreation destination with a lodge and restaurant. Holiday Hills gave visitors more winter activity choices than just ice skating. An RV Park with an A-Frame office also offered camping in the summer at Holiday Hills. Over the years, the Holidays Hills site was used for equestrian activities, snowmobile and motocross racing, youth sports camps, and ice skating. Unfortunately, due to financial difficulties, Holiday Hills closed by the end of the decade.

Recreation opportunities increased in 1973 with the development of the Valley View Golf Course east of Liberty Lake Road. At the time, it was the only mid-length executive course in the northwest. Housing choices also expanded in the 1960's and into the early 1980's with the development of the Liberty Lake Heights west of Molter Road.

The Liberty Lake Sewer & Water District was formed in the mid 1970's to help clean up the conditions of Liberty Lake. Construction of the new sewer system began in 1977 and the wastewater treatment facility east of Harvard Road was completed in 1982. By the early 1980's, commercial and industrial development had begun with the Hewlett-Packard facility on the east side of Molter Road.

The modern-day version of Liberty Lake began with developments from the Main Corporation and the Greenstone Corporation. The Homestead residential development was envisioned in the late 1970's and began in the mid 1980's. The streets within the Homestead development were named after early Liberty Lake families. Housing sales boomed in Liberty Lake in the mid 1990's with the creation of Meadowwood subdivision. Meadowwood Golf Course, the third

golf course in Liberty Lake, Pavillion Park, and Liberty Lake Elementary School were also completed by the time that the City of Liberty Lake officially incorporated on August 31, 2001. With three golf courses in the City limits of Liberty Lake, the Liberty Lake area is now known as a premier golf course community.

Figure 3.3: 1960



Figure 3.4: 1980



Figure 3.5: 2025



Incorporation

Liberty Lake experienced significant population growth in the 1990s and early 2000s. As the population increased, so did the demand for local services, infrastructure, and zoning control. Incorporation allowed the city to manage growth more effectively and establish its own planning and development regulations. In November of 2000, the residents of the Liberty Lake area voted in favor of incorporating. Liberty Lake officially became a city on August 31, 2001. Incorporation has fostered a sense of community identity, as well as increased access to services and revenue streams.

Preserving Cultural and Historical Traditions

Cultural traditions were formed as far back as when the area was occupied by the Coeur d'Alene Tribe. Traditions were further developed during the time when Liberty Lake was known as "Spokane's Inland Seashore". There were Fourth of July Celebrations with fireworks over the lake, live music and dancing at the Pavillion, picnics, boating, and most of all, memories were being created. Although the original buildings no longer exist, the memories and traditions still live on. Families still visit Pavillion Park for picnics, birthdays, and other celebrations. Every year, Liberty Lake draws huge crowds for the annual Fourth of July celebration with a parade by the lake, and live music and dancing at Pavillion Park, which contains a replica of the original Pavillion for the next generation to enjoy. The musical traditions from years past still exist as the music echoes throughout the area. To conclude the festivities, fireworks are launched over the community.

Pavillion Park also contains two memorials dedicated to families that helped establish the Liberty Lake area. Other hints of the past can be seen at the grocery store building located northeast of the intersection of Liberty Lake Road and Country Vista Road, where lighted symbols representing the original tour boats decorate the building. In 2002, the City purchased the Valley View Golf Course, which is located at the center of the City on the corner of Country Vista and Liberty Lake Road. In the future, as the structures and landscape are remodeled, hopefully more symbols of the past can be incorporated, such as the original Herschell-Spillman Silver City carousel.

The Liberty Lake community has also developed new annual traditions that have become a part of Liberty Lake culture. Additional research into the history of the area might uncover more of the past, including the possible location of a fur trading post that was rumored to have been located here, other Native American traditions, etc.

Very few historical sites and structures remain within the City area. The old Holiday Hill winter recreation area, now known as Legacy Ridge, still had the pole barn, track, and the original lodge fireplace when the City incorporated. Unfortunately, the original lodge burned down in a fire in the early to mid-1980's.

The Rocky Hill housing development in the northeast corner of the City, on the north side of Mission Avenue, contains a home site that dates back to the 1940's, with a well house that dated back to the early 1900's. This home site had the oldest known existing structures within the City of Liberty Lake (prior to annexing the River District). The site is included as part of the Rocky Hill Park area and the Domrese barn is on the WA State Heritage Barn Registry. Unfortunately, the well house and farmhouse had to be demolished due to disrepair. More information on the Rocky Hill Farm - Domrese homesite is contained in the Washington State Heritage Barn Register Application 2007.

The River District portion of the City has an extensive cultural and agricultural history as well. Interpretive signage recognizing the cultural and agricultural history could be incorporated into the parks and greenways. The 100’ wide Avista powerline easement provides an opportunity to connect the commercial center at Telido Station (named after the historic train station) to Orchard Park and the Centennial Trail with a greenway. A community orchard is being developed within the greenway to provide a cultural connection to agricultural and orchard uses that historically dominated the River District site. The River District now contains the oldest-known existing structure; a single-family home that dates back to 1908 is located along Mission Ave.

Importance and Purpose of Protecting Cultural and Historical Resources

While the majority of the early culture and history occurred around the Lake, the Liberty Lake community as a whole is continuing old cultural traditions, while developing new ones. As more development and re-development occurs, a record of cultural resources will be important as the City attempts to preserve the past while preparing for the future. Like wetlands and forests, historic properties and culturally significant traditions are a finite resource.

Once a historic or archaeological property is destroyed, it is lost forever. Many significant properties in and around Liberty Lake have already been redeveloped, making thoughtful preservation, replication, or interpretation essential. These resources reflect the city’s unique identity and help distinguish it from other communities.

This plan may help to ensure that Liberty Lake’s cultural and historical heritage is respected, protected, and integrated into the city’s ongoing development. A large part of the greater Liberty Lake community's identity is derived from its heritage. From the Native Americans and early traders who first established their homes here to the subsequent newcomers from around the world, all have left their mark. Included in the City of Liberty Lake's definition of

cultural or historical resources are buildings, structures, sites, associations, objects, landscapes, and traditions left behind by a group of people. While many historic resources are over 50 years old, newer sites and evolving traditions should also be recognized for their potential significance. Preserving this heritage is key to ensuring Liberty Lake remains a place rooted in history while looking toward the future.



LIBERTY LAKE — 2046

CLIMATE & NATURAL RESOURCES

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A. Introduction

The Climate and Natural Resources Element addresses a range of environmental topics that are essential to our community's sustainability and resilience. This includes the management of critical areas (wetlands, aquifer recharge areas, fish and wildlife conservation areas, frequently flooded areas and geologically hazardous areas), as well as tree conservation, shorelines, surface water quality and quantity, and air quality. This element ensures a comprehensive approach to climate adaptation and environmental stewardship aimed at reducing our community's greenhouse gas emissions and improving our resilience to natural and man-made disasters.

In 2023, Washington State adopted House Bill 1181, amending the Growth Management Act (GMA) to require cities like Liberty Lake to include a Climate Element in their Comprehensive Plans. The Climate Element consists of two parts: a Greenhouse Gas (GHG) Reduction sub element to lower communitywide emissions and vehicle miles traveled (VMT), and a Resiliency sub element to prepare for and adapt to the effects of a changing climate.

Liberty Lake's Climate and Natural Resources chapter fulfills these new GMA requirements while continuing the City's long-standing commitment to environmental stewardship. The chapter combines the required Climate Element with the City's existing Natural Environment element—creating an integrated framework that addresses climate mitigation, adaptation, and natural resource protection in one place.

This chapter is supported by three key technical resources: the Greenhouse Gas Emissions Inventory and Background Analysis (**Appendix C**), the Department of Commerce's GHG Reduction Worksheet (**Appendix D**), and the Climate Vulnerability and Risk Assessment (**Appendix E**); these documents are included in this plan as appendices. Together, these analyses establish the City's 2022 emissions baseline, identify local climate risks such as drought, extreme heat, and wildfire, and provide data-driven targets for reducing emissions and increasing community resilience.

Public engagement was central to shaping this chapter's goals and policies. The City hosted targeted stakeholder meetings on energy, transportation, and resiliency with agencies such as Avista, Spokane Transit Authority, and the Spokane Regional Health District, focus group discussions, and tabling events at the Liberty Lake Farmers Market and Barefoot in the Park. An online open house and Story Map were available on the City's website, and a Climate Policy Advisory Team (CPAT) met multiple times to review data and advise on community priorities

The resulting Climate and Natural Resources chapter sets forth policies that reduce emissions, strengthen resilience, and preserve Liberty Lake's natural systems for future generations.

B. Greenhouse Gas Reduction

The following goals and policies translate Liberty Lake's greenhouse gas reduction analysis into specific, actionable commitments. They focus on reducing energy use and emissions from buildings, transportation, waste, and City operations while supporting clean energy, compact development, and multimodal transportation choices. Each goal and policy is informed by the

Greenhouse Gas Emissions Inventory and Background Analysis (**Appendix C**) and the Washington State Department of Commerce's GHG Reduction Worksheet (**Appendix D**).

Together, these strategies establish the framework for Liberty Lake to achieve sustained and measurable reductions in greenhouse gas emissions consistent with state targets and local priorities. They are designed to meet the requirements of the climate element by reducing vehicle miles traveled (VMT) per capita, decreasing overall greenhouse gas emissions, and ensuring that any implementation does not place a disproportionate burden on vulnerable or overburdened communities.

C. Greenhouse Gas Reduction Goals & Policies

GHG Goal 1: Encourage buildings to use renewable energy, conserve resources, and implement efficient technologies and practices to reduce greenhouse gas emissions.

Sub-goal 1.1: Increase community awareness of energy efficiency measures and benefits.

Policy 1.1.1: Provide cost savings and emissions-reduction marketing campaigns, educational workshops, activities, and engagement opportunities (e.g., Energy Fair), especially those that prioritize vulnerable communities.

Sub-goal 1.2: Make existing buildings more energy efficient.

Policy 1.2.1: Partner with public and not-for profit agencies to promote programs that provide for the preservation and weatherization of older housing stock in cost-burdened communities (e.g., seniors and lower income households, etc.) to reduce emissions and increase resilience.

Policy 1.2.2: Support and expand low-cost energy audit programs offered by partners such as Avista and Spokane Neighborhood Action Partners (SNAP). Identify barriers to utilizing existing programs and ways to address them.

Policy 1.2.3: When it is time to replace old equipment, incentivize the retrofit of buildings for energy efficiency. Note: Incentives can be implemented through mechanical and building permit fee reductions or waivers upon completion of efficiency or GHG reduction measures.

Sub-goal 1.3: Make future buildings more energy efficient.

Policy 1.3.1: Incentivize additional net-zero greenhouse gas emission features such as electric heat pumps, electric heat pump water heaters, pellet stoves, or solar panels for all new residential and commercial structures. Note: Incentives can be provided through reduction or waiving of building permit fees when the permit applicant performs desired efficiency or GHG reduction measures.

Policy 1.3.2: Incentivize green building certification to improve energy and environmental performance.

Sub-goal 1.4: Increase efficiency of streetlights and traffic signals.

Policy 1.4.1: Pursue Dark Sky certification.

Policy 1.4.2: Convert all streetlights and traffic signals to high-efficiency options (e.g., LEDs).

GHG Goal 2: Promote solar electricity generation and storage.

Sub-goal 2.1: Install solar on public buildings.

Policy 2.1.1: Partner with other public entities to install solar on other public facilities.

Sub-goal 2.2: Promote solar on private buildings.

Policy 2.2.1: Educate homeowners, property managers, and business owners about solar.

Policy 2.2.2: Work with partners like Avista to provide incentives for solar on private buildings or over parking areas.

Policy 2.2.3: Partner with the Board of Realtors to promote an analysis of solar capacity to be completed upon sale of a home or building using free tools like Project Sunroof.

Policy 2.2.4: Explore opportunities to encourage and support the development of solar cooperatives.

Sub-goal 2.3: Increase small-scale battery storage to pair with local solar generation.

Policy 2.3.1: Collaborate with Avista to facilitate the development of community-owned, small-scale renewable energy generation projects, such as local microgrid solar and battery storage facilities, in low-impact sites.

Policy 2.3.2: Work with Avista to determine whether and where large-scale battery storage is needed and develop a plan for City engagement.

GHG Goal 3: Reduce vehicle miles traveled to achieve greenhouse gas reduction goals.

Sub-goal 3.1: Foster higher density land uses in mixed-use development and transit corridors.

Policy 3.1.1 Facilitate the siting of complimentary destinations such as commercial-employment centers, schools or education centers, and residential developments (e.g., co-located library, community center, farmer's market).

Policy 3.1.2: Increase multimodal capacity in coordination with the location of higher-density housing, mixed use, and commercial centers.

Policy 3.1.3: Maintain or increase minimum residential densities within urban growth areas.

Policy 3.1.4: Prioritize infill development through zoning, permitting, and capital investments.

Sub-goal 3.2: Increase housing diversity and supply within urban growth areas to reduce greenhouse gas emissions and support environmental justice.

Policy 3.2.1: Allow or encourage middle housing types (such as duplexes, triplexes, and ADUs) and micro-housing units (such as providing co-living, unit lot subdivisions, tiny homes, and cottage housing) on all residential lots.

Sub-goal 3.3: Partner with STA and support improvements to public transit reliability and convenience

Policy 3.3.1: Continue to evaluate land uses near transit corridors in partnership Spokane Transit Authority (STA) to support (prioritize and promote) planned expansions of the transit system.

Policy 3.3.2: Prioritize, develop, and maintain mobility hubs in transportation-efficient locations — especially in overburdened communities experiencing a scarcity of transportation alternatives.

Policy 3.3.3: Address active transportation and other multimodal types of transportation options in concurrency programs – both in assessment and mitigation.

Policy 3.3.4: Support improvements to transit to increase speed, frequency, and reliability.

Policy 3.3.5: Partner with STA to promote existing public transit routes and services.

Sub-goal 3.4: Improve the active transportation network

Policy 3.4.1: Continue to support and expand a safe, well-connected, and attractive bicycle and pedestrian transportation network to encourage active and multimodal transportation options to reduce single-occupancy vehicle dependence.

Policy 3.4.2: Formalize the City's "Complete Streets" policy by integrating it into the City's development code.

Policy 3.4.3: Continue to implement and expand complimentary, mixed land uses versus traditional zoning, such as locating business districts, parks and schools in neighborhoods to promote cycling and walking and reduce driving.

GHG Goal 4: Increase electric vehicle (EV) adoption.

Sub-goal 4.1: Provide education about EVs, including education about life cycle emissions and batteries.

Policy 4.1.1: Increase community education on electric vehicles – including cars, trucks, and golf carts – by developing and sharing educational materials.

Policy 4.1.2: Partner with other organizations to increase community awareness of EVs (e.g., the electric utility, non-profits).

Sub-goal 4.2: Expand alternative fueling infrastructure, including but not limited to electric vehicle charging infrastructure.

Policy 4.2.1: Require electric vehicle charging infrastructure in all new buildings in accordance with state law.

Policy 4.2.2: Prioritize EV infrastructure for existing multifamily housing stock and other places with a demonstrated need.

Policy 4.2.3: Investigate options for zero emissions heavy duty vehicles as they become available (including but not limited to electric and hydrogen).

GHG Goal 5: Explore opportunities for renewable diesel blends.

Sub-goal 5.1: Provide education about renewable diesel blends.

Policy 5.1.1: Increase community awareness of renewable diesel blends by developing and sharing educational materials.

GHG Goal 6: Protect local biodiversity, such as fire-resistant trees, to boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities.

Policy 6.1.1: Require open space set-asides (such as parks) for new residential and multifamily development.

Policy 6.1.2: Improve and expand urban forest management to maximize or conserve carbon storage, while increasing wildfire resiliency.

Policy 6.1.3: Maximize tree canopy coverage in surface parking lots.

GHG Goal 7: Develop targeted campaigns for reducing and managing waste to reduce GHG emissions.

Sub-goal 7.1: Provide education about reducing waste.

Policy 7.1.1: Provide educational programming to reduce food waste in the community with an emphasis on the largest waste streams.

Policy 7.1.2: Increase community awareness of best practices to reduce waste by developing and sharing educational materials that focus on the seven Rs: rethinking what to buy, refusing products that are not needed, reducing what is bought, reusing things, repairing things, regifting, then recycling.

GHG Goal 8: Reduce emissions from waste and wastewater.

Sub-goal 8.1: Reduce emissions from solid waste.

Policy 8.1.1: Work with Waste Management to identify opportunities to leverage waste collection rates to encourage waste diversion like recycling and composting.

Policy 8.1.2: Increase staff and facility capacity for composting programs to divert 25% of community organic waste from entering landfills. This could be done by providing composting services in community gardens and/or by expanding the City's waste management contract to include organic waste.

Policy 8.1.3: Encourage the development of a program that will enable and/or incentivize recycling of construction and demolition debris by [insert target date] to minimize greenhouse gas emissions impacts.

Policy 8.1.4: Continue to evaluate options for alternatives to landfill disposal of solid waste.

Sub-goal 8.2: Reduce emissions from wastewater treatment.

Policy 8.2.1: Pursue policies to increase water conservation and decrease the volume of effluent to the wastewater treatment facility.

GHG Goal 9: Reduce emissions from City operations

Sub-goal 9.1: Reduce emissions from City buildings and energy use

Policy 9.1.1: Conduct an energy audit of City facilities.

Policy 9.1.2: Replace natural gas furnaces and water heaters with electric heat pump options when it's time to replace equipment in City facilities.

Policy 9.1.3: Install solar on all possible City owned buildings where it is cost effective to do so.

Policy 9.1.4: Install distributed renewable energy generation and battery infrastructure at public facilities to store renewable electricity generated on site and provide emergency power that ensures continuity of operations.

Policy 9.1.5: Develop plan for City's voluntary compliance with Washington State Clean Buildings Performance Standard (CBPS) and similar laws.

Sub-goal 9.2: Convert public fleets to zero-emission vehicles by [insert target date] and develop supporting infrastructure and programs (e.g., charging stations and dedicated lanes for electric cars and buses).

Policy 9.2.1: Install EV charging stations at City facilities.

Policy 9.2.2: Develop and implement a plan to convert City fleet to EVs at end of useful life, where appropriate.

Policy 9.2.3: Purchase and use renewable diesel in City fleet vehicles that use diesel when locally available.

Policy 9.2.4: Develop and implement a plan to convert City-owned golf carts to electric options at end of useful life and as is operationally feasible.

Sub-goal 9.3: Reduce emissions from employee commute.

Policy 9.3.1: Continue to implement, promote, and expand Liberty Lake's Commute Trip Reduction program within the Liberty Lake community.

Sub-goal 9.4: Reduce supply chain emissions from City operations and purchasing.

Policy 9.4.1: Prioritize the use of lower-carbon building materials in new construction and building retrofits where feasible to reduce embodied carbon.

Policy 9.4.2: Use recycled materials in the construction of transportation and other infrastructure facilities where feasible.

Policy 9.4.3: Explore including Environmental Product Declarations (EPDs) in City procurement policy to prioritize purchasing lower-emissions materials and goods.

Policy 9.4.4: Phase out the use of gas-powered landscaping equipment for City operations.

Sub-goal 9.5: Increase recycling at City facilities.

Policy 9.5.1: Design and implement a full recycling program for all City facilities.

Policy 9.5.2: Work with the City's waste hauler to ensure that waste streams are taken to the appropriate waste processing destinations (e.g., recycling to a recycling facility, trash to the landfill).

D. Resiliency

The Resiliency sub element identifies strategies to help Liberty Lake prepare for, adapt to, and recover from the impacts of a changing climate. This sub element is grounded in the findings of the Climate Vulnerability and Risk Assessment (CVAR), which is included in full as **Appendix E** to this plan. The CVAR evaluates the City's exposure, sensitivity, and adaptive capacity to major climate risks, particularly drought, extreme heat, increased precipitation, wildfire, and smoke and provides a technical basis for the policies contained in this element.

This sub element focuses on reducing risks to people, property, and natural systems through proactive planning, hazard mitigation, and investment in resilient infrastructure. Strategies include improving emergency preparedness, promoting water conservation, integrating green stormwater infrastructure, expanding shade and vegetation, and coordinating regionally on wildfire smoke and air quality. Together, these efforts will help ensure that Liberty Lake remains a safe, livable, and thriving community under a changing climate.

E. Resiliency Goals and Policies

Resiliency Goal 1: Establish land use patterns that increase the resilience of the built environment, ecosystems, and communities to climate change.

Policy 1.1: Establish overlays, special zoning districts, design standards, or other strategies to increase resilience to climate hazards.

Policy 1.2: Restore and maintain critical areas and open space areas to maximize the climate resilience benefits they provide.

Policy 1.3: Implement complimentary, mixed land uses versus traditional zoning, such as locating neighborhood commercial, parks and schools near residential neighborhoods to promote cycling and walking and reduce driving.

Policy 1.4: Develop and implement an urban heat resilience strategy that includes land use, urban design, urban greening, and waste heat reduction actions.

Policy 1.5: Consider future climate conditions during siting and design of capital facilities, including changes to temperature and precipitation to help ensure they function as intended over their planned life cycle.

Policy 1.6: Identify and plan for climate impacts to valued community assets such as parks and recreation facilities, including relocation or replacement.

Policy 1.7: Establish development regulations that incorporate best practices for reducing the risk of wildfire, extreme heat, flooding, and other climate-exacerbated hazards.

Resiliency Goal 2: Protect and preserve water quality and quantity.

Policy 2.1: Partner with Liberty Lake Sewer & Water District (LLSWD) and Consolidated Irrigation District to evaluate the long-term adequacy of water delivery infrastructure to ensure that changes in hydrological patterns (e.g., increases in flooding frequency or reduction of late-summer water availability associated with climate change) can be anticipated and managed effectively.

Policy 2.2: Partner with LLSWD and Consolidated Irrigation District to develop and implement a comprehensive drought resilience strategy that factors in projected climate impacts and sets action levels for different drought stages.

Policy 2.3: Partner with Liberty Lake Sewer and Water District to analyze how the municipal water system maintains adequate pressure during a major wildfire event (e.g., multiple structures burning) and how it will look under current and projected drought conditions.

Policy 2.4: Continue the use of green infrastructure and low-impact development to address increased storm intensities and stormwater runoff.

Policy 2.5: Partner with Liberty Lake Sewer and Water District to create and encourage the development of municipal reclaimed water systems and allow onsite non-potable water systems to reduce water demand in private-sector commercial and residential buildings.

Policy 2.6: Encourage water purveyors to monitor the water supply for contaminants, construct, and maintain new water-storage systems (e.g., large cisterns, water towers, and reservoirs) to provide back-up water supplies during droughts and support climate resilience.

Resiliency Goal 3: Ensure that cultural resources and practices, including outdoor recreation and natural resources, are resilient to the impacts of extreme weather and other natural hazards worsened by climate change.

Policy 3.1: Work with partners to establish and sustain a native plant nursery and seed bank to support long-term restoration and carbon sequestration efforts where destruction or loss of forestation has occurred.

Policy 3.2: Enhance the resilience of parks and recreational trails by assessing and addressing climate hazards and impacts and implementing best management practices.

Policy 3.3: Develop a program to analyze and address the climate impacts and risks of pests and disease on urban trees.

Policy 3.4: Manage tree canopy and forests (including parks, greenbelts and urban forests) to decrease climate-exacerbated risks from severe wildfires, protect residents, and improve ecosystem health and habitat.

Policy 3.5: Ensure that tree species selection and planting guidance are updated to be resilient to climate change.

Policy 3.6: Develop and implement guidance on tree species selection and care for private owners and developers to ensure that the urban canopy remains resilient and thriving in the future climate. (This likely overlaps with the natural resources chapter as well)

Resiliency Goal 4: Ensure that the local transportation system — including infrastructure, routes, and travel modes — can withstand and recover quickly from climate disruptions.

Policy 4.1: Improve street connectivity and walkability, including sidewalks and street crossings, to serve as potential evacuation routes.

Policy 4.2: Reduce stormwater impacts from transportation and development through watershed planning, redevelopment and retrofit projects, and low-impact development.

Policy 4.3: Map transportation infrastructure that is vulnerable to repeated floods, landslides, and other natural hazards, and designate alternative travel routes for critical transportation corridors when roads must be closed.

Policy 4.4: Coordinate with STA to ensure that transit waiting areas provide adequate shelter in all weather.

Resiliency Goal 5: Increase community emergency preparedness.

Policy 5.1: Support enhanced data collection for hazard events of all magnitudes to provide a fuller understanding of the community's hazard characteristics — including those affected by climate change.

Policy 5.2: Develop a comprehensive, communitywide wildfire resilience strategy to improve emergency response capabilities, create fire-resilient landscapes, promote fire-adapted communities, protect the economy, and foster short- and long-term recovery.

Policy 5.3: Develop a resilience hub at the Library to support residents, coordinate communication, distribute resources, and reduce carbon pollution while enhancing quality of life.

Policy 5.4: Factor climate impacts into the planning of operations and coordination of preparedness, response, and recovery activities among first-responders and partners, including public health, law enforcement, fire, school, and emergency medical services (EMS) personnel.

Policy 5.5: Integrate a climate impacts risk assessment and policies into the local hazard mitigation plan.

Policy 5.6: Ensure that the City's emergency management plans respond to the impacts of climate change and identifies roles and responsibilities to support a sustainable economic recovery after a disaster.

Policy 5.7: Create evacuation plans and outreach materials to help residents plan and practice actions that make evacuation quicker and safer.

Policy 5.8: Develop and implement a strategy to expedite management of debris (e.g., downed tree) after a disaster incident to reduce subsequent risks.

Resiliency Goal 6: Ensure that buildings are designed and built sustainably to reduce environmental impacts and remain resilient to extreme weather and other hazards worsened by climate change.

Policy 6.1: Adopt fire-resilience standards for new and redeveloped sites in high-risk wildfire areas.

Policy 6.2: Develop or modify design standards to integrate building features that reduce the impacts of climate change and increase resilience (e.g., ensuring that there is adequate heating or cooling in the event of a power outage).

Policy 6.3: Work with energy utilities to improve the safety and reliability of infrastructure vulnerable to climate change.

Resiliency Goal 7: Protect community health and well-being.

Policy 7.1: Prioritize at-risk community members for actions that mitigate wildfire smoke, including providing personal protective equipment and filter fans or incentivizing infrastructure updates (e.g., HVAC updates and MERV 13 filters for air intake) for facilities that serve high-risk populations.

Policy 7.2: Protect the health and well-being of outdoor workers exposed to extreme heat, smoke, and other climate-exacerbated hazards.

Policy 7.3: Develop and implement a wildfire smoke resilience strategy in partnership with local residents, emergency management officials, regional clean air agency officials, and other stakeholders.

Policy 7.4: Work with partners like Avista and SNAP to develop and maintain a program to distribute cooling units and install heat pumps, prioritizing households with residents most vulnerable to extreme temperature events (e.g., low-income seniors).

Policy 7.5: Develop and implement notification alerts within the community to reduce risk exposure to wildfire smoke and particulate matter.

Resiliency Goal 8: Promote climate and resilience education to build a well-informed and prepared community.

Policy 8.1: Build and support partnerships with community-based organizations with the capacity and relationships to convene diverse coalitions of residents and to educate and empower them to implement climate resilience actions.

Policy 8.2: Provide residents living in Wildland-Urban Interface (WUI) areas information about fire prevention (e.g., Firewise) practices, and support application of such practices via building code provisions.

Resiliency Goal 9: Make city operations more resilient.

Policy 9.1: Utilize water conservation and backflow prevention methods, best practices, and technologies in development of irrigation infrastructure within parks and recreation areas so as to foster climate resilience.

Policy 9.2: Manage water resources sustainably in the face of climate change through smart irrigation, stormwater management, preventative maintenance, water conservation and wastewater reuse, plant selection, and landscape management.

Policy 9.3: Maintain a Continuation of Operations Plan and the associated ongoing training to ensure that city operations continue to be available in an emergency.

F. Natural Environment

The City of Liberty Lake has attracted desirable businesses in recent years because of the natural environment that contributes to a high quality of life. Protecting and enhancing this unique natural environment is the purpose of this Chapter. By ensuring the availability of clean air and water, and preserving critical areas and natural features, we will continue to make the City of Liberty Lake an inviting community. The following are the guiding principles for this element:

- Critical areas, including wetlands, fish and wildlife habitat, aquifer recharge areas, geologically hazardous areas, and flood hazard areas, shall be preserved, protected, managed, and restored so that the functions and values of these areas are maintained;
- Shoreline areas shall be protected from land uses that degrade water quality and wildlife habitat;
- Surface and groundwater should be maintained at adequate quantity and quality, with land uses designed to ensure continued protection; and
- Air quality shall be maintained at levels that protect human health, prevent injury to plants and animals, and preserves clear visibility.

Critical areas include the following areas and natural places:

- Wetlands;
- Areas with a critical recharging effect on aquifers used for domestic purposes;
- Fish and wildlife habitat conservation areas;
- Frequently flooded areas; and
- Geologically hazardous areas.

The City of Liberty Lake acknowledges the essential role of protecting the functions of critical areas, which contributes significantly to the high quality of life our residents enjoy. These areas are integral to natural systems that manage stormwater, prevent flooding, and preserve water quality, while also offering recreational opportunities. Safeguarding these critical areas is not only environmentally prudent but also economically wise. Relying on natural landscapes for these functions avoids the substantial costs associated with constructing and maintaining engineered systems designed to protect against floods and geological hazards and to purify drinking water.

Involvement by scientists from the Washington State Department of Fish and Wildlife, Department of Ecology, area universities, and others including local agencies/jurisdictions such

as Spokane Aquifer Joint Board, Spokane County, Spokane Regional Health District, and Liberty Lake Sewer and Water District, will continue to be essential to the advancement of critical area protection.

G. Natural Environment Goals and Policies

Natural Environment Goal 1: Preserve and enhance the City's environmental resources and critical areas.

Policy 1.1: Maintain an inventory of highly sensitive areas appropriate for preservation.

Policy 1.2: Require "no net loss" of wetland functions, value, and quantity as a result of land use activities.

Policy 1.3: Protect shorelines designated under the state Shoreline Management Act through enforcement of the City's Critical Areas Ordinance.

Policy 1.4: New development and/or land use activities shall provide adequate buffer areas of permanent native and/or appropriate vegetation adjacent to wetlands. These buffer areas shall be established based on the natural function and beneficial values of the wetland as determined by established criteria.

Policy 1.5: Within geologically hazardous areas, site alteration, grading, and filling shall be the minimum necessary to accomplish approved designs/plans.

Policy 1.6: All development proposals should submit an erosion control plan prior to receiving approval.

Policy 1.7: Geologically hazardous areas demonstrated to be highly sensitive to modification by development activities shall be preserved in a natural condition for uses other than development.

Natural Environment Goal 2: Protect and conserve the quality and supply of groundwater from the Spokane Valley-Rathdrum Prairie Aquifer.

Policy 2.1: Establish partnerships with non-profits entities, such as Cooperative Extension and the Spokane Aquifer Joint Board, to provide public information and resources to educate the community in how to protect critical areas and environmental resources from degradation.

Policy 2.2: Promote water conservation through education, incentives, and regulations in cooperation with water purveyors and the public.

Policy 2.3: It is recognized that the aquifer used for drinking water in Liberty Lake has part of its recharge area located outside of the City. Accordingly, the City of Liberty Lake should coordinate and collaborate with surrounding jurisdictions to protect groundwater.

Policy 2.4: Require appropriate stormwater runoff and spill control provisions for those who use and/or store potentially critical materials within critical aquifer recharge areas.

Policy 2.5: Water-conserving landscaping and other conservation practices should be encouraged. Incentives should be used to reduce water consumption.

Policy 2.6: Special consideration should be given to proposed developments or activities that recycle or find use for wastewater.

Policy 2.7: Partner with Spokane County to educate the public on the long-term expense and public health consequences of failure to protect critical aquifer recharge areas from degradation and provide information on practices that threaten water quantity and quality.

Policy 2.8: Trucks carrying critical materials should be required to use preferred critical material routes where emergency spill response plans exist.

Policy 2.9: Provide convenient public access to groundwater modeling documents and regulations to protect critical aquifer recharge areas.

Natural Environment Goal 3: Implement and maintain a fully functional, sustainable stormwater system that is integrated into the landscape, supports envisioned growth, protects residents, and nurtures the environment.

Policy 3.1: Continue to require all new development to implement integrated stormwater treatment in accordance with the Eastern Washington Stormwater Manual or equivalent best management practices.

Policy 3.2: Fund the long-term maintenance of stormwater infrastructure through a dedicated stormwater utility fee assessed on all developed properties as based upon its area of impervious surface.

Natural Environment Goal 4: Maintain air quality that protects human health, prevents injury to plant and animal life, and preserves clear visibility.

Policy 4.1: Require new development to avoid, minimize, and mitigate potential adverse environmental impacts.

Policy 4.2: Promote public education to increase the level of responsibility for air quality.

Policy 4.3: Clearing and grading activities shall be limited based upon topography and seasonal weather conditions.

Natural Environment Goal 5: Preserve the unique beauty of the community through the conservation of the native trees.

Policy 5.1: Encourage public awareness of the increased property values associated with tree conservation.

Policy 5.2: Encourage programs that provide assistance to the public in caring for and nurturing trees.

Policy 5.3: Encourage tree planting programs that emphasize native species and encourage species diversity**.**

Policy 5.4: Maintain tree conservation regulations that discourage removal of mature trees, require appropriate tree replanting when removal is necessary to accommodate

development, and provide incentive to conserve trees in accordance with the City's designation as a "Tree City USA".

Wetlands

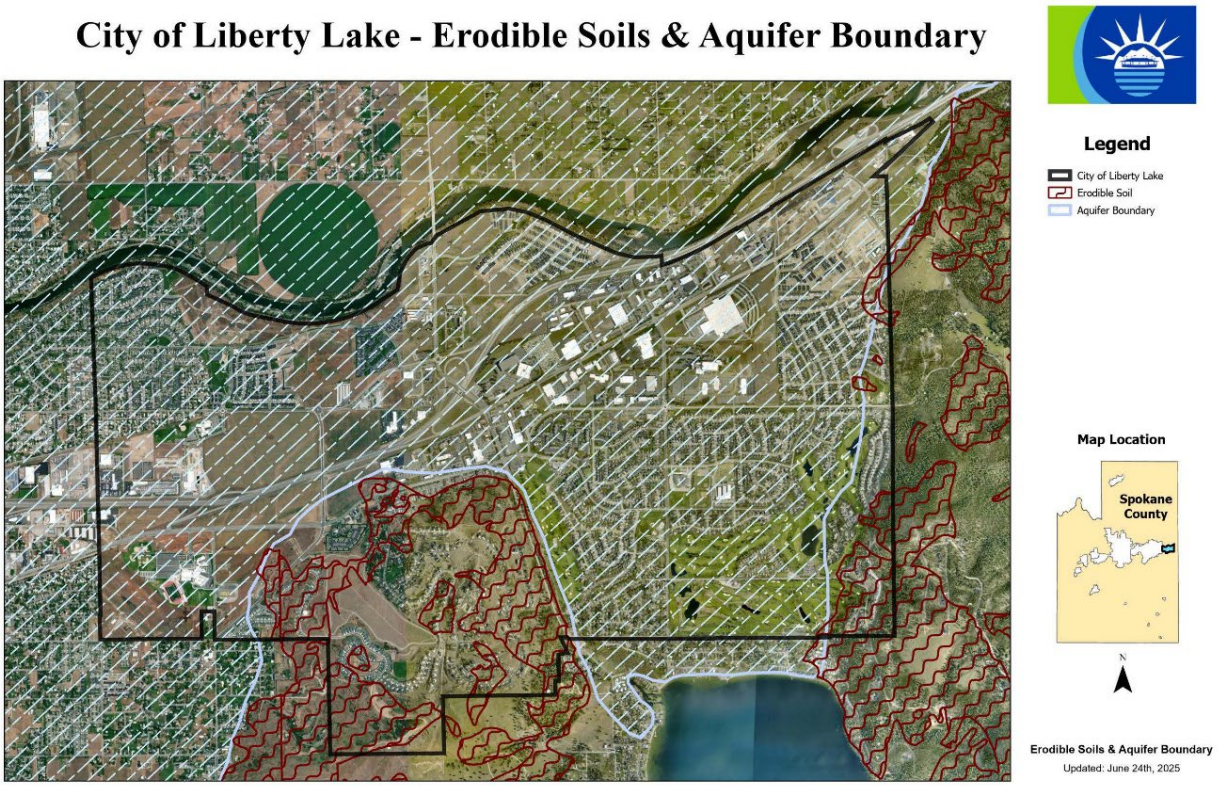
Wetlands are areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention and retention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. However, wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate conversion of wetlands, if permitted by the City. In the past, wetlands were considered nuisances to be filled in and covered up. Experience has revealed the many beneficial functions provided by wetlands, including providing wildlife habitat, storage and disposal of stormwater, groundwater recharge and removal of contaminants. The primary purpose of the wetland goals and policies is to preserve these important natural functions.

While the City of Liberty Lake currently has no designated wetlands within its municipal boundaries, it is situated near significant wetland areas, including those within Liberty Lake Regional Park and the seasonal wetlands at the south end of Liberty Lake. These nearby wetlands provide essential ecological functions such as wildlife habitat, stormwater management, and groundwater recharge. The City acknowledges the importance of these natural resources and is committed to regional collaboration to preserve and protect these vital ecosystems.

Aquifer Recharge Areas and Groundwater

The Spokane Valley-Rathdrum Prairie Aquifer (SVRP Aquifer), which serves as the sole source of domestic water for Liberty Lake, is recognized as a sole source aquifer under the federal Safe Drinking Water Act. The goals and policies outlined in this section aim to safeguard the long-term integrity of groundwater, ensuring it remains a viable source of drinking water for the community. The introduction of contaminants into aquifer recharge areas presents significant risks to the quality of this water. To mitigate these risks, the City of Liberty Lake is required to identify and preserve critical aquifer recharge areas (**Figure 4.1**)—zones that are crucial for replenishing the aquifer used for potable water. The guidelines in this section are designed to maintain the purity and availability of our aquifer and its critical recharge zones.

Figure 4.1: Erodible Soils and Aquifer Boundary Map



Surface Water Quantity and Quality

Water quality and quantity influences the domestic, economic, recreational, and natural environments of the City of Liberty Lake. Historically, clean water has been taken for granted. As growth and development have increased, so have problems associated with maintaining water quality and quantity. Industry, commercial business, agriculture, and residences all contribute to reduced water quality and quantity. From this perspective, a comprehensive approach must be taken to ensure future water quality and quantity.

Stormwater

Virtually all of the stormwater that runs off of developed and impervious surfaces in the City discharges to the SVRP Aquifer. The potential for pollutants in stormwater to enter the aquifer is well-established. Consideration of these conditions will inform approaches to stormwater management that the City develops as part of the Stormwater Master Plan

The protection of the SVRP Aquifer from pollution, depletion, or degradation is an important aspect of stormwater planning for the City. Specifically, preparing and implementing measures to protect the aquifer from potential stormwater quality impacts are a consideration for the selection and application of stormwater control measures and their maintenance. The City will continue to use stormwater discharge to the ground as its primary disposition due to the advantages in doing so for groundwater supply, flood management and control, system costs, and low-impact design. Stormwater control measures identified in the Eastern Washington Stormwater Manual will continue to be applied to minimize the potential for adverse effects. The City will also continue to engage in regional planning, protection, and education efforts to protect this resource.

Fish and Wildlife Habitat Conservation Areas

Fish and Wildlife Habitat Conservation Areas include:

- Areas with which specifically identified species have a primary association. These specifically identified species include endangered, threatened, sensitive and candidate and secondarily: monitor and priority species (game and non-game), as identified by the Department of Fish & Wildlife in the Priority Habitats and Species lists.
- Habitats and species of local importance.
- Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat.
- Waters of the state.
- Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; or
- State natural area preserves and natural resource conservation areas.

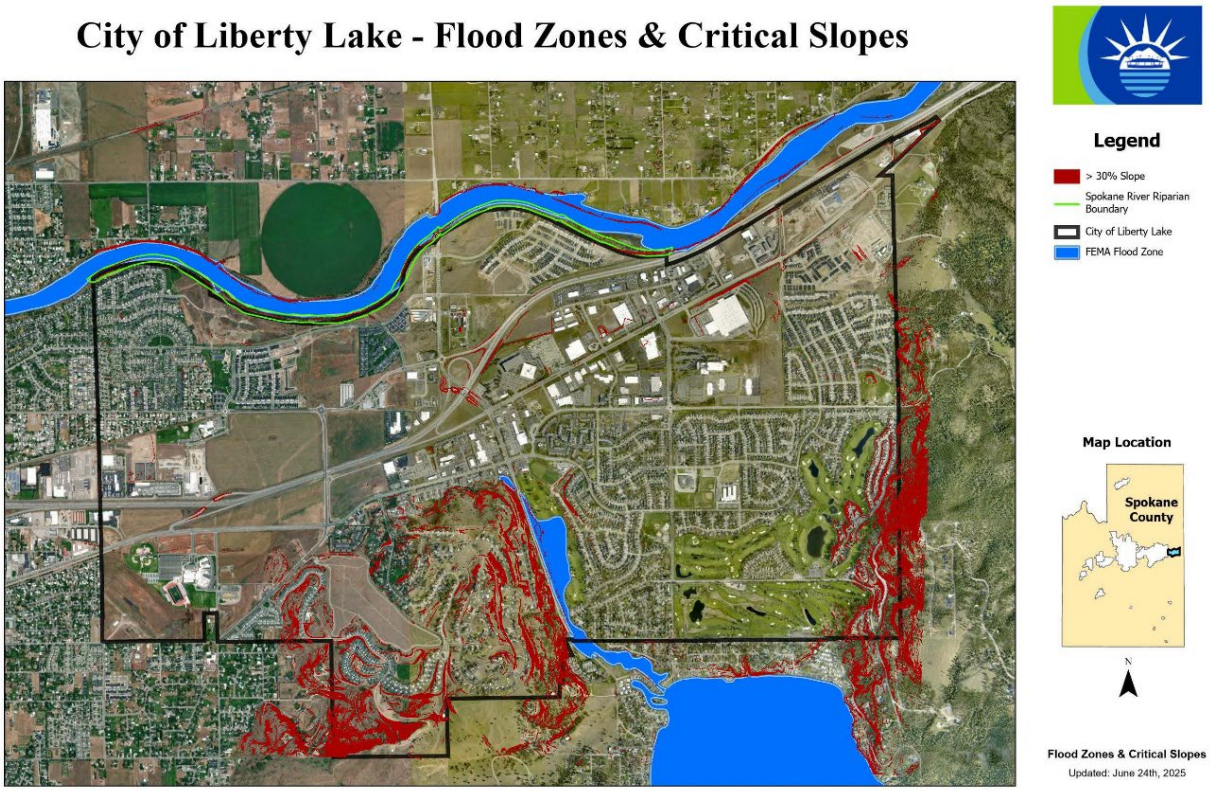
Fish and Wildlife Habitat Conservation involves managing land in a way that helps wildlife species live and thrive in their natural environments. The goal is to prevent these populations from being split into smaller, isolated groups that might struggle to survive. This does not mean always maintaining all individuals of all species, but it does mean cooperative and coordinated land use planning is critically important among Spokane County and its various municipalities.

A wide variety of outdoor recreation activities are valued by residents and visitors and contribute to the local economy and quality of life. Preservation of the fish and wildlife habitat is the key to the continued existence of these species in the future. The many goals and policies in this chapter articulate the high value that community residents place on conservation of the local fish and wildlife.

Frequently Flooded Areas

Frequently flooded areas are lands in the floodplain subject to a 1-percent or greater chance of flooding in any given year. These areas include, but are not limited to, streams, rivers, lakes, sink areas, major natural drainageways, and wetlands. Frequently flooded areas are natural physical features of a watershed that play an important role in stormwater storage and disposal. The purpose of these goals is to maintain the natural function of these frequently flooded areas in order to protect private and public property and reduce the need to construct flood control facilities as well as protect the environment. Flood zones within Liberty Lake are shown in **Figure 4.2** below.

Figure 4.2: Flood Zones & Critical Slopes Map



Geologically Hazardous Areas

Geologically hazardous areas are locations vulnerable to erosion, landslides, earthquakes, or other geological events. These areas are not suitable for commercial, residential, or industrial development due to potential risks to public health and safety. The aim of establishing specific goals and policies for these areas is to ensure that such hazards are identified and allow for hazard mitigation measures to be integrated into building designs. To protect public safety, development in these hazardous areas should be prohibited unless effective hazard mitigation strategies can be guaranteed. Geologically hazardous areas include slopes greater than 30% as shown in **Figure 4.2** above as well as erodible soils as depicted in **Figure 4.1** above.

Shorelines

Shorelines are among the most sensitive and ecologically important environments in Washington. While the City of Liberty Lake does not contain any lakes, rivers, or streams within its municipal boundaries that qualify as Shorelines of the State, a narrow portion of the northern city limits does include regulated shorelands—defined as lands within 200 feet of the ordinary high-water mark of shoreline waters. These shorelands are associated with the adjacent Spokane River, which is designated as a Shoreline of Statewide Significance.

Although the river itself lies outside City limits, the presence of shorelands within the City triggers planning responsibilities under the Washington State Shoreline Management Act (SMA, RCW 90.58). However, the City has not yet been required to adopt a Shoreline Master Program (SMP). The Washington State Department of Ecology has confirmed that while the City is subject to SMA requirements, it will not be required to develop a local SMP until grant funding is made available—expected around 2029, with formal notice anticipated in 2028.

Ecology will support this process with a forthcoming desktop assessment to determine the precise extent of affected areas.

Until such time as the City develops an SMP, the Spokane County Shoreline Master Program—adopted by reference prior to incorporation—remains applicable. In accordance with RCW 36.70A.480, goals and policies from the applicable SMP are considered part of this Comprehensive Plan and inform land use planning within shoreline areas.

The City recognizes the importance of managing shoreline areas to ensure their ecological function, protect public health and safety, and support responsible recreation and land use. Future planning will reflect these values and ensure consistency with state law and regional coordination efforts.

Watersheds

The City of Liberty Lake should conduct ongoing watershed stewardship activities. The goals of watershed stewardship are to increase public awareness about watershed management efforts and to get participation in the process to ensure stewardship on residents' property and homes. Promoting watershed advocacy is important because it can lay the foundations for public support and greater watershed stewardship. Most watershed protection tools require maintenance if they are to properly function over the long run. Some of the most critical watershed maintenance functions include management of conservation areas and buffer networks, and maintenance of stormwater practices and sewer networks. The Liberty Lake Sewer and Water District (LLSWD) can provide resource management expertise. LLSWD is involved at multiple scales of engagement, including long-term management of the Liberty Lake and greater Spokane River watersheds. There are six basic programs that can promote greater watershed stewardship:

- Watershed advocacy
- Watershed education
- Pollution prevention
- Watershed maintenance
- Indicator monitoring
- Watershed restoration

Spokane County Landfill

The Greenacres Landfill is a closed, legacy solid waste site located within the City of Liberty Lake. Originally operated by Greenacres Township from 1950, the site became a fill-and-cover landfill under Spokane County’s oversight in 1967 and closed in 1972 after reaching capacity. In 1984, the site was listed on the National Priorities List due to groundwater contamination detected in a nearby private well.

The Washington State Department of Ecology assumed regulatory oversight in 1989 and finalized a cleanup action plan in 1992. A landfill cap was constructed and completed in 1998. Today, the site is monitored through a network of groundwater wells and landfill gas probes. Although no leachate collection system is present, regular testing ensures compliance with state cleanup standards.

The City of Liberty Lake coordinates with Ecology and Spokane County to ensure that nearby land uses are compatible with ongoing environmental protection efforts. The presence of the closed landfill highlights the importance of continued vigilance in protecting groundwater quality, managing land use around sensitive sites, and ensuring that environmental health risks are minimized through collaborative, science-based approaches.

Air Quality

Air quality in Liberty Lake is influenced by both natural conditions and human activity. Greenhouse gas emissions and related reduction strategies are addressed in the Greenhouse Gas Reduction sub element; this section focuses on other pollutants that can affect local air quality and public health

Primary sources of air pollution include vehicle emissions, wood burning, open burning, construction dust, and agricultural activities. Regional air quality can also be affected by windblown dust from central Washington. The Spokane Valley's topography contributes to occasional temperature inversions, which can trap pollutants close to the ground during certain weather conditions.

The City, in coordination with the Spokane Regional Clean Air Agency and the Washington State Department of Ecology, implements measures such as restrictions on open burning, certification and limited use of wood stoves during air quality alerts, and dust control through road paving and alternative deicers. These actions, combined with cleaner fuels and vehicle technology, have improved air quality in recent decades.

As Liberty Lake continues to grow, maintaining good air quality will require continued coordination between land use and transportation planning, along with regional air quality programs, to protect community health and quality of life.



LIBERTY LAKE — 2046

URBAN DESIGN ELEMENT

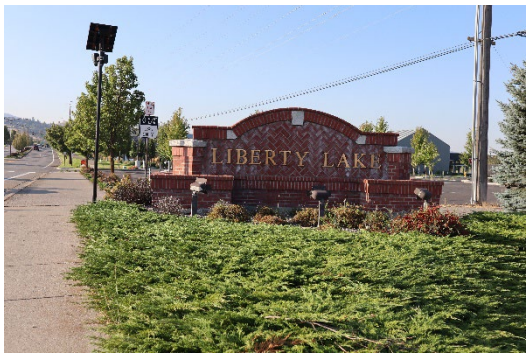
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A. Introduction

The Urban Design Element establishes goals and policies that will guide patterns of development and redevelopment to ensure it harmonizes with both the built and natural environments. This element attempts to emphasize the community's core values and enhance the city's distinct character. The goals, policies, and programs identified in this element will help to ensure that new development is consistent with the existing built and natural environments.

Historically, Liberty Lake began as a master-planned community, with several commercial and residential developments bound by design covenants covering aspects such as signage, building colors, landscaping and materials. This element, alongside the development regulations and design standards, will shape and enhance the city's existing aesthetic character within the built environment.



This element is influenced by the Land Use, Transportation, Climate, and Parks, Recreation, and Open Space Elements, with a particular focus on community safety, environmental conservation, and the overall physical design of the built environment. The city's character is defined by its pedestrian-oriented design features, with its robust multimodal pathway network integrated into a network of roadways providing connectivity and punctuated with street trees, grassy swales, and other plantings. Human-scale buildings incorporated into mixed-use zones, and ample green spaces in this walkable community help to foster a distinct "sense of place." The cohesive integration of these design principles creates an urban village where residents have ample opportunities to interact and engage with one another, and where small, locally owned businesses can flourish.

The City recognizes the importance of design standards and development criteria that are sensitive to both aesthetic and environmental needs as a catalyst for enhancing the city's economic base. The standards in this element support a range of architectural styles, natural colors and materials to blend the urban and natural environments. Future developments prioritizing quality design, accessibility, and craftsmanship will contribute to a beautiful, functional and resilient city.

B. Goals and Policies

Urban Design Goal 1: Maintain the urban character and the scenic resources of the community.

> **Policy 1.1:** Maintain design standards and a design review process to ensure that neighborhood and community centers are developed with minimal impact on surrounding land uses and assure pedestrian and vehicular access.

Policy 1.2: Maintain and support an administrative design review committee consisting of five members. Two (2) positions shall be filled by City staff members and three (3) positions shall be filled by members of the Planning Commission.

Policy 1.3: Public and private sector development shall be subject to citywide design guidelines which are intended to protect the community's scenic views, provide community cohesion, and enhance the community image of Liberty Lake. Design review shall be required for the following developments:

a. Developments within designated mixed-use areas;
b. Public buildings over 5,000 square feet;
c. Aesthetic corridors and boulevards;
d. Commercial and industrial developments; and
e. All non-residential buildings that are visible from a public street.

Policy 1.4: Separated sidewalks with appropriate lighting shall be required on public streets in all new residential subdivisions.

Policy 1.5: Require the planting of curbside trees. Identify those species of trees that are most appropriate for curbside plantings, considering safety, soils, aesthetics, and compatibility with infrastructure, and require species diversity to protect from disease and promote neighborhood identity.

Policy 1.6: Encourage new developments, including multifamily projects, to be arranged in a pattern of connecting streets and blocks to allow people to get around easily by foot, bicycle, bus or car. Cul-de-sacs or other closed street systems may be appropriate under certain circumstances including, but not limited to, topography and other physical limitations which make connecting systems impractical.

Policy 1.7: Maintain standards that prescribe maximum building heights and other building design features to give a residential scale to multifamily developments.

Policy 1.8: Continue to implement and strengthen standards for the scale and intensity of commercial signs that protect views and minimize signage clutter while still allowing adequate business identification.

Policy 1.9: Prohibit construction of new video boards, billboards, and electronically changeable message signs, except under limited circumstances. Work with business owners to transform such existing signs while providing the option of directional signage.

Policy 1.10: Work with public agencies and private property owners to improve the appearance of gateways into the city.

Policy 1.11: Encourage the use of native, adaptive, and drought-resistant landscape materials in public and private building projects, where appropriate, to enhance the cohesion between the natural and built environments.

Policy 1.12: Encourage locating parking lots to the rear or side of buildings to enhance streetscapes and promote pedestrian access.

Policy 1.13: Require landscaping in parking areas to avoid large uninterrupted areas of asphalt.

Policy 1.14: In an effort to preserve the value of the community's night sky, outdoor lighting should be downward facing and shall be limited in height, number, and intensity of fixtures needed to provide sufficient security and identification on residential, commercial, and other development.

Policy 1.15: Incorporate the City's identification symbol into planters, benches, public buildings, City vehicles, streetscape furnishings, and other appropriate applications.

Policy 1.16: The City should support proactive code enforcement in a manner that encourages voluntary compliance to maintain community aesthetic standards, preserve property values, and enhance the overall quality of life.

Policy 1.17: Maintain design standards and land use plans for neighborhood centers, community centers, and the Central Business District that are based on the following principles:

a. Centers should be compact, nonlinear development to encourage transit, bicycle, and pedestrian travel. Multistory construction, shared parking, and other techniques to use land efficiently should be encouraged.
b. Aesthetic quality and compatibility among land uses within and adjacent to centers should be enhanced through landscaping, building orientation and setbacks, traffic control, and other measures to reduce potential conflicts. Distinctive or historical local character and natural features should be reflected in development design to provide variety within centers.
c. Unsightly views, such as heavy machinery, storage areas, loading docks, and parking areas, should be fully screened from the view of adjacent uses and from all public streets and residential zones.
d. Signs should be regulated to reduce glare and other adverse visual impacts on nearby residents, without limiting their potential contribution to the color and design of the center.
e. Routes for pedestrian, auto, bicycle, transit, and truck travel within centers should have convenient access to each major destination. Buildings should be close to sidewalks to promote walking and browsing, with parking areas located on the side or at the rear of buildings.
f. Commercial development in centers should provide or contribute to public spaces such as plazas, parks, and building atriums to enhance the appearance of the center and to provide amenities for employees and shoppers.
g. Off-street parking areas should be designed to enhance pedestrian and handicapped access to commercial uses.
h. To encourage the use of alternative modes of transportation, require the installation of secure bicycle parking facilities that are convenient for users and safe for pedestrians.
i. Facilitate the safe use of golf carts where appropriate.

Policy 1.18: Maintain specific design standards for development that occurs adjacent to designated aesthetic corridors and boulevards that:

a. Provide incentives for aesthetic design;
b. Require landscaping buffers adjacent to roadways;
c. Limit sign height and size;
d. Provide performance standards to adequately screen heavy or "manufacturing" industrial-type developments that have exterior clutter (exterior storage, exterior heavy equipment, exterior fabrication/ assembly); and
e. Use non-glare, energy efficient lighting techniques when possible.

Policy 1.19: Maintain the following routes as boulevards with pathways and landscaped center medians or other aesthetically pleasing landscaping or features:

a. Molter Road;
b. Liberty Lake Road; and
c. Mission Avenue.

Policy 1.20: Continue to work closely with property owners in the Central Business District to support their efforts to develop the remaining vacant lots and to renovate and enhance existing developments.

Policy 1.21: Actively involve the Planning Commission, Parks & Arts Commission, and public in the design of improvements to roads and gateways in the city.

Policy 1.22: Underground overhead utility lines, especially in the Central Business District, whenever feasible.

C. Urban Design Features

Natural Systems and a Basic Strategy



Development and population growth can result in substantial environmental effects, which can be addressed through a thoughtful integration of the natural environmental systems with the built environment. Developing a vision of the mature City provides the basis for innovative uses of old and new approaches. Liberty Lake's unique climate and landscape offer both challenges and opportunities for design, promoting the use of native, weather-resilient landscaping to maintain natural continuity. The strategic placement of trees, shrubs, grassy areas, open space opportunities, and naturally occurring building materials further integrates and enhances the connection between the built environment and nature.

Criteria for Evaluating Building and Site Design

The relationship of new and infill development to other structures and the larger environment should be the focus of building and site design evaluation. Planning and design criteria assist in determining a project's compatibility with the surrounding area. These criteria include:

- Zoning category and associated design standards, appropriate for the uses allowed within the zone;
- Percentage of impervious surface (roof, parking, sidewalks – areas that promote run-off);

- Building height;
- Setbacks;
- Overall building lot coverage;
- Proportions and massing;
- Roof types and materials;
- Surface color and texture;
- Building projections and articulation;
- Architectural details; and
- Landscape design features.

Building Proportions, Height and Setbacks

New structures should be compatible with other buildings in the vicinity, with the goals of preserving and enhancing design qualities of the built environment and preserving views. Setbacks should be compatible with those of surrounding structures and scenic resources, providing building presence without allowing the structure or development to dominate other buildings, the streetscape, or the natural scenic views. The proportions of proposed residential, commercial, or industrial structures will also affect their compatibility with site and surrounding conditions. Establishing a relationship between existing and planned development may set a standard that is meant to rejuvenate a neighborhood, giving it greater influence in establishing future design criteria for the neighborhood. Generally, height and width of building elevations should not be significantly out of character with existing neighborhood development or interfere with natural scenic views.

Roof Types and Materials

Roof types and materials and roof lines can play a critical role in either complementing or degrading natural scenic views. Roof types, from flat to multiple arrays of hipped and gabled roofs, provide a range of possibilities for contrasting or imitative treatment.

Surface Texture and Color

Variable weather conditions and the natural hues of the surrounding hills should influence the selection of surface textures and colors, ensuring compatibility with the environment. Surfaces that mimic the course, warm tones of the hills are preferable, as slick and shiny finishes can create unwanted glare and detract from the natural setting. While post-modern and hybrid architectural styles often incorporate contrasting colors and materials, these should still align with broader design standards. Surface texture is less prominent but essential in complementing architectural pattern and massing. Like all design elements, texture should be carefully considered to enhance the overall design and harmonize with the environment.

Building Projections and Architectural Details

Much of a building's design is expressed in the detail, articulation, and projections that grow out of the building envelope. Building projections and other architectural details play important functional and aesthetic roles in a building's efficiency as shelter as well as its appearance. Providing privacy and screening from the elements, projections and architectural detail also affect surrounding development. The use of porches and verandas can further enhance residential living space and provide protection from sun and wind.

Site Planning and Community Design

Site planning involves the distribution of buildings, parking, driveways, and landscaped open space areas of a site. It establishes the development's relationship to the street and surrounding properties. The influences of site design are not always easy to visualize and assess without the development of a detailed site plan. Care should be taken not to allow artistic applications of color, landscaping, and graphic "eye wash" to obscure or misrepresent the final product as it will actually appear on the development site. Together with building architecture, site planning is a critical design parameter determining the compatibility of proposed development with the existing development.

Gateways, Crossroads, Corridors and Scenic Places

In addition to the architectural character of community design, other elements must be addressed when considering the community as a whole. These include areas with important landmarks and focal points, which lend identity and character to the community, and create a sense of place. Landmarks or focal points may include natural, historic, architectural, or cultural areas of interest.



Some of the most important community assets are the scenic resources within and surrounding the City, including Liberty Lake, the Spokane River, Mica Peak, Mt. Spokane, Kramer Hill, and Holiday Hill. Preservation of these scenic vistas is an important goal of the community. However, various types of land development, the construction of buildings and walls, landscaping, roads, and the extension of utility lines and other facilities may impact the scenic resources of the community. The protection and enhancement of the City's views is important to the aesthetics of the City of Liberty Lake.

Liberty Lake has a variety of important entry and focal points, which provide opportunities to reinforce the City's identity. The integration of monuments and appropriate signage, as well as special streetscape and landscape standards, can be used to reflect the community's unique character. Focal points such as public art can be located anywhere along major routes, including important street corners, within parks and other public open spaces, civic buildings, schools, and historic areas. Adequate areas for significant landscape or architectural treatment, City entry signage, special paving, and other identifiable features all lend character and identity to entry and other focal points. Examples of developed landscape architectural elements include the boulevard designs of Harvard Road, Molter Road, and Country Vista, which provide a welcoming experience to motorists, bicyclists, and pedestrians as they travel through those portions of the City. The boulevards also provide a sense of place and vitality to the City. Landscaping elements, monument signage, site furnishings, public art, and open space areas should all be considered in the development standards and policies for landmark or focal point enhancement.



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HOUSING & COMMUNITY SERVICES ELEMENT

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A. Introduction

The City of Liberty Lake is committed to fostering a vibrant, livable community by addressing both housing needs and community services. Our vision prioritizes strong neighborhoods, high-quality housing, and robust community support systems to enhance the quality of life for all residents. Stable neighborhoods thrive on connections, shared values, and well-maintained public and private spaces, while comprehensive community services ensure that essential human needs are met through collaboration among public and private entities.

By integrating housing strategies with community service programs, Liberty Lake aims to build a sustainable and inclusive environment that supports individuals, families, and the broader community.

B. Housing Goals & Policies

Housing Goal 1: Preserve the aesthetics of existing neighborhoods and support high-quality new development.

Policy 1.1: Encourage infill development within existing residential neighborhoods that is compatible with surrounding structures and uses and is consistent with neighborhood design.

Policy 1.2: Encourage neighborhood developments that protect the environment, provide usable open space, and exhibit exceptional quality and design.

Policy 1.3: Maintain incentives to encourage cluster development while preserving open space and protecting critical areas.

Policy 1.4: Maintain architectural design guidelines that provide detailed, human-scale design, while allowing flexibility to use a variety of building styles.

Housing Goal 2: Enhance housing availability and affordability for all economic segments of the population.

Policy 2.1: Allow various types of suitable-scale housing, including cottage-style housing, duplexes, and other two-unit housing configurations, to be built within low-density residential zones.

Policy 2.2: Periodically review and update development requirements and design standards for accessory dwelling units (ADUs) and manufactured homes.

Policy 2.3: Periodically review and update residential parking standards.

Policy 2.4: Support more affordable homeownership by streamlining the subdivision and condominium platting processes.

Policy 2.5: Utilize objective design review processes to streamline permitting and approvals of residential developments.

Policy 2.6: Expand allowable housing options, such as tiny homes, cottage clusters, and co-living developments, in medium-density residential and mixed-use zoning districts to promote a variety of densities and housing types.

Policy 2.7: Develop and implement a multi-family tax exemption program to encourage the private sector to create more affordable housing opportunities.

Policy 2.8: Consider opportunities for mixed-use development in the light industrial zone.

Policy 2.9: Encourage medium- and high-density development by periodically reviewing and updating the standards for multi-family and mixed-use developments.

Policy 2.10: Promote the preservation of existing housing units that provide affordable options for households through loans, grants, and other programs.

Policy 2.11: Periodically assess the effects of policies and regulations on housing affordability and fair housing choice, and reduce regulatory barriers, where necessary.

Policy 2.12: Relax design and development standards for adaptive reuse to support the conversion of existing, underutilized non-residential buildings into housing developments.

Policy 2.13: Protect existing households from displacement.

Housing Goal 3: Accommodate supportive and emergency housing facilities, and support housing for populations with special needs.

Policy 3.1: Periodically review and update development and parking standards for emergency and supportive housing projects and facilities.

Policy 3.2: Support initiatives proposed by affordable-housing advocacy organizations.

Policy 3.3: Enable a continuum of allowable housing options for special-needs populations through periodic policy reviews.

Policy 3.4: Promote housing development in areas that are accessible to public transportation for individuals with mobility challenges.

Policy 3.5: Support both rental and ownership forms of affordable housing in a variety of types and sizes.

Policy 3.6: Support a range of housing types for retirees and seniors, including condominiums, assisted living, co- and independent-living communities near essential services and transit.

Policy 3.7: Enable emergency and supportive housing facilities to include related offices and provide on-site services when located in residential zones through revisions to zoning regulations.

Policy 3.8: Consider introducing temporary or short-term rental programs as transitional housing options for specific groups**.**

C. Community Services Goals & Policies

Community Services Goal 1: Enhance the quality of life for all City of Liberty Lake residents**.**

Community Services Goal 2: Facilitate programs addressing the City residents' basic human needs including food, clothing, shelter, primary health care, transportation, and protection from abuse.

Policy 2.1: Support human service agencies and not-for-profits specializing in emergency housing, transitional and supportive housing services, and housing subsidies for low-income residents to improve housing affordability.

Policy 2.2: Support the expansion of the public transit system to reduce transportation costs and improve access to essential services.

Policy 2.3: Foster strong community-school relationships by minimizing travel distances for education and facilitate collaboration between City staff and school staff.

Policy 2.4: Enable non-profits and human service providers to use public facilities for community meetings, childcare support, and events.

Policy 2.5: Support programs addressing human service needs with public and private resources.

Policy 2.6: Promote programs provided by agencies and non-profits for weatherproofing and housing rehabilitation assistance to senior citizens and lower-income residents living in older housing stock.

Policy 2.7: Support health care access for low income, elderly, and disabled residents.

Policy 2.8: Promote caregiver relief programs, including parenting, childcare and eldercare support.

Policy 2.9: Plan for future needs through regular community trend analyses and stakeholder engagement.

D. Housing & Community Services Integration

Affordable & Special-Needs Housing

Affordable housing spans various housing types and price points to meet the diverse needs of the community, offering safe, livable, and suitable shelter options. Ensuring fairness in housing through compliance with state and federal laws promotes equitable access and choice.

Special-needs and supportive housing accommodate people of varying ages, income levels, and abilities by integrating the ability to provide support services and considerations for a variety of housing types into land use and zoning regulations to accommodate varied housing needs, while promoting compliance with fair housing standards.

Infrastructure & Services

Effective housing policies are supported by clear, consistent regulations that reduce development barriers and align with community goals. Concurrently, addressing basic human needs—such as food security, employment assistance, and social support—requires collaboration among local agencies, civic groups, and businesses.

E. Residential Land Capacity Analysis

As a part of the 2026 update process, the City conducted a Land Capacity Analysis (see **Appendix B**, Land Capacity Analysis) to determine if there was adequate supply of vacant land suitable for development in order to meet the population growth and housing demand projected for the City through the year 2046. This analysis assumed a variety of housing types and densities consistent with this Comprehensive Plan and the City's Development Regulations. The analysis indicates that the City's population at build out will be approximately 22,000 which will meet the population targets established for the City. It further indicated that the housing types that are assumed to be affordable for various income levels were allowed under current development regulations, in quantities that would meet projected housing needs by income level.

Projected Population Growth

Liberty Lake's Land Capacity Analysis (LCA) is premised on the forecasted growth for the City of Liberty Lake through 2046, the planning horizon for this Comprehensive Plan. The forecasted population growth is based upon the projected County-wide population growth for this period and then allocated by jurisdiction.

The Spokane County Planning Technical Advisory Committee (PTAC) and the Steering Committee of Elected Officials (SCEO) reviewed Washington States' Office of Financial Management's (OFM's) high, medium, and low population projections for Spokane County, and based upon a regression analysis of the County's actual population growth since the 2017 Periodic Comprehensive Plan, the medium 2046 population projection of 654,665 for Spokane County was adopted by the Board of County Commissioners as the forecasted growth for planning purposes.

Population allocations for individual jurisdictions within the Spokane County then went through a similar review and analysis, with a few hand adjustments for the very small jurisdictions where the regression analysis suggested negative growth, and that allocation was also adopted by the Board of County Commissioners for planning purposes[1] (as detailed in **Figure 6.1**).

[1] Adopted by the Board of County Commissioners Resolution 24-0348 on June 18, 2024.

Figure 6.1: Spokane County Population Forecast

FIRST ROUND -- Spokane County Population Estimates

Jurisdiction	Baseline Data (OFM)		OFM Regression (Adjusted)			
	Share2023	Pop2023	Share2046	Pop2046	Δ_{pop}23-46	$\Delta_{\%}$23-46
Spokane County (Whole)	100.00%	554,600	100.00%	654,665	100,065	18.0%
Unincorporated County (inclusive)	29.46%	163,390	*30.38%*	198,870	35,480	21.7%
Unincorporated Outside UGA Only	16.94%	93,934	*15.07%*	98,642	4,708	5.0%
Unincorporated Inside UGA Only	12.52%	69,456	*15.31%*	100,228	30,772	44.3%
Incorporated Spokane County (sum)	70.54%	391,210	69.62%	455,795	64,585	16.5%
Airway Heights	2.03%	11,280	2.74%	17,945	6,665	59.1%
Cheney	2.37%	13,160	2.53%	16,535	3,375	25.6%
Deer Park	0.89%	4,925	0.96%	6,290	1,365	27.7%
Fairfield	0.11%	600	*0.09%*	600	0	0.0%
Latah	0.03%	185	*0.03%*	185	0	0.0%
Liberty Lake	2.37%	13,150	3.35%	21,934	8,784	66.8%
Medical Lake	0.89%	4,915	*0.75%*	4,915	0	0.0%
Millwood	0.35%	1,925	0.30%	1,974	49	2.6%
Rockford	0.10%	570	0.10%	636	66	11.7%
Spangle	0.05%	280	*0.04%*	280	0	0.0%
Spokane	41.96%	232,700	39.11%	256,057	23,357	10.0%
Spokane Valley	19.37%	107,400	19.60%	128,313	20,913	19.5%
Waverly	0.02%	120	0.02%	131	11	9.3%
Source	*CALC*	*OFM*	*REGRESSION*	*CALC*	*CALC*	*CALC*

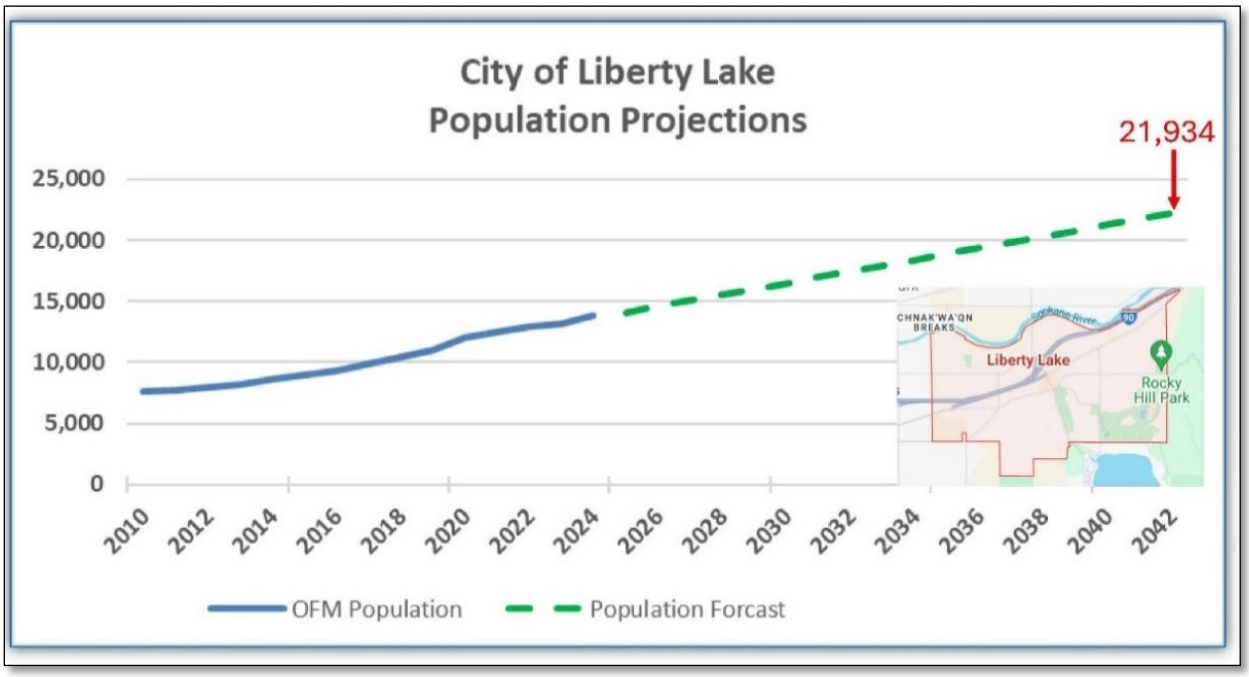
Notes: CALC = Calculated Value, OFM = Office of Financial Management, Δ = delta, or 'change in', inclusive = includes both inside and outside the urban growth area.

Note that the italic "Share2046" values in italics represent hand adjustment to avoid negative growth.

Liberty Lake's projected 2046 population was identified as 21,934. Based upon the City's own regression analysis of actual population growth since the 2010 census, the City is projected to reach this population in 2042 (see **Figure 6.2**).

To provide a regional context, Kootenai County, Idaho, located to the east of Liberty Lake, is also growing rapidly. From 2020 to 2025, Kootenai County's population grew 9.07%, from 170,628 to 188,450 people. Its population is projected to grow to nearly 320,000 in the next 20 years.

Figure 6.2: Liberty Lake Population Projection



Existing Housing & Projected Housing Needs

At the time of 2020 Census, the City of Liberty Lake had 4,916 housing units. As of August of 2024, 902 additional housing units had been constructed in the City of Liberty Lake, for a total of 5,818 units.

For purposes of planning for future housing needs, Washington State Department of Commerce's forecast the future housing needs for each County in the State. That housing forecast included not only housing for the projected population growth from 2020 through 2026 (accounting for approximately 60% of the forecasted future housing need) but also includes housing production needed to eliminate renter cost burden (representing approximately 30% of future need projects), and housing needed for the homeless population (representing roughly 10% of future need). The Department of Commerce has forecast that Spokane County would need a total of 75,184 new housing units to be constructed in the period of 2020 through 2046. The Department of Commerce's allocation of permanent housing needs by income level for Spokane County is detailed in the first several rows of **Figure 6.3**.

In order to allocate the projected housing needs by jurisdiction within the County, the Spokane County Board of County Commissioners adopted the Housing for All Planning Tool (HAPT) Method C, as developed by BERK Consulting for Washington Department of Commerce, based on a conversion of population growth to housing demand. **Figure 6.3** details the County-wide allocation of housing units. Liberty Lake's allocation by income level is notated in red. The City's total projected housing need between 2020 and 2046 is 5,180 units.

Figure 6.3: Spokane County Housing Needs by Income Level

Spokane County

	Total	Permanent Housing Needs by Income Level (% of Area Median Income) 0-30% Non-PSH	0-30% PSH	>30-50%	>50-80%	>80-100%	>100-120%	>120%	Emergency Housing Needs (Temporary)
Countywide Estimated Housing Supply (2020)	221,840	6,613	937	34,798	91,803	32,035	20,981	34,673	1,192
Countywide Total Housing Needs (2046)	297,024	26,518	6,651	48,418	100,647	36,807	24,918	53,065	4,229
Countywide Additional Units Needed (2020-2046)	**75,184**	**19,905**	**5,714**	**13,620**	**8,844**	**4,772**	**3,937**	18,392	3,037

68.09% ← *Minimum allocation to urban areas (cumulatively) to accommodate needs at all affordability levels. This varies by county and population target.*

91.77% ← *Urban area combined % allocation from user inputs*

HOUSING ALLOCATION FROM SELECTED SHARES

		User Input - % Share of Countywide Housing Growth. Values must sum to 100%	Total Units Allocated (2020-2046)	Permanent Housing Needs by Income Level (% of Area Median Income) 0-30% Non-PSH	0-30% PSH	>30-50%	>50-80%	>80-100%	>100-120%	>120%	Emergency Housing Needs (Temporary) *
		User Input									
Unincorporated County	Existing Combined (Estimate)	-	59,013	1,179	0	5,981	14,559	9,421	9,603	18,270	30
	Future Inside UGA	22.81	**17,149**	4,948	1,420	3,385	2,017	1,088	898	3,393	755
	Future Outside UGA	8.23	**6,188**	0	0	0	728	393	324	4,743	0
Airway Heights	Existing (Estimate)	5.26	3,626	67	0	685	1,997	545	134	198	0
	Future Allocation		**3,955**	1,141	328	781	465	251	207	782	174
Cheney	Existing (Estimate)	2.76	5,354	256	0	935	3,097	690	153	223	0
	Future Allocation		**2,076**	599	172	410	244	132	109	410	91
Deer Park	Existing (Estimate)	1.44	1,902	45	0	434	804	275	99	245	0
	Future Allocation		**1,083**	312	90	214	127	69	57	214	48
Fairfield	Existing (Estimate)	0.00	228	5	0	79	104	23	5	12	0
	Future Allocation		**0**	0	0	0	0	0	0	0	0
Latah	Existing (Estimate)	0.00	88	0	0	35	41	6	2	4	0
	Future Allocation		**0**	0	0	0	0	0	0	0	0
Liberty Lake	Existing (Estimate)	6.89	4,915	39	0	208	1,133	1,238	930	1,367	0
	Future Allocation		**5,180**	1,494	429	1,023	609	329	271	1,025	228
Medical Lake	Existing (Estimate)	0.44	1,828	184	0	159	839	329	96	221	0
	Future Allocation		**329**	95	27	65	39	21	17	65	15
Millwood	Existing (Estimate)	0.14	820	27	0	147	413	142	37	54	0
	Future Allocation		**106**	30	9	21	12	7	6	21	5
Rockford	Existing (Estimate)	0.09	195	0	0	62	85	25	7	16	0
	Future Allocation		**68**	20	6	13	8	4	4	13	3
Spangle	Existing (Estimate)	0.02	127	6	0	42	56	12	3	8	0
	Future Allocation		**15**	4	1	3	2	1	1	3	1
Spokane	Existing (Estimate)	29.74	99,938	3,534	937	19,479	47,090	11,873	7,118	9,907	1,134
	Future Allocation		**22,359**	6,452	1,851	4,413	2,631	1,418	1,170	4,424	983
Spokane Valley	Existing (Estimate)	22.16	43,751	1,265	0	6,515	21,579	7,456	2,792	4,144	0
	Future Allocation		**16,661**	4,806	1,380	3,289	1,960	1,058	872	3,296	733
Waverly	Existing (Estimate)	0.02	55	6	0	37	6	0	2	4	0
	Future Allocation		**15**	4	1	3	2	1	1	3	1

In order to evaluate the adequacy of available lands and zoning within the City of Liberty Lake to meet the projected housing needs for all income levels, the City based the "assumed affordability" of housing types by income level as identified by Washington State Department of Commerce in their publication "Guidance for Updating Your Housing Element". **Figure 6.4** summarizes the affordability of housing type by income level. Based on a review of Liberty Lake market rate apartments listed on Zillow, it was confirmed that the assumed affordability was consistent with local market conditions.

The City of Liberty Lake applied the "Methodology for Estimating Affordable Housing Funding Gap" outlined in Commerce's HB 1220 Housing Book 2 to develop a general estimate of the funding gap associated with capital costs for new affordable housing development. The results of this analysis are summarized below.

City of Liberty Lake Estimated Affordable Housing Funding Gap

1. Total annual affordable housing units needed: Per Figure 3 above, 2,946 units are needed in the 0-50% AMI brackets. For a twenty (20) year planning period, this would result in an average of 147 new units needed per year to meet Liberty Lake's allocated need.
2. Average annual units produced: Liberty Lake has not had any recent affordable housing production.
3. Gap in annual affordable housing production: The total gap in average annual production in Liberty Lake is 147 units (total annual affordable housing units needed minus average annual units produced).
4. Gap in funding: Based on 147 units and a Spokane County average cost per unit of $217,419 (in 2022 $ per Book 2 Exhibit 27), the rough estimated funding gap is $31,960,593 per year (excluding money paid by tenants/occupants).

Figure 6.4: Liberty Lake Housing Type Affordability by Income Level

LIBERTY LAKE Housing Type By Income Level			
Housing Type	**>120% AMI**	**80-120% AMI**	**0-80% AMI**
SF/Townhomes	X		
Duplex/Triplex/Quad		X	
Multi-Family/ Condos/Institutional			X
Manufactured Homes		X	
Accessory Dwelling Units (ADUs)		X	

Based upon Spokane County's presumed housing allocation (as detailed in **Figure 6.3**), Liberty Lake's projected housing needs from 2020 to 2046 are summarized by income level in **Figure 6.5.**

Figure 6.5: Liberty Lake Housing Allocation 2020-2046

LIBERTY LAKE Total Housing Allocation 2020-2046	
Housing Allocation for 0-80% AMI	3,555
Housing Allocation for 80-120% AMI	600
Housing Allocation for >120% AMI	1,025
Emergency Housing (Beds)	228

Land Capacity Analysis (LCA) Methodology

The LCA utilized a five-step process to determine available land capacity.

Step 1: Identification of Housing Units Constructed since 2020: The City inventoried the total number and type of housing units constructed between 2020 and August of 2024, when the LCA analysis was conducted. A total of 902 new housing units were constructed in this time frame.

Step 2: Identification of Entitled Housing Units: Entitled developments include vacant platted residential lots; multifamily residential projects that are vested through an approved binding site plan, were in permit review or under construction as of August of 2024; and, the remaining, unplatted portions of active, phased subdivisions. At the time of this analysis, there were a total of 4,217 entitled housing units.

Step 3: Identify Housing Capacity for Vacant/Not Entitled Residential & Mixed-Use Properties: Housing capacity was hand-calculated for the nearly 185 acres of vacant and unentitled residential and mixed-use properties. Specifically excluded from the analysis were public and private rights-of-way, and platted HOA tracts dedicated to parks, open space, utility corridors and critical areas. A market factor of 30% was deducted from this analysis, consistent with County-wide planning policies. After the market factor adjustment, capacity for a total of 635 dwelling units was identified.

Step 4: Identify Housing Capacity of Underutilized Properties: In the City of Liberty Lake, the only larger-lot residential developments are located in topographically-challenged areas, so this analysis only focused on underutilized mixed-use properties. Nearly 45 acres of underutilized mixed-use properties were identified. After applying the 30% market factor adjustment, it was determined that there was capacity for 173 additional dwelling units.

Step 5: Comparison of Housing Capacity to Projected Housing Demand: **Figure 6.6** summarizes the Available Housing Capacity in Liberty Lake by Housing Type. **Figure 6.7** compares Liberty Lake's Housing Capacity to its Housing Allocation (see **Figure 6.5**), as based upon the Housing Type by Assumed Affordability (detailed in **Figure 6.4**).

Figure 6.6: Liberty Lake Housing Capacity, 2020-2046

Liberty Lake Housing Capacity 2020-2046						
Category	Total Units	SF/ Town Homes	Dup/ Tri/ Quad	MF/Condos/ Inst	Man. Home	ADUs
Constructed (as of 8/24)	902	705	28	168	1	0
Entitled	4,217	732	242	3,243		
Vacant/Not Entitled[1]	636	21	361	254		
Underutilized[1]	173			173		
TOTAL ENTITLED	**5,928**	**1,458**	**631**	**3,838**	**1**	-

[1]Market Factor Adjusted

Figure 6.7: Liberty Lake Comparison of Housing Capacity to Allocation

LIBERTY LAKE Comparison Of Housing Capacity To Allocation		
Income Category	Housing Unit Allocation	Housing Unit Capacity
0 -80% AMI[1]	3,555	3,838
80 -120% AMI	600	632
>120% AMI	1,025	1,458
Total Housing Units	**5,180**	**5,928**

[1]Area Median Income

Based upon this analysis, it appears Liberty Lake has the capacity, under its current zoning regulations, to meet its projected housing demand through 2046. **Appendix B** of this document contains the detailed *Liberty Lake Land Capacity Analysis*.

Population Capacity Based on Housing Type

In order to bring the analysis full circle, the City of Liberty Lake projected population capacity based upon housing type, using housing capacity projections from this analysis, and OFM per capita household size and vacancy rates by housing type. The results are summarized in **Figure 6.8**, which demonstrated that the City of Liberty Lake has the capacity to support is population allocation of 21,934.

Figure 6.8: Population Capacity Based on Housing Type

Projected Population Capacity Based On Housing Type					
Description	SF / Town Homes	Dup/ Tri/ Quad	MF / Condos / Inst	Manufactured Hm	ALL UNITS
Total Housing Units, 2020-2046	1,458	631	3,838	1	5,928
Per Capita Household Size[1]	2.855	2.4282075	1.789	2.030534	
Vacancy Rate[1]	0.972	0.906665	0.87	0.98	
Population Capacity, 2020-2046	4,046	1,390	5,973	2	11,411
Liberty Lake 2020 Census Population					13,150
Liberty Lake 2046 Population Capacity					24,561

[1]Based upon OFM rates

F. Barriers to Housing Affordability & Racially Disparate Impacts

In 2021, the Washington State Legislature passed House Bill 1220 (HB 1220) as an amendment to the state Growth Management Act (GMA). HB 1220 requires that local governments plan housing at all income levels and assess the racially disparate impacts (RDI) of existing housing policies. Conditions that indicate that policies have racially disparate impacts can include segregation, cost burden, displacement, educational opportunities, and health disparities. The City of Liberty completed the *Liberty Lake Racially Disparate Impact Analysis* as part of this Comprehensive Plan Periodic Update. The full analysis is attached to this document as **Appendix F.** The following is a summary of those findings.

Throughout the history of the United States, a combination of laws and practices have impacted where specific groups of people live, what opportunities they have access to, and their ability to build wealth through stable housing. Unfortunately, many of these policies explicitly or implicitly benefited white residents at the expense of all others. The legacy of policies like redlining, which used racial criteria in determining which neighborhoods were suitable for government-backed loans, highway development through predominantly Black neighborhoods, and racial covenants explicitly excluding certain groups from owning specific properties continues to impact non-white communities today.

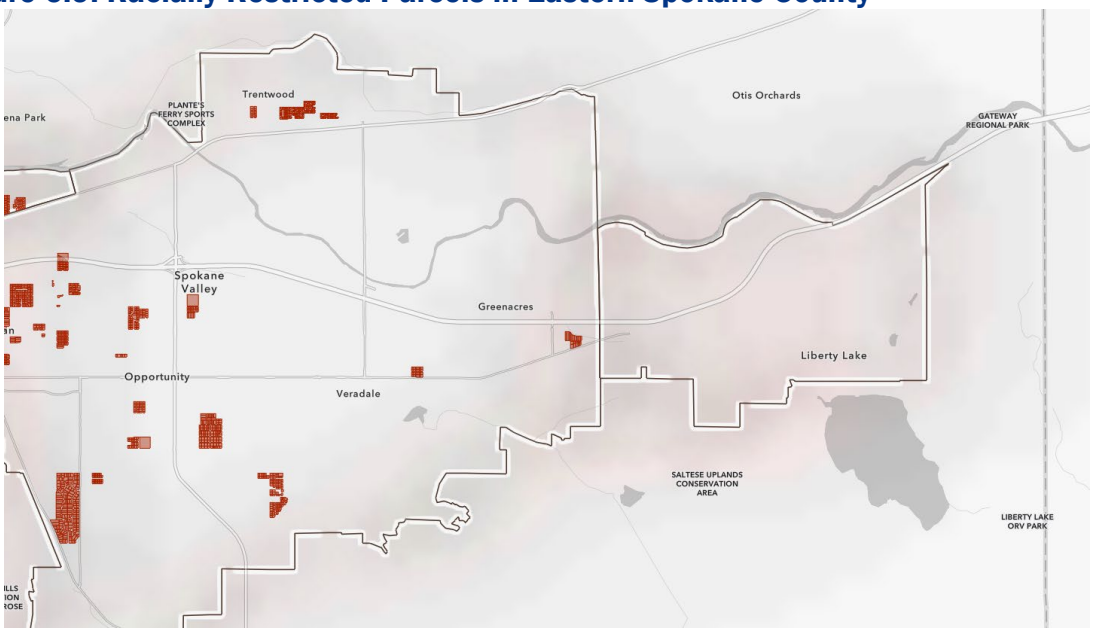
Historical Context

While many cities have acknowledged the harms of these policies, many of which are no longer legal, there are still policies in effect today that hold cities back from rectifying systemic harms. These can include policies that reference vague concepts like “neighborhood character,” as well as those that permit only the most expensive homes to be built, thus shutting lower-income residents out of high-opportunity areas.

Throughout the United States, racial covenants were used to exclude certain races and religious groups from residing in specific neighborhoods, creating exclusive areas for white, Christian residents. These deed restrictions were legally enforceable from 1927 to 1968. Unlike neighboring Spokane Valley, the Washington State Racial Restrictive Covenants Project does not show any known racially restricted parcels or subdivisions in Liberty Lake as shown in **Figure 6.9**. This is largely because most of Liberty Lake’s subdivisions were not built until the 1970s and 1980s, when these covenants were illegal.

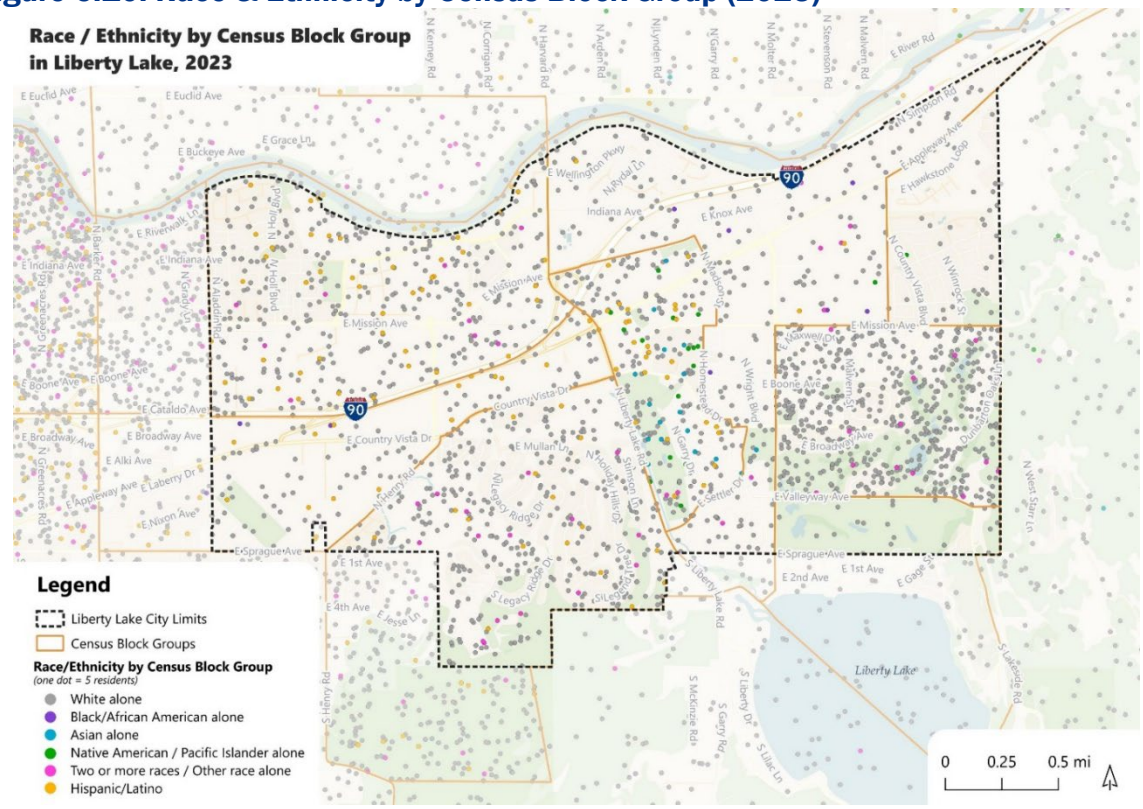
However, as of 2023, Liberty Lake is less diverse than Spokane County overall. Liberty Lake today lacks the diversity of other parts of the county and state – 93 percent of city residents are white as of 2023, with no significant geographic concentrations of BIPOC (Black, Indigenous, and People of Color) households. The area east of N Liberty Lake Road, which has small clusters of Hispanic/Latino and Native American/Pacific Islander households, has a relatively high concentration of multifamily housing as shown in **Figure 6.10**.

Figure 6.9: Racially Restricted Parcels in Eastern Spokane County



Source: Washington State Racial Restrictive Covenants Project.

Figure 6.10: Race & Ethnicity by Census Block Group (2023)



Source: US Census Bureau 2023 5-Year ACS; LCG

Assessing Racially Disparate Impacts

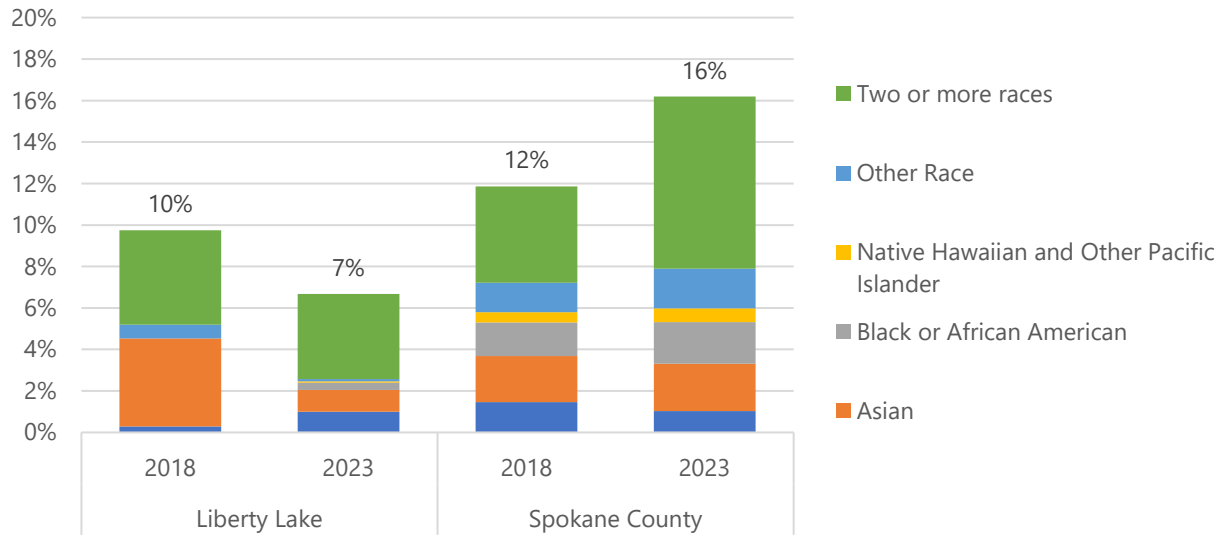
Between 2018 and 2023, Liberty Lake became slightly less diverse. The city grew by more than 3,000 residents over that period but lost Asian and other race residents. The city went from 90 percent white to 93 percent white over the course of five years. Over the same period, Spokane County's population went from 88 percent white to 84 percent white, with Hispanic or Latino and multiracial residents seeing the biggest countywide gains (reference **Figures 6.11 & 6.12)**.

Figure 6.11: Change in Population by Race/Ethnicity, Liberty Lake & Spokane County

	Liberty Lake			Spokane County		
	2018	2023	Change	2018	2023	Change
American Indian and Alaska Native	27	125	98	7,248	5,624	(1,624)
Asian	398	130	(268)	11,117	12,438	1,321
Black or African American	0	43	43	8,009	10,866	2,857
Hispanic or Latino (any race)	252	497	245	27,693	37,356	9,663
Native Hawaiian and Other Pacific Islander	0	9	9	2,507	3,673	1,166
Other Race	62	12	(50)	7,063	10,357	3,294
Two or more races	428	511	83	23,093	45,201	22,108
White	8,467	11,605	3,138	438,838	456,164	17,326
Total Population	***9,382***	***12,435***	***3,053***	***497,875***	***544,323***	***46,448***

Source: US Census Bureau 2023 5-Year ACS (Table DP05)

Figure 6.12: Non-White Population of Liberty Lake & Spokane County, 2018-2023



Source: US Census Bureau 5-Year ACS (Table DP05).

Liberty Lake is home to 2,575 homeowner households and 1,375 renter households. Of the homeowner households, just seven percent are cost burdened (spending more than 30 percent of their income on housing costs), compared with 46 percent of renter households. While just four percent of homeowners spend between 30 and 50 percent of their income on rent, the same is true for 31 percent of renters. In addition, 15 percent of renters are severely cost-burdened, spending more than half of their income on rent. This sharp divide in stability

between renters and owners can result in racially disparate impacts when renters are more likely to be people of color.

In Liberty Lake, 100 percent of American Indian/Alaska Native households and 42 percent of Asian households rent their homes, compared with 35 percent of white households and 22 percent of Hispanic/Latino households. However, in Liberty Lake the cost barriers impact both white residents and residents of color. Among white households, 23 percent spend at least 30 percent of their incomes on rent, compared with 16 percent of Asian and 17 percent of American Indian/Alaska Native households. All of the Asian households experiencing cost burden spend more than 50 percent of their incomes on housing. None of the city's 90 Hispanic/Latino households are cost burdened (see **Figure 6.13**). **Figure 6.14** indicates that the percentage of cost burdened households trended downward in the City of Liberty Lake as whole from 2016 to 2021, as well as across all ethnicities and races. Spokane County as a whole also trended downward to a lesser degree in the same period, but notably, the percentage of cost burdened Native Americans, Hispanic and Latino households increased by 7% respectively.

Figure 6.13: Cost Burdened Households in Liberty Lake (2021)

	White	Asian	American Indian or Alaska Native	Other Race	Hispanic or Latino (of any race)	Total
Owner Households						
Not Cost Burdened	2,380	55	-	45	70	2,550
Total Cost-Burdened	200	-	-	-	-	200
Cost-Burdened (30-50%)	105	-	-	-	-	105
Severely Cost-Burdened (>50%)	95	-	-	-	-	95
Not Calculated	-	-	-	-	-	-
Total	**2,575**	**55**	**-**	**45**	**70**	**2,745**
Renter Households						
Not Cost Burdened	695	25	75	20	20	835
Total Cost-Burdened	680	15	15	-	-	710
Cost-Burdened (30-50%)	470	-	15	-	-	485
Severely Cost-Burdened (>50%)	210	15	-	-	-	225
Not Calculated	-	-	-	-	-	-
Total	**1,375**	**40**	**90**	**20**	**20**	**1,545**
Total Households	**3,950**	**95**	**90**	**65**	**90**	**4,290**

Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).
Note: CHAS data for Liberty Lake does not include Black/African American or Pacific Islander households

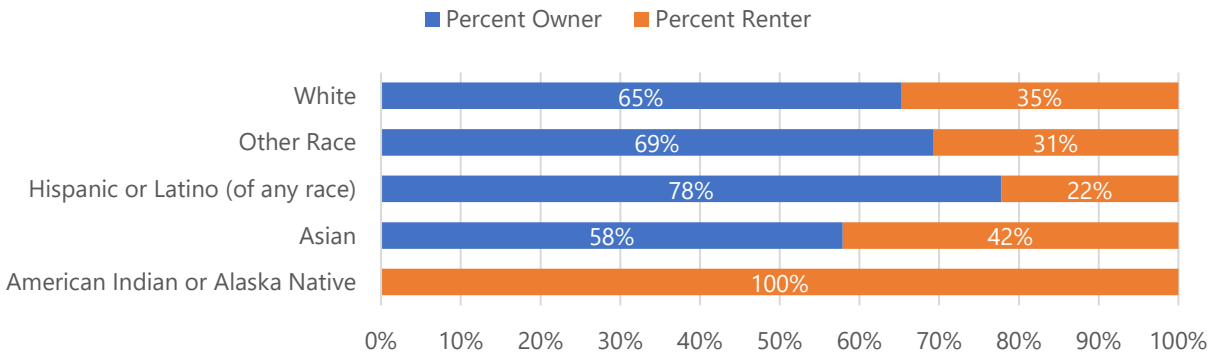
Figure 6.14: Share of Cost Burdened Households by Race & Ethnicity, 2016-2021

	Liberty Lake		Spokane County	
	2016	2021	2016	2021
American Indian and Alaska Native	-	17%	42%	49%
Asian	52%	16%	36%	29%
Black or African American	-	-	50%	45%
Hispanic or Latino (any race)	-	-	35%	42%
Native Hawaiian and Other Pacific Islander	-	-	57%	51%
Other Race	30%	-	35%	33%
White	28%	22%	32%	28%
Total Cost Burdened	***28%***	***21%***	***32%***	***29%***

Source: US HUD, 2012-2016 & 2017-2021 Comprehensive Housing Affordability Strategy (CHAS)

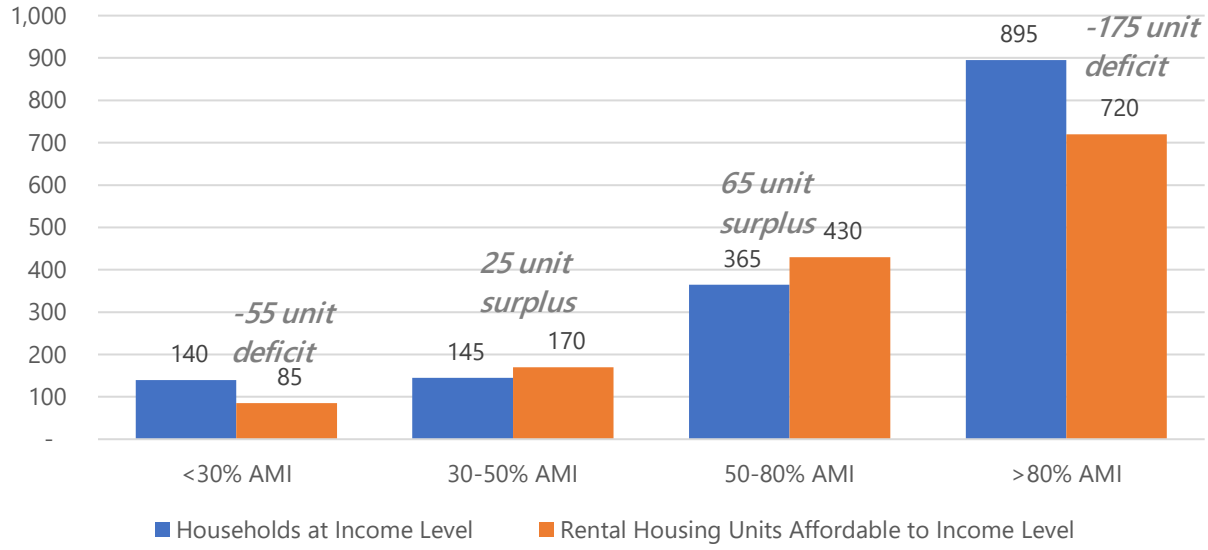
The renter cost burden in Liberty Lake is driven by a shortage of rental units at the high and low ends of the market (greater than 80 percent AMI and less than 30 percent AMI). **Figure 6.15** below shows the percentage of owners and renters by ethnicity. **Figure 6.16** shows the current number of rented households compared with the number of rental units affordable to households at each income level. When there are shortages of units corresponding to a given income level, those households will rent units affordable to a different income level. For instance, the lack of housing at greater than 80 percent AMI indicates that there are likely renters at that income level renting units in the 50 to 80 percent range, making it harder for households in that income range to find housing. Alternatively, the shortage of housing units at the less than 30 percent AMI range indicates that households at that income level are likely cost burdened.

Figure 6.15: Liberty Lake Owner & Renter Households by Ethnicity (2021)



Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

Figure 6.16: Liberty Lake Renters by Income

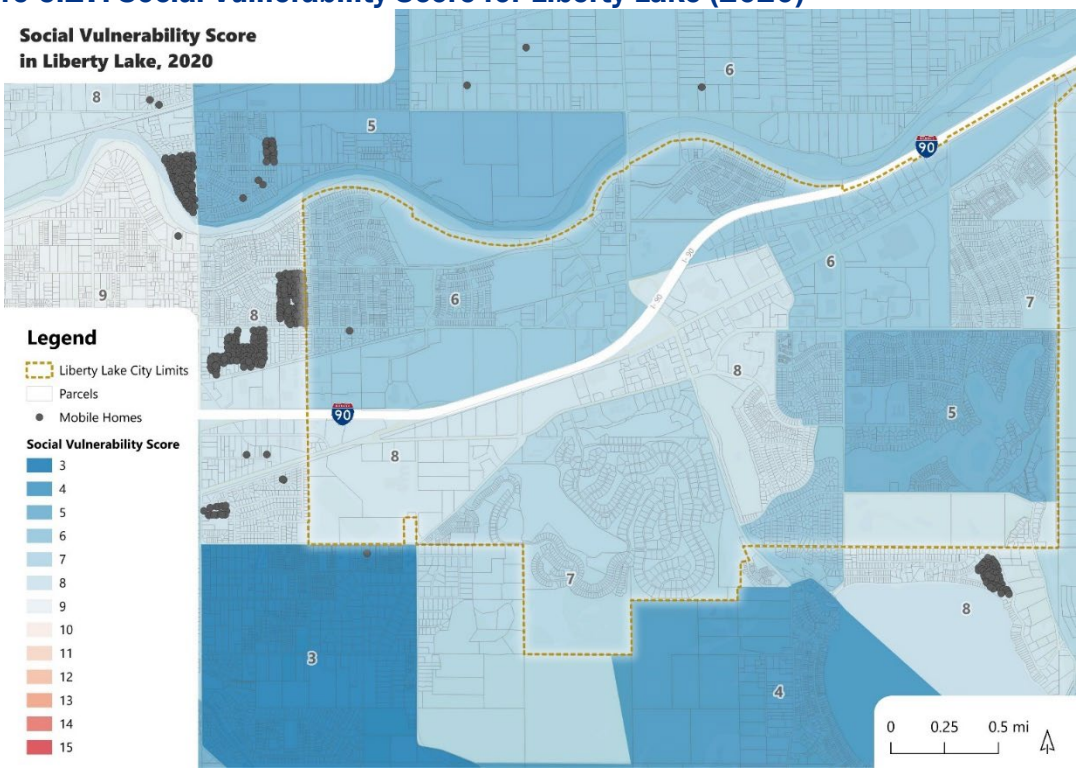


Sources: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 15C & Table 14B).

The Washington Department of Commerce has created displacement risk maps for communities based on Census tracts. A variety of factors can create a risk that residents may be displaced from their homes, including displacements due to climate change, natural disasters, or economic factors (i.e. the cost of maintaining older housing stock, conversion of mobile home parks, or gentrification). While Liberty Lake has no mobile home parks and extremely limited flood plains, because Liberty Lake is such a small community, the tract-level map does not provide the nuance needed to assess displacement risk created by economic factors within the community. The maps below utilize similar methodology to the Department of Commerce maps using data at the Census block group level. **Figure 6.17** below shows the social vulnerability score by Census block group for the city. "Social vulnerability" is the susceptibility of social groups to the adverse impacts of hazards and stressors, often due to factors like poverty, lack of resources, and limited access to services. Overall, Liberty Lake has a lower social vulnerability score than many of its neighborhoods in Spokane and Spokane Valley. However, the Census block that contains most of the City's multifamily housing east of N Liberty Lake Road has a higher social vulnerability score than other parts of the city. The adjacent block group to the west also has a relatively high social vulnerability score, but most of the housing in that block group is located outside of Liberty Lake in Spokane Valley.

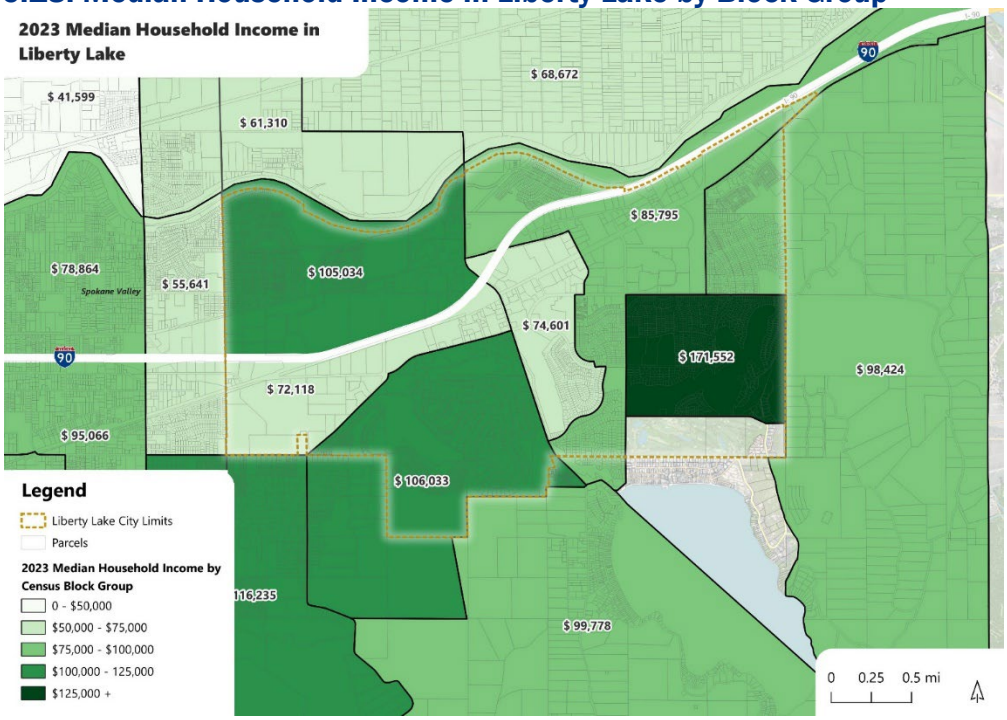
The median income varies considerably by block group in Liberty Lake (see **Figure 6.18** below), with the lowest-income block groups corresponding to those with the highest social vulnerability scores. This indicates that these block groups have the highest risk of displacement.

Figure 6.17: Social Vulnerability Score for Liberty Lake (2020)



Source: US Census Bureau 5-year ACS 2013 & 2023 (Table B19013); 2020 Decennial Census (Table DP01); 2010 Decennial Census (Table H11); Washington Department of Commerce.

Figure 6.18: Median Household Income in Liberty Lake by Block Group



Source: US Census Bureau 2023 5-year ACS (Table B19013).

Figure 6.19 provides data on Liberty Lake households by income and race. Citywide, 84 percent of households make above 100 percent AMI – this includes 88 percent of Hispanic/Latino households, 83 percent of American Indian/Alaska Native households, 73 percent of white households, and 56 percent of Asian households. According to HUD data, all of the households making less than 30 percent of AMI are white.

Figure 6.19: Liberty Lake Households by Income & Race, 2021

Income Category (% of AMI)	American Indian or Alaska Native	Asian	Hispanic or Latino (of any race)	White	Not Reported*	All
Number						
Extremely Low-Income (≤30% AMI)	-	-	-	215	-	215
Very Low-Income (30-50%)	15	15	-	135	-	165
Low-Income (50-80%)	-	25	-	605	-	630
Moderate Income (80-100%)	-	-	10	95	25	130
Above Median Income (>100%)	75	50	75	2,905	45	3,150
Total for published estimates	90	90	85	3,955	70	4,290

Percentage					Not Reported
Extremely Low-Income (≤30% AMI)	0%	0%	0%	5%	0%
Very Low-Income (30-50%)	17%	17%	0%	3%	0%
Low-Income (50-80%)	0%	28%	0%	15%	0%
Moderate Income (80-100%)	0%	0%	12%	2%	36%
Above Median Income (>100%)	83%	56%	88%	73%	64%

Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 1).

Findings & Conclusions

- **Liberty Lake was less diverse in 2023 than in 2018.** Between 2017 and 2021 the share of non-white residents decreased in Liberty Lake while increasing in Spokane County.
- Between 2017 and 2021, Liberty Lake added a significant number of white and Hispanic/Latino residents while losing Asian and other race residents.
- **White households in Liberty Lake are more likely to be cost-burdened** (defined as spending more than 30 percent of their income on housing costs) than other racial and ethnic groups. However, 16 percent of Asian and 17 percent of American Indian/Alaska Native households spend more than 30 percent of their incomes on rent.
- Liberty Lake has **rental housing shortages at the high and low end of the market**. The city needs 55 rental units for households making less than 30 percent AMI and 175 rental units for those making more than 80 percent AMI to meet current demand.
- **Displacement risk is generally low** in Liberty Lake, but as the population continues to grow, the City should consider strategies that might reduce that risk for vulnerable and cost-burdened renter households.
- While **white households are the most likely** of any racial group **to make less than 30 percent of AMI**, Asian households have the highest share of households making less than the median income.

- **Affordability of housing stock and availability of rental housing** within the City of Liberty Lake likely **represent the most significant housing barriers** to more inclusive housing.

Taking a proactive approach in shaping policies to address these challenges will benefit all Liberty Lake households.

Policy Evaluation

To begin to address challenges identified, the *Liberty Lake Racially Disparate Impact Analysis* (**Appendix F**) included a policy evaluation, utilizing Wahington State Department of Commerce's evaluation framework (reference page 14 of **Appendix G**). The results of that analysis were utilized in shaping revised goals and policies contained within this Chapter.

G. Strategies for Increasing Housing Availability & Affordability

While the City of Liberty Lake's existing development regulations permit a variety of mixed-use, middle housing, and other medium-density housing opportunities, demand for housing outpaced availability, and affordability is challenging, throughout the state. The Washington State Legislature has enacted multiple bills in an effort to address the housing shortage and ameliorate the affordability gap across the state. Washington State Department of Commerce has also identified a number of strategies to guide communities in updating their housing policies.

Some of the identified barriers to affordability include areas with severe topography (which limits the density as well as the affordability of development), zoning and density restrictions, some residential design and development standards, residential parking standards, and spacing requirements and capacity for Permanent Supportive Housing (PSH).

After careful consideration of revisions to City development code that have been mandated by recent legislation, as well as other potential tools and strategies that have the potential to increase supply and reduce barriers to affordability, **Figure 6.19** summarizes mandated strategies (see pages 20 and 21), while **Figure 6.20** summarizes strategies that are recommended for Liberty Lake for implementation (see pages 23 and 24).

For additional details, please refer to **Appendix H** of this document, containing the *Liberty Lake Housing Policy Analysis, Implementation Strategies & Programs Technical Assistance Memo.*

Figure 6.20: Mandated Strategies to Increase Housing Supply & Reduce Barriers to Affordability

Required Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Relevant State Legislation	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Allow duplexes and other two-unit middle housing configurations in R-1 zones.	HB 1110, HB 2321	Increase allowed housing types in existing zones. (HAP Z-6) Increase or remove density limits. (HAP Z-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow up to two ADUs per lot.	HB 1337	Increase or remove density limits. (HAP Z-7) Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Increase the maximum allowable size of ADUs to 1,000 square feet.	HB 1337	Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow two ADUs on all lots meeting the minimum lot size requirements for the underlying zone.	HB 1337	Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow separate ownership of duplex units or ADUs on the original lot through condominiumization or subdivision.	HB 1110, HB 2321 HB 1337	Subdivision process streamlining. (P-7)	Process Obstacles	• Housing supply • Affordable homeownership
Limit the required spaces to one off-street parking space per unit for two-unit middle housing types on lots smaller than 6,000 square feet.	HB 1110, HB 2321	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Eliminate parking requirements from middle housing and ADUs within one-half mile of major transit stops.	HB 1110, HB 2321 HB 1337	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing

Required Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Relevant State Legislation	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Remove arbitrary limitations on the number of units and residents at a facility and instead utilize parameters such as occupant load per square foot or generally applicable health and safety provisions to determine occupancy.	RCW 35A.21.314	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Relax the design and development standards for adaptive reuse to encourage the conversion of existing non-residential buildings into housing developments.	HB1042	Development regulations	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Allow co-living housing as a permitted use ina ny zone that allows at least six multifamily residential units, including lots zoned for mixed-use (by 12/21/2025).	RCW 36.70A.535	Development regulations		• Housing supply • Housing diversity • Low income rental housing • Transitional & Supportive Housing

Figure 6.21: Recommended Strategies to Increase Housing Supply & Reduce Barriers to Affordability

Recommended Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Expand allowable housing options, such as tiny homes, cottage clusters, and co-living developments in R-2, R-3, and mixed-use zoning districts in order to increase the diversity of housing options citywide.	Increase allowed housing types in existing zones. (HAP Z-6)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Increase the maximum density for attached housing in R-2 zones from 12 to 16 units per acre.	Increase or remove density limits. (HAP Z-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Remove ADU design standards such as maximum number of bedrooms, six-foot fence, and minimum roof slope.	Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow more flexibility in commercial space requirements for housing developments in neighborhood-oriented mixed-use zones.	Relax ground floor retail requirements. (R-2)	Development regulations Limited land availability	Housing supply Middle-income rental housing
Remove manufactured home design standards, such as multi-sectional designs and minimum roof slope.	Manufactured home and tiny house communities. (R-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Eliminate the minimum enclosed floor area of 1,000 square feet to allow for "tiny home" developments.	Manufactured home and tiny house communities. (R-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing • Very low-income housing

Recommended Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Eliminate design reviews in R-1, R-2, and R-3 zones for moderate-density housing , and utilize administrative Design Review for multi-family housing of more than 6 units to streamline the approval process.	Permitting process streamlining. (P-6)	Process Obstacles	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing • Very low-income housing
Adjusting parking mandates for PSH and emergency housing.	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Remove spacing requirements between shelters and PSH facilities.	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Increase or remove transit proximity requirements for PSH and emergency housing.	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Allow offices in conjunction with PSH and emergency housing across all residential zones.	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Allow multi-family residential as a limited use in light industrial zones with appropriate buffers.	Development regulations	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Explore temporary or short-term rental programs as transitional housing options for specific groups.	Short-term rental regulations.	Development regulations	• Senior housing • Very low-income housing

H. Housing Implementation Strategies

Following the completion of this Comprehensive Plan, the City of Liberty Lake will undertake amendments to its development codes to reflect the goals, policies, and strategies detailed in this Chapter.

Development code amendments will include expanding opportunities to build cottage housing, duplexes, and accessory dwelling units in low density residential zones. In medium-density residential and mixed-use zoning districts, the City will be expanding affordable housing options, such as tiny homes, cottage cluster, and co-living developments to promote a variety of densities and housing types, as well as relaxing design and development standards for the adaptive reuse of existing, underutilized non-residential buildings in to housing developments.

Implementation will include updating design and parking standards, and looking for opportunities to streamline subdivision and condominium platting processes, as well as residential permitting and approval processes.

The City is committed to supporting both rental and ownership forms of affordable housing and intends to develop and implement a multi-family tax exemption program to incentivize the private sector to create more affordable housing opportunities in future housing projects.

Understanding and responding to the evolving needs of Liberty Lake residents is central to this plan. Through ongoing reviews, public engagement, and strategic policy adjustments, the City will continue to promote housing stability and provide essential community services, fostering a thriving, inclusive, and sustainable future.

The City will continue to monitor and evaluate the progress of the development of the projected pipeline of housing types affordable to all-income levels within the City, and will assess our progress in reducing the percentage of cost-burdened households within the City within five years of the adoption of this plan. We will continue to monitor best practices in encouraging affordable housing and will consider adjustments to development code and programs intended to promote the creation of more affordable housing, as may be applicable or warranted.



LIBERTY LAKE – 2046

LAND USE ELEMENT

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A. Introduction

The Land Use Chapter sets the stage for a vibrant, sustainable, family-friendly community through the balanced allocation of land for housing, commerce, industry, recreation, transportation, open space, cultural resources, and other uses. It accommodates growth, while preserving the character of established neighborhoods and protecting them from intrusion of incompatible uses by using innovative land development concepts and techniques.

Planning Principles

The following planning principles, developed through citizen participation efforts, were foundational to the development of the Land Use Chapter and its goals and policies:

- Compact urban forms should be encouraged that create a greater sense of "community," with pedestrian/bicycle-friendly settlement patterns.
- Neighborhood character should be preserved and protected.
- Jobs, housing, services and other activities should be within easy walking distance and shorter commute times of each other.
- The City of Liberty Lake should have a center focus that combines commercial, civic, cultural, and recreational uses.
- Streets, pedestrian paths, and bike paths should contribute to a system of fully inter-connected routes.
- The City of Liberty Lake should have a diversity of housing and job types that enable residents from a wide range of economic levels and age groups to work and reside within the City's boundaries.

B. Land Use Goals and Policies

Land Use Goal 1: Provide a healthful, safe, and sustainable urban environment.

Policy 1.1: Encourage developers to work with neighborhoods to develop plans that address neighborhood concerns, such as environmental protection, aesthetics, quality of life, property values, and preservation of open space.

Policy 1.2: Provide for a compatible mix of housing and commercial uses in all commercial districts, neighborhood centers, community centers, and the Central Business District.

Policy 1.3: Continue to provide incentives for mixed-use developments, which are consistent with adopted criteria. This may include, but is not limited to:

a. Bonus densities; and,
b. Greater flexibility in design standards (e.g., setbacks, frontage, building height, lot area, street design, landscaping, etc.)

Policy 1.4: Protect designated light industrial areas for ongoing use and future development.

Land Use Goal 2: Encourage development in the Central Business District that advances the City's identity, provides transportation linkages, and supports a pedestrian friendly environment.

Policy 2.1: Encourage shared-use parking, pedestrian access, bicycle paths, and transit incentive programs to promote the efficient use of land.

Policy 2.2: Continue to work closely with property owners in the downtown area in support of their efforts to develop the remaining vacant lots and to renovate existing developments.

Land Use Goal 3: Plan for future growth of the City in a cost-effective manner while maintaining high-quality public facilities and services.

Policy 3.1: Maintain land use types and densities along transit corridors that support and are compatible with high performance transit.

Policy 3.2: Follow the process for siting of essential public facilities as set forth in the *Spokane County Regional Siting Process for Essential Public Facilities.*

NOTE: See also Housing Goals & Policies (page 56), and GHG Land Use Goals & Policies (page 37).

C. History and Background

The City of Liberty Lake contains a mix of land uses including single- and multi-family dwellings, recreational areas including parks, trails, golf courses, light manufacturing, and mostly regional-scaled commercial, including two large grocery stores. Professional office buildings, restaurants, schools, and churches are also found with undeveloped land still available and suitable for residential, commercial, and industrial growth.

At the initial startup of the City of Liberty Lake it was recommended to and approved by the City Council to adopt by reference the Spokane County Comprehensive Plan which pre-dated the Growth Management Act (GMA) and the Spokane County Zoning Code dated November 1998 to maintain the status quo until the City adopted its own Comprehensive Plan and Implementation Regulations. The City adopted its first Comprehensive Plan in 2003 and its own Development Code in 2005.

Land Area & Use

Residential

Residential development within the city limits of Liberty Lake began back in the late 1970's with the start of the Liberty Lake Heights subdivision. Unlike developments that would soon follow, the Heights was not a Planned Unit Development (PUD), however the neighborhood did have covenants that governed the neighborhood. By 1987, full scale development had begun with the Homestead and Meadowwood subdivisions. By August 31, 2001, when the City officially incorporated, the majority of the City was within PUD residential neighborhoods.

Most of these neighborhoods were considered low- to medium-density residential units. Only a small portion of the residences within the City were higher density multi-family residential.

After the approval of the River District Specific Area Plan (SAP), Liberty Lake saw much greater mixed residential development, with single family homes interspersed with duplexes, townhomes and small apartment complexes within that SAP. Similarly, Liberty Village SAP, which was approved in 2006, also saw significant development of townhomes, condominiums, and apartment along with single family homes. In recent years, the City has seen an increase in larger multi-family apartment complexes being developed in the mixed-use zones.

Commercial

The City has numerous professional offices and retail businesses with more commercial developments planned and/or under construction. Commercial land is found along Liberty Lake Road, Country Vista, Mission Avenue (on the south side of I-90), Harvard Road, Knox Avenue, Appleway, and the south side of Mission Avenue (north of I-90). The highly intensive commercial use designations occur along Appleway, Liberty Lake Road, and Country Vista. The retail commercial development is mostly on a regional scale and consists of two anchored retail strip centers on Liberty Lake Road and several unanchored retail strip centers along Country Vista and Mission Avenue. There are various freestanding retail, food service, automotive and recreational vehicle dealerships, and hospitality operations in the vicinity of the retail strip centers.

Light Industrial

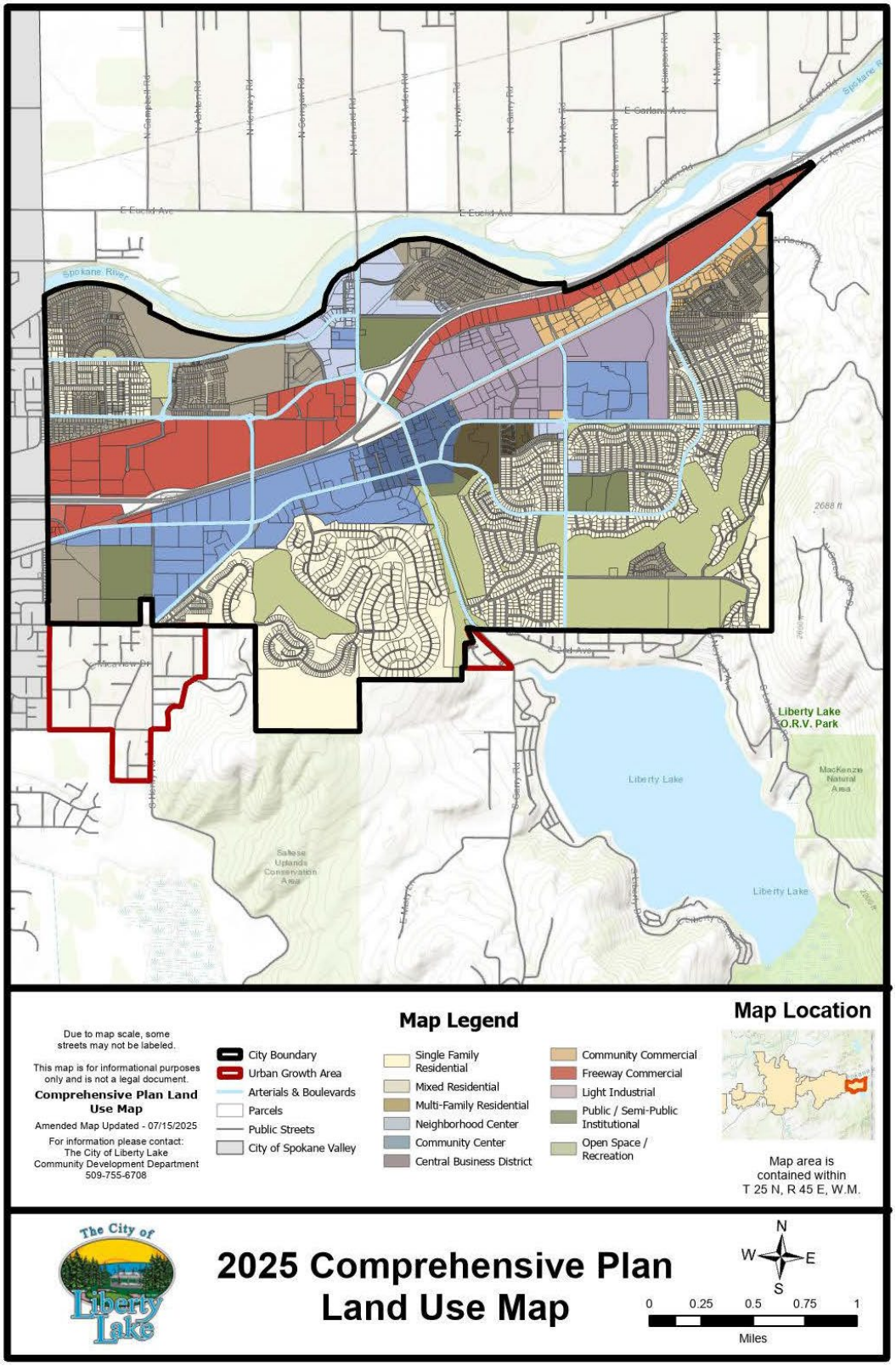
Industrial uses within the City fall within the category of light industrial uses such as electronics, high tech, and assembly manufacturing. Several pieces of industrial land are being used for commercial uses. The light industrial area is located north of Mission Avenue and south of Interstate 90. There are five major corridors located in the industrial area consisting of Madson, Appleway, Molter, Mission and Knox.

Open Space and Recreation

Since the majority of the area within the city limits began as a master planned satellite community, a large portion of the land has open space and recreational uses. Within the City, there are three golf courses and three large city-owned parks. Meadowwood Golf Course runs through the residential area and is north of Valleyway and east of Molter Road. Liberty Lake Golf Course is the oldest course and it is located south of Valleyway, east of Molter Road, and north of Sprague Avenue with residences on eastern side. The City's Trailhead Golf Course, formerly known as Valley View, is located at the eastern edge of Liberty Lake Rd, south of Country Vista, and on the western edge of residences. Pavilion Park is located on the southwest corner of Country Vista and Molter Road within the residential area. Rocky Hill Park is located in the Rocky Hill neighborhood, on the north side of Mission Avenue abutting the City's eastern boundary. Orchard Park, the City's newest park, is located on the southwest corner of Harvest Parkway and Indiana Avenue in the River District and was built in 2019. The City contains an extensive trail system and smaller neighborhood parks throughout as well as access to the Centennial Trail along the northern boundary.

D. Land Use

Figure 7.1: Comprehensive Plan Land Use Map



Comprehensive Land Use Categories

Residential Categories

- **Single-Family -** The Single-Family designation provides for single-family homes, townhomes, duplexes and accessory dwelling units (ADUs) in support of established residential neighborhoods. This designation is the primary residential designation in the city.
- **Mixed Residential** - The Mixed Residential designation provides for a moderate increase in density using a variety of urban housing types and designs. This design-oriented designation promotes residential renewal to small-lot single- family homes, cottage housing, townhouses, duplexes, triplexes, fourplexes, and small apartment buildings, as well as ADUs. The mix of housing may take a variety of forms, either mixed within a single site or mixed within a general area, with varied dwelling types. Developments within this designation should have a net density of no less than 6 units per acre, up to a maximum of 16 units per acre to promote the development of middle-housing options.
- **Multi-Family** - The Multi-Family designation provides for a variety of medium to high density housing types and designs. The designation incorporates a combination of urban design elements to enhance the living environment while integrating the housing into a neighborhood or neighborhood business district. Urban design elements such as private and public open space, pedestrian orientation and connections, and security are integrated into the housing to create a high standard of community cohesion and character. Developments within this designation should have a net density of no less than 12 units per acre.

Mixed-use Areas

Mixed-use areas are intended to enhance service options, encourage development of locally serving commercial uses, offices, light manufacturing, civic, recreational, and residential uses along transportation corridors identified on the Comprehensive Land Use Plan Map 5.1. Mixed-use areas discourage low-intensity, auto-dependent uses and focus on a pedestrian orientation with an emphasis on aesthetics and design.

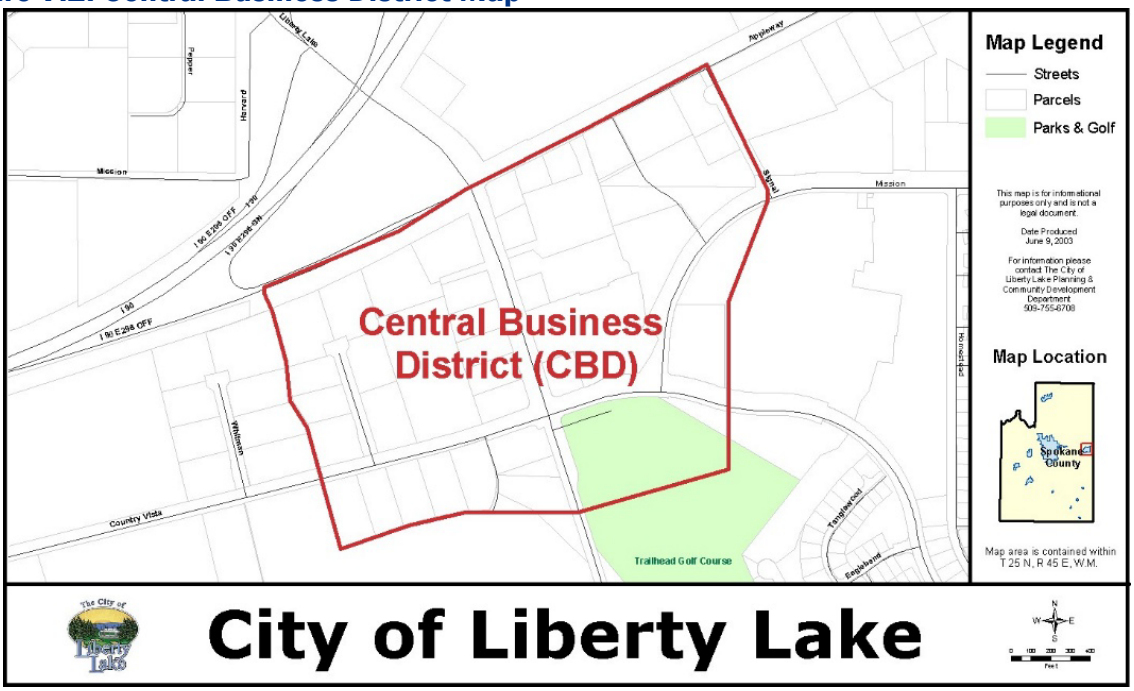
Mixed-use Categories

The Central Business District provides for the widest range of uses. Mixed-use categories include the following:

- **Neighborhood Centers -** Mixed-use centers for neighborhoods will ideally have identified neighborhood centers containing a civic green or park, a transit stop, neighborhood businesses and services, a day care center, and perhaps a church or school, and residential when associated with other permitted uses.
- **Community Centers -** Community centers are higher-intensity mixed-use areas designed to serve two or more neighborhoods. Community centers may have a mix of uses, including commercial, civic, light manufacturing or industrial, office, recreational uses, and residential when associated with the other permitted uses.
- **Central Business District** - The CBD is the primary retail, office, social, urban residential, and government center of the city (Map 5.2). The complementary and

interactive mixture of uses and urban design provides for a regional intensity and viability with a local character. The regional focus and vitality of the district are evident in the urban intensity and composition of the uses in the district. Local character is reflected in the district's design, people-orientation, and connectivity, which foster a sense of community. The CBD is intended to attract significant numbers of additional office and retail jobs, civic spaces, as well as opportunities for new higher density housing.

Figure 7.2: Central Business District Map



Commercial Categories

- **Freeway Commercial -** The Freeway Commercial classification designates intensive commercial areas intended to draw customers from outlying areas. Interstate 90 is an aesthetic corridor and specific guidelines have been established to enhance the aesthetics of the Interstate 90 frontages. Shopping centers and major commercial areas of regional significance will be designated with this classification. Residential uses would typically not be allowed within the freeway commercial category. Light industrial areas may be allowed in this category.
- **Community Commercial -** The Community Commercial classification designates areas for retail, service, and office establishments intended to serve several neighborhoods. Community business areas should be located as business clusters rather than arterial strip commercial development. Community business centers may be designated through the adoption of the Comprehensive Plan or Comprehensive Plan amendments. Residences in conjunction with business and/or multifamily developments may be allowed, with specific guidelines that ensure compatibility.
- **Neighborhood Commercial -** The Neighborhood Commercial classification designates areas for small-scale, neighborhood-serving retail and office uses. Neighborhood

business areas should be located as business clusters rather than arterial strip commercial development. Neighborhood business centers may be designated through the adoption of the Comprehensive Plan or Comprehensive Plan amendments.

Industrial Category

- **Light Industrial –** The Light Industry category is intended for industrial areas that have a special emphasis and attention given to aesthetics, landscaping, and internal and community compatibility. Light Industrial areas are comprised of predominantly industrial uses such as manufacturing but may incorporate office and commercial uses that support and complement the industrial area.

Public and Semi-Public Institutional Uses

The Public and Semi-Public Institutional land use designation provides for large and moderate scale governmental uses, special districts, and semi-public institutional uses. The designation allows for the specialized needs of providing public services to the City of Liberty Lake.

Open Space and Recreation

The Open Space and Recreation designation provides for open area spaces and recreational uses such as public/ private parks, preserves, and trails, as well as public and privately owned facilities such as golf courses. Local and regional recreation opportunities are included within this designation. The designation promotes the conservation of public and private sensitive or critical natural resource areas and areas of local interest as open space.

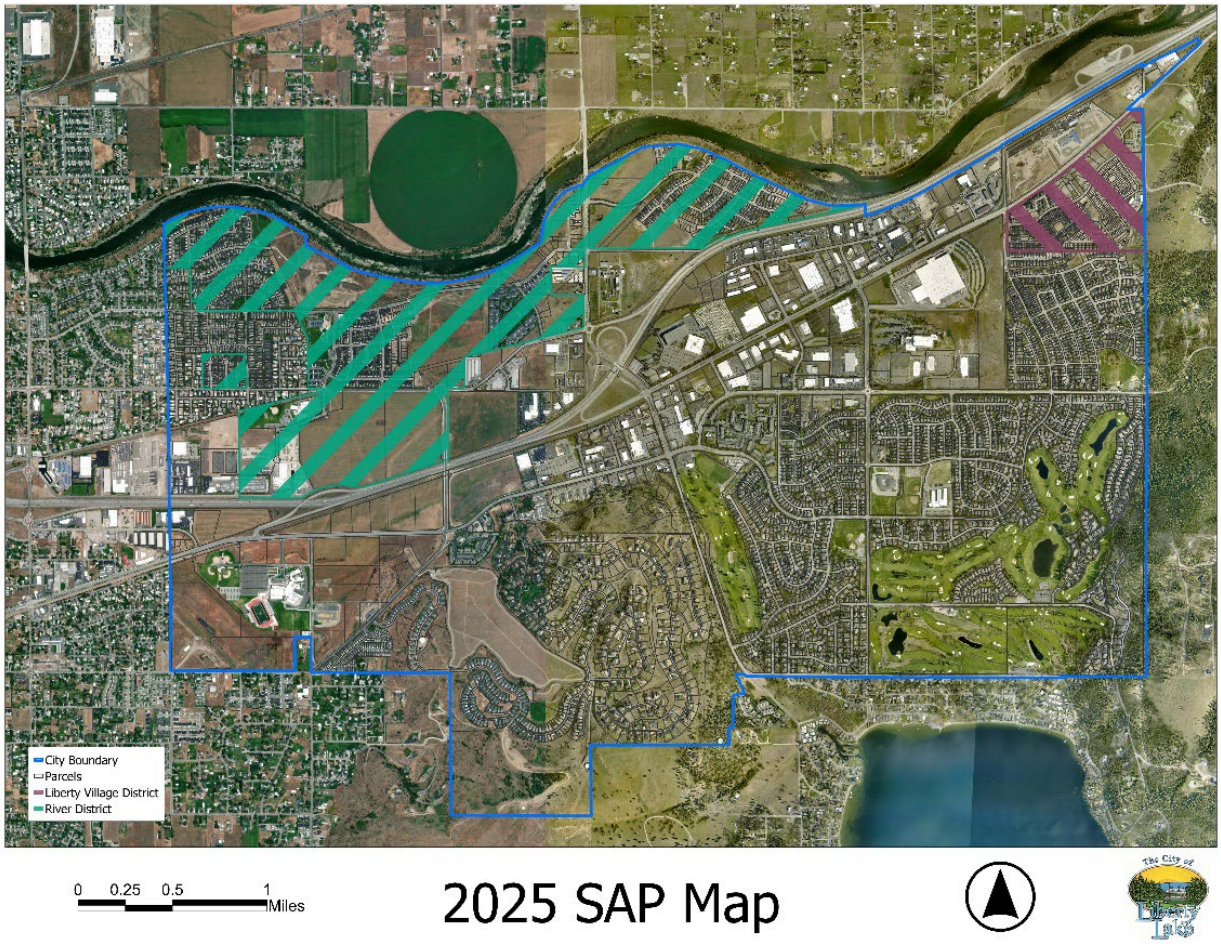
Aesthetic Corridors and Boulevards

Aesthetic corridors and boulevards are intended to protect the visual appeal of the area along major transportation routes entering, exiting, and circulating through the City of Liberty Lake. Aesthetic corridors include Liberty Lake Road; Appleway Avenue; Country Vista from E Mission Ave to the western City boundary; Harvard Road; Indiana Avenue; and Harvest Parkway.

Approved Specific Area Plans

Specific area plan overlay districts ("specific area plans" or "SAPs") are master development plans that describe the types of development planned for a specific area in more detail than would typically be found in a Comprehensive Plan. They can contain specific design standards and development styles that are specific to the geographic features or mix of uses that are proposed for that development area. The City has adopted two specific area plans. Liberty Village (also known as Lakemore, Hawkstone and Stonehill) was approved in 2006. The River District SAP was adopted in 2008. Both SAPs are still actively being developed at the time of this writing.

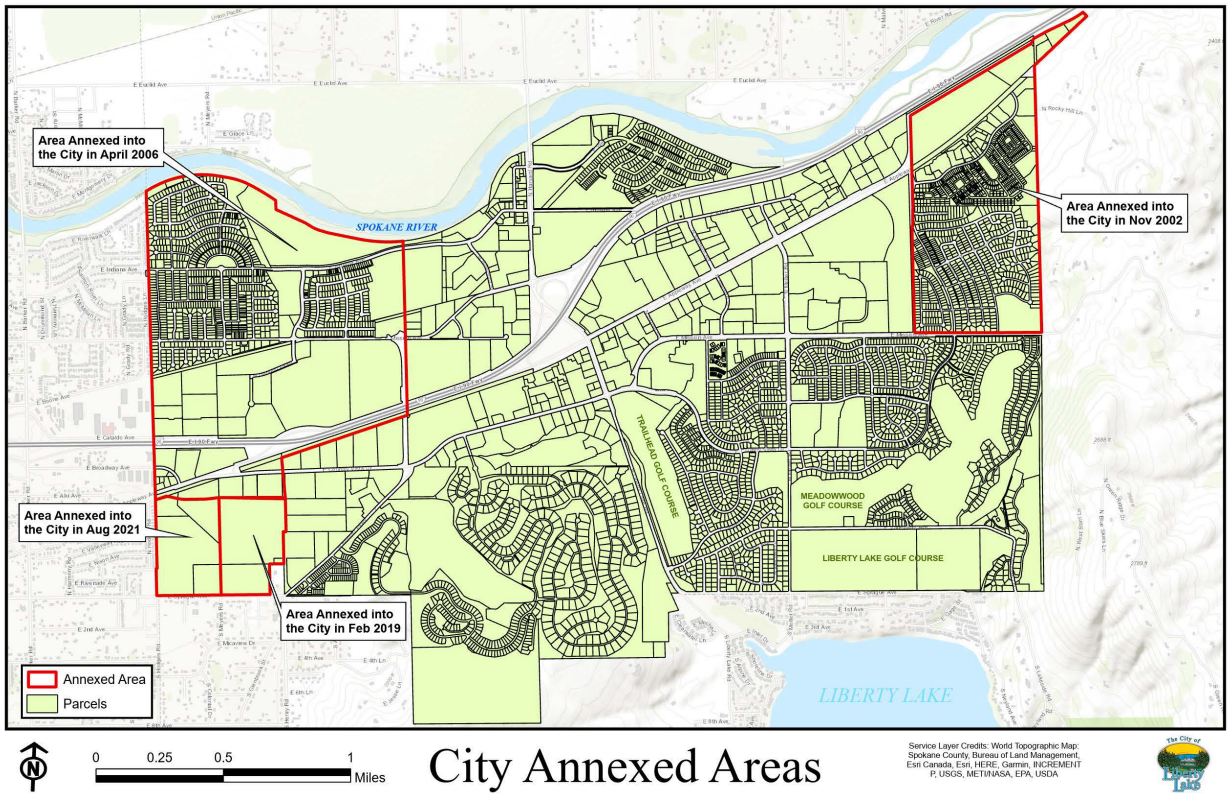
Figure 7.3: Specific Area Plan Map



Urban Growth Area

The Growth Management Act mandates the establishment of urban growth areas (UGAs). The urban growth area (UGA) boundary identifies areas where future urban growth should occur and establishes a clear separation between urban and rural development. The UGA generally has existing public services and facilities that have sufficient capacity to serve development or is located in areas where urban services can be economically extended. With adjustments for environmentally sensitive land which is unsuitable for development and reasonable market factors to avoid constraining the land supply, the UGA is sized to accommodate the projected 20-year population. A primary basis for the UGA requirement is the economical and efficient provision of public services. The urban land supply should be closely monitored and adjustments to the UGA made when necessary to ensure that land prices are not artificially inflated. Conservation or open space areas may be included within a UGA for preservation of the areas. Under the GMA, jurisdictions may not annex additional area into their corporate limits unless the area is included within the UGA and can be provided with or already has urban levels of service for such public services and facilities as police, water, and sewer. Map 5.1 includes the UGA boundary surrounding the City of Liberty Lake.

Figure 7.4: City Annexed Areas Map



Since official incorporation (August 31, 2001), the City of Liberty Lake has annexed four additional areas into its municipal boundary. The first area was located northeast of the City and contained only one resident. This land was previously identified as part of the future service area of the Liberty Lake Sewer and Water District and was officially annexed in November of 2002. The second area was located northwest of the City and contained several residents. This area was officially annexed in April 2006. The City annexed a portion of the former Gun Club property, located in the southwest corner of the City in 2019, at the request of Central Valley School District (CVSD) for the development of a new high school. The balance of the Gun Club property was annexed in 2021, again at the request of CVSD. There were no residences located on either of those properties. Map 5.4 above shows the areas annexed into the City following incorporation. The City of Liberty Lake has no plans to annex additional areas at this time. The City will accept proposals from property owners in designated Urban Growth Areas provided that they are not in another jurisdiction's potential annexation area. It is assumed that the Spokane River is the logical outer boundary of the city to the north, and with the City of Spokane Valley to the west, the Idaho state line to the east, and Liberty Lake to the south that the City's boundaries are substantially set and are not likely to significantly change over time.

Population Projections

As a part of the process of updating this Comprehensive Plan the City conducted an updated Land Capacity Analysis (see **Appendix B**). This analysis included all anticipated housing units,

based upon approved subdivision and binding site plans. These developments included authorization to build a specific number of dwelling units over time. The analysis also included the identification of vacant parcels in the City and assumptions about the intensity of development that will occur on those parcels in the future. Based upon this analysis, it was determined that there is sufficient capacity to provide the range of housing types necessary to meet the needs of a projected population of nearly 22,000 by 2046 (please also see the Housing and Community Services Chapter).



LIBERTY LAKE — 2046

TRANSPORTATION ELEMENT

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A. Introduction

The Transportation Element details how Liberty Lake will develop, manage and maintain its multi-modal transportation system to support future growth, enhance connectivity, and ensure safe, efficient travel for residents, visitors, businesses owners and patrons. Rooted in the City's land-use vision, the element assesses existing conditions, anticipates future needs, and establishes goals and policies for roadways, transit, non-motorized travel (walking, biking), and freight over the planning horizon. It is intended to align with state and regional requirements under the Growth Management Act and reflects the City's commitment to integrating mobility, accessibility and funding strategies for a sustainable transportation network.

Growth Management Act Requirements

The Growth Management Act requires the Transportation Element (RCW 36.70A.108) to include the following:

- Land use assumptions used in projecting travel demand.
- Projected traffic impacts to state-owned transportation facilities resulting from land use assumptions.
- Facilities and service needs:
  - Inventory of air, water, and ground transportation facilities and services;
  - Level of service (LOS) standards for all locally owned arterials and transit routes;
  - Specific actions and requirements for bringing into compliance locally owned transportation facilities or services that are below established LOS standards;
  - Forecasts of traffic for at least ten years based on the adopted land use plan to provide information on the location, timing, and capacity needs of future growth;
- Finance needs:
  - Analysis of funding capability to address needed facility improvements;
  - Multi-year financing plan based on the needs, to serve as the basis for the minimum six-year Capital Facilities Plan (CFP);
  - If probable funding falls short of meeting identified needs, a discussion of how land use assumptions will be reassessed to ensure LOS standards will be met.
- Intergovernmental coordination efforts, including an assessment of the impacts of the transportation plan and land use assumptions on the transportation systems of adjacent jurisdictions.
- Demand-management strategies.
- Pedestrian and bicycle components, including collaborative efforts to identify and designate planned improvements for pedestrian and bicycle facilities and corridors that address and encourage enhanced community access and promote healthy lifestyles.
- Multi-modal transportation improvements or strategies that are made concurrent with development.

Regional Planning

The Transportation Element is required to be consistent with regional transportation policy frameworks outlined in the Spokane County Countywide Planning Policies and the Spokane Regional Transit Council (SRTC)'s current Metropolitan Transportation Plan, Horizon 2050. Consistency with regional plans ensures a more functional transportation system between jurisdictions and agencies, improving the user experience and reducing potential conflicts.

Network Analysis

In order to evaluate current traffic conditions and forecast future traffic volumes and network function, the City undertook the ***Liberty Lake Transportation Network Analysis Update***. Based upon Liberty Lake's projected changes in land use, population, and employment over the 20-year planning horizon, the Network Analysis modeled the current and future transportation network. This modelling was utilized to evaluate network performance and identify short-term and long-term mitigations to the system, based upon that projected future growth. The results of this analysis are discussed in more detail later in this chapter, and the full document is included in **Appendix I**.

B. Transportation Goals & Policies

Transportation Goal 1: Maintain a multi-modal transportation system that provides safe and efficient travel to, from, and within the City.

Policy 1.1: Promote pedestrian and bicycle transportation and increase safety, mobility, and convenience for non-motorized modes of travel.

Policy 1.2: Require transportation improvements needed to serve new development to be in place at the time new development impacts occur. When infeasible, require a financial commitment, consistent with the capital facilities plan, to be made to complete the improvements within six years

Policy 1.3: Coordinate planning with appropriate agencies and utility companies for utility corridors that may affect the transportation system.

Policy 1.4: Encourage the use of bus, ride-sharing, paratransit, and high- capacity transit services to make major segments of the transportation system more efficient.

Policy 1.5: Encourage intermodal connections to enhance the efficiency and convenience of public transportation.

Policy 1.6: Support high-capacity transit facilities and services that are consistent with the actions and plans of Spokane Transit Authority, Spokane Regional Transportation Council, and other jurisdictions.

Policy 1.7: Preserve existing right-of-way and designate new right-of-way to support high-capacity transportation corridors.

Policy 1.8: Provide safe and convenient access for all modes of active and sustainable transportation – such as walking, bicycling, scooters, and other emerging modes - between housing, recreation, shopping, schools, community facilities, and transit access points

Policy 1.9: Maintain and enhance the system of trails, multi-modal pathways, and sidewalks in accordance with the provisions of the Liberty Lake Parks & Recreation Master Plan and the Liberty Lake Sidewalk Master Plan.

Policy 1.10: Promote hard surface walkway systems that are separated from roads if they fit in with the characteristics of the neighborhood.

Policy 1.11: Preserve unused rail rights-of-way for development of trails or other alternative transportation systems.

Policy 1.12: Optimize the capacity of existing roads to minimize the need for new or expanded roads through the use of improved signage, traffic controls (including but not limited to signalization and roundabouts), signal timing optimization, lane striping, and other means.

Policy 1.13: Provide coordinated, integrated, and safe traffic control systems, to the greatest extent possible.

Policy 1.14: Require private roads to be constructed to City standards.

Policy 1.15: Develop, adopt and implement a "Complete Street Ordinance" to memorialize the City's existing "Complete Street" policies and standards, and to better position the City for federal and state grant funding.

Policy 1.16: Require all roads to be designed, constructed, and improved in accordance with the City's "complete streets" standards.

Policy 1.17: Reduce right-of-way width dedications to the minimum necessary to provide for transportation needs and maintenance requirements.

Policy 1.18: Maintain an arterial road plan that emphasizes planned corridors for high-capacity roadways to keep high-speed traffic out of residential neighborhoods.

Policy 1.19: Encourage curbside landscaping consistent with safety requirements. Identify those species of landscaping that are most appropriate for curbside planting, while encouraging biodiversity and resilient plant species.

Policy 1.20: Maintain adequate access to, and circulation within, all developments for emergency service and public transportation vehicles.

Policy 1.21: Consolidate access to commercial and industrial properties by encouraging the development of commercial and industrial centers with shared driveways, parking and internal circulation, rather than strip development to minimize traffic congestion on collectors and arterial streets.

Policy 1.22: Periodically review and update standards and techniques to slow vehicle traffic and reduce the volume of traffic through residential neighborhoods.

Policy 1.23: Advocate safe and effective traffic control at roadway, trail, pathway, and pedestrian crossings.

Policy 1.24: Establish intersection minimum level of service standards for the City of Liberty Lake at a Level of Service D for signalized intersections, and a Level of Service E for unsignalized intersections during AM and PM peak hours, and a volume to capacity (v/c) ratio of less than 90% for roundabouts, as further described in this element

Policy 1.25: Support the development, evaluation, refinement as necessary, and adoption of the "corridor travel time" standard for regionally significant transportation corridors only.

Policy 1.26: Allocate staff resources to work with other transportation government agencies in drafting and submitting joint applications for state and federal transportation grants to support projects that benefit multiple jurisdictions.

Policy 1.27: Maintain a system of impact mitigation fees and user-based fees to finance transportation improvements required because of new development.

Policy 1.28: Permit golf carts, e-bikes, e-scooters and other personal e-vehicles to be operate on specifically designated roads and trails.

Policy 1.29: Encourage and promote the availability and use of travel on demand services in Liberty Lake, including but not limited to paratransit services, rideshare programs, and for-profit rideshare services (e.g. Uber, Lyft, Yellow Cab, etc.).

Policy 1.30: Develop and implement guidance and signage in support of and to better promote active transportation and intermodal networks throughout the City.

C. Transportation Network

The City of Liberty Lake's transportation system consists of an interconnected network of arterial, collector, and local roadways, as well as sidewalks, multimodal pathways and trails,

bicycle facilities, and transit facilities and services that support the movement of people and goods throughout the community. Interstate 90 (I-90) bisects the City and serves as the City's primary regional corridor and freight route, providing access to communities across Washington to the west, and extending east through Idaho and beyond to the eastern United States. No air, waterway or rail transportation facilities are located within the City limits.

Roadway & Street Network

Figure 9.1 identifies the existing City roadway network. The City's roadway network is comprised of arterial and collector streets (depicted as red in the map below); local access streets, both commercial and residential (shown in white); and private streets that are owned by property/homeowner associations (shown in blue).

Figure 9.1: City Roadway Network



Roadway Functional Classifications

Roadway functional classifications categorize streets based on their primary purpose, traffic volume, and role within the overall transportation network. This classification system establishes a hierarchy of roadway types that guides roadway design, access management, and the accommodation of various travel modes.

Principal and Minor Arterials are designed to carry higher traffic volumes and provide mobility for through-traffic. These facilities typically include multiple lanes and/or dedicated turn lanes to support efficient movement. Traffic volumes are generally measured in Average Daily Trips (ADTs). Compared to local streets, arterials and collectors have more limited access points to

maintain traffic flow and safety. Lane widths and shoulders are typically wider on higher-classified roadways, although specific dimensions may vary based on design speed and context. **Figure 9.2** summarizes typical ADT ranges for Washington State roadway classifications, along with corresponding access spacing standards established in the City of Liberty Lake Development Standards.

Figure 9.2: Typical Roadway Parameters by Functional Classification

Classification	ADTs	Access Control[1]
Principal Arterial	7,000 – 27,000	300’
Minor Arterial	3,000 – 14,000	300’
Collector	1,100 – 6,300	150’
Local	<1,000	50’ or less

[1]Separation distance between approaches, per Liberty Lake Development Standards

Within the state of Washington, Washington State Department of Transportation (WSDOT) maintains the official functional classifications of all streets and roadways in the state. **Figure 9.3** depicts existing ADT along with projected 2046 ADTs (as detailed in the ***2025 Liberty Lake Network Analysis Update***, appended hereto in **Appendix I**), as based on 2046 projected land use, housing and employment data.

Figure 9.3: Existing Roadway Volumes

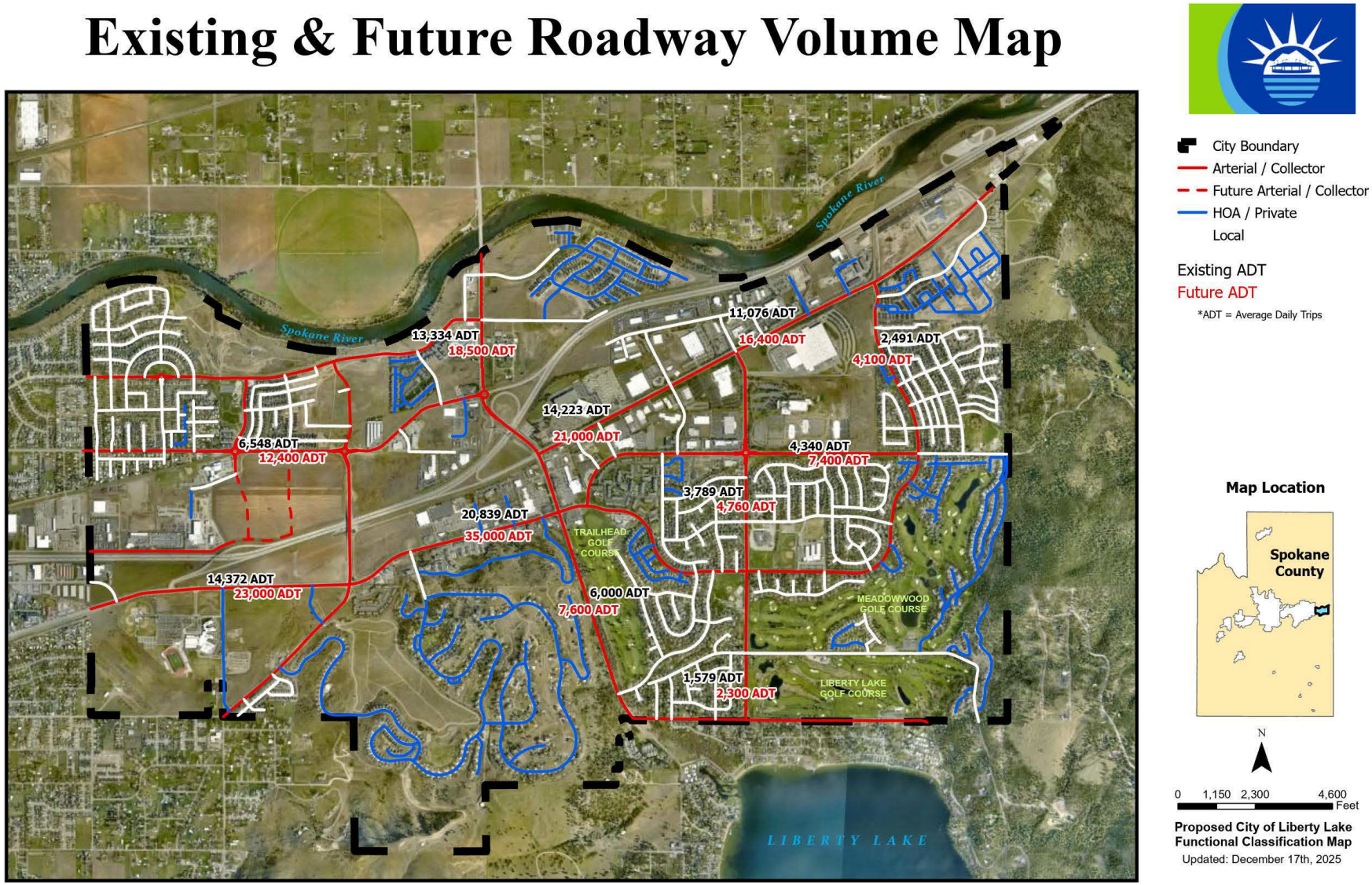


Figure 9.4: WSDOT Functional Classification Map

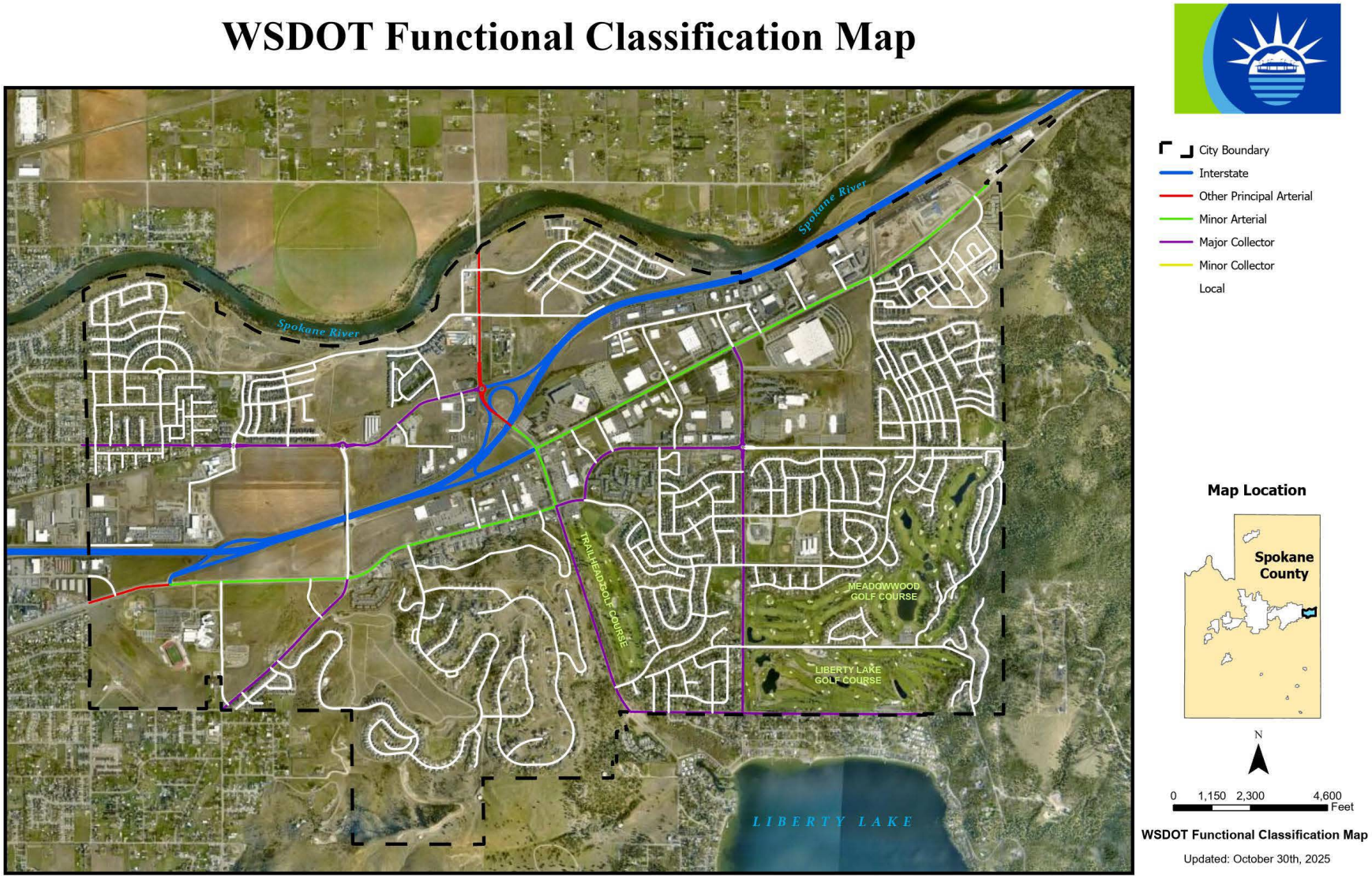


Figure 9.4 depicts WSDOT's existing functional classifications for Liberty Lake streets. Based upon the current roadway configurations, function, and volume, the City of Liberty Lake has identified the need to re-classify roadway segments. The proposed roadway classifications are mapped in **Figure 9.5**. The roadways segments proposed for reclassification are listed in **Figure 9.6**.

Currently, WSDOT-classified, regionally significant roadways in Liberty Lake include I-90; Country Vista Drive/Appleway west from the west-bound I-90 off-ramp (commonly referred to as the Green Acres flyover); and, Harvard Road, north of I-90. As noted above, the City also proposes the reclassification of the following routes within the City as other regionally significant roadways, due their daily traffic volume and common use as freight routes: Liberty Lake Road, south of I-90 to Country Vista Drive; Country Vista Drive, west from Liberty Lake Road to the Green Acres flyover; and, Appleway Avenue, from Liberty Lake Road to the eastern City limits.

Figure 9.5: City of Liberty Lake Proposed Roadway Functional Classifications

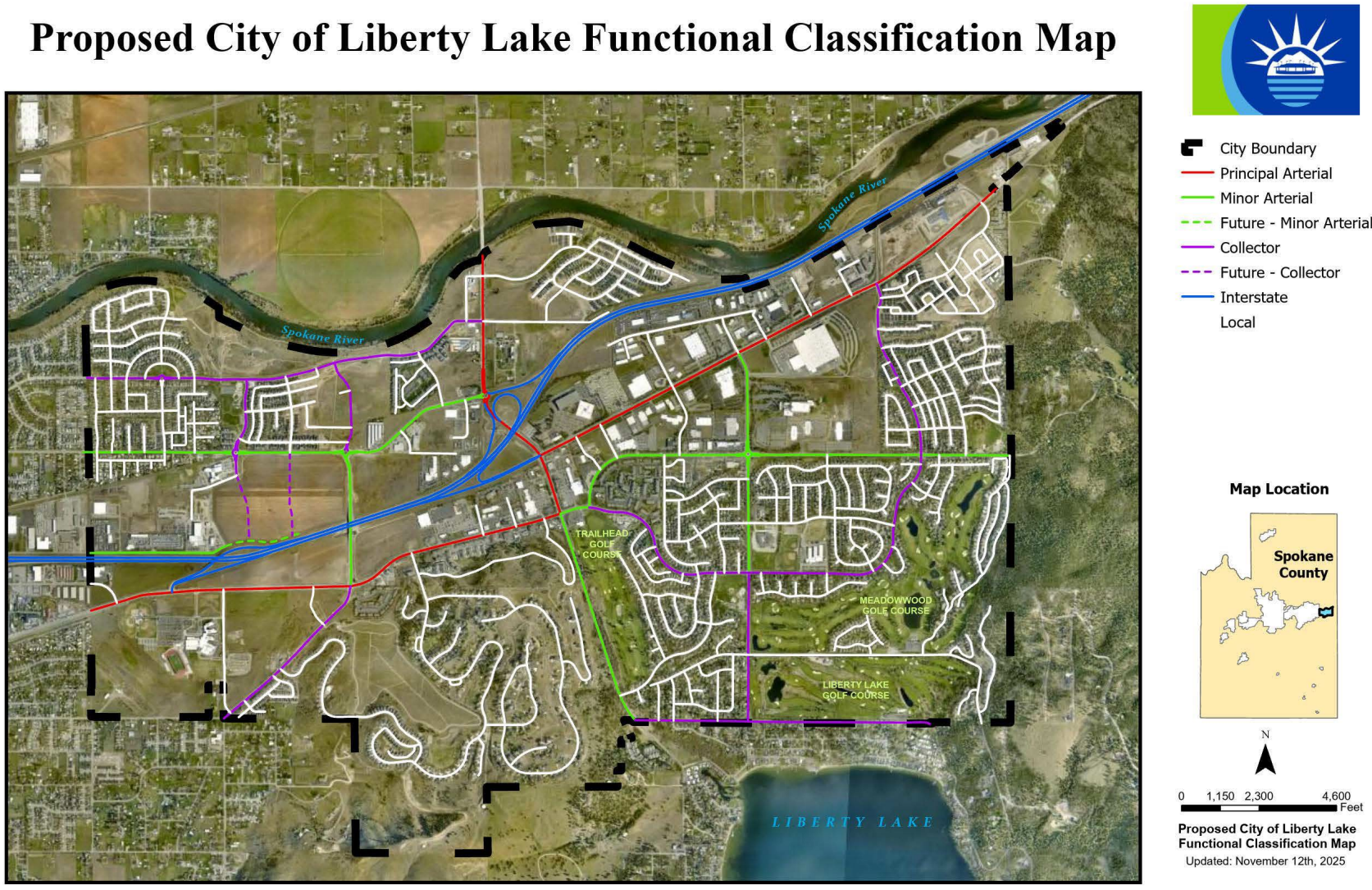


Figure 9.6: Roadway Segments Proposed for Reclassification

Road Name	Segment	Existing Classification	Proposed Classification
Appleway Ave.	Liberty Lake Rd. to E City Limit	Minor Arterial	Principal Arterial
Liberty Lake Rd.	I-90 to Country Vista Dr.	Minor Arterial	Principal Arterial
Liberty Lake Rd.	Country Vista Dr. to Sprague	Major Collector	Minor Arterial
Country Vista Dr.	Liberty Lake Rd., west to I-90 off-ramp	Minor Arterial	Principal Arterial
Country Vista Dr.	Liberty Lake Rd. to Mission Ave.	Major Collector	Minor Arterial
Country Vista Dr.	Mission Ave. to Country Vista Blvd.	Local	Major Collector
Country Vista Blvd.	Mission Ave. to Appleway Ave.	Local	Major Collector
Molter Rd.	Country Vista Dr. to Appleway Ave.	Major Collector	Minor Arterial
Mission Ave	Country Vista Dr. to east City boundary	Major Collector	Minor Arterial
Mission Ave.	Harvard Rd. to west City boundary	Major Collector	Minor Arterial
Indiana Ave.	Harvard Rd. to west City boundary	Local	Major Collector
Kramer Pkwy.	Country Vista Dr. to Mission Ave.	Local	Minor Arterial
Kramer Pkwy.	Mission Ave. to Indiana Ave.	New Road	Collector

Active Transportation

The active transportation network includes all non-motorized facilities including sidewalks and other pedestrian facilities, bicycle facilities, and recreational trails. The non-motorized network can be used for many of the same purposes as personal vehicles and transit, including commuter travel, grocery store trips, and other errands.

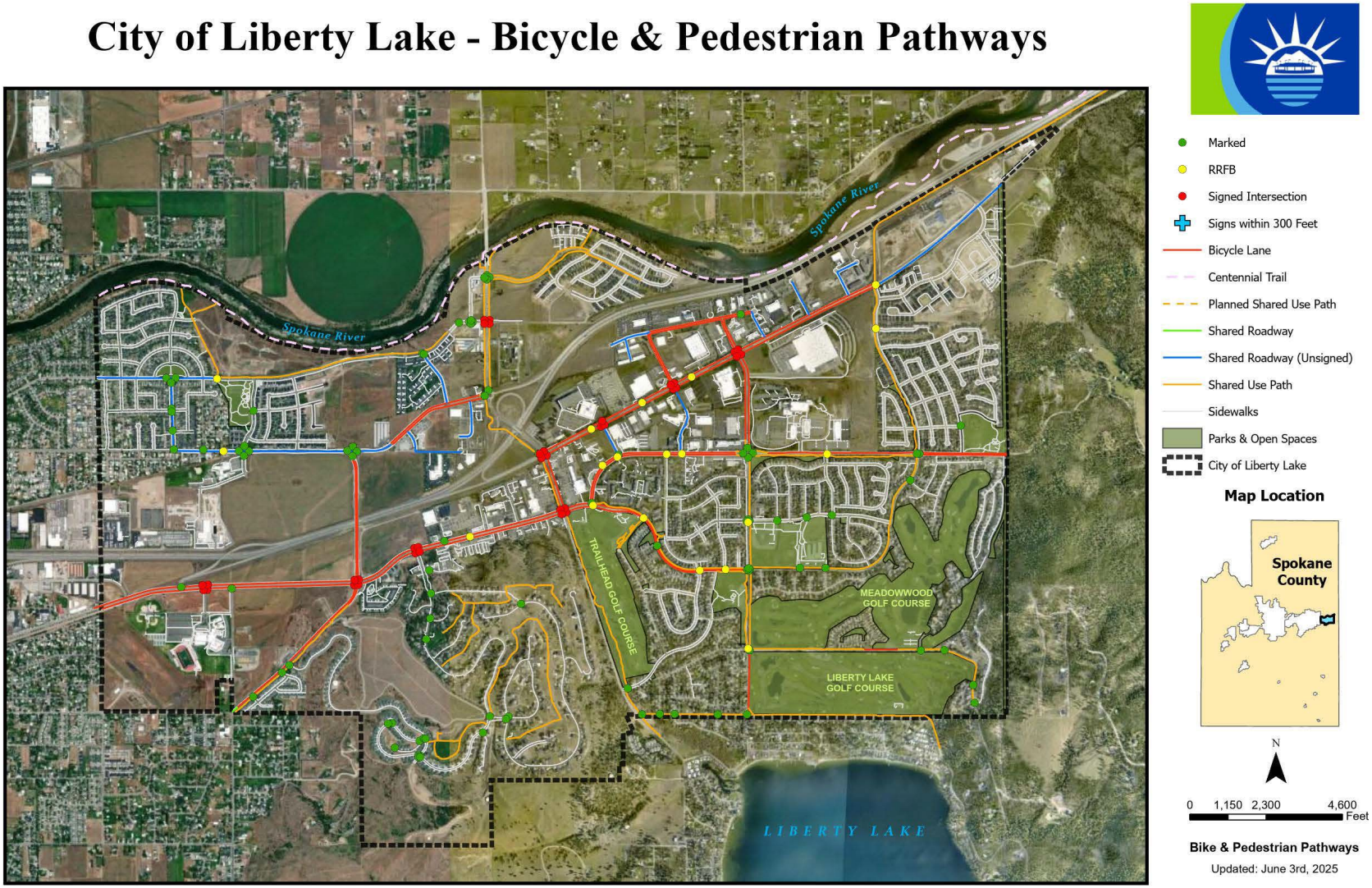
The City of Liberty Lake has a robust active transportation network that includes sidewalks, multimodal pathways, and bike lanes. **Figure 9.7** details the existing network of bicycle and pedestrian facilities within the City.

In addition to the bicycle and pedestrian network within the City limits, a segment of the Centennial Trail, which runs along the Spokane River from the City of Spokane to Coeur d'Alene, extends along the entire northern boundary of the City.

Bicycle and pedestrian projects, as well as an idea for a city wayfinding program, are outlined in **Appendix J** – Bicycle Expansion and Wayfinding.

The City is currently preparing a Sidewalk Master Plan (SWMP) to guide the long-term maintenance, repair, and expansion of the sidewalk network. Work completed to date includes a comprehensive inventory and condition assessment of existing sidewalks, identification of network gaps, and evaluation of connectivity to key destinations such as schools, parks, transit facilities, and commercial areas. A data-driven prioritization framework has been developed based on factors including safety, equity, proximity, network connectivity, and cost-effectiveness to support the identification of priority improvements. The planning process has also evaluated potential repair and maintenance approaches, as well as a range of funding mechanisms to support implementation. The SWMP is being developed through a stakeholder-driven and community-informed process and will provide strategies and recommendations to support a safe, accessible, and connected pedestrian network upon completion.

Figure 9.7: Liberty Lake Bicycle & Pedestrian Pathway Map



Transit & Paratransit Network

The City of Liberty Lake is served by regional public transportation provided by the Spokane Transit Authority (STA), which offers a combination of local, express, and regional bus services connecting the community to Spokane Valley, downtown Spokane, and other key destinations. Transit service within the City includes routes that provide access to residential neighborhoods, commercial areas, employment centers, and regional transportation hubs such as park-and-ride facilities and the Spokane International Airport.

Public transit service in Liberty Lake is designed to support both local circulation and regional commuting, with a mix of fixed-route and express options. Some routes focus on connecting neighborhoods within the City and nearby areas, while others provide more direct service to major employment and activity centers, including downtown Spokane and local business campuses.

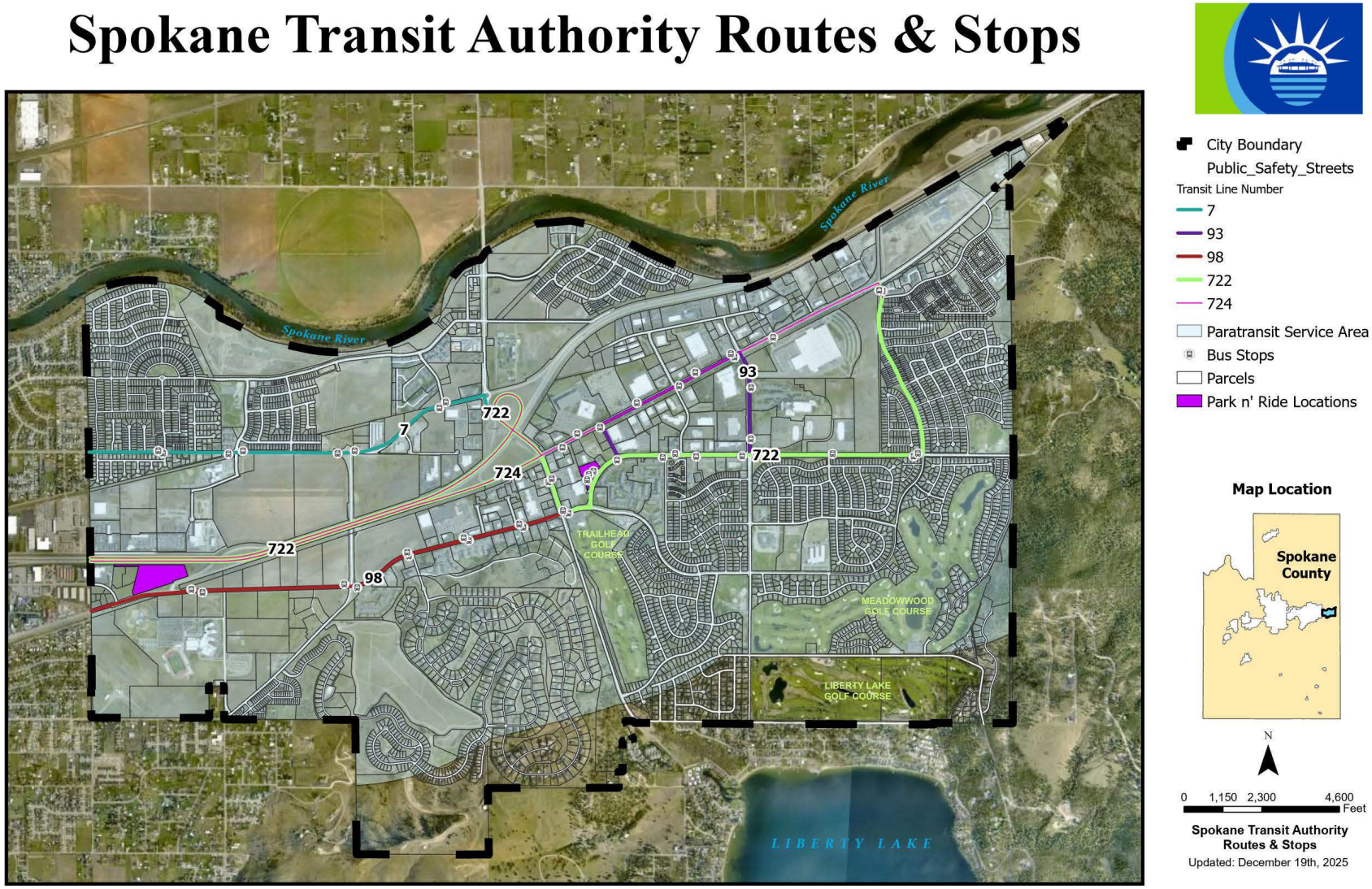
In addition to fixed-route bus service, STA provides paratransit services for individuals whose disabilities prevent them from using standard transit options. These services are generally available within a defined proximity to established transit routes, ensuring broader accessibility to public transportation.

STA's Connect 2035 lays out a vision for future, expanded transit service in Liberty Lake to include:

- Extending the Sprague Avenue High Performance Transit (HPT) Route 9.
- Piloting a new Mobility-on-Demand service (like Uber or Lyft with multi-passenger vehicles).
- Expanding HPT service in the I-90 corridor between Liberty Lake and the Spokane International Airport, to include a new Park and Ride Facility on Country Vista, north of Ridgeline Highschool's ballfields.

Figure 9.8 displays existing fixed route transit services within the City limits, and the area where paratransit services are currently available. It also shows the location of the existing Mission Avenue Park and Ride Facility, and the proposed Park and Ride planned in support of the I-90 HPT service.

Figure 9.8: Map of STA Transit Services & Facilities in Liberty Lake



Air Travel & Freight

Spokane International Airport, the second largest airport in the State of Washington, is a publicly owned airport located 21 miles west of Liberty Lake that serves as the primary hub for air travel and air freight transport in the region. Commercial air service is provided by seven airlines and three air cargo carriers, and as of 2023, the airport serves over 4 million passengers per year. Felts Field, located 14 miles west of Liberty Lake in the City of Spokane, is an active general aviation relief airport managed by Spokane International Airport, with two paved runways and a turf landing strip.

I-90 serves as the primary regional and interstate freight route. Commonly used freight routes within the City include: Harvard Road, north of I-90 to the City limits; Liberty Lake Road, south of I-90 to Country Vista Drive; Country Vista Drive, west from Liberty Lake Road to the Green Acres flyover; Appleway Avenue, west of the Green Acres Flyover to the City limits; and, Appleway Avenue, from Liberty Lake Road to the eastern City limits. There is no rail service within the City of Liberty Lake.

D. City Design Standards

Complete Streets

Complete streets are designed to be safe, accessible, and convenient for all users, including pedestrians, cyclists, transit riders, and motorists of all ages and abilities. This approach balances the needs of different users through features like sidewalks, bike lanes, and safe crosswalks, as well as amenities such as landscaping, traffic calming features, and public art, to provide connected, integrated, and safe alternative modes of transportation. It is an approach to making our transportation system work for all of us, while promoting health, safety and sustainability.

Complete street designs ensure that decision-making processes consider all users of public right-of-way, providing accommodations for pedestrians, bicyclists, transit, motorists, emergency responders and freight, as appropriate, for community need and context.

Liberty Lake's current development code and engineering design standards include requirements for pedestrian and bicycle facilities on all new and expanded streets (both public and private) within the City limits. Those standards apply both to City projects, and improvements required by developers on public and private streets. Additionally, street trees and pedestrian amenities are addressed within the development code, as well as transit stops and amenities for new developments along transit routes.

While current code incorporates Complete Street principles, the City of Liberty Lake has never formally adopted a Complete Street ordinance. Adopting a complete street ordinance that integrates and formalizes existing complete street requirements already imbedded in the City code and standards into a unified policy would significantly enhance the City's eligibility for numerous state and federal transportation grants by guiding the planning, development and implementation of transportation infrastructure projects citywide.

Safety

One benefit of the City's Complete Streets standards is that they help make roads safer for everyone. These standards are used on City streets and are designed to support drivers, pedestrians, bicyclists, and other users. By designing streets for all types of travel, the City can reduce crashes and lower the risk of serious injuries and fatalities.

Within the City of Liberty Lake, there is one road segment identified in the Spokane Regional Transportation Council's (SRTC) Spokane Regional Safety Action Plan as a targeted corridor. This segment is Mission Avenue, north of Interstate 90, between the Harvest Parkway roundabout and the Kramer Parkway roundabout.

While there are no specific plans for this road segment, there are planned frontage improvements for an adjacent and connecting road segment which runs from the Harvest Parkway roundabout to the western city limits. These improvements are planned for the summer of 2026 and include filling in gaps where sidewalks are missing and adding a bike lane. Completing the sidewalk network will improve safety and accessibility for pedestrians and help address existing safety concerns in the area.

E. Level of Service Standards

Level of Service (LOS) is a quantitative or qualitative measure of transportation system operations and helps to identify when improvements are needed to the system.

Vehicle Level of Service

Vehicular performance at intersections is often defined by the concept of intersection Level of Service (LOS). LOS is defined by average vehicle delay (seconds per vehicle) and is associated with a letter grade on a scale from A (free flowing traffic) to F (intersection failure, major delays). Qualitatively, these ratings are described as follows:

- A – free flow operation;
- B – reasonably unimpeded operation;
- C – stable operation;
- D – small increases in flow may cause substantial delay;
- E – operates with significant delays; and,
- F – operates with extremely slow speeds and/or intersection failures.

Quantitatively, vehicle level of service is most commonly measured by intersection level of service, which is classified by the seconds of delay at an intersection. The range of delay used in classification differs somewhat between signalized and unsignalized intersections, as shown in **Figure 9.9**.

Figure 9.9 Intersection Level of Service

Level of Service	Unsignalized Intersection Average Delay (sec/veh)[1]	Signalized Intersection Average Delay (sec/veh)
A	0 -10	0 - 10
B	10 - 15	10 – 20
C	15 – 25	20 – 35
D	25 - 35	35 – 55
E	35 - 50	55 – 80
F	> 50	> 80

[1] Reported for the worst performing movement for minor stop control, reported as the overall intersection for all-way stop-control.

The City of Liberty Lake's adopted intersection level of service standard is an LOS D for signalized intersections, and an LOS E for unsignalized intersections. This LOS standard is consistent with the County-wide planning policy contained in Spokane County's current Comprehensive Plan.

The level of service standard for a roundabout is measured as a volume to capacity ratio (v/c). Liberty Lake has adopted an LOS standard of less than 90% volume to capacity (< 0.9 v/c). This is consistent with WSDOT adopted LOS for roundabouts.

Multi-Modal Level of Service

As per RCW 36.70A.070, a multi-modal level of service (MMLOS) standard is required for all locally owned arterials, locally and regionally operated transit routes, and active transportation facilities. For state-owned transportation facilities, such as Highways of Statewide Significance (HSS) like Interstate 90, a MMLOS standard is required, although WSDOT has not adopted one (as of the time of this writing).

MMLOS standards can be either quantitative or qualitative. Quantitative MMLOS standards can vary from level of stress ratings (such as the one adopted by Bainbridge Island) to quite complex with a multivariate scoring system for different neighborhood contexts (such as one adopted by Bellingham).

Qualitative or binary MMLOS standards also exist throughout the state (Kent looks at minimum standards in different areas of the City for pedestrian LOS and transit LOS, with a more elaborate minimum standard for bicycle LOS, depending on speed limit, traffic volume, bicycle facility type.)

The Spokane Regional Transportation Council (SRTC) has published example level of service performance metrics for a variety of modes, including pedestrian, bicycle, and transit. The city may evaluate the use of these metrics when looking at ways to better describe levels of service for facilities within the city.

At present, the City of Liberty Lake requires bicycle and pedestrian facilities on all collectors and arterials. The standard requirement is sidewalks and bike lanes on both sides of the street, while allowing a multimodal pathway to be provided in lieu of bike lanes and sidewalks on the same side of the street.

Regarding transit LOS, all STA fixed transit routes are located on collectors and arterials within the City limits. Since STA has not adopted an MMLOS for transit, it is proposed that Liberty Lakes MMLOS for all collectors and arterials be the provision of sidewalks and bike facilities meeting the City's engineering design standards, on both sides of a collector or arterial street.

F. Transportation Network Analysis

As noted in the introduction to this Chapter, the City undertook the ***Liberty Lake Transportation Network Analysis Update***, in order to evaluate current traffic conditions and forecast future traffic volumes and network function. The Network Analysis modeled the current and future transportation network in order to evaluate network performance and identify short-term and long-term mitigations to the system. The results of this analysis are summarized below, with the full document included in **Appendix I**.

Methodology & Land Use Assumptions

The Network Analysis modeled the current and future transportation network, based upon Liberty Lake's projected changes in land use, population, and employment over the 20-year planning horizon.

The study area for this analysis includes major roadways and intersections within the City boundaries. Current traffic volumes were collected on segments of the major roadways within the network, which included the following:

- Country Vista Drive;
- Liberty Lake Road;
- Harvard Road;
- Appleway Avenue;
- Mission Avenue (both north and south of the I-90 corridor);
- Molter Roadway; and
- Kramer Parkway.

There were also 23 major intersections where turning movement data was collected. **Figure 9.10** details the study intersections, and the existing intersection control at those intersections.

Figure 9.10 Study Area Intersections

#	Intersection	Existing Intersection Control
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB
2	N Kramer Pkwy / E Country Vista Dr	Signal
3	N Legacy Ridge Drive / E Country Vista Dr	Signal
4	E Mission Ave / N Harvard Rd	Roundabout
5	N Harvard Rd / I-90 WB On Ramp	Free
6	N Liberty Lake Rd / Appleway Ave	Signal
7	N Liberty Lake Rd / E Country Vista Dr	Signal
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB
9	N Signal Dr / E Appleway Ave	Signal
10	N Madson St / E Appleway Ave	Signal
11	N Molter Rd / E Appleway Ave	Signal

12	N Molter Rd / E Mission Ave	Roundabout
13	E Mission Ave / N Harvest Pkwy	Roundabout
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled
16	N Molter / E Country Vista Dr	All Way Stop-Controlled
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled
18	E Mission Ave / Kramer Pkwy	Roundabout
19	N Harvard Rd / E Indiana Ave	Signal
20	N Harvard Rd / E Wellington Pkwy	Stop-Controlled EB/WB
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB
22	E Mission Ave / N Madson St	Stop-Controlled SB
23	E Country Vista Dr / Ridgeline HS signal	Signal

Growth assumptions set the stage for forecasting future traffic volumes at study area intersections and thus understanding transportation system deficiencies. Parametrix conducted an analysis of growth assumptions for both short-term (2028) and long-term (2046) conditions. The primary sources of information to determine the growth assumptions included information about pending and planned developments provided directly by City staff, the Liberty Lake Land Capacity Analysis (February 2025), and socioeconomic forecasts provided within the SRTC regional travel demand model (SRTC model).

The SRTC model was used to develop traffic volume forecasts for 2046 conditions within the City. The SRTC model is a region-wide forecasting tool covering the greater Spokane area from the City of Airway Heights on the west to the City of Liberty Lake on the east. Because of the regional setting of the SRTC model, refinements were made to target results for the smaller scale of this study. Refinements included updates and modifications to base year and horizon year roadway network representations and land use assumptions. For example, Kramer Parkway bridge over I-90 was added in the base year network.

The SRTC model divides the region into smaller areas called traffic analysis zones (TAZs). Each TAZ includes estimates of population, households, and jobs. First, these numbers were adjusted to better match current conditions. Then, future population and employment estimates were updated based on the City's land use plans, zoning, and expected development. Finally, because some TAZs in the City are quite large, extra connection points were added within them to better represent how people travel within smaller areas, essentially creating smaller, "virtual" TAZs within the larger ones. **Figure 9.11** and **Figure 9.12** show the virtual TAZ splits, including households and employment, for the refined SRTC model for 2024 and 2046.

Figure 9.11 2024 Refined SRTC TAZ MAP

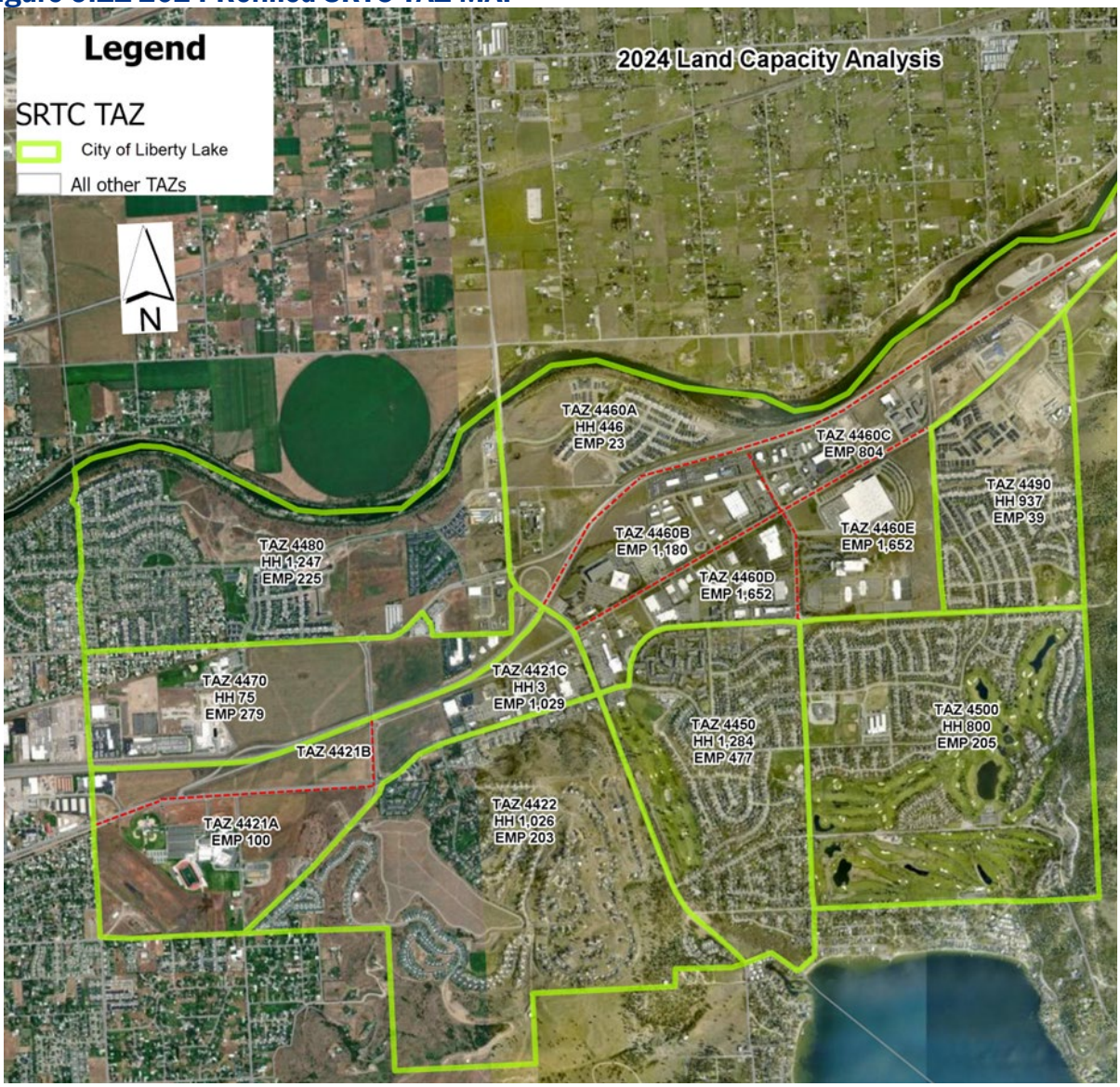
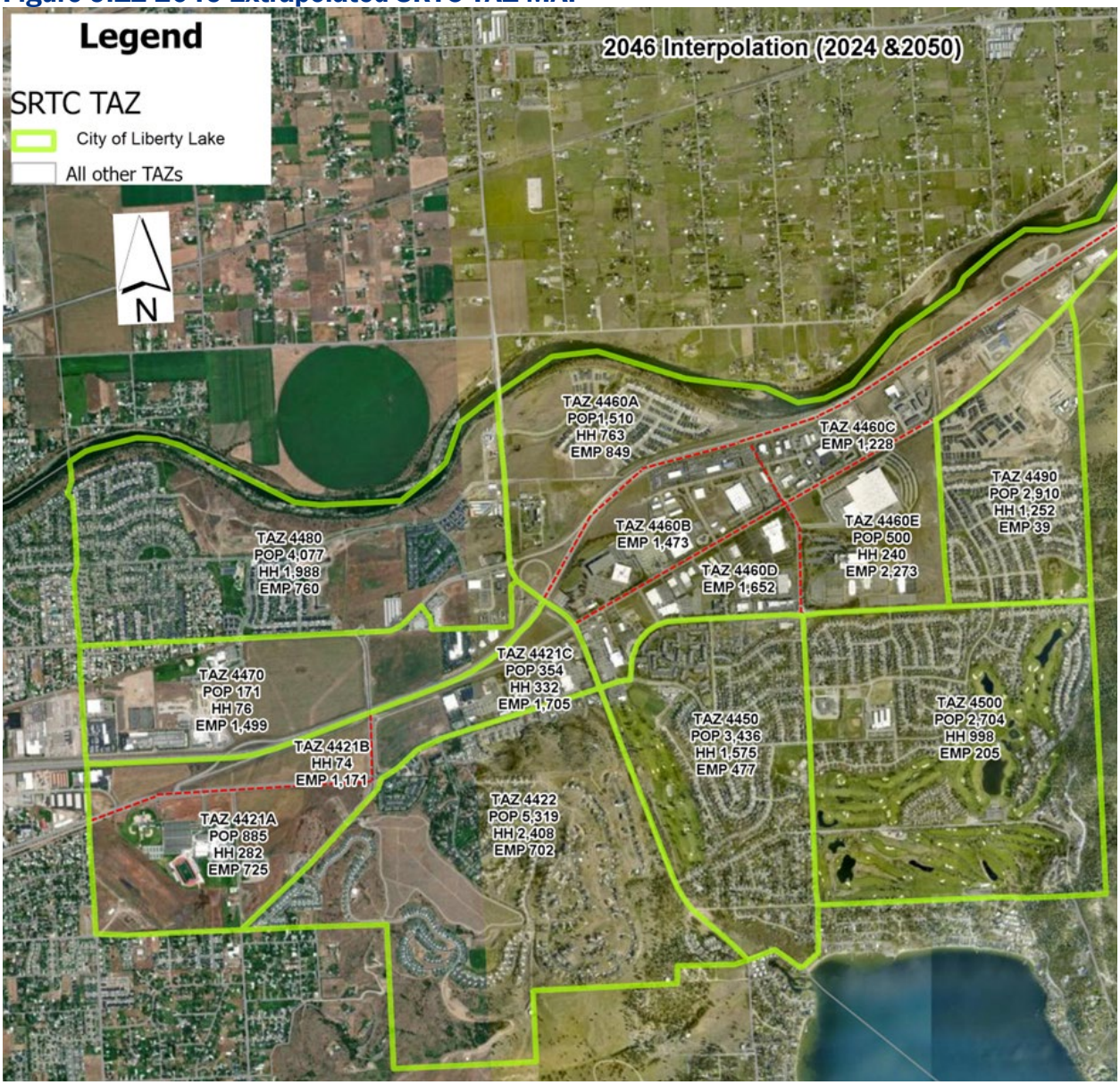


Figure 9.12 2046 Extrapolated SRTC TAZ MAP



Parametrix incorporated all this information to refine the SRTC model and generate long-term traffic forecasts within the City of Liberty Lake.

Short-Term Growth (2028)

Parametrix worked closely with City staff to develop assumptions about pending or likely developments in the City within the next three years. Sixteen development areas were identified citywide and included known or ongoing development and more generic land use growth assumptions for areas likely to develop but where specific plans are unclear or not available at this time.

Parametrix conducted a trip generation analysis to estimate the number of trips new developments would add to city roadways. For each future development, trip generation was calculated for the AM peak hour and the PM peak hour. The trip generation calculation is

derived from the square footage or number of dwelling units of a given development. A build-out adjustment was applied to developments that were anticipated to be partially constructed by 2028.

In all, the assumed developments added 1,604 new AM peak hour trips, 2,206 new PM peak hour trips, and 26,511 new daily trips to the Liberty Lake roadway network. Note that a single trip is from an origin to a destination and may go through multiple intersections. Parametrix then distributed the peak hour trips throughout the road network.

Long-Term Growth (2046)

For long-term growth projections, Parametrix used data from the City of Liberty Lake and the SRTC model to analyze the projected population and employment growth in the City. The SRTC model has a base year of 2022 and a forecast year of 2050. Parametrix used 2024 as a base year and interpolated population and employment data for the analysis year of 2046. Parametrix worked closely with City staff to understand the planned and projected growth patterns for employment and housing in the City.

Operational Analysis

Parametrix performed an operational analysis on each of the study intersections within Liberty Lake. Intersections were analyzed for three time periods: existing conditions (2025), short-term (2028) and long-term (2046). Mitigation analyses were conducted for short-term (2028) and long-term (2046) conditions.

Parametrix calculated LOS for signalized and stop-controlled intersections utilizing the Intersection Level of Service standards detailed in **Figure 9.9**. In this analysis, mitigations were recommended when intersection performance fell below LOS D. Parametrix also analyzed roundabout intersections, reporting level of service and average delay based upon volume to capacity ratios, identifying those with volume-to-capacity ratios above 0.9.

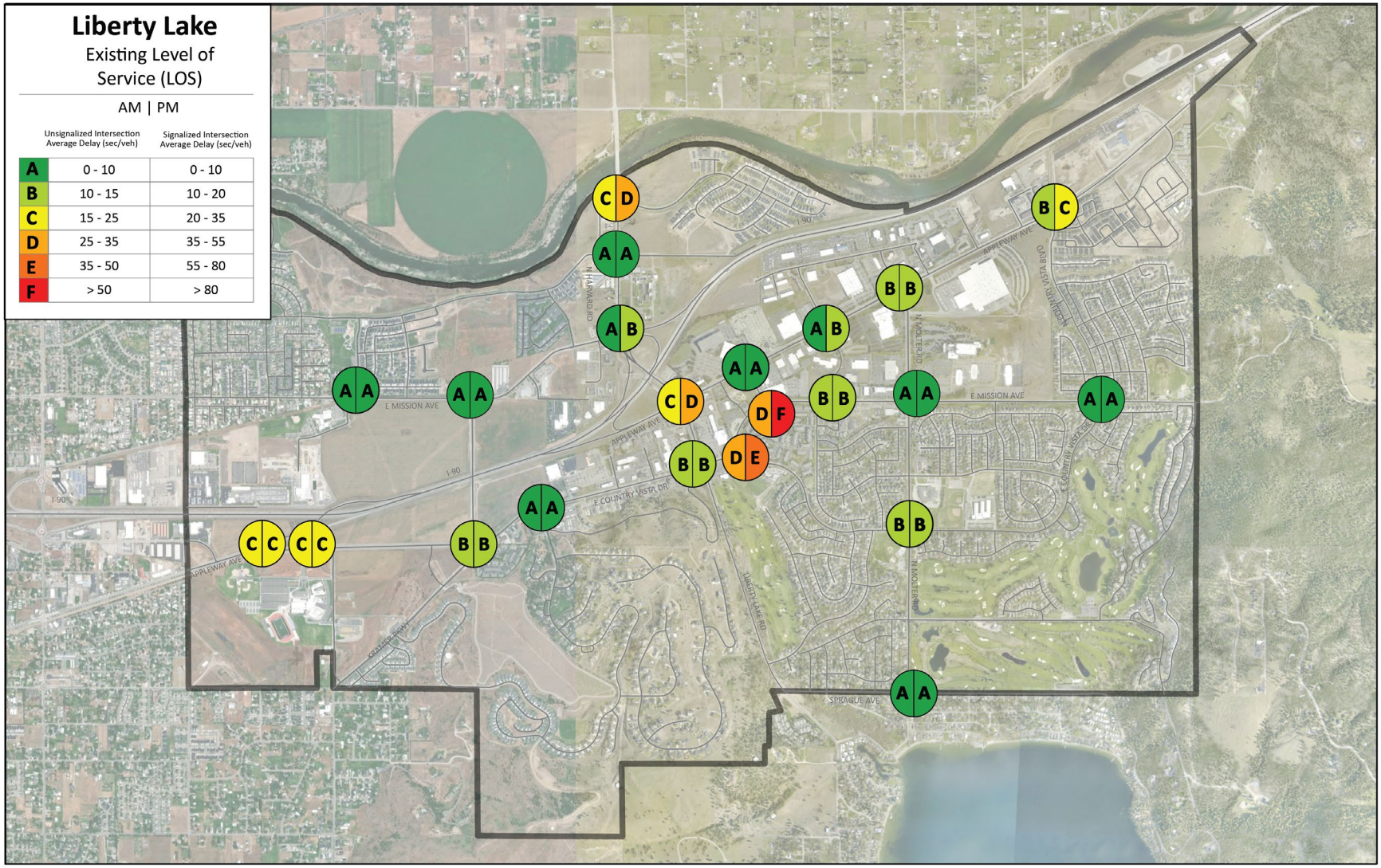
Current Level of Service

In the existing conditions analysis, all study intersections operate at LOS D or better in the AM peak hour. Most intersections operate at LOS D or better in the PM peak hour except for the following:

- E Mission Ave / E Country Vista Dr (intersection 8): the southbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

Figure 9.13 shows the existing level of service for AM and PM peak hours at each of the study intersections. For each study intersection, the a.m. level of service is depicted in the left half of the circle, and the p.m. peak level of service is depicted in the right half of the circle.

Figure 9.13 Existing Level of Service Map (2025)



Short-Term Level of Service (2028)

In the short-term (2028) operational analysis, all study intersections operate at LOS D or better in the AM peak hour except for the following:

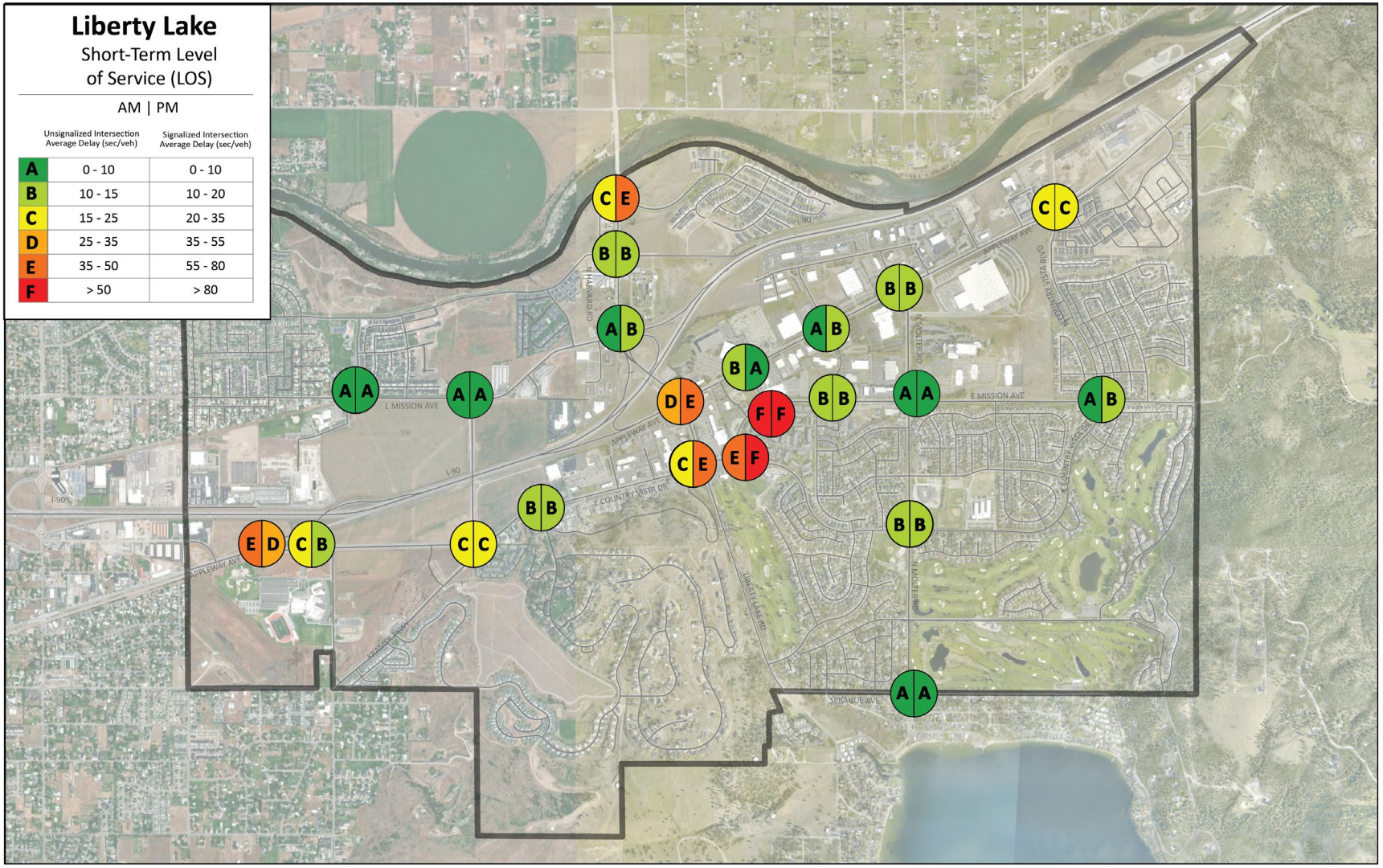
- I-90 WB Off Ramp / E Country Vista Dr (intersection 1): the southbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave / E Country Vista Dr (intersection 8): the southbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

All study intersections operate at LOS D or better in the PM peak hour except for the following:

- N Liberty Lake Rd / Appleway Ave (intersection 6): the intersection operates at LOS E.
- N Liberty Lake Rd / E Country Vista Dr (intersection 7): the intersection operates at LOS E.
- E Mission Ave / E Country Vista Dr (intersection 8): the southbound stop-controlled left turn lane operates at LOS F.
- N Harvard Rd/E Wellington Pkwy (intersection 20): the westbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

Figure 9.14 shows the projected level of service in 2028 for AM and PM peak hours at each of the study intersections.

Figure 9.14 Short-Term Level of Service Map (2028)



Short-Term, Planned Improvements

Identified, short-term (2028) mitigations are shown in **Figure 9.15**.

Figure 9.15 Preferred Short-term (2028) Mitigations

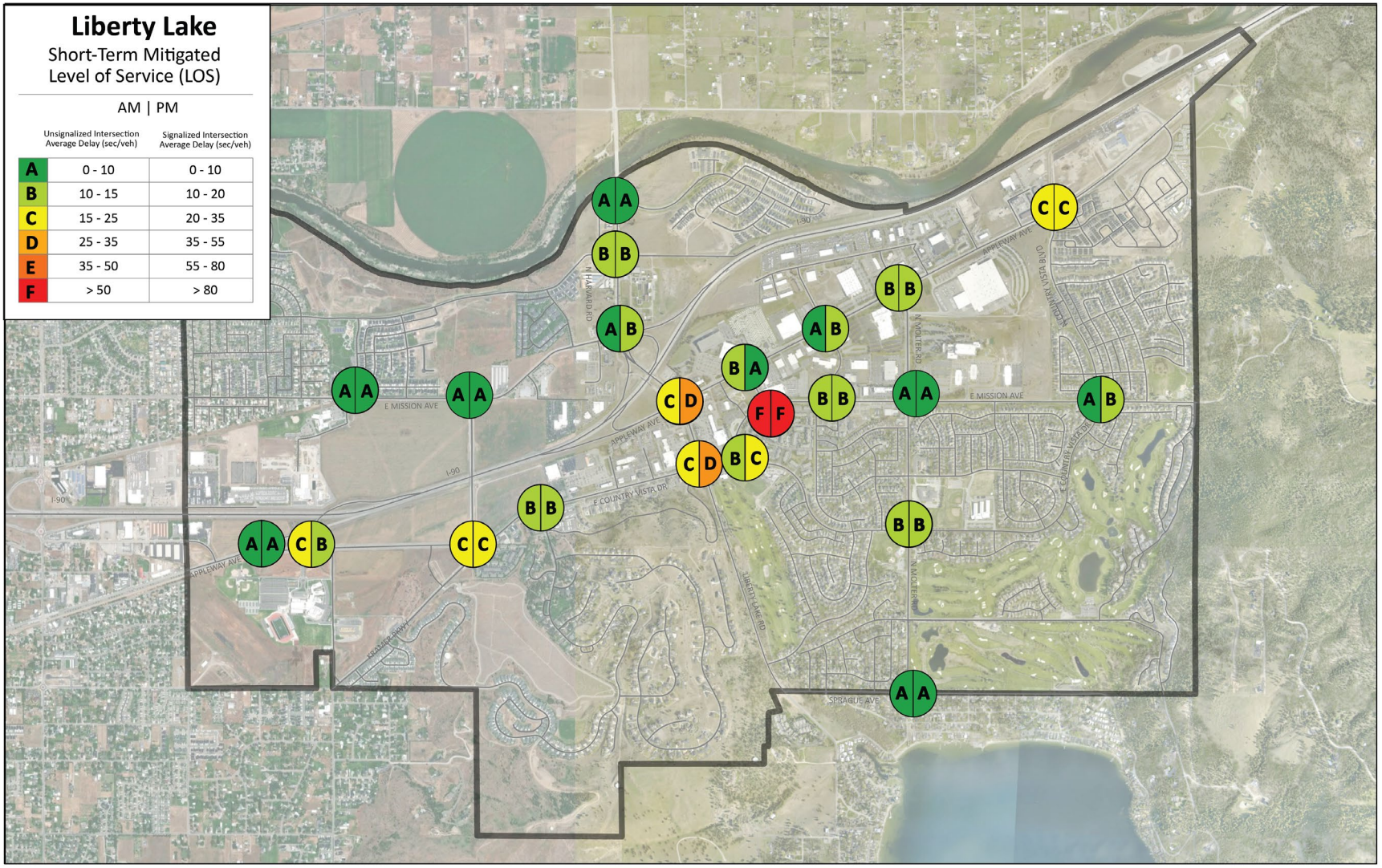
#	Intersection	Preferred Short-Term (2028) Mitigations	LOS (Delay in sec/veh)	
			AM	PM
1	I-90 WB Off Ramp / E Country Vista Dr	Multi-Lane Roundabout[1]	A (6)	A (6)
		Signal[1]	15 (B)	19 (B)
6	N Liberty Lake Rd / Appleway Ave	WBR Overlap Phase	C (32)	D (45)
7	N Liberty Lake Rd / E Country Vista Dr	Dual EBL Turn Lanes	C (25)	D (45)
8	E Mission Ave / E Country Vista Dr	Restrict SBL Turns	B (12)/SBR	C (16)/SBR
20	N Harvard Rd / E Wellington Pkwy	Developer Driven Multi-Lane Roundabout	A (4)	A (3)
		Developer Driven Signal	A (6)	A (6)
21	E Mission Ave / N Signal Dr	No-Build	F (>50)/SB	F (>50)/SB

[1]*Preferred mitigation to be determined in coordination with WSDOT.*

It should be noted that several mitigation options were evaluated for intersection at Mission Avenue and Signal drive, including restricting southbound left and through movements, signalization, and the construction of a roundabout. Because the northwest corner of this intersection encompasses an undeveloped portion of the City-owned Town Square Park, it was determined that the appropriate mitigation was best evaluated as part of the development plans for that site.

LOS for the short-term (2028) mitigated conditions is shown in **Figure 9.16**.

Figure 9.16 Short-Term Mitigated Level of Service Map (2028)



Long-Term Level of Service (2046)

The long-term (2046) analysis assumed the construction of the short-term (2028) preferred mitigations shown in **Figure 9.15.** In the long-term analysis, all study intersections operate at LOS D or better in the AM peak hour except for the following:

- E Mission Ave / N Harvard Rd (intersection 4): the intersection has a V/C ratio greater than 0.9.
- N Kramer Pkwy / E Country Vista Dr (intersection 2): the intersection operates at LOS E.
- N Country Vista Blvd / E Appleway Ave (intersection 14): the northbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

All study intersections operate at LOS D or better in the PM peak hour except for the following:

- E Mission Ave / N Harvard Rd (intersection 4): the intersection operates at LOS E and has a V/C ratio greater than 0.9.
- N Liberty Lake Rd / Appleway Ave (intersection 6): the intersection operates at LOS E.
- N Liberty Lake Rd / E Country Vista Dr (intersection 7): the intersection operates at LOS E.
- N Country Vista Blvd / E Appleway Ave (intersection 14): the northbound stop-controlled left turn lane operates at LOS F.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

Figure 9.17 shows the projected level of service in 2046 for AM and PM peak hours at each of the study intersections.

The preferred long-term (2046) mitigations are shown in **Figure 9.18**. Please note that two solutions are evaluated for the Mission/ Signal Avenue intersection, the preferred solution will need to be identified in conjunction with the development of the northwest corner of the intersection.

Multi-Modal Level of Service (MMLOS) long-term needs (10 years) include filling gaps where sidewalks do not currently exist, as identified in the Liberty Lake Sidewalk Master Plan. Funding for MMLOS upgrades may be achieved through a variety of mechanisms, including securing grant funding, incorporating improvements into regularly scheduled roadway reconstruction projects, and utilizing other funding strategies outlined in the Liberty Lake Sidewalk Master Plan. Implementation of MMLOS upgrades will proceed as funding is secured through these various sources.

LOS for the long-term (2046) mitigated conditions are shown in **Figure 9.19**.

Figure 9.17 Long-Term Level of Service Map (2046)

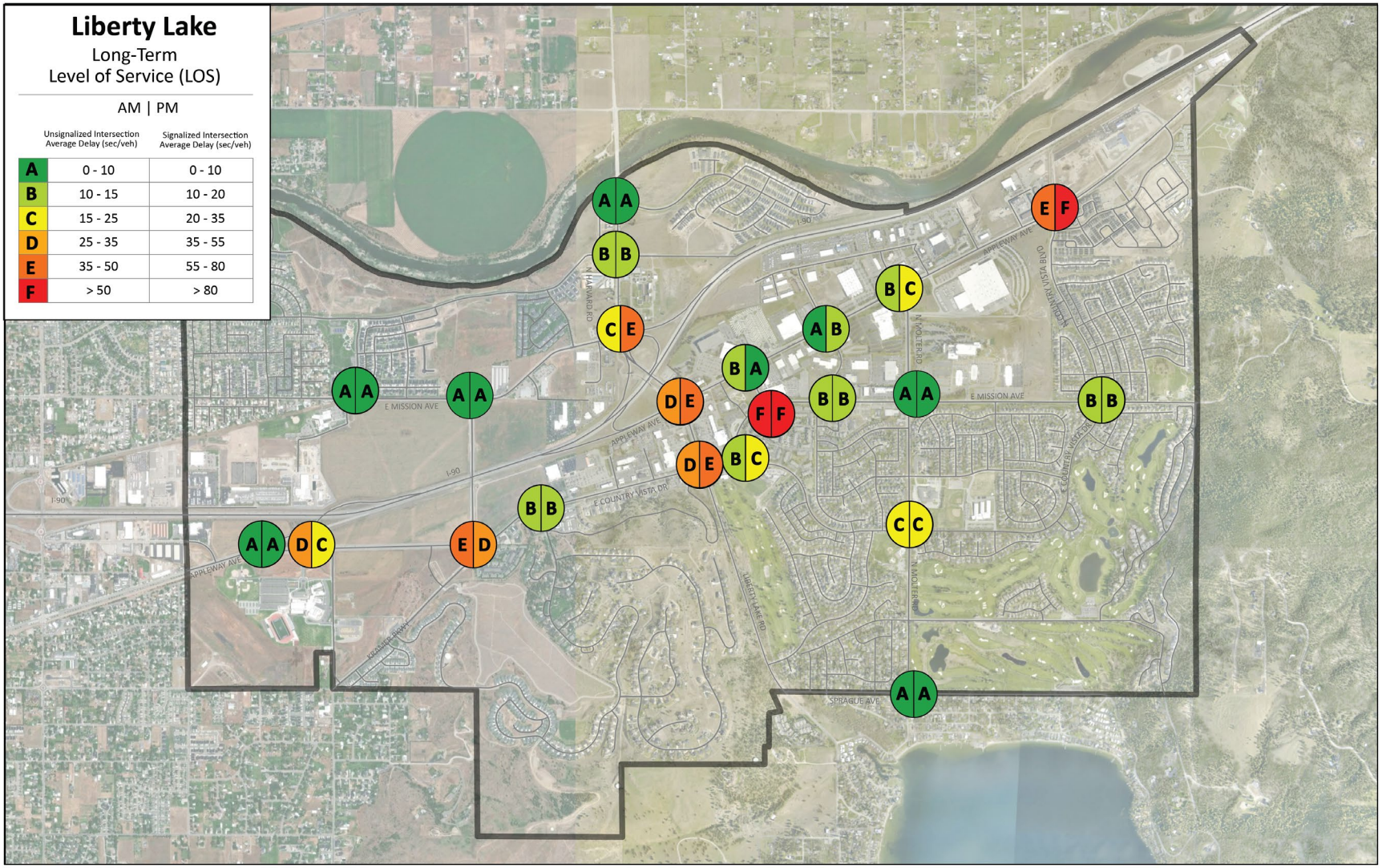
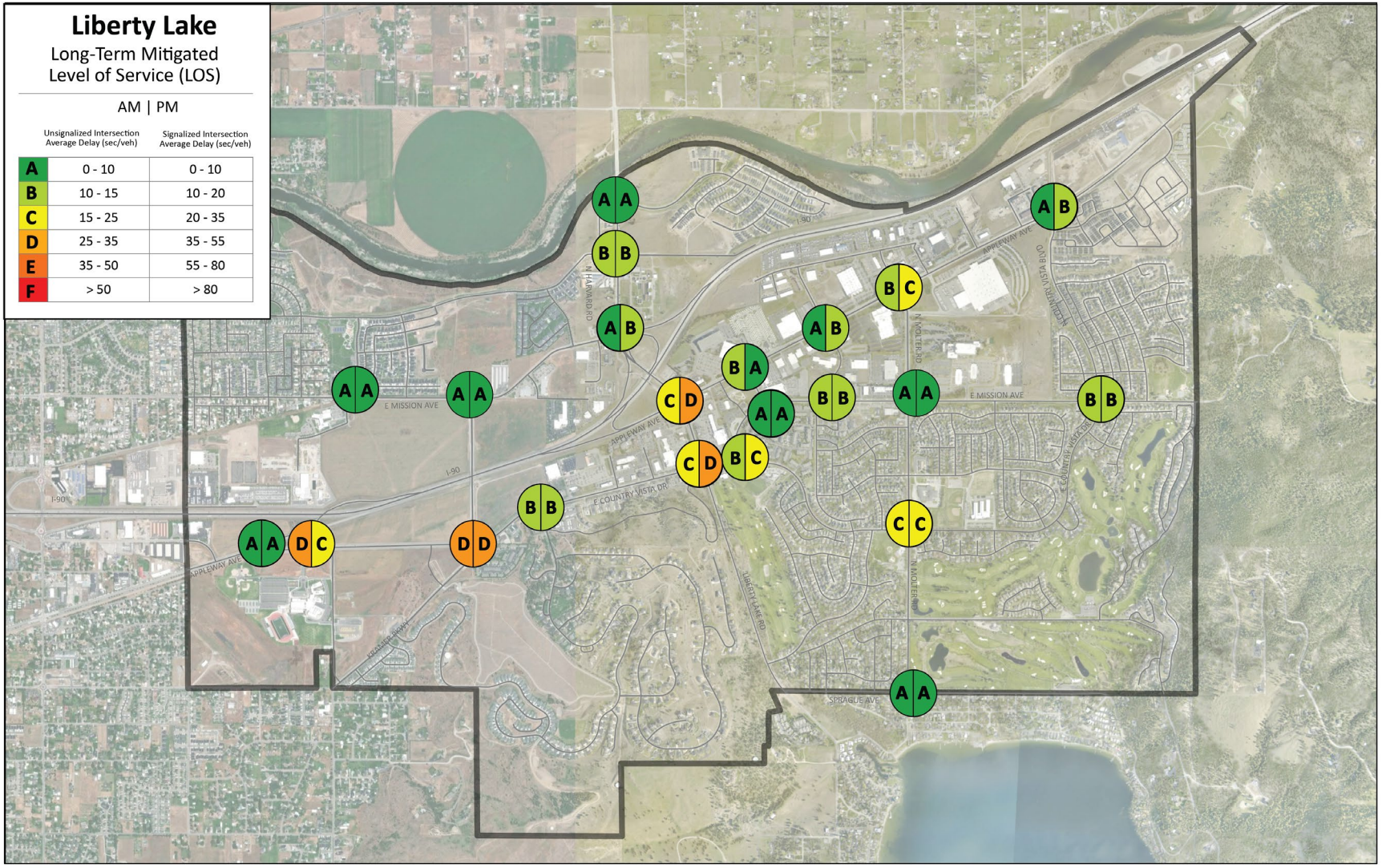


Figure 9.18 Preferred Long-Term (2046) Mitigations

#	Intersection	Preferred Long-Term (2046) Mitigations	LOS (Delay in sec/veh)	
			AM	PM
2	N Kramer Pkwy / E Country Vista Dr	Increase Cycle Length and Adjust Signal Timings	D (41)	D (45)
4	E Mission Ave / N Harvard Rd	Expand Roundabout: Two-Lane SB & EB Approaches /Exits, Two Lane WB Approach, and Two Exit Lanes on NB Approach	A (8)	B (11)
6	N Liberty Lake Rd / Appleway Ave	Dual SBL and Dual WBL Turn Lanes	C (29)	D (43)
7	N Liberty Lake Rd / E Country Vista Dr	Separate SBR Turn Lane and SBR Overlap Phase	C (29)	D (43)
14	N Country Vista Blvd / E Appleway Ave	Signalize Intersection	A (8)	B (13)
21	E Mission Ave / N Signal Dr	Roundabout	A (4)	A (5)
		Signal	A (7)	A (8)

Figure 9.19 Long-Term Mitigated Level of Service Map (2046)



Summary of Proposed Transportation Mitigations

Proposed short-term and long-term mitigations, and their cost estimates are summarized in **Figure 9.20**, for inclusion in the City's 20-year Capital Facilities Plan. Detailed breakdowns of the cost estimates for each project are included in **Appendix I,** *The Liberty Lake Transportation Network Analysis Update*.

Figure 9.20 Transportation Mitigation Summary

Intersection	Mitigation	Cost (In 2025 Dollars)
Short-Term (2028)		
I-90 WB Off Ramp / E Country Vista Dr	Multi-lane roundabout/signal[1]	$2,863,000/ $1,180,000
N Liberty Lake Rd / Appleway Ave	WBR Overlap Phase	$12,000
N Liberty Lake Rd / E Country Vista Dr	Dual EBL Turn Lanes	$932,000
E Mission Ave / E Country Vista Dr	Restrict SBL Turns	$6,000
N Harvard Rd / E Wellington Pkwy	Multi-Lane Roundabout/ Signal	$2,102,000/ $1,561,000
E Mission Ave / N Signal Dr	No-Build[2]	--
Long-Term (2046)		
N Kramer Pkwy / E Country Vista Dr	Increase Cycle Length and Adjust Signal Timings	$12,000
E Mission Ave / N Harvard Rd	Expand Roundabout: Two-Lane SB & EB Approaches /Exits, Two Lane WB Approach, and Two Exit Lanes on NB Approach	$2,058,000
N Liberty Lake Rd / Appleway Ave	Dual SBL and Dual WBL Turn Lanes	$1,158,000
N Liberty Lake Rd / E Country Vista Dr	Separate SBR Turn Lane and SBR Overlap Phase	$1,158,000
N Country Vista Blvd / E Appleway Ave	Signalize Intersection	$1,193,000
E Mission Ave / N Signal Dr	Roundabout or signal[2]	$2,102,000/ $1,561,000

[1] *To be determined in coordination with WSDOT*

[2] *To be determined in conjunction with Town Square Park development*

G. Concurrency

Concurrency is a core requirement of the Growth Management Act (GMA) and ensures that transportation facilities and services are provided in a timely manner to support new development. Under the GMA, transportation improvements or strategies necessary to accommodate development impacts must be in place at the time of development, or a financial commitment must exist to complete the improvements within six years. Transportation is the only concurrency element that allows denial of a development proposal if its impacts would cause the system to fall below adopted level of service (LOS) standards.

Accordingly, new development must provide or fund proportionate improvements or strategies sufficient to address its impacts within the required timeframe. Local jurisdictions are also required to plan for the correction of existing transportation deficiencies and to bring facilities and services into compliance with locally adopted LOS standards. Developers are not required to correct pre-existing deficiencies. Where meeting adopted LOS standards is not feasible, jurisdictions may need to reconsider comprehensive plan goals, policies, or LOS standards in a manner that continues to implement the community's long-term vision.

The City of Liberty Lake's transportation concurrency system is based on periodic updates to the City's Transportation Network Analysis, generally conducted every five years. The Network Analysis identifies existing and projected future transportation deficiencies based on current and planned land uses and informs the identification of transportation projects in the City's Capital Facilities Plan, which is updated annually.

All development proposals subject to environmental review under the State Environmental Policy Act (SEPA) are required to undergo a concurrency review. As part of this review, applicants must submit a trip generation and distribution letter. The City reviews this information for consistency with the Transportation Network Analysis and circulates it to relevant transportation agencies, including the Spokane Regional Transportation Council (SRTC), Washington State Department of Transportation (WSDOT), and adjacent jurisdictions such as Spokane County and the City of Spokane Valley. Based on agency comments and project impacts, additional intersection analyses may be required, and proportionate-share mitigation measures may be imposed as conditions of project approval.

H. Environment

The transportation system can have significant effects on the natural environment if not carefully planned and managed. Transportation-related activities are commonly associated with air, water, and noise pollution. Air quality impacts are closely linked to vehicle emissions and traffic congestion. While roadway capacity improvements may be appropriate in limited circumstances, reducing reliance on single-occupant vehicle travel through transit use, transportation demand management strategies, and expanded access to walking and bicycling facilities can effectively reduce congestion and associated air pollutant emissions.

Stormwater runoff from roadways, parking areas, and other impervious transportation surfaces can be a major contributor to water pollution if untreated. To minimize these impacts,

the City integrates stormwater management best practices into street design and construction standards, including the use of grassed percolation areas and other low-impact development techniques that promote infiltration and pollutant removal prior to discharge.

Noise generated by traffic can adversely affect adjacent land uses, particularly residential areas, schools, and parks. Where transportation projects have the potential to create or exacerbate noise impacts, appropriate mitigation measures—such as landscaped buffers, berms, design treatments, or other noise attenuation strategies—may be incorporated to reduce adverse effects.

Transportation goals and policies, together with land use policies that influence travel behavior and development patterns, play a key role in advancing the City's greenhouse gas reduction objectives. These efforts support and are coordinated with the broader climate and environmental goals and policies set forth in Chapter 4, Climate & Natural Resources.

I. Transportation Resiliency

The City has developed a Transportation Resiliency Plan (TRP) to guide efforts to ensure the transportation system can withstand, adapt to, and recover from climate-related hazards (see **Appendix K**). The TRP builds on the City's Climate Vulnerability and Risk Assessment and Hazard Mitigation Plan annex to identify key risks to transportation infrastructure, with a particular focus on wildfire, extreme heat, and changing precipitation patterns. The plan includes an evaluation of transportation corridors based on their criticality to daily mobility, emergency access, and regional connectivity, as well as their vulnerability to climate-related hazards such as wildfire exposure in wildland-urban interface areas. This analysis is used to identify priority corridors where disruptions would have the greatest impact.

The TRP supports greenhouse gas (GHG) reduction and vehicle miles traveled (VMT) reduction goals by promoting a more efficient, reliable, and multimodal transportation system that maintains connectivity during disruptions and supports shifts away from single-occupant vehicle travel (see **Appendix D**). The plan also includes strategies that improve climate preparedness, emergency response, and post-event recovery, helping ensure continued access to essential services and reducing system-wide disruptions. These efforts are coordinated with and reinforce the City's broader Climate and Natural Resources Element (Chapter 4), which establishes policies to reduce emissions, increase resilience, and support sustainable land use and transportation patterns.

J. Transportation Demand Management

Transportation Demand Management (TDM) refers to strategies that improve the efficiency of the transportation system by influencing travel behavior. These strategies help improve mobility, reduce congestion, limit single-occupant vehicle (SOV) trips, and lower vehicle emissions. TDM has been demonstrated to be a cost-effective means of advancing transportation, environmental, and community objectives.

While transportation system improvements often focus on increasing capacity, reducing demand—particularly during peak travel periods—can effectively address congestion, minimize infrastructure costs, and reduce environmental impacts. Because capacity shortfalls typically occur during peak morning and evening commute hours, strategies that reduce or shift trips during these periods are especially effective. Common TDM strategies include carpooling and vanpooling, public transit, telecommuting and flexible work schedules, bicycling, and walking.

The City of Liberty Lake supports transportation demand management as an integral component of an efficient, multimodal transportation system. With an established network of regional and local trails, access to transit services, and active participation in the regional Commute Trip Reduction program, the City is well positioned to encourage alternatives to SOV travel. Effective TDM strategies can reduce the need for roadway capacity improvements while providing additional benefits such as reduced greenhouse gas emissions and improved air quality.

The City will continue to support and invest in infrastructure, programs, and partnerships that build upon existing local and regional transportation demand management strategies to expand participation and enhance system efficiency.

K. Maintenance & Preservation

The City's transportation system is supported by ongoing maintenance and preservation programs that address day-to-day operations and long-term asset stewardship. These programs include annual funding for roadway repairs, pavement patching, shoulder restoration and mowing, crack sealing, signing and striping, stormwater system maintenance, and related activities. Consistent maintenance preserves pavement condition, enhances safety, and extends asset life, avoiding the substantially higher costs associated with deferred maintenance and full roadway reconstruction.

Maintenance Delivery Approach

The City of Liberty Lake delivers a comprehensive pavement maintenance program through a combination of in-house staff and contracted services:

- **In-House Maintenance Activities:** City Public Works crews perform routine and preventive maintenance activities such as crack sealing, cold-mix patching, mastic applications, and small hot-mix asphalt (HMA) patches. These treatments are prioritized annually based on pavement condition, visual inspection, and available funding, with an emphasis on preserving pavements in good and fair condition.
- **Contracted Maintenance and Repairs:** Larger-scale pavement repairs and rehabilitation projects requiring specialized equipment or higher production rates—such as major HMA patching, mill-and-overlay projects, and full-depth repairs—are delivered through qualified local contractors. This approach provides flexibility, efficiency, and cost control while allowing the City to address higher-priority needs on arterial and collector streets.

- **Condition Assessment and Monitoring:** Pavement condition is evaluated through routine visual inspections by Public Works staff, engineers, and engineering technicians, supplemented by advanced LiDAR-based pavement condition assessments conducted on a five-year cycle. These assessments inform project prioritization, budgeting, and treatment timing.

Together, these coordinated efforts support a preservation-first, data-driven approach to pavement management that maximizes the useful life of Liberty Lake's roadway assets and ensures maintenance investments deliver long-term value to the community.

Pavement Master Plan

In 2026, the City of Liberty Lake completed a Pavement Master Plan (PMP). The PMP provides a data-driven framework for maintaining, preserving, and improving approximately 55 centerline miles of public streets. It supports the City's vision and goals by prioritizing strategic investment in a reliable, functional, and resilient transportation system that meets current and future community needs.

The primary purpose of the PMP is to ensure the City's street network remains safe, efficient, and cost-effective through proactive maintenance and timely rehabilitation. By using objective pavement condition data, the PMP guides funding decisions, optimizes repair timing, and extends pavement life—protecting the City's substantial investment in its roadway system.

Specifically, the PMP enables the City to:

- Maintain a balanced, lifecycle-based approach to pavement investment.
- Reduce long-term costs through preventive maintenance rather than reactive repair.
- Prioritize projects using transparent, data-supported methods.
- Support Complete Streets principles by integrating multimodal safety and accessibility considerations into pavement projects.
- Strengthen fiscal stewardship and public accountability by linking investments to measurable performance outcomes.

A full copy of the *City of Liberty Lake Pavement Master Plan* is included in **Appendix L.**

Pavement Condition Review

Initial pavement assessments indicate that Liberty Lake's roadway network is generally in good condition, reflecting consistent investment in preservation and timely rehabilitation. Preventive maintenance strategies—such as crack sealing and mastic treatments—have proven effective in extending pavement life and minimizing the need for costly reconstruction.

Pavement Condition Index (PCI)

Pavement condition is measured using the Pavement Condition Index (PCI), a standardized rating system ranging from 0 to 100. A score of 100 represents pavement in near-ideal condition with minimal distress, while a score of 0 represents failed pavement.

The City utilizes the CityLogix pavement condition assessment platform, which combines high-definition LiDAR and 360-degree imagery to identify and map surface distresses such as

cracking, rutting, potholes, utility cut failures, and patches. Detected distresses are converted into deduct values from the maximum score to generate a PCI for each roadway segment. These scores are stored in the City's asset management system and used for prioritization, budgeting, and long-range forecasting

PCI condition categories are defined as follows:

- Excellent: 86 – 100
- Good: 71 – 85
- Fair: 56 – 70
- Poor: 41 – 55
- Very Poor: 26 – 40
- Serious: 11 – 25
- Failed: 0 – 10

Pavement Condition Summary

The City's street inventory includes approximately 54.9 miles of public roadway with an overall average PCI of 77.28, which is considered good. This condition is influenced by the City's relatively young roadway system and the number of local streets constructed as part of recent residential development.

Local streets account for approximately 54 percent of the City's total roadway mileage and have an average PCI of 80.12. While overall conditions are strong, localized areas of older pavement will require increased investment in the coming years.

Arterial and collector streets generally exhibit slightly lower PCI values (approximately 70–75) due to their age and higher traffic volumes, including freight traffic. These corridors have been a recent focus of local funding and state and federal grant investments.

Figure 9.21 illustrates the average PCI for public street segments within the City of Liberty Lake.

Figure 9.21 2026 Pavement Condition Assessment

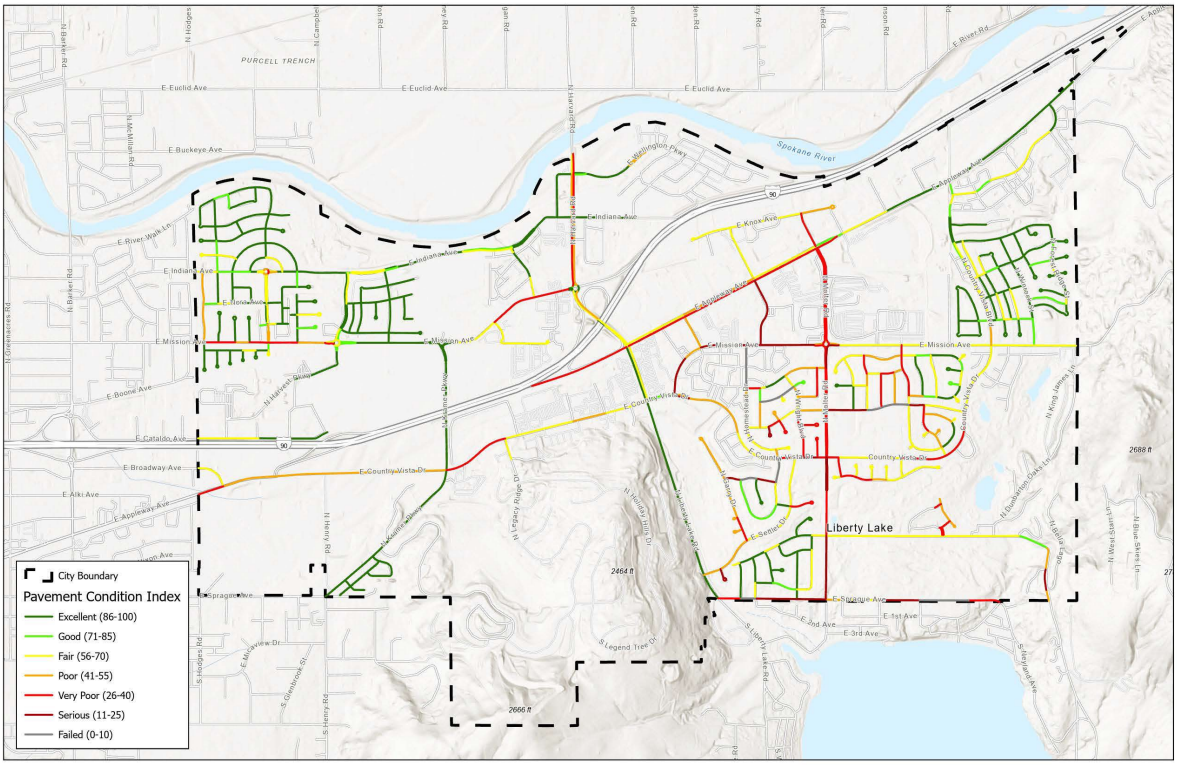


Figure 9.22 summarizes PCI conditions by roadway classification, and **Figure 9.23** summarizes mileage by condition category.

Figure 9.22 Summary of PCI Conditions by Roadway Classification (in miles)

Classification	Road Miles	Average PCI
Major Arterial	7.45	71.4
Minor Arterial	7.89	70.2
Collector	8.77	75.5
Local	29.62	80.12
Future Road	1.12	N/A
Total	**54.86**	**77.28**

Figure 9.23 Summary of Miles in Each Condition Category

Classification	Excellent	Good	Fair	Poor	Very Poor	N/A
Major Arterial	1.24	2.20	3.32	0.69	0.00	0.00
Minor Arterial	2.00	1.77	1.43	2.60	0.09	0.00
Collector	2.91	3.19	0.88	1.05	0.75	0.00
Local	14.05	10.10	4.09	0.84	0.54	0.00
Future Road	0.00	0.00	0.00	0.00	0.00	1.12
Total	**20.2**	**17.26**	**9.72**	**5.18**	**1.38**	**1.12**

Pavement Master Plan Framework

Pavement condition follows a predictable lifecycle from construction through eventual reconstruction. Understanding this lifecycle allows the City to apply the right treatment at the right time:

- **Construction / New Pavement:** Pavement is constructed to design standards and begins its life in excellent condition (PCI near 100).
- **Initial Service Life:** Deterioration is minimal; routine maintenance maintains good condition.
- **Preventive Maintenance Stage:** Minor distresses emerge; low-cost treatments slow deterioration and preserve value.
- **Rehabilitation / Corrective Maintenance Stage:** Structural and surface deficiencies increase; more intensive repairs are required at higher cost.
- **End-of-Life / Reconstruction Stage:** Pavement fails structurally and requires full reconstruction, representing the highest cost stage.

Figure 9.24 identifies recommended treatments by PCI range and roadway classification.

Figure 9.24 Recommended Treatments

Repair Type	Arterial/Collector	Local
	PCI Range	PCI Range
Reconstruction	0-45	0-30
Mill and Overlay	45-65	30-65
Chip/Slurry Seal	65-75	65-75
Crack Seal	75-90	75-90
Defer Maintenance	90+	90+

Level of Service and Performance Targets

The City of Liberty Lake does not currently have adopted level of service (LOS) standards for pavement condition. As part of ongoing asset management efforts, pavement LOS standards may be established by functional classification to reflect differing roadway roles, traffic volumes, and risk profiles. This tiered approach would support strategic resource allocation, prioritize critical corridors, and promote equitable service levels across the network.

Pavement performance targets will be monitored through routine condition assessments and may be adjusted over time based on funding availability, community priorities, and observed system performance. Adopted pavement LOS standards will directly inform pavement funding needs and will be addressed through future updates to the Capital Facilities Plan.

ADA Transition Plan

The Americans with Disabilities Act (ADA) was passed by Congress in 1990 and took effect in 1992. A large portion of development within Liberty Lake occurred after ADA took effect, therefore, much of the City's infrastructure is likely to meet ADA accessibility standards.

A complete inventory of these facilities has not yet been conducted. The City has begun contacting companies capable of scanning and assessing infrastructure to develop a comprehensive inventory of ADA ramps within city limits.

In the short-term, the City will improve accessibility by upgrading ADA features, such as curb ramps, during roadway reconstruction projects. Over time, this approach will result in modernization and replacement of ADA ramps and related facilities throughout the City.

L. Transportation Finance

Priorities

Consistent with the Guiding Principles & Policies of SRTC's Horizon 2050 Metropolitan Transportation Plan, the City of Liberty Lake prioritizes the following investments in our local and regional transportation system:

- Improvements that promote economic vitality by moving people, freight and goods to enhance economic competitiveness;
- Investments and improvements that enhance the safety of all transportation network users, including pedestrians, cyclists, motorized personal vehicles, public transit, and freight users;
- Cost-effective investments that maintain the condition of existing infrastructure and prevent more costly future infrastructure repairs;
- Investments that encourage, promote and enhance Transportation Demand Strategies and Programs to minimize the need for capacity expansions.
- Investments in operational improvements and capacity expansions to support the planned growth of the community.

Current Funding Sources

Costs for pavement maintenance and preservation are supported by the Transportation Benefit District (TBD), a 0.1% sales tax revenue, established by the City Council in 2023, and state shared revenues from Motor Vehicle Fuel Taxes (MVFT), as well as Real Estate Excise Taxes (REET) collected upon the sale of real property, based upon the first one-half of one percent (0.5%) of the full selling prices.

Operational improvements and capacity enhancements are supported by REET funding and Harvard Road Impact Fees (the City's voluntary impact fee program). Development-driven improvements in support of economic development may be reimbursable through Tax Increment Financing (TIF) and the Local Improvement Financing Tool (LIFT) programs, authorized together as a pilot program within the City of Liberty Lake and portions of the unincorporated County through 2034.

Transportation maintenance/preservation funding and operational/capacity enhancements are also frequently funded through state and federal grants such as those administered by Transportation Improvement Board (TIB), Washington State Department of Commerce and

SRTC (Urban Arterial Program, Pavement Preservation, Complete Streets, Active Transportation, Safe Routes to School, to name a few).

Potential Future Funding Sources

As the City's infrastructure ages, funding for preservation as well as future operational and capacity improvements will become more challenging, and the City will need to investigate new and expanded funding sources to address the City's transportation investment priorities. Some possibilities for future consideration include, but are not limited to:

- Foregone property taxes;
- Increasing the Transportation Benefit District to a 0.2% sales tax (this requires a vote of the residents);
- Expanding the Transportation Benefit District to include vehicle licensing fees;
- Voter-approved bonds;
- Local improvement districts; and/or
- Voter approved tax-levies for specific projects.

M.Public Participation & Agency Coordination

Consistent with the principles of early and continuous public participation, the City of Liberty Lake engaged the community throughout the development of the Transportation Network Analysis, the Transportation Resiliency Plan, and this Transportation Element. A variety of venues, platforms, and outreach strategies were used to provide meaningful opportunities for public input and to reach a broad and diverse audience. Engagement activities included, but were not limited to, the following:

- Booths with flyers, brochures, and informational displays at community events, including Farmers Markets and Barefoot in the Park;
- Presentations at community meetings;
- Transportation-related information posted on the City's website and shared through social media channels;
- A virtual open house;
- An interactive story map;
- Stakeholder group meetings; and
- Multiple Planning Commission and City Council workshops.

Public comments and feedback received through these efforts were documented and considered during plan development and informed refinements to transportation goals, policies, and implementation strategies.

Recognizing the importance of consistency and coordination with regional and state transportation planning efforts, the City consulted with partner agencies throughout the planning process. These agencies included, but were not limited to, the Spokane Regional Transportation Council (SRTC), Washington State Department of Transportation (WSDOT), the City of Spokane Valley, and Spokane County. Agency input was solicited and considered in the

development of the Transportation Network Analysis, the Transportation Resiliency Plan, and this Transportation Element to support alignment with regional transportation plans, policies, and investment priorities.

N. Implementation

Following adoption of this Comprehensive Plan, the City of Liberty Lake will undertake the following actions to implement the City's long-term vision for its transportation system:

- Pursue amendments to the functional classification of the Liberty Lake street network, as identified in Figure 9.6;
- Evaluate the feasibility of developing a pedestrian and bicycle Level of Traffic Stress (LTS) standard to support future multimodal planning and performance evaluation;
- Following adoption of the Comprehensive Plan and the 20-year Capital Facilities Plan, update the Harvard Road impact fee program;
- Implement applicable recommendations identified in the Liberty Lake Sidewalk Master Plan (see **Appendix M**); and
- Update the Transportation Network Analysis and the Pavement Condition Assessment in 2030, in advance of the 2031 Comprehensive Plan Implementation Progress Report, to inform updates to transportation mitigation projects identified in the Capital Facilities Plan.

Understanding and responding to the evolving transportation needs of Liberty Lake residents and businesses is central to this plan. Through ongoing monitoring, periodic plan updates, continued public engagement, and strategic policy adjustments, the City will continue to identify opportunities to maintain and enhance its multimodal transportation system to ensure safe, efficient, and reliable travel to, from, and within the City.



LIBERTY LAKE – 2046

UTILITIES, PUBLIC FACILITIES & SERVICES

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A. Utilities

The Washington State Growth Management Act requires that cities and counties develop a Utilities Element as part of the comprehensive planning process. Specifically, this element must address the future needs for electrical, natural gas, and telecommunication lines. Additionally, public sewer and water are currently provided to the City by the Liberty Lake Sewer & Water District, Spokane County Environmental Services, and Consolidated Irrigation District #19. Solid waste management and recycling are provided to the City by Waste Management.

The City has met with the various utility service providers and shared population and employment projections for the City through 2046. Providers have confirmed that they are capable of serving the projected demands of the City's current and future residents for electricity, natural gas, and telephone service, as well as sewer, water, and solid waste management, with current and/or planned future capital facilities improvements. The City will continue to monitor and coordinate with the variety of public and private service providers to ensure that future needs will continue to be met.

B. Utility Goals and Policies

Utility Goal 1: Maintain the energy, communication, solid waste disposal facilities and services, sewer capacity, and water supply needed to support current and future development.

Policy U1.1: Continue to exchange population forecasts, development plans, and technical data with local utility providers.

Policy U1.2: Develop and implement education programs to encourage and promote waste reduction, recycling, and alternatives to use of toxic products.

Policy U1.3: Prior to approval of any proposed development inside the city boundaries, project sponsors must:

a. Demonstrate the adequacy of the planned sewer and water conveyance and treatment systems capacities in accordance with established level of service standards; and
b. Consult with service providers to confirm the availability of services including electric and natural gas.

Policy U1.4: Priority consideration should be given to the placement of telecommunication, cable television lines, and other utility facilities underground at the front of the property, at the rear of properties, or in alleyways with easements, and require undergrounding of all newly installed or extensively modified utilities, under 50 KW, to protect viewsheds and corridors.

Policy U1.5: Facilitate joint planning and the construction of improvements among utility providers.

Policy U1.6: Encourage shared utility easements and corridors, in accordance with industry standards.

Policy U1.7: Encourage the use of utility easements and corridors for trails, in accordance with industry standards, as appropriate.

Policy U1.8: Explore opportunities to encourage and promote the use of reclaimed water.

Policy U1.9: The City has adopted the Spokane Regional Stormwater Manual. In accordance with the provisions of this manual, the City shall establish and maintain a comprehensive storm water management system. This should include, but is not limited to:

a. Policies that support low impact development;
b. The use of landscaping and open space to facilitate low impact development;
c. Policies to minimize new impervious surfaces whenever practicable; and,
d. Alternative stormwater design methodologies, as outlined in the Washington State Department of Ecology's Stormwater Management Manual for Eastern Washington (SWMMEW) may be utilized as an alternative method of compliance, with prior approval from the City.

Utility Capacity Review

Electrical & Gas Utilities

Electricity is currently provided to the City by Avista Utilities. The capabilities of the electrical system's capacity can be quantified in terms of the capacity of its distribution substations.

Power systems are capable of serving an amount of electric demand measured in kilowatts. The number of customers served depends on the demand of each individual customer and varies from a few kilowatts for a small residential customer to 50,000 kilowatts for a large industrial customer. The power system is built to a uniform design throughout the service area. The design provides a networked transmission system of substations (with automatic protection to limit the extent of any problems) and distribution systems (with uniform system-wide design). The designs follow the industry practice where the failure of one major component at any one time does not interrupt service to all customers.

Avista Utilities also currently provides natural gas to customers in the City of Liberty Lake. Avista completes their capital facilities planning in 5-year windows. Avista just completed an expansion of their Greenacres Electrical Substation, which came online in 2024, as part of their last 5-year capital facilities plan. This improvement provides capacity for services in Spokane County and opens additional capacity in the northwest quadrant of the City. Avista representatives indicated that they are in a very good position to meet the City demands for the next five years without any additional capital facilities improvements and are just beginning the process of planning for the subsequent five-year capital facilities planning period

While TC Energy (previously known as Trans-Canada Energy) does not provide gas service to users within the City of Liberty Lake, they do maintain a high-pressure, underground natural gas transmission main that traverses the City from its southwest quadrant to its northeast quadrant. The Transmission main is located within a 100-ft. easement and requires special permitting by TC Energy for any development within 100 ft. of its gas main easement.

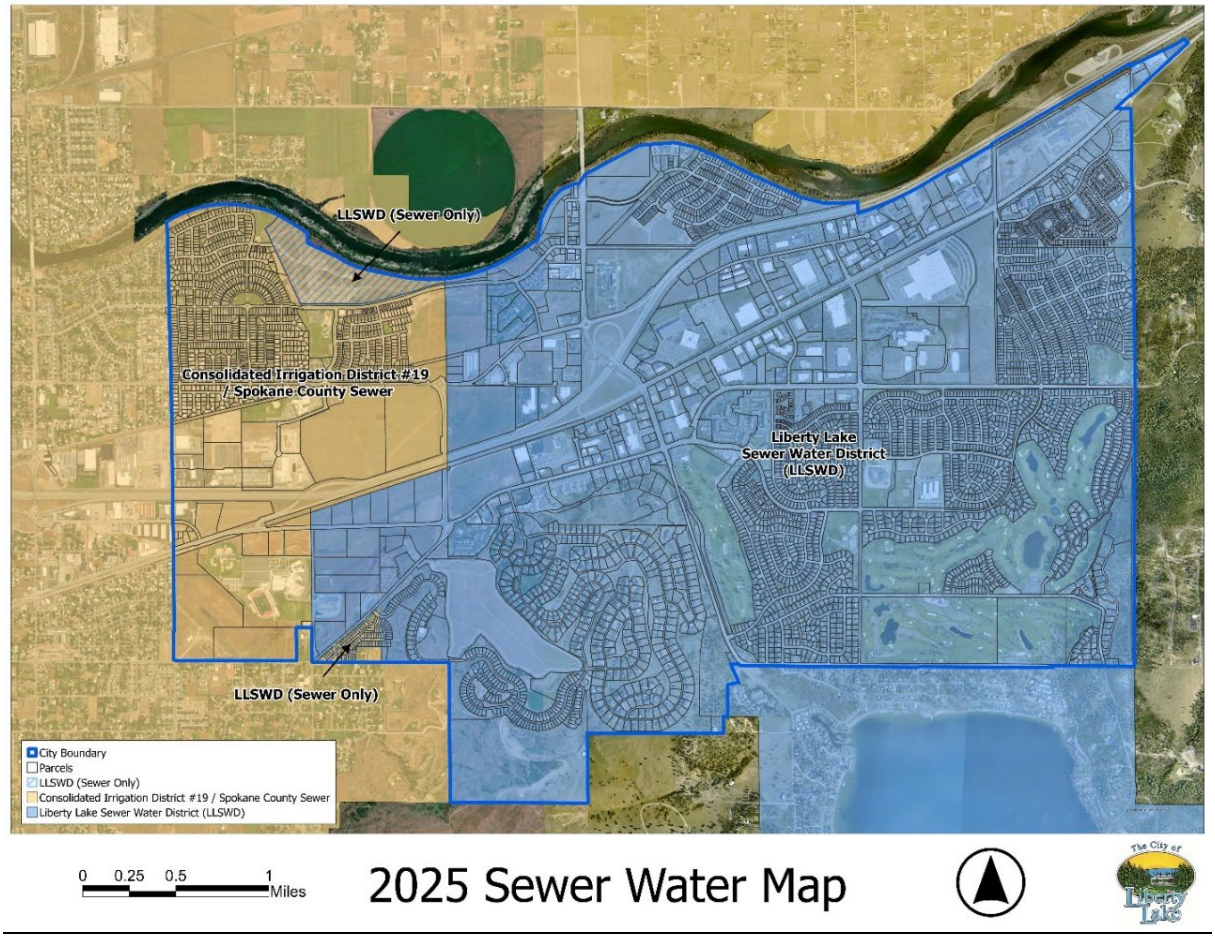
Telecommunications System

Residents and businesses in the City have multiple options for the provision of telecommunications services including high-capacity broadband Internet services. Cable and digital television service are being offered in the City through multiple providers that have obtained franchise agreements.

Sewer and Water

Public sewer and water are currently provided to much of the City by the Liberty Lake Sewer and Water District (LLSWD). In the northwestern portion of the City water service is provided by the Consolidated Irrigation District #19, with sewer service provided by the Spokane County Environmental Services Department. A map of water and sewer service areas is included as **Figure 10.1**, below.

Figure 10.1: 2025 Sewer/Water District Service Map



Liberty Lake Sewer and Water District (LLSWD)

LLSWD provides water and sewer service to the eastern 70% of the City of Liberty, along with properties located around Liberty Lake in the unincorporated Spokane County. LLSWD officials indicated that they are currently using less than half of their water rights to serve the district. Even with projected population growth in the City of Liberty Lake and the unincorporated

Spokane County, they have more than adequate water rights to serve anticipated future growth within the 20-year planning period. The District is currently in the process of drilling a new well (with a backup generator) near Interstate 90 Exit 296 ramp, and they are planning to build a new two-million-gallon reservoir adjacent to the existing Legacy Ridge water tank in the next 15 to 20 years. Back-up generators for existing wells are also planned capital improvements to enhance the resiliency of their water service delivery. Otherwise, construction of new conveyance infrastructure is the responsibility of developers.

LLSWD Water Reclamation Facility, located on Harvard Road in the City of Liberty Lake, uses biologic nutrient removal (BNR) technology with tertiary membrane filtration to treat incoming wastewater. While the design treatment capacity for the facility is 9 million gallons per day (GPD), the District is currently only receiving 2 million GPD. Planned upgrades to the facility include a system to regulate the temperatures of effluent being discharged to the river as part of the District's National Pollutant Discharge Elimination System (NPDES) permit for discharges into the Spokane River. The sewage treatment plant and all sewage lift stations are currently equipped with backup generators.

LLSWD has evaluated methane recapture at the water reclamation facility and determined that methane capture is not feasible given the construction of the plant's concrete holding tanks. Capping the tanks to facilitate methane recovery would cause the concrete to degrade over time, due to the corrosive nature of methane.

Regarding sewer collection systems, similar to water infrastructure, construction of new sewage conveyance is the responsibility of the developers.

Spokane County Environmental Services

Spokane County Environmental Services provides sewer service to the western 25% of the City of Liberty Lake. Spokane County's Treatment Facility, located in the City of Spokane, was recently expanded with a planned capacity to accommodate planned growth over the next 20 years. Based on current projects, a new plant will not likely be needed until 2040-2050. The state-of-the-art facility is currently doing some methane recovery for beneficial reuse at the plant, but there are no plans for full capture and conversion of methane in the short term, as the return on investment is currently not favorable.

Consolidated Irrigation District #19

Consolidated Irrigation District provides water service to roughly 30% of the western portion of the City of Liberty Lake, as well as portions of Spokane Valley and unincorporated Spokane County. District staff have confirmed that the district has adequate water rights to serve the projected population and employment growth within their district over the next 20 years.

Regarding infrastructure, the district constructed a 2-million-gallon water tank in 2024 on the western face of Legacy Ridge in the City Liberty Lake that is designed to serve the anticipated growth in the district over the next 30 years. The remaining capital improvement needed to serve projected growth is a water main boring under Interstate 90 to provide adequate water pressure to the growth projected for the northwest quadrant of the City, an improvement that it is anticipated to be constructed in the next 5 years.

Solid Waste Management & Recycling

Counties and cities are responsible for implementing a Comprehensive Solid Waste Management Plan. These plans provide for the collection of solid waste and ensure the provision of the minimum levels of collection service for recyclables. Cities are also asked to enforce litter control ordinances. The City adopted its current Solid Waste Management Plan in 2014, with an amendment in 2021 to include a Recycling Contamination Reduction and Outreach Plan (CROP).

The City of Liberty Lake currently contracts with WM (Waste Management Services) for collection of residential and commercial waste. The City does not require mandatory collection of solid waste, that is, residents are not required to subscribe to refuse collection services. WM bills its customers directly for this service. Solid waste currently is transported to a central collection site where it is consolidated and shipped to a permanent disposal site.

The City offers a residential curbside recycling program under its contract with WM. Residents subscribing to solid waste pickup service automatically receive recycling and are offered food/yard waste pick-up services for an additional fee. Recyclables are collected every other week and food/yard waste is collected weekly for composting from March through November each year. Liberty Lake Sewer and Water District also offer a leaf and yard waste drop off site in the fall each year. The City of Liberty Lake, in conjunction with WM, also offers a bulk waste disposal event each spring.

Those not contracting waste management services can access the Spokane County Transfer Station for free recycling and food/yard waste drop-off, and solid waste drop-off for a weight-based tipping fee.

C. Public Facilities and Services

In addition to planning for utilities, the Washington State Growth Management Act mandates that counties and cities plan for public facilities and services to support future growth projections. This section evaluates the future needs for schools, emergency services, and municipal facilities, excluding parks and transportation facilities, which are addressed in separate chapters of this Comprehensive Plan.

D. Public Facilities and Services Goals and Policies

Public Facilities and Services Goal 1: Continue to provide desired levels of public services in a cost- effective and sustainable manner.

Policy PF1.1: New growth and development activities shall pay their fair share of the cost of facilities needed to serve them

Policy PF1.2 Periodically assess and document the capital improvements that are needed to eliminate existing deficiencies and to maintain the Level of Service standards for public facilities and services.

a. This may include adopting updates of the capital facilities plan and/or the capital improvement plan on an annual basis in conjunction with the annual adoption of the City's budget.

Policy PF1.3: Establish priorities among capital improvement projects through annual review and amendments to the Capital Facilities Element and the City's Six-Year Capital Improvements and Transportation Improvement Programs.

Policy PF1.4: Monitor the implementation of the Capital Improvement Program and development to ensure that the Land Use, Transportation, Utilities, and Capital Facilities Elements are coordinated and consistent and that established Level of Service standards for public facilities and services are achieved.

Policy PF1.5: Development shall be approved only after it is determined that public facilities and services will have the capacity to serve the development without decreasing levels of service below adopted standards.

Policy PF1.6: Encourage the Central Valley School District to allow for shared access of facilities for recreational or other public purposes.

Policy PF1.7: Support the Central Valley School District in maintaining a Capital Facilities Plan that is consistent with the Growth Management Act and the City's Comprehensive Plan.

Policy PF1. 8: Encourage inter-jurisdictional cooperation and sharing of equipment and facilities.

Policy PF1.9: Encourage inter-jurisdictional cooperation among law enforcement and corrections agencies to further develop, where practical, shared service and facility use.

Policy PF1.10: Develop community benchmarks and program performance measures to evaluate public safety efforts. Such performance measures might include response time to calls, crime solution rates, or other methods to determine actual effectiveness.

Policy PF1.11: Require development of comprehensive emergency management plans consistent with the elements of the Comprehensive Plan.

Policy PF1.12: Provide defensible space between structure and adjacent fuels and require that fire rated roofing materials be used.

Policy PF1.13: Coordinate with utility providers to ensure that sizing, locating, and phasing of utility system improvements are consistent with the Comprehensive Plan and meet anticipated population needs in a timely manner.

Policy PF1.14: Promote conservation measures to reduce the need for additional utility distribution facilities/ services in the future.

Policy PF1.15: The placement of cellular communication facilities shall be in a manner that minimizes adverse impacts on adjacent land uses, does not affect viewsheds or corridors, and maximizes the use of existing structures where feasible.

Policy PF1.16: Promote the co-location of new utility transmission distribution and communication facilities when doing so is consistent with the utility industry standards, DOT requirements, and national electrical and other codes. (Examples of facilities that may be shared are "dry" trenches, "wet trenches", rights-of-way, towers, poles, and antennas.)

Policy PF1.17: Provide timely notice to affected private utilities of all major utility projects, including the maintenance and repair of existing roads, to promote the joint planning and coordination of public and private utility activities.

Policy PF1.18: Where consistent with multiple uses, promote joint use of utility corridors with recreational and green space applications, in accordance with industry standards.

Policy PF1.19: Consistent with the Capital Facilities Plan, growth related impact fees may be imposed for public streets and roads; and, public parks, open space and recreation facilities.

Policy PF1.20: Growth-related impact fees:

a. Shall only be imposed for system improvements that are reasonably related to the new development;
b. Shall not exceed a proportionate share of the costs of system improvements that are reasonably related to the new development; and
c. Shall be used for system improvements that will reasonably benefit the new development.

Policy PF1.21: New housing units meeting the standard federal and state definition of "low-income housing" shall be exempted from development impact fees.

Policy PF1.22: New housing units serving populations with special needs, such as people with severe disabilities, should be eligible for a reduction or exemption to development impact fees consistent with their reasonable and ongoing impact on existing systems.

Policy PF1.23: Continue to provide library services efficiently and cost effectively to Liberty Lake residents.

a. This will include the preparation and implementation of a strategic plan for the library that highlights priorities for providing library services and how best to provide the services over time.

Policy PF1.24: Provide police protection efficiently and cost effectively to residents of the City of Liberty Lake.

Policy PF1.25: Provide fire and emergency medical services efficiently and cost effectively to residents of the City of Liberty Lake.

Policy PF1.26: Provide solid waste disposal service to reduce public nuisance, health hazard, and pollution to the City of Liberty Lake's environment.

Note: Please refer to the Parks, Arts, Recreation, Open Space, and Trails Chapter, and the Transportation Chapter, respectively for the parks and transportation facilities goals and policies. Refer to the Climate and Natural Resources Chapter for stormwater and water conservation goals and policies.

Public Facilities and Services Capacity Review

Schools

The City of Liberty Lake is entirely served by the Central Valley School District (CVSD), a public school district providing educational services for grades Pre-K through 12 for portions of Spokane Valley and eastern Spokane County.

CVSD facilities located in Liberty Lake include Liberty Lake Elementary School, and Liberty Creek Elementary School, Selkirk Middle School, and Ridgeline Highschool, as well as the Central Valley School District Administrative Offices. CVSD also has approximately 25 acres reserved for a future elementary school and middle school, located on Sprague Avenue, west of Kramer Parkway (directly south of the Ridgeline High School).

CVSD uses the following metrics as level of service standards:

- Elementary School: 500 to 625 students per elementary school;
- Middle School: 600 students per middle school; and,
- High School: 1,600 to 2,000 students per high school.

CVSD has proactively forecast growth within the district, and as a result, are well positioned to respond to projected future growth in the area. Ridgeline High School in Liberty Lake was constructed in 2021 and still has capacity for an additional 500 to 600 students. In constructing Ridgeline High School, the school district created additional capacity at University High School in Spokane Valley, as well. They indicated that the next high school they would likely develop would be a Science/Technology/Arts/Math (STEAM) school, and they would likely look to locate it in an existing building, possibly in the Liberty Lake area.

Figure 10.2: Ridgeline High School



In addition to the 25 acres in Liberty Lake reserved for a future elementary and middle school, the school district owns 120 acres in the Saltese Flats area, located southwest of Liberty Lake, which is held in reserve for future schools, though there is not a projected need for its development in the foreseeable future.

Emergency Services

The City of Liberty Lake is located within the Spokane Valley Fire District (SVFD). SVFD provides fire protection and emergency medical services (EMS) to all of Liberty Lake. SVFD is well positioned to serve the City of Liberty Lake's projected future growth. Station No. 3, located on Country Vista Drive, east of Kramer Parkway, was built in 2017 in the quadrant of the City anticipated to see the most future growth. Kramer Parkway Bridge provides great access from that station to the northwest quadrant of the City, the second largest projected growth area. In addition, Station 4, located on Wellesley Avenue, provides back-up to service calls in Liberty Lake, as will planned new station number 11 at Garland and Barker. Additionally, there is automatic backup from auto-aid and interlocal agency agreements, including City of Spokane Fire Department, Spokane County Fire District No. 8, Spokane County Fire District No. 9, and Kootenai County Fire Rescue. SVFD indicated that their level of service standard is 4 people per response, so they have strategically been building a fleet with a minimum 4-seat capacity, to increase efficiency.

Figure 10.3: Spokane Valley Fire Station No. 3



The City of Liberty Lake Police Department (LLPD) provides emergency response and law enforcement services within the City of Liberty Lake. Level of service targets for LLPD is 2.0 sworn officers per 1,000 population. At present, the LLPD has 28 budgeted positions for sworn officers, or 1.98 officers per 1,000 of our current population. With a projected buildout population of approximately 22,000 in 2046, that would likely require an additional 16 officers. These additional officers will require additional patrol cars, additional parking, an expanded evidence room, as well as additional office space and training facilities. Facility needs for LLPD are discussed in more detail in the *City Facilities* section below.

City Facilities

In 2024, the City began a City Facilities Master Planning program to assess existing conditions, identify space and capacity needs, and outline cost-effective strategies to ensure that Liberty Lake's facilities continue to meet community expectations as the City grows.

Existing Facilities

The planning process included comprehensive facility assessments, staff and council interviews, community engagement events, and multiple presentations to the City Council between 2024 and 2025. Evaluations covered City Hall, the Police Department, Municipal Library, Parks and Recreation Department, and Public Works facilities. Key findings include:

- **City Hall (7,995 sq. ft.)** – Built in 2001 and converted to civic use in 2004, the building has reached capacity, with limited meeting space, outdated systems, and inadequate room for staff or council chambers expansion.
- **Library (9,612 sq. ft.)** – Shared with the Police Department in a 1992 structure, the library lacks programming and meeting space. Based on population projections, approximately **18,000 sq. ft.** is needed to meet future demand.
- **Police Department (18,237 sq. ft.)** – Also constructed in 1992, the facility has functional systems but lacks adequate evidence storage, training areas, and room for anticipated staff growth.
- **Parks and Recreation Department (700 sq. ft.)** – Located in a small, converted house next to City Hall, the space is undersized, non-ADA compliant, and lacks storage or meeting capacity.
- **Public Works Facility (6,250 sq. ft.)** – Constructed in 2023, the building meets current operational needs and provides expansion potential on-site.

These assessments identified a combined space deficit of approximately 21,000 square feet across City departments, primarily affecting administrative, library, and police functions.

Growth, Space and Relocation Strategy

As Liberty Lake's population and service demands continue to grow, the plan proposes a phased, fiscally responsible sequence of facility improvements that maximizes existing City-owned assets and aligns with projected growth through 2046. The preferred alternative includes the following actions:

- **Relocate City Hall** to the **Legacy Church building (23129 E. Mission Avenue)** to expand administrative capacity and provide modern council chambers and community meeting space.
- **Transition the Parks and Recreation Department** into the vacated **current City Hall building**, allowing expanded operations and shared community use.
- **Construct a new, purpose-built Library** on the City-owned **Town Square parcel**, designed as a flexible, multi-use community hub.
- **Expand the Police Department** into the vacated west wing of its existing building once the Library relocates, providing space for training, secure storage, and growth.

This sequencing optimizes co-location, improves accessibility, and minimizes disruption while balancing operational efficiency with long-term fiscal responsibility.

Funding and Implementation

To finance these improvements, the City will pursue a mix of funding sources, including:

- General obligation or voter-approved bonds
- State and federal grants (e.g., USDA, DOJ, IMLS)
- Developer impact fees
- Public-private partnerships for shared-use facilities
- General Fund and Real Estate Excise Tax (REET) revenues

The implementation strategy envisions short-term (1–3 year), mid-term (3–7 year), and long-term (7–10+ year) priorities, subject to available funding and Council direction. Regular reviews every 2–3 years will ensure that facility planning remains adaptive to fiscal conditions and community needs.

The Liberty Lake Facilities Master Plan was adopted by City Council in October of 2025. A copy of the plan appended to this document (reference **Appendix N**).

E. Essential Public Facilities

"Essential Public Facilities" are defined in state law as " those facilities that are typically difficult to site, such as airports, state education facilities and state or regional transportation facilities, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance abuse facilities, mental health facilities, and secure community transition facilities."

Generally, essential public facilities can be difficult to site, and their location in a community may be locally unpopular. Local and state governments are charged with the task of ensuring that such facilities, as needed to support orderly growth and delivery of public services, are sited in a timely and efficient manner.

In accordance with the requirements of the Washington State Growth Management Act and following an extensive policy review process by the Spokane County Steering Committee of Elected Officials, the Spokane County Board of Commissioners has adopted county-wide planning policies addressing the siting of both "essential public facilities" and "public capital facilities of a countywide or statewide nature," as specifically required by the GMA. These policies commit the GMA planning jurisdictions of Spokane County to develop a common siting process for these facilities, as required by WAC 365-196-550.

In 2001 planning staff from all jurisdictions in Spokane County formed a task force to cooperatively develop a regional siting process for all essential public facilities, including Secure Community Transition Facilities (SCTFs). The Essential Public Facilities Task Force, with assistance from the Spokane County Office of Community Development (OCD), the Department of Social and Health Services (DSHS), and technical staff from the jurisdictions developed a regional siting process for essential public facilities titled *Spokane County Regional Siting Process for Essential Public Facilities* (a copy of which is appended to this document as **Appendix O)**

The City of Liberty Lake, in conjunction with the remaining incorporated small towns and cities and with the City of Spokane and Spokane County, entered an interlocal agreement to follow the *Spokane County Regional Siting Process for Essential Public Facilities* when siting facilities of a state-wide or regional/county-wide significance. Unless it is otherwise preempted by state or federal laws, that siting process will apply to any and all future efforts to site an essential public facility of statewide or regional/countywide significance within Spokane County.

Purpose and Applicability

The *Spokane County Regional Siting Process for Essential Public Facilities* is intended to address the siting of essential public facilities not already sited by a local comprehensive plan and for which discretionary land use action is required. This siting process is also intended to meet GMA requirements, as well as the intent of the county-wide planning policies. Another objective is to enhance public participation during the early stages of facility siting, and to reduce the time spent analyzing unacceptable sites, thereby minimizing the time necessary to reach siting decisions, while reducing political contention and improving the likelihood the final decision will be better aligned with broader community goals. The regional siting process is based on a coordinated interjurisdictional approach, which in combination with consistent development regulations among the jurisdictions will facilitate the equitable distribution of EPF's of a statewide or regional/countywide nature.

Utilities, as defined in the Countywide Planning Policies for Spokane County (CPPs), are excluded from the EPF regional siting process. In general, a "utility" refers to a system of delivery, as opposed to a facility at which processing and/or treatment occurs. For example, delivery systems such as sewer pipes are utilities, whereas the wastewater treatment plant itself is an EPF.

If the services provided meet an essential public need, the facility may be considered essential, regardless of whether it is publicly or privately owned. An EPF may include a facility providing or housing a needed public service that is:

- Provided by or substantially funded by government; or
- Provided by a private entity subject to public service obligations; or
- On an officially adopted state, regional, county, or local community EPF list.

Level of Significance

Essential Public Facilities of a State-wide Nature

EPFs having statewide significance are major facilities that provide a needed public service affecting, or potentially affecting, residents and/or property located in two (2) or more Washington State counties and may be included on the Washington State Office of Financial Management list of EPFs. These facilities include, but are not limited to: regional transportation facilities, such as commercial and military airports; freeways, highways and beltways; state correctional facilities; secure community transition facilities; state social services; state parks; and, state higher-educational facilities.

Essential Public Facilities of a Regional/County-wide Nature

EPFs having regional/countywide significance are local or interlocal facilities providing a needed public service affecting, or potentially affecting, residents and/or property located in two or more Spokane County jurisdictions. They include, but are not limited to: general aviation airports; county correctional facilities; regional transportation system; public transit maintenance and operational facilities; regional solid waste disposal / recycling / composting / handling facilities; community colleges; regional wastewater treatment facilities; arenas, stadiums and other entertainment facilities; and regional social and health services such as

inpatient hospitals, mental health facilities, substance abuse treatment centers, and group homes (including adult family homes, boarding and retirement homes, and nursing homes). Although group homes are listed as EPFs, siting of housing for children in custody of the state (not including juveniles held in county criminal detention facilities or state juvenile institutions as defined in RCW 13.40.020), or for persons with handicaps as defined under the Federal Fair Housing Act, is exempt from the Regional Siting.

LIBERTY LAKE — 2046

ECONOMIC DEVELOPMENT ELEMENT

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A. Introduction

The economy plays a central role in maintaining the vitality and quality of life within a community. A healthy economy creates good paying jobs and helps provide economic opportunities to all citizens. The economy also supports the tax base, providing for schools, police, fire protection, parks, and many other community facilities and services.

The importance of economic development is recognized in state legislation by the inclusion of economic development as one of the planning goals intended to guide local comprehensive plan development, as well as being included as a policy topic in the Countywide Planning Policies for Spokane County. The Growth Management Act (GMA) establishes the following as economic development goals for the State of Washington.

- Encourage economic development that is consistent with adopted comprehensive, strategic, and operational plans.
- Promote economic opportunity for all citizens of the state, especially for unemployed and disadvantaged people.
- Encourage growth in areas experiencing insufficient economic growth.
- Ensure economic growth occurs within the capacities of the state's natural resources, public services, and public facilities.

The City of Liberty Lake is known as a desirable place to live, work, and play. One of the most important factors that determine whether people or businesses locate here is the area's livability. Among the factors that influence livability are the area's ability to provide employment opportunities, viable businesses that provide goods and services, the quality of public services, the area's natural beauty, good schools, strong neighborhoods, and efficient traffic circulation. Maintaining our community's livability requires that we maintain a strong, sustainable, economic climate.

The purpose of the Economic Development Element is to present goals and policies that support and encourage a strong, vibrant economy. The element focuses on business startup, business retention, expansion and recruitment, regional collaboration, income, education, training, and tourism. While this element focuses on these specific topics, it is important to recognize that the Comprehensive Plan as a whole can be considered as an economic development tool.

B. Economic Development Goals & Policies

Economic Development Goal 1: Maintain a healthy and sustainable local economy.

Policy 1.1: Prepare and implement a local economic development strategy in consultation with local businesses, regional economic development organizations, property owners, and residents.

Policy 1.2: Work with economic development and community organizations as well as businesses and community members to establish specific evaluation methods that will

annually measure the community's overall quality of life and economic viability. The following issues, among others, should be considered when developing indicators to establish evaluation goals:

a. Quality of life issues such as crime rate, schools, childcare, health care, roads and infrastructure, affordable housing, employment opportunities, and cultural amenities; and
b. Economic development issues such as wages; per capita personal and median household income, percentage of population below poverty level, business formation, expansion and retention, economic base, and education.

Policy 1.3: Support economic development efforts that target employment opportunities that:

a. Provide good living wages;
b. Help diversify the economy; and
c. Capitalize on the strengths of the region.

Policy 1.4: Continue to support the start-up, retention, expansion, and recruitment of businesses.

Policy 1.5: Provide consistent, fair, and timely regulations that are flexible, responsive, and effective.

Policy 1.6: Periodically review and update policies, permit processes and regulations to provide a business climate conducive to new and start-up businesses.

Policy 1.7: Continue to encourage creation and retention of home- based businesses that are compatible with residential neighborhoods.

Policy 1.8: Work with local and regional Chambers of Commerce, economic development agencies, business associations and local development groups to support patronage of local businesses.

Policy 1.9: Provide for the option of Tax Increment Financing (TIF), and Local Infrastructure Financing Tool (LIFT) when appropriate and available to support infrastructure development and preservation in support of economic development.

Policy 1.10: Encourage educational institutions to locate in the City of Liberty Lake, especially those that provide Science, Technology, Engineering, Arts, and Math (STEAM) education, technical training, internships, and apprenticeship programs to support local businesses and facilitate the development of skills essential to our future labor force.

Policy 1.11: Support and encourage K-through-12 education to include skills-based training and creative partnerships with business.

Policy 1.12: Encourage an interactive relationship between schools and businesses through apprenticeship, mentoring, and other programs.

Policy 1.13: Identify and pursue sustainable funding sources, such as grants, public-private partnerships, and innovative financing mechanisms, to foster and support economic development initiatives and partnerships.

Policy 1.14: Actively encourage tourism by promoting Liberty Lake's natural beauty, recreational opportunities, cultural events, and community amenities to attract visitors and strengthen the local economy.

Policy 1.15: City policies and development regulations should be periodically evaluated and updated to reduce barriers and incentivize the retrofitting of vacant and/or underutilized structures for commercial, industrial buildings or residential uses. Consider opportunities to promote and incentivize infill development and redevelopment of vacant or under-utilized commercial and industrial properties to optimize existing infrastructure, stimulate economic activity, and support efficient use of land and resources.

Policy 1.16: Collaborate with local hospitality businesses, regional tourism organizations, and nonprofit partners, utilizing sustainable funding sources such as lodging tax revenues, to support coordinated tourism marketing and visitor services.

Policy 1.17: Utilize accurate, timely, and relevant data to inform and evaluate economic development strategies, policy decisions, and resource allocation, ensuring transparent, measurable, and effective outcomes.

Policy 1.18: Evaluate existing barriers to locating and operating childcare facilities within the City and revise regulatory allowances to support expanded access and availability of childcare services to the greatest extent permitted under Washington State law.

C. Employment Trends and Forecasts

Employment by Industry

According to the recent Census data, Liberty Lake had an estimated 7,901 employees working withing City limits, with a more diverse mix of employment sectors than in 2002 (the most recent Census employment data available). The City has seen significant job growth in the majority of its sectors (see **Figure 11.1**, below).

Figure 11.1: City of Liberty Lake Percentage Change by Industry from 2002 to 2022 (Education Adjusted)

Industry	2002 Share	2022 Share	2002 Count	2022 Count
Agriculture, forestry, fishing and hunting, and mining	0.04%	0.00%	2	0
Construction	1.04%	2.94%	53	232
Manufacturing	38.97%	21.28%	1,991	1,681
Wholesale trade	0.67%	4.92%	34	389
Retail trade	14.76%	11.16%	754	882
Transportation and warehousing, and utilities	0.20%	0.27%	10	21
Information	0.51%	3.10%	26	245

Finance, Insurance and Real Estate (F.I.R.E)	**18.40%**	**21.77%**	**940**	**1,720**
Professional, scientific, and management, and administrative and waste management services	**13.70%**	**12.67%**	**700**	**1,001**
Educational, health care and social assistance	**2.47%**	**12.13%**	**126**	**958**
Arts, entertainment, and recreation, and accommodation and food services	**5.05%**	**8.05%**	**258**	**636**
Other services, except public administration	**4.03%**	**0.94%**	**206**	**74**
Public administration	**0.18%**	**0.78%**	**9**	**62**
Totals	**100.00%**	**100.00%**	**5,109**	**7,901**

Source: U.S. Census LEHD 2002-2022, Leland Consulting Group, SCJ Alliance

Finance, Insurance, and Real Estate (F.I.R.E.) is the City's largest employment sector, comprising 1,720 jobs and 21.8% of all jobs in Liberty Lake in 2022. This sector has added 780 new jobs since 2002. While Manufacturing is the City's second-largest sector, with 1,681 jobs, it has lost 310 jobs compared to 2002 (**Figure 11.1**). Manufacturing now represents only 21.3% of all jobs, compared to 39% in 2002. The fastest growing sector in the City is Wholesale Trade, which grew by 658%, jumping from only 34 jobs in 2002 to 389 jobs in 2022. The largest employment sectors in Liberty Lake are:

- Finance, Insurance, and Real Estate (F.I.R.E.) (22.5%)
- Manufacturing (22%)
- Services (Professional, Administrative, Scientific, Managerial, Waste Management) (13.1%)

Liberty Lake's top employment sectors of F.I.R.E and Manufacturing employ a much higher percentage of the workforce compared to Spokane County and Washington State. A considerably lower percentage of the labor force works in transportation, warehousing, utilities, education services, and healthcare compared to Spokane County and Washington.

Employment Forecasts

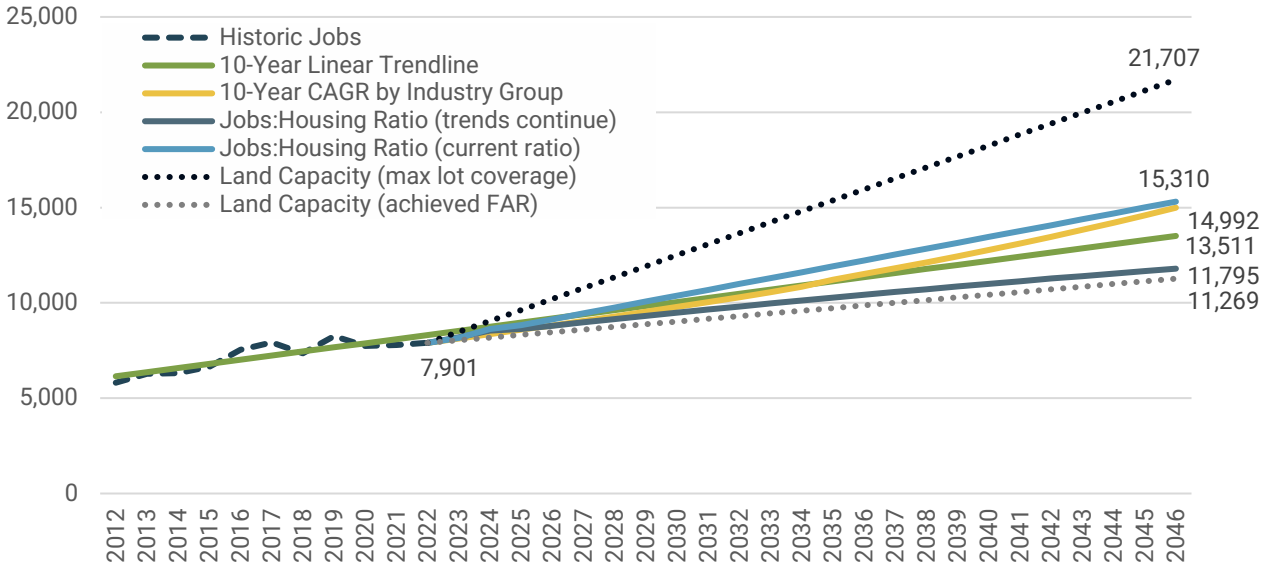
Employment projections for Liberty Lake were developed using three methodologies, after correcting the historic data for the education discrepancies discussed above. The methodologies were:

- Trend-Based Forecasts
  - Linear trend to 2046 based on historic 10-year total employment numbers
  - 2046 projections based on compound annual growth rates by industry group over the past 10 years
- Jobs to Housing Ratio
  - 2046 projections based on current jobs-to-housing ratio and 2046 housing unit targets
  - 2046 projections based on a continuation of past jobs-to-housing ratio trends
- Land Capacity
  - 2046 capacity based on the City's Land Capacity Analysis and achieved commercial densities

- 2046 capacity based on the City's Land Capacity Analysis and allowed commercial densities

Figure 11.2 below shows the results of each of the employment projections together in a linear chart, and shows net new job projections based upon employment for vacant commercial and industrial lands, as based upon different development densities. Based on this analysis, Liberty Lake is likely to see between 3,894 and 7,409 net new jobs in the next twenty years, for a total of between 11,795 and 15,310 jobs by 2046. Currently, there are 7,901 jobs in the City. The land capacity analysis demonstrates that there is adequate land to support this range of projected employment growth over the next 20 years. The full Employment Projection Analysis is detailed in **Appendix P.**

Figure 11.2. Combined Liberty Lake Employment Forecasts, 2022-2046



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census on the Map, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Washington Office of Financial Management, City of Liberty Lake Land Capacity Analysis, City of Liberty Lake Zoning Code, U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS), Leland Consulting Group

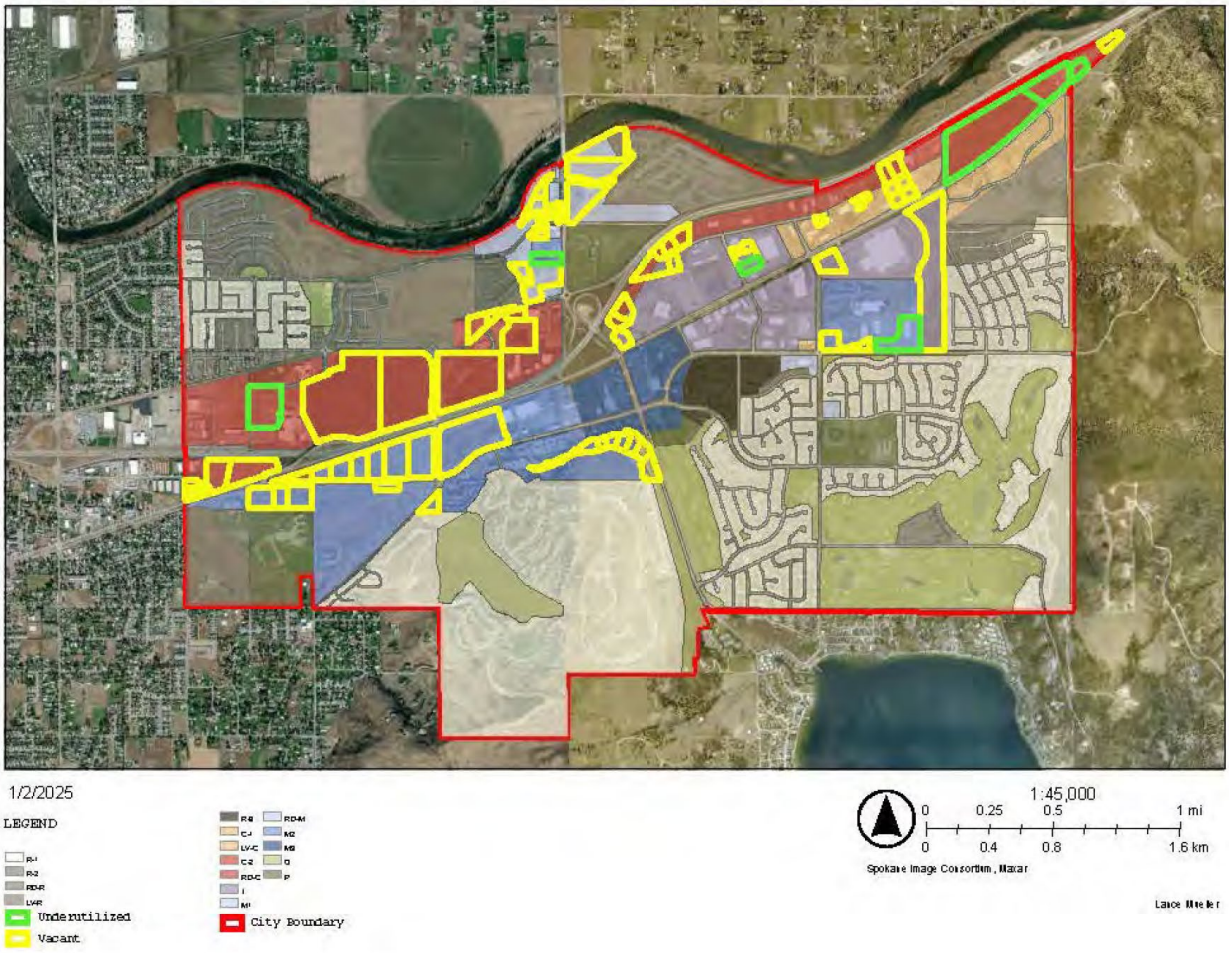
D. Employment Land Capacity

Each potential business has its own unique set of location requirements. Sites must be available in a range of sizes and locations with appropriate zoning and compatible surrounding land uses. Infrastructure availability is one of the most critical factors to encourage economic development. Sewer, water, transportation facilities, and communications facilities must be available or easily obtained. For attracting industrial uses, an adequate supply of usable industrial land unencumbered by conflicting land uses and/or environmental constraints is important.

As part of the 2026 Comprehensive Plan update, Liberty Lake conducted a Land Capacity Analysis which showed sufficient land capacity to meet the City's housing targets. This analysis also contained an accounting of the available acreage for commercial and industrial

development over the planning horizon, a total of 425.06 acres across seven zones. The map below shows the location of vacant and underutilized commercial and industrial land in the City. Underutilized lands are parcels or structures that are developed significantly below their potential based on zoning, market conditions, infrastructure capacity, or economic productivity.

Figure 11.3: Vacant & Underutilized Commercial & Industrial Properties Map



Source: City of Liberty Lake Land Capacity Analysis, Appendix B

In order to determine job capacity on this acreage, a range of potential development densities was developed. The floor area ratio (FAR) that can be achieved based on development regulations in Liberty Lake's commercial and industrial zones ranges from 3.5 to 4.2, with allowed heights of up to five or seven stories. However, in reality, no commercial development has been built in the City that approaches this density. Analyzing achieved densities of commercial structures shows a range of FAR between 0.12 and 0.24, depending on zone. In order to develop an estimate of potential jobs on vacant and underutilized land that was higher than the achieved density, but below the maximum allowed, FAR assumptions were also developed based on a hypothetical one-story building that fills the maximum area allowed in the zoning code. This resulted in an FAR of between 0.6 and 0.7, depending on zone.

These potential densities were then multiplied by an assumption of square feet per job based on the types of commercial uses allowed in each zone (e.g. retail, industrial, office) and standard job densities drawn from the U.S. Energy Information Administration's Commercial Buildings Energy Consumption Survey. Overall, on the 425.26 acres of vacant and underutilized commercial and industrial land in Liberty Lake, there is the capacity for at least 3,368 new jobs (using densities achieved to date) and potentially up to 13,806 new jobs (assuming maximum lot coverage). Note that if multistory commercial development occurred, the potential capacity could be even higher, though this is unlikely due to market trends.

Figure 11.4: Land Capacity for Jobs in Liberty Lake, 2020-2046

Zone	Available Acres	Allowed FAR (5-7 Stories)	Medium FAR (1 story, max lot coverage)	Achieved FAR	Sq Ft / Job	Jobs/Acre (Medium FAR)	Net New Jobs (Medium FAR)	Jobs/Acre (Achieved FAR)	Net New Jobs (Achieved FAR)
C-1	**7.96**	4.2	0.60	0.20	1,050	24.9	**198**	8.3	**66**
C-2	**116.42**	4.2	0.60	0.12	1,200	21.8	**2,536**	4.4	**507**
I	**43.5**	4.2	0.60	0.24	1,200	21.8	**947**	8.7	**379**
I/C-2	**21.94**	4.2	0.60	0.18	1,200	21.8	**478**	6.5	**143**
M-2	**115.11**	3.5	0.70	0.16	600	50.8	**5,850**	11.6	**1,337**
RD-C	**79.83**	4.2	0.60	0.12	1,200	21.8	**1,739**	4.4	**348**
RD-M	**40.5**	3.5	0.70	0.20	600	50.8	**2,058**	14.5	**588**
Total	**425.26**						**13,806**		**3,368**

Source: City of Liberty Lake Land Capacity Analysis, City of Liberty Lake Zoning Code, U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS), Leland Consulting Group

Based upon Liberty Lake's projected job growth of 3,894 to 7,409 net new jobs in the 20-year planning period, this analysis demonstrates that the City has sufficient commercial and industrial land under current zoning to reach the projected employment levels.

E. Economic Development Strategies

Sustainable Regional Economic Development

While the City serves as the greatest advocate for local economic development, it also partners with several regional organizations, such as the Greater Spokane Incorporated, the regional Associated Development Organization (ADO) for economic development, as well as one of the regional Chambers of Commerce that helps attract, create, and retain quality jobs for the region; the Greater Spokane Valley Chamber of Commerce, which helps promote businesses located in eastern Spokane County and provides leadership to create an environment in which members, businesses, and the community can succeed; Idaho Jobs Plus, which is a Coeur d'Alene Area Nonprofit Economic Development Corporation; Inland Northwest Partners, a regional consortium of public and non-profit agencies working together to promote regional economic development; and Visit Spokane, a regional not-for profit that promotes economic development through expanding the regional tourism. By focusing on common goals and allocating resources accordingly, government and private organizations can work together regionally to maximize successful business start-up, retention, expansion and recruitment efforts, and tourism promotion within our community.

Local Economic Development Strategies

The City recognizes that economic development can be significantly influenced by factors within its direct control, including the regulatory framework, infrastructure quality, transportation networks, public safety, community amenities, education, childcare availability, and overall quality of life.

The City develops a Strategic Plan every four (4) to five (5) years. The City's current and future Strategic Plans are developed to directly align with and support the implementation of goals and policies outlined in this Comprehensive Plan. By ensuring consistency between the Comprehensive Plan and future strategic and operational plans, the City effectively coordinates economic development initiatives, decision-making processes, and resource allocation, fostering cohesive and unified progress toward community objectives.

Liberty Lake maintains a regulatory environment that is predictable, clear, efficient, flexible and responsive, ensuring businesses experience consistency in permitting and land-use decisions. Infrastructure investments in a well-maintained transportation network, and modern communication facilities—are prioritized to meet current business needs and support future growth.

The City invests in high-quality public safety services and community amenities, including parks, trails, and recreational opportunities, contributing directly to Liberty Lake's appeal as a desirable location for both employers and residents. Additionally, Liberty Lake proactively supports educational excellence and accessible childcare services, acknowledging these as critical quality-of-life components necessary to attract and retain skilled workers and families.

By strategically managing these drivers, the City creates a competitive advantage for business retention, expansion, and recruitment, thereby fostering sustainable economic growth and community prosperity.

Income

One of the primary reasons to pursue economic development is to increase the standard of living and quality of life for the citizens and businesses located in City of Liberty Lake. A key policy in this economic development element is to create more living-wage jobs. A strategic approach in the pursuit of new jobs is to support the recruitment, retention, and expansion of the types of industries that provide quality, good-paying jobs, and improve the quality of life for its residents.

Qualified Labor Force

Qualified labor is essential to retain and recruit businesses. The basic cornerstone in the development of a qualified labor force is access to education. Located near the City of Liberty Lake and the surrounding area is a diverse group of higher-education facilities, including community colleges, universities, and private technical and business schools. These schools, as well as the K-through-12 public and private schools, should be encouraged to constantly evaluate their programs to be responsive to the changing job market. Partnerships between business and the educational community should be encouraged and nurtured by the City and

its economic development partners to further this process. Businesses should be encouraged to partner with organizations and educational institutions to develop specialized training programs and apprenticeship programs to meet the needs of employers.

Tourism

The cultural, recreational, and scenic opportunities in the region make tourism an excellent provider of employment. Located either within the City or within an easy driving distance, visitors can enjoy lakes, golf, scenic mountains, community events, and an excellent trail system. Promotion and expansion of tourism serves as an economic development tool, bringing with it an infusion of outside dollars to the benefit of Liberty Lake businesses, as well as the City's revenue stream. The City partners with Visit Spokane, a regional non-profit, and other non-profits such as The Hub Sports Center, along with hotels and motels within the City to promote tourism within the City. The City utilizes lodging tax revenues as a means to finance the promotion of tourism within the City.

Infill and Redevelopment

Infill and redevelopment programs provide an economic development tool to revitalize under-utilized or vacant parcels or structures. Infill development would develop or redevelop vacant or underutilized commercial or industrial structures or parcels of land that are already provided with services. Re-development policies help utilize existing structures before constructing new commercial or industrial buildings. Indicators of under-utilization of lands and buildings may include persistent vacancies, buildings or sites in disrepair, disproportionately low improvement-to-land value ratios, or properties generating minimal economic activity relative to their potential.

In order to fully implement the goals and policies detailed in this Chapter, it will be essential that the City evaluate and invest in economic development strategies that foster, promote and sustain a vibrant and resilient local economy.

LIBERTY LAKE — 2046

PARKS, ARTS, RECREATION & OPEN SPACE

Please refer to the City of Liberty Lake Parks and Recreation Master Plan, which has been incorporated by reference into this Comprehensive Plan.

LIBERTY LAKE — 2046

CAPITAL FACILITIES

Please refer to the City of Liberty Lake 20-Year Capital Facilities Plan, which has been incorporated by reference into this Comprehensive Plan.

Public Engagement Summary – Appendix “A”

The City of Liberty Lake conducted a multi-phased and inclusive community engagement process to inform the 2046 Comprehensive Plan update. Outreach efforts were designed to reach a broad cross-section of the community through a mix of in-person events, virtual opportunities, interactive tools, and coordination with partner agencies. The following summarizes engagement activities by topic area.

General Outreach

Initial engagement began with kick-off meetings held both virtually and in person in October and November 2024, introducing the Comprehensive Plan update process and inviting early community input.

Additional outreach included a presentation to the Rotary Club in November 2024 to engage local business and civic leaders.

In February 2025, the City distributed the Land Capacity Analysis to external stakeholders and agencies via email, providing an opportunity for technical review and feedback.

Throughout summer 2025, the City maintained a strong presence at community events, including multiple booth sessions at the Liberty Lake Farmers Market (June 7, June 21, and July 12, 2025), where staff gathered public input and shared project information. Outreach continued at the Barefoot in the Park event in August 2025, further expanding community awareness and participation.

Housing Engagement

Housing-focused engagement included interactive and educational opportunities. In May 2025, participants in the City Academy engaged in a “Housing Monopoly” game, designed to illustrate housing challenges and trade-offs in a hands-on format.

Additional outreach occurred at the Liberty Lake Farmers Market booth on May 24, 2025.

To reach a broader audience, the City launched a Housing Story Map in November 2025, which received 964 views, demonstrating strong community interest in housing issues and policies.

Transportation Engagement

Transportation outreach included a Virtual Town Hall in June 2025 focused on the Network Analysis, providing an accessible forum for community discussion and feedback.

The City also hosted a booth at the Liberty Lake Farmers Market on August 9, 2025, to gather input on transportation priorities.

On October 13, 2025, the Draft Network Analysis was distributed via email to outside agencies for review and comment.

A Transportation Network Analysis Story Map was launched in December 2025 and received 660 views, further supporting public understanding of transportation needs and proposed improvements.

Parks, Recreation, and Capital Facilities

Engagement related to parks and facilities, coordinated alongside the Parks and Recreation Plan, included a public open house in May 2025.

Additional outreach occurred at the Liberty Lake Farmers Market on August 23, 2025 (Facilities Master Plan) and September 13, 2025 (Capital Facilities Plan).

The City also presented the Capital Facilities Plan at New Love Coffee during a meeting with the Bike and Pedestrian Safety Committee on August 25, 2025, fostering discussion among key community stakeholders. A full summary of engagement done for the Parks Plan can be found in that chapter.

Utilities and Public Facilities

In June 2025, the City conducted targeted meetings with local utility providers to coordinate planning efforts, gather technical input, and ensure alignment between the Comprehensive Plan and utility service strategies. Discussions occurred with the Liberty Lake Police Department, Spokane Valley Fire Department, Consolidated Irrigation District, Central Valley School District, Spokane County Utilities, Avista Utilities, and the Liberty Lake Sewer and Water District.

Digital Engagement and Online Tools

The City maintained a Comprehensive Plan website to serve as a central hub for information, updates, and engagement opportunities.

Story Maps were used as a key digital engagement tool across multiple topics, including Housing, Transportation, and City History, allowing community members to explore data and provide feedback at their convenience. These tools collectively generated significant participation, with hundreds of views across topic areas.

Tribal Engagement

City staff sent letters to the local tribes (Kalispel, Spokane, and Coeur d'Alene) in August of 2024. The letters invited the tribes to participate in the update to the city's comprehensive plan whatever capacity they would like. The letters asked each tribe to nominate a main point-of-contact and to have them contact the city to begin the conversations as to how the tribe could participate.

Staff had not heard from any tribe by January 0f 2025, so additional emails were sent to known tribal representatives, such as council members and historic preservation officers. No response was heard from the emails.

City staff was able to reach out to the Spokane Tribe and met with them as part of the Liberty Lake Climate Element Focus Group.

Planning Commission Participation

The Liberty Lake Planning Commission conducted a comprehensive and iterative series of public workshops between 2024 and 2026 to guide development of the City's 2046 Comprehensive Plan Update. This process began with early coordination alongside the Community Engagement Commission in August and September 2024 to establish and refine the Public Engagement Plan, building on earlier climate engagement efforts initiated in 2021. From late 2024 through 2025, the Planning Commission held focused workshops addressing foundational planning topics including climate resiliency, housing needs, and land capacity. This was followed by detailed reviews of critical areas, housing policies, and economic development strategies.

As the update progressed through 2025 and into early 2026, the Commission advanced into more detailed chapter-level review and policy development. Workshops addressed greenhouse gas reduction strategies, climate vulnerability, land use, urban design, parks and recreation, the natural environment, as well as utilities and public facilities. The Commission also evaluated the transportation network and coordinated with the Parks Commission on key elements such as parks level of service. Final workshops in 2026 focused on refining housing, parks, and transportation elements, ensuring alignment across chapters and consistency with community goals. Collectively, this robust workshop series reflects a deliberate, transparent, and multidisciplinary approach to shaping the 2046 Comprehensive Plan, grounded in technical analysis, policy refinement, and ongoing public engagement.

Additional Engagement

Specific engagement was developed for the climate chapter and the parks plan. Each of these comprehensive elements had their own specific engagement plans. Please refer to the Parks Chapter for the details of the engagement provided.

Public engagement for the Climate Element of the City of Liberty Lake 2046 Comprehensive Plan was extensive and multi-phased, spanning from late 2024 through mid-2025 and involving elected officials, technical stakeholders, and the broader community. Early efforts focused on Planning Commission workshops and technical discussions, including sessions on climate resiliency, housing, and critical areas, each drawing roughly 9–11 participants. This foundation was followed by a series of Climate Policy Action Team (CPAT) meetings (#1–#5), held between January and May 2025 with consistent attendance of 11–14 participants, helping guide policy direction. Concurrently, targeted stakeholder meetings addressed key sectors such as buildings and energy (11 attendees), transportation (4 attendees), and climate resiliency (15 attendees), ensuring subject-matter expertise informed the process.

The City also prioritized inclusive outreach through small focus groups and broader public opportunities. Four virtual focus groups (1–2 participants each) engaged specific community voices, including local organizations and the Spokane Tribe. Public-facing engagement expanded significantly in summer 2025, highlighted by a community event at the Farmers Market (20 attendees) and multiple City Council workshops on greenhouse gas (GHG) goals and climate resiliency, which drew strong participation (35–40 attendees each). The most substantial engagement came through the online open house hosted on the City website, which attracted 727 participants, far exceeding in-person attendance. In total, these efforts reflect a layered approach combining technical input, policymaker direction, and widespread community engagement to shape the Climate Element.

Engagement Conclusion

The City of Liberty Lake implemented a robust and varied engagement strategy for the 2046 Comprehensive Plan update. By combining in-person events, interactive activities, digital tools, and agency coordination, the City provided multiple avenues for participation and ensured that community voices and stakeholder input played a central role in shaping the plan.

A table listing all of the Public Engagement efforts by the Community Development Department and their consultants is provided on the following page. Additional Public Engagement was performed in a similar fashion for the Parks Plan and a separate engagement summary can be found in that appendix.

Appendix "A"
Public Engagement Summary

Event Name	Event Location	Date	Attendees
Joint Planning Commission/ Community Engagement Commission Public Engagement Plan Workshop	City Hall	8/7/2024	15
Planning Commission Comp Plan Public Engagement Plan Workshop	City Hall	9/11/2024	8
Planning Commission Climate Planning Engagement Plan Workshop	City Hall	10/9/2021	9
Kick-Off Meeting	Trailhead Conference Room	10/21/2024	20
Kick-Off Virtual Meeting	Online via Zoom	11/1/2024	13
Planning Commission Climate Resiliency Workshop & Housing Workshop	City Hall	11/13/2024	11
Liberty Lake Rotary Club Presentation	Trailhead Conference Room	11/19/2024	20
Planning Commission Land Capacity Analysis Workshop	City Hall	1/8/2025	6
Planning Commission Critical Area Review	City Hall	1/22/2025	9
Climate Policy Action Team (CPAT) Meeting #1	Trailhead Conference Room	1/28/2025	14
Buildings and Energy Stakeholder Meeting	Trailhead Conference Room	1/29/2025	11
Climate Element Workshop - Transportation Stakeholders Meeting	Trailhead Conference Room	1/30/2025	4
Planning Commission Housing Policy Workshop	City Hall	2/12/2025	7
Community Engagement Commission- Comp Plan Update	City Hall	2/19/2025	12
Selkirk Career Day (Selkirk Middle School)	Selkirk Middle School	2/21/2025	100
CPAT Meeting #2	Ridgeline High School	2/24/2025	12
LCA Document sent via email to Emails sent to Outside Entities	Email	2/25/2024	11
Planning Commission Housing Policy	City Hall	2/26/2025	15
Climate Resiliency Stakeholder Meeting	Trailhead Conference Room	2/29/2025	15
Planning Commission Economic Dev. and Cultural & Historical Workshops	City Hall	3/12/2025	7
CPAT Meeting #3	Ridgeline High School	3/20/2025	12
Planning Commission Housing & Community Services Workshop	City Hall	3/26/2025	7
Planning Commission Economic Dev Redlines, Cultural Resources & History Revisions, and Revised Housing Policies Workshops	City Hall	4/9/2025	7
Parks & Arts Commission - Parks & Recreation Plan Update	City Hall	4/14/2025	15
CPAT Meeting #4	Ridgeline High School	4/16/2025	11
Liberty Lake Climate Element Focus Group (Phil Folyer)	Zoom	4/18/2025	1
Liberty Lake Climate Element Focus Group (SNAP)	Zoom	4/22/2025	1
Planning Commission Housing & Community Services &Co-living Housing Workshop	City Hall	4/23/2025	8
Liberty Lake Climate Element Focus Group (Spokane Tribe)	Zoom	5/1/2025	2
Liberty Lake Climate Element Focus Group (DG Garcia)	Zoom	5/1/2025	1
Planning Commission GHG Priority Actions & Emissions, and Climate Vulnerability Risk Assessment	City Hall	5/14/2025	18
City Academy - Housing Monopoly	City Hall	5/15/2027	6
Community Engagement Commission - Update on Comp Plan Engagement	City Hall	5/21/2025	12
Parks and Rec Plan Open House	Trailhead	5/22/2025	45
Comp Plan - Focus Community Character & Housing	Farmers Market	5/24/2025	50
Planning Commission-Land Use Element, Economic Development Chapter, Development Code Checklist	City Hall	5/28/2025	9
CPAT #5	Ridgeline High School	5/29/2025	12
Comp Plan - Focus Community Character & Engagement	Farmer's Market	6/7/2025	25
Transportation Network Analysis Virtual Town Hall	Zoom	6/12/2025	14
Final LCA & Draft Housing	E-mail	5/30/2025	15
Utilities & Public Facilities - Population Projections - PD	City Hall	6/9/2025	2
Utilities & Public Facilities - Population Projections - SVFD	City Hall	6/16/2025	1
Utilities & Public Facilities - Population Projections - Consolidated Irrigation	City Hall	6/12/2025	1
Utilities & Public Facilities - Population Projections - CVSD	City Hall	6/16/2025	2
Utilities & Public Facilities - Population Projections - Spokane County	City Hall	6/24/2025	2
Utilities & Public Facilities - Population Projections - Avista	City Hall	6/23/2025	20
Utilities & Public Facilities - Population Projections - LLSWD	City Hall	6/17/2025	3
Planning Commission-Parks & Recreation Plan & Natural Environment Chapter	City Hall	6/11/2025	9
Comp Plan - Focus Engagement & Urban Design	Farmers Market	6/21/2025	25
Planning Commission - GHG Sub Element/Goals & Policies & Urban Design	City Hall	6/25/2025	9
Planning Commission - Resiliency Sub Element/Goals & Policies	City Hall	7/9/2025	9
Comp Plan - Focus Climate, Environment, Urban Design	Farmer's Market	7/12/2025	20
City Council GHG Goals & Policy Workshop	City Hall	7/15/2025	40
Climate Element Online Open House	City Website	7/9 - 7-25	727
City Council GHG Sub Element Workshop	City Hall	7/26/2025	35
Barefoot in the Park	Pavillion Park	8/2/2025	25
City Council Climate Resiliency Goals & Policies	City Hall	8/5/2025	35
Comp Plan - Focus Transportation	Farmer's Market	8/9/2025	40
Planning Commission-Utilities & Public Facilities , Economic Development, & CFP	City Hall	8/13/2023	10
Community Engagement Commission - Capital Facilities Plan	City Hall	8/20/2025	10
Facilities Master Plan	Farmer's Market	8/23/2025	50
Bike & Pedestrian Safety Committee-Capital Facilities Plan	New Love Coffee	8/25/2025	8
Parks & Art Commission -Capital Facilities Plan & Parks Plan	City Hall	9/8/2025	12
Planning Commission - Co-living Housing & Parks Plan	City Hall	9/10/2025	18
Capital Facilities Plan	Farmer's Market	9/13/2025	25
Planning Commission-Network Analysis & Governance	City Hall	9/24/2025	12
Parks & Arts Commission Parks & Recreation Plan Update	City Hall	10/6/2025	17
City Council - Draft Network Analysis	City Hall	10/7/2022	25
Planning Commission Draft Sign Code & Housing	City Hall	10/8/2025	23
Draft Network Analysis- Disseminated to Other Agencies	E-mail	10/13/2025	16
Community Engagement Commission - Sidewalk Master Plan	City Hall	10/15/2025	8
City Council-Facilities Master Plan & Sidewalk Master Plan & Co-Living Housing	City Hall	10/21/2025	25
Planning Commission - Parks Plan & Housing Update-MFTE	City Hall	10/22/2025	11
Parks & Arts Commission - Parks Plan & Sidewalk Master Plan	City Hall	11/3/2025	12
City Council Meeting - Capital Facilities Plan	City Hall	11/3/2025	20
Planning Commission- Updated Utilities & Facilities & Transportation Element	City Hall	11/12/2025	12
Housing Story Map	Website	11/26/2025- 1/07/2026	984
Joint Planning Commission/Parks Commission Meeting- Parks & Transportation Elements	City Hall	12/10/2025	24
Final Draft Network Analysis - Agency Review & Coordination	E-mails & Meetings	12/18/ 2025 -1/28/2026	12
Network Analysis Story Map	Website	12/17/2025-1/13/2026	660
Planning Commission Meeting-Parks LOS & Transportation	City Hall	1/14/2026	-
Planning Commission Housing and Transportation Workshop	City Hall	1/28/2026	-
Planning Commission Housing Workshop	City Hall	2/11/2026	-
Planning Commission Parks Element Workshop	City Hall	3/11/2026	-
Planning Commission - Transportation Element Workshop	City Hall	3/25/2026	-

IMAGINING OUR FUTURE

GUIDING OUR GROWTH

LIBERTY LAKE — 2046

CITY OF LIBERTY LAKE

Land Capacity Analysis

FOR THE 2026 COMPREHENSIVE PLAN

VERSION 04/29/2026

The City of Liberty Lake

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Introduction

The City of Liberty Lake is a master-planned community located in eastern Spokane County, along the I-90 corridor. The City encompasses an area of approximately 4,001 acres, or just a little over 6.25 sq. mi. As of August of 2024, the city had a total of 5,021 parcels of land. The vast majority of vacant residential and mix-use lands within the City are already entitled (i.e. approved for development), either through an approved preliminary plat, or an approved binding site plan. Based upon population and development trends within the City, Liberty Lake is expected to reach full buildout within the next 20 years.

The City is undertaking a Periodic Comprehensive Plan Update, for adoption by December 31 of 2026. Population, housing and demographics are foundational to the City's Comprehensive Plan, and the Land Capacity Analysis (LCA) is a requirement of the Growth Management Act (GMA), as part of that Periodic Comprehensive Plan Update. The LCA is an essential tool to evaluate the City's ability to provide an adequate range of housing types to meet the projected housing needs for all income levels, as based on our anticipated population growth. The analysis also includes an inventory of available commercial and light industrial lands within the City limits. The data contained in this report will also be critical information in the evaluation of the adequacy of planned utilities, schools, transportation infrastructure, and public services, that will also be considered as part of this Periodic Comprehensive Plan Update.

Population

The Land Capacity Analysis is premised on the 20-year forecasted growth for the City of Liberty Lake, which is based upon the projected County-wide population growth, and then allocated by jurisdiction.

The Spokane County Planning Technical Advisory Committee (PTAC) and the Steering Committee of Elected Officials (SCEO) reviewed Washington States' Office of Financial Management's (OFM's) high, medium, and low population projections for Spokane County (see **Figure 1**), and based upon a regression analysis of the County's actual population growth since the 2017 Periodic Comprehensive Plan, the medium 2046 population projection of 654,665 for Spokane County (see **Figure 2**) was adopted by the Board of County Commissioners for planning purposes.

2046 OFM Population Projections for Spokane County			
	Low	Medium	High
2046 Population	575,281	654,665	770,248

Figure 1: OFM Population Projects for Spokane County

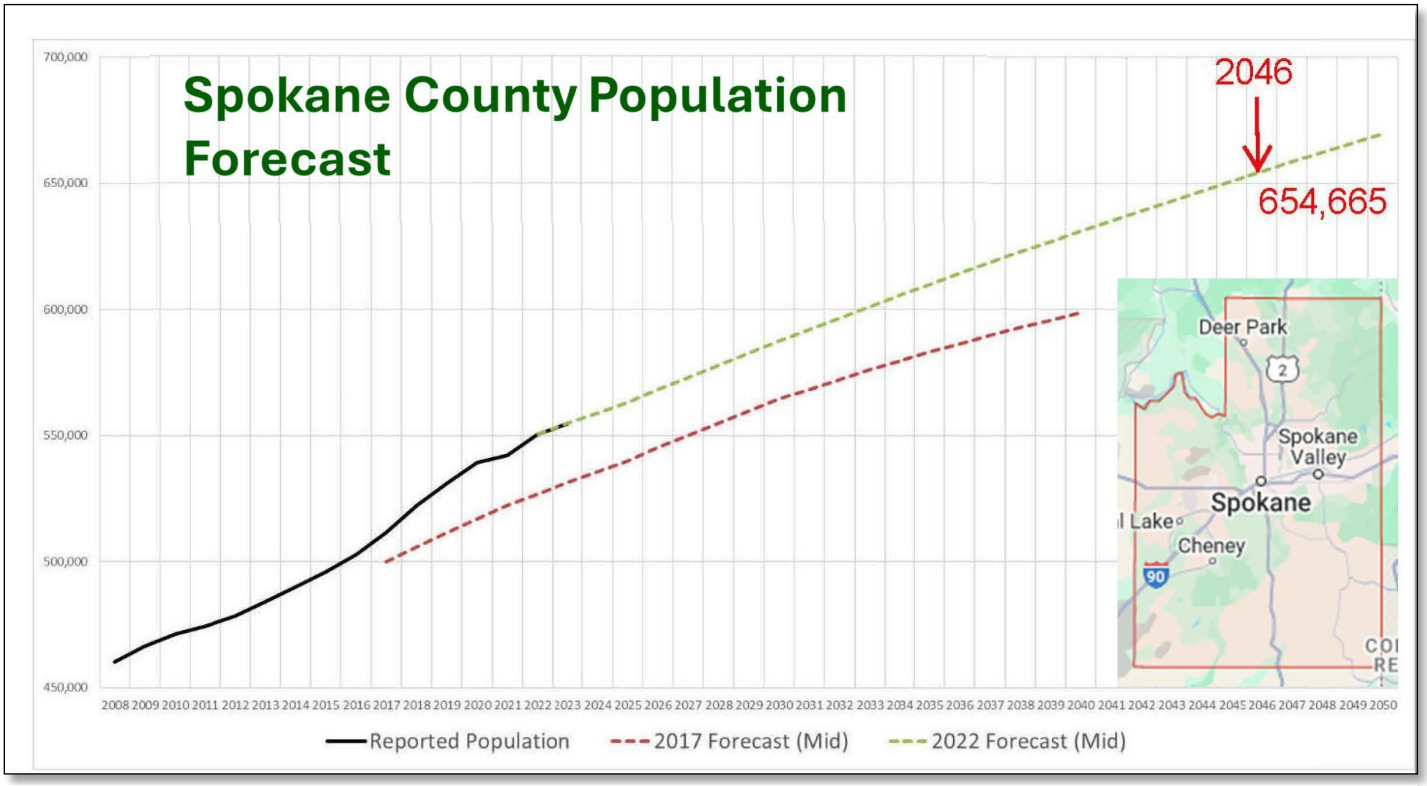


Figure 2: Spokane County Population Forecast

FIRST ROUND -- Spokane County Population Estimates

Jurisdiction	Baseline Data (OFM)		OFM Regression (Adjusted)			
	Share2023	Pop2023	Share2046	Pop2046	Δ_{pop}23-46	$\Delta_{\%}$23-46
Spokane County (Whole)	100.00%	554,600	100.00%	654,665	100,065	18.0%
Unincorporated County (inclusive)	29.46%	163,390	*30.38%*	198,870	35,480	21.7%
Unincorporated Outside UGA Only	16.94%	93,934	*15.07%*	98,642	4,708	5.0%
Unincorporated Inside UGA Only	12.52%	69,456	*15.31%*	100,228	30,772	44.3%
Incorporated Spokane County (sum)	70.54%	391,210	69.62%	455,795	64,585	16.5%
Airway Heights	2.03%	11,280	2.74%	17,945	6,665	59.1%
Cheney	2.37%	13,160	2.53%	16,535	3,375	25.6%
Deer Park	0.89%	4,925	0.96%	6,290	1,365	27.7%
Fairfield	0.11%	600	*0.09%*	600	0	0.0%
~~Latah~~	~~0.03%~~	~~185~~	~~*0.03%*~~	~~185~~	~~0~~	~~0.0%~~
Liberty Lake	2.37%	13,150	3.35%	21,934	8,784	66.8%
Medical Lake	0.89%	4,915	*0.75%*	4,915	0	0.0%
Millwood	0.35%	1,925	0.30%	1,974	49	2.6%
Rockford	0.10%	570	0.10%	636	66	11.7%
Spangle	0.05%	280	*0.04%*	280	0	0.0%
Spokane	41.96%	232,700	39.11%	256,057	23,357	10.0%
Spokane Valley	19.37%	107,400	19.60%	128,313	20,913	19.5%
Waverly	0.02%	120	0.02%	131	11	9.3%
Source	*CALC*	*OFM*	*REGRESSION*	*CALC*	*CALC*	*CALC*

Notes: CALC = Calculated Value, OFM = Office of Financial Management, Δ = delta, or 'change in', inclusive = includes both inside and outside the urban growth area.

Note that the italic "Share2046" values in italics represent hand adjustment to avoid negative growth.

Figure 3: Spokane County Population Allocation

Population allocations for individual jurisdictions within the Spokane County went through a similar review and analysis, with a few hand adjustments for the very small jurisdictions where the regression analysis suggested negative growth, and that allocation was also adopted by the Board of County Commissioners for planning purposes[1] (see **Figure 3**). Liberty Lake's projected 2046 population was identified as 21,934. Based upon the City's own regression analysis of actual population growth since the 2010 census, the City is projected to reach this population in 2042 (see **Figure 4**).

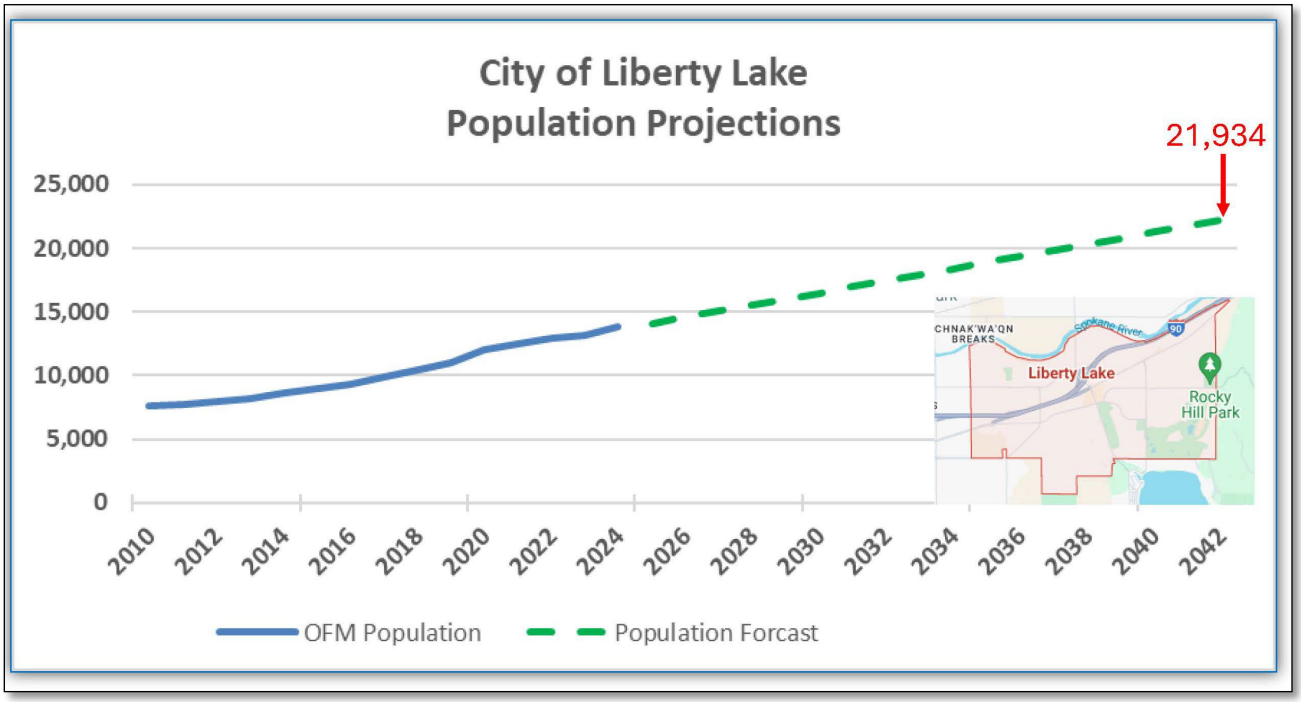


Figure 4: Liberty Lake Population Projections

Existing Housing & Projected Housing Needs

At the time of 2020 Census, the City of Liberty Lake had 4,916 housing units. As of August of 2024, 902 additional housing units had been constructed, for a total of 5,818 units.

For planning purposes, the City of Liberty Lake utilized the allocation of housing needs for Spokane County based upon the Housing for All Planning Tool (HAPT) Method C (also referred to as "Method Prime A"), as developed by Berk Consulting for Washington Department of Commerce, for the purpose of projecting Liberty Lake's housing needs for all income categories in 2046. The use of this method is based upon the adoption of this methodology by Spokane County Board of County Commissioners[2]. **Figure 5** details the County-wide allocation of housing units. Liberty Lake's allocation is notated in red.

[1] Adopted by the Board of County Commissioners Resolution 24-0348 on June 18, 2024.
[2] Adopted by Board of County Commissioners Resolution 25-0033 on January 21, 2025.

Spokane County

	Permanent Housing Needs by Income Level (% of Area Median Income)								Emergency Housing Needs (Temporary)
	Total	0-30% Non-PSH	0-30% PSH	>30-50%	>50-80%	>80-100%	>100-120%	>120%	
Countywide Estimated Housing Supply (2020)	221,840	6,613	937	34,798	91,803	32,035	20,981	34,673	1,192
Countywide Total Housing Needs (2046)	297,024	26,518	6,651	48,418	100,647	36,807	24,918	53,065	4,229
Countywide Additional Units Needed (2020-2046)	**75,184**	**19,905**	**5,714**	**13,620**	**8,844**	**4,772**	**3,937**	18,392	3,037

68.09% ← *Minimum allocation to urban areas (cumulatively) to accommodate needs at all affordability levels. This varies by county and population target.*

91.77% ← *Urban area combined % allocation from user inputs*

HOUSING ALLOCATION FROM SELECTED SHARES

		User Input - % Share of Countywide Housing Growth. Values must sum to 100%	Total Units Allocated (2020-2046)	Permanent Housing Needs by Income Level (% of Area Median Income)						Emergency Housing Needs (Temporary) *
		User Input		0-30% Non-PSH	0-30% PSH	>30-50%	>50-80%	>80-100%	>100-120%	>120%	
Unincorporated County	Existing Combined (Estimate)	-	59,013	1,179	0	5,981	14,559	9,421	9,603	18,270	30
	Future Inside UGA	22.81	**17,149**	4,948	1,420	3,385	2,017	1,088	898	3,393	755
	Future Outside UGA	8.23	**6,188**	0	0	0	728	393	324	4,743	0
Airway Heights	Existing (Estimate)	5.26	3,626	67	0	685	1,997	545	134	198	0
	Future Allocation		**3,955**	1,141	328	781	465	251	207	782	174
Cheney	Existing (Estimate)	2.76	5,354	256	0	935	3,097	690	153	223	0
	Future Allocation		**2,076**	599	172	410	244	132	109	410	91
Deer Park	Existing (Estimate)	1.44	1,902	45	0	434	804	275	99	245	0
	Future Allocation		**1,083**	312	90	214	127	69	57	214	48
Fairfield	Existing (Estimate)	0.00	228	5	0	79	104	23	5	12	0
	Future Allocation		**0**	0	0	0	0	0	0	0	0
Latah	Existing (Estimate)	0.00	88	0	0	35	41	6	2	4	0
	Future Allocation		**0**	0	0	0	0	0	0	0	0
Liberty Lake	Existing (Estimate)	6.89	4,915	39	0	208	1,133	1,238	930	1,367	0
	Future Allocation		**5,180**	1,494	429	1,023	609	329	271	1,025	228
Medical Lake	Existing (Estimate)	0.44	1,828	184	0	159	839	329	96	221	0
	Future Allocation		**329**	95	27	65	39	21	17	65	15
Millwood	Existing (Estimate)	0.14	820	27	0	147	413	142	37	54	0
	Future Allocation		**106**	30	9	21	12	7	6	21	5
Rockford	Existing (Estimate)	0.09	195	0	0	62	85	25	7	16	0
	Future Allocation		**68**	20	6	13	8	4	4	13	3
Spangle	Existing (Estimate)	0.02	127	6	0	42	56	12	3	8	0
	Future Allocation		**15**	4	1	3	2	1	1	3	1
Spokane	Existing (Estimate)	29.74	99,938	3,534	937	19,479	47,090	11,873	7,118	9,907	1,134
	Future Allocation		**22,359**	6,452	1,851	4,413	2,631	1,418	1,170	4,424	983
Spokane Valley	Existing (Estimate)	22.16	43,751	1,265	0	6,515	21,579	7,456	2,792	4,144	0
	Future Allocation		**16,661**	4,806	1,380	3,289	1,960	1,058	872	3,296	733
Waverly	Existing (Estimate)	0.02	55	6	0	37	6	0	2	4	0
	Future Allocation		**15**	4	1	3	2	1	1	3	1

Figure 5: Spokane County Housing Allocation

In order to evaluate the adequacy of available lands and zoning within the City of Liberty Lake to meet the projected housing needs for all income levels, the City based the assumed affordability of housing types by income level provided by Washington State Department of Commerce in Table 12 of "Guidance for Updating Your Housing Element" (see **Figure 6)**. Based on a review of Liberty Lake market rate apartments listed on Zillow, it was confirmed that the assumed affordability was consistent with local market conditions.

ASSUMED AFFORDABILITY: Housing Type By Income Level		
Zone Category	**Housing Type**	**Assumed Affordability**
Low Density	Detached single-family homes	Higher income (>120% AMI[1])
Moderate Density	Townhomes, duplex, triplex, quadplex	Moderate income (>80-120% AMI)
Low-rise Multi-Family	Walk-up apartments, condominiums (2-3 floors)	Low income (0-80% AMI & PSH[1])
Mid-rise Multi-Family	Apartments, condominiums	Low income (0-80% AMI & PSH[2])
ADUs (all zones)	Accessory dwelling units on developed lots	Low income (>50-80% AMI)

[1]Spokane County Area Median Income
[2]Permanent Supportive Housing

Figure 6: Assumed Affordability of Housing Type by Income Level

Within the City of Liberty Lake, townhomes are allowed in all residential zones, and the City has a significant number of existing townhomes, as well as entitled townhome projects, however, due to state condominium laws that were in effect until very recently, to date, all existing townhomes are "zero-lot line" townhomes, and thus have been classified by the assessor as "single-family residential". Because our records do not differentiate between detached single-family units and attached single-family units, for the purpose of this analysis, the City has collapsed detached single-family homes and townhomes into one category. Thus, City of Liberty Lake has evaluated the capacity for housing categories as detailed in **Figure 7.**

LIBERTY LAKE Housing Type By Income Level			
Housing Type	**>120% AMI**	**80-120% AMI**	**0-80% AMI**
SF/Townhomes	X		
Duplex/Triplex/Quad		X	
Multi-Family/ Condos/Institutional			X
Manufactured Homes		X	
Accessory Dwelling Units (ADUs)		X	

Figure 7: Liberty Lake Housing Type by Income Level

Based upon Spokane County's presumed housing allocation (as detailed in **Figure 7**), Liberty Lake's projected housing needs from 2020 to 2046 are summarized by income level in **Figure 8.**

LIBERTY LAKE Total Housing Allocation 2020-2046	
Housing Allocation for 0-80% AMI	3,555
Housing Allocation for 80-120% AMI	600
Housing Allocation for >120% AMI	1,025
Emergency Housing (Beds)	228

Figure 8: Liberty Lake Housing Allocation 2020-2046

Land Capacity Analysis

Step 1: Identification of Housing Units Constructed Since 2020

The housing needs identified for Spokane County and allocated to the various Spokane County jurisdictions utilizing the Housing for All Planning Tool (HAPT), as depicted in **Figure 5**, reflect the projected housing needed to be developed from 2020 through 2046 for the various income categories. Thus, the first step in Liberty Lake's Land Capacity Analysis was to identify the number and types of housing units that have been constructed in the City of Liberty Lake since the 2020 Census.

For the purpose of this analysis, only housing units that have received a Certificate of Occupancy (CO) have been counted as constructed. The City compiled housing data reported to the Office of Financial Management from 2020 to March 30, 2024. Housing data from April, 2024 through August, 2024 was an output of the City of Liberty Lake's permitting software. **Figure 8** details the types of housing units built from 2020 through August of 2024, which accounted for 902 units in total.

LIBERTY LAKE Housing Units Constructed 2020 - August, 2024						
Description	**Total Units**	**SF/ Town Homes**	**Dup/ Tri/ Quad**	**MF/ Condos/ Inst**	**Man. Home**	**ADUs**
Constructed 2020 – 3/2024	850	665	16	168	1	0
Constructed 4/2024 – 8/2024	52	40	12	0	0	0
TOTAL CONSTRUCTED	902	**705**	**28**	**168**	**1**	**0**

Figure 8: Liberty Lake Housing Units Constructed, 2020 – August, 2024

Note that those units that were in construction or in permit review as of August, 2024 are accounted for in Step 2, as detailed below.

Step 2: Identification of Entitled Housing Units

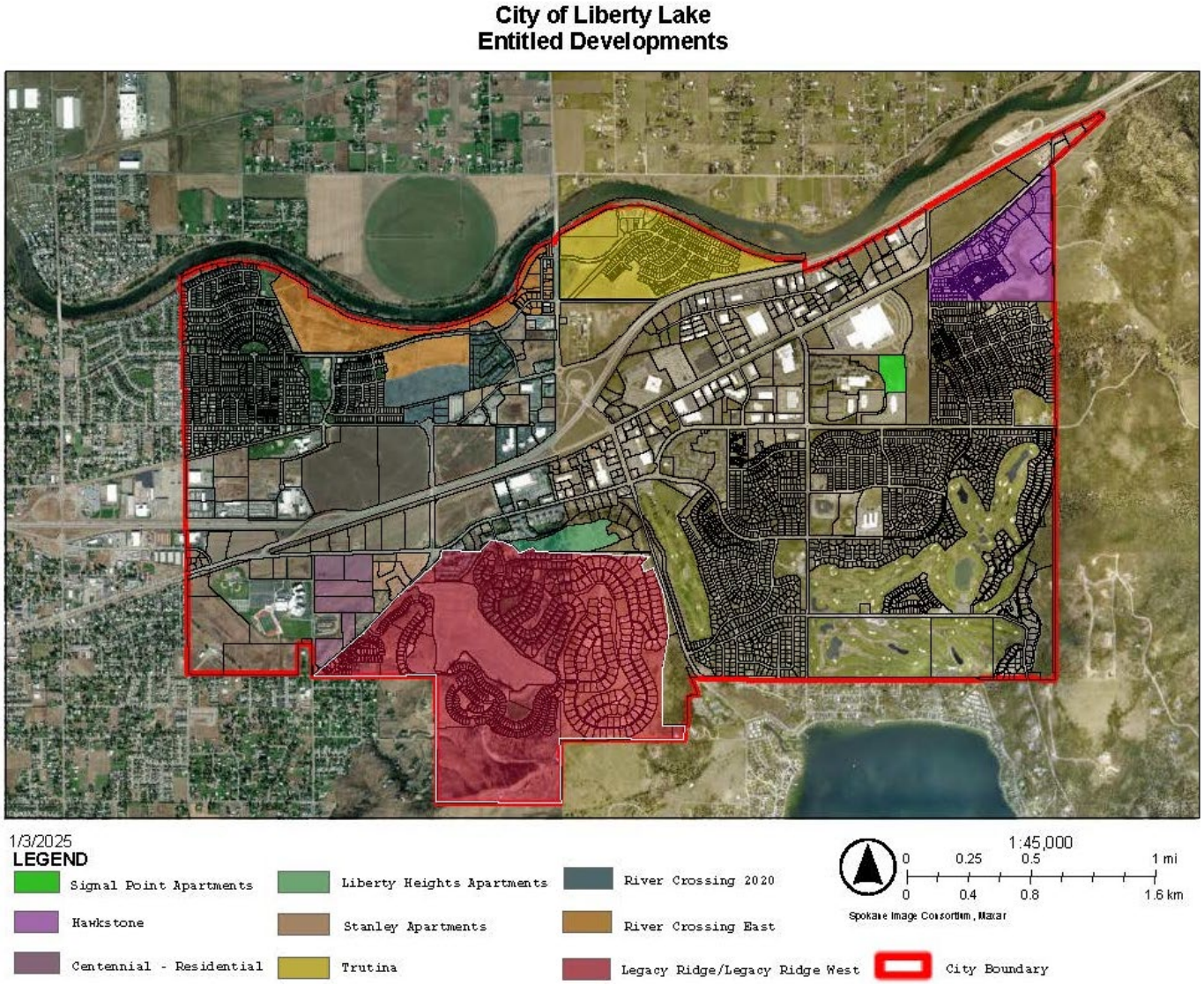


Figure 9: Map of Entitled Developments

Entitled developments include vacant platted residential lots; multifamily residential projects that are vested through an approved binding site plan, were in permit review or under construction as of August of 2024; and, the remaining, unplatted portions of active, phased subdivisions. It should be noted that while preliminary subdivision approvals are valid for the first five years after approval, the City of Liberty Lake Development Regulations provide for subsequent extensions in three-year increments, provided that at least one phase has received final plat approval during the period of the most recent extension.

In addition to the existing, platted residential developments, where remaining vacant lots are considered entitled, **Figure 9** maps the "entitled developments" within the City. Subdivisions with unplatted portions include River Crossing East, River Crossing 2020, Trutina, Hawkstone, and Legacy Ridge West. Hawkstone and Legacy Ridge West are expected to plat their final phases within the next year. Signal Point is a permitted multifamily development that is currently under construction, while Stanley Apartments and Liberty Heights apartments are the residential portions of recorded Binding Site Plans, and those projects are currently in permit review. Centennial Country Vista Binding Site Plan is a recorded binding site plan, depicted as residential. While that multifamily residential project is vested through the binding site plan, building permit applications for that project have not yet been submitted. **Figure 10** details the vacant, platted housing units, remaining housing entitled by the approved preliminary plat for active subdivisions, and the vested multi-family residential projects that are currently entitled within the City of Liberty Lake.

LIBERTY LAKE Entitled Housing Units						
Description	**Total Units**	**SF/ Town Homes**	**Dup/ Tri/ Quad**	**MF/ Condos/ Inst**	**Man. Home**	**ADUs**
Vacant, Platted SFR Lots	170	170				
Multifamily Residential Projects	2,264			2,264		
River Crossing East	703	200	151	352		
River Crossing 2020	539	91	91	357		
Trutina	198	108		90		
Legacy Ridge West	68	68				
Hawkstone	275	95		180		
TOTAL ENTITLED	**4,217**	**732**	**242**	**3,243**	**0**	**0**

Figure 10: Entitled Housing Units

Vacant, platted single family residential lots are located in Trutina, Legacy Ridge, River Crossing East and River Crossing 2020, and Rocky Hill subdivisions (Rocky Hill is the subdivision south of Hawkstone. Multi-family residential projects include Signal Point Apartments, Liberty Heights Apartments, Stanley Apartments, and the vested residential portion of Centennial Binding Site Plan. River Crossing East, River Crossing 2020, Trutina, Legacy Ridge West and Hawkstone detail the remaining vested units in the unplatted portions of those developments. No market factor was deducted from entitled properties, as they are all active developments.

Step 3: Housing Capacity of Vacant/Not Entitled Residential & Mixed-Use Properties

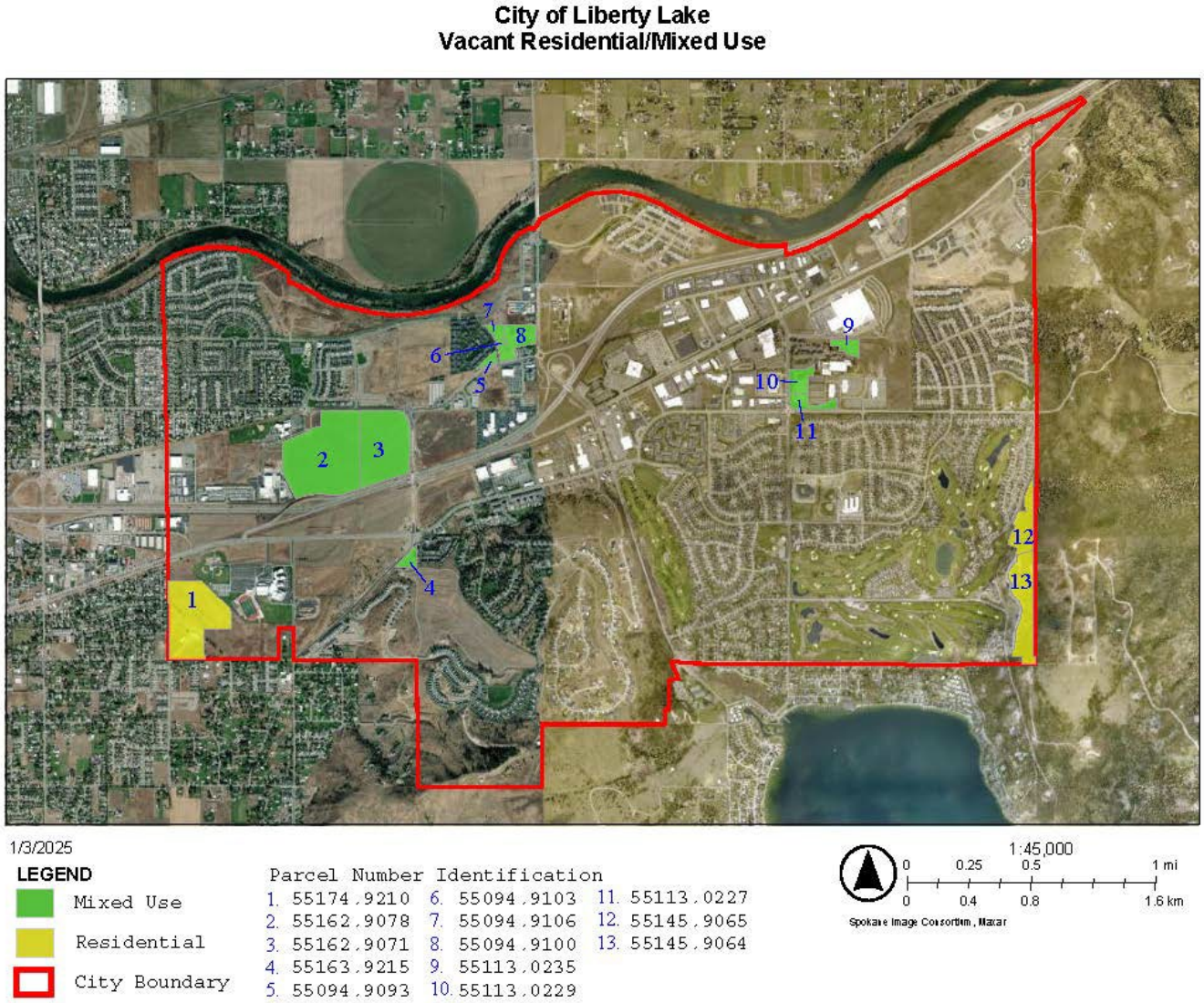


Figure 11: Unentitled Vacant & Mixed-Use Properties in the City of Liberty Lake

Figure 11 depicts the vacant, un-entitled properties within the City of Liberty Lake that are located in residential or mixed-use zones. For the purpose of this analysis, public and private rights-of-way, and platted HOA tracts dedicated for parks, open space, utility corridors, and critical areas were explicitly excluded.

VACANT RESIDENTIAL/MIXED-USE LAND CAPACITY ANALYSIS							
Map #	Parcel No.	Description	Total Units	SF / Town Homes	Dup/ Tri/ Quad	MF/ Condos/ Inst	Notes
1	55174.921	Gun Club (R2 Zone)	383		383		37.5 ac -15% (infrastructure)=31.88 ac@ 12 units/acre
2-3	55162.9078, 55162.9071	Telido Station (RDC Zone) - 94.35 ac with 11.9 acres gas & electric easements	126			126	82.45 ac developable-15%infrastructure = 70.08; 10% residential =7.08 ac@18 units/ac
4	55163.9215	Legacy Ridge Mixed Use	20			20	50% commercial /50% MF @ 18 units/acre
5-8	55094.9093, 55094.9103, 55094.9106, 55094.9100	Hermann Family Ventures (RD-M Zone)	134		134		13.09 ac-15% infrastructure = 11.13 acre@ 12 units/ac. (dup/tri/quad)
9	55113.0235	MTC Vacant (M2 Zone)	64			64	3.65 ac west of signal point @ 18 units/ac
10	55113.0229	MTC Vacant Molter frontage	89			89	4.96 acres fronting on Molter @18 units/ac
11	55113.0227	MTC Vacant Mission Frontage	63			63	4.82 ac; vertical mixed use bldgs; 2 stories, residential over commercial; 60% bldg coverage; 2000 sq. per apartment
12	55145.9065	Peil Property, adjacent to Bella Lago II (R1 Zone)	10	10			10.69 ac, same density as Bella Lago; significant area of 30% slope
13	55145.9064	Bella Lago II (R1 Zone)	20	20			20.56 ac, 20 units based on preapp; significant area of 30% slope
		Total Vacant/Not Entitled	909	30	516	363	
		Market Factor (30%)	-273	-9	-155	-109	
		Vacant/Not Entitled, Market Factor-Adjusted	**636**	**21**	**361**	**254**	

Figure 12: Vacant Residential & Mixed-Use Land Capacity Analysis

Figure 12 summarizes the Land Capacity Analysis completed for the vacant residential and mixed-use properties. The methodology used for each property is indicated in the "Notes" column. Generally, for residential properties, development was presumed to occur at the average densities seen

seen in recent, similar types of development. Where access and utilities were not already provided, roadways and utilities were assumed to encompass 15% of the available land. Existing gas line and utility easements were deducted from the available lands on the subject properties, and critical areas were accounted for by hand in each individual parcel considered. Where multi-family was permitted in mixed use zones, a density of 18 units per acre was utilized, based on recent developments, since there are no maximum density limitations in those zones. In the case of Telido Station, although multi-family is allowed in the RD-C zone, because of its I-90 frontage, only 10% of the land was anticipated to develop as multi-family, since commercial and light industrial were the highest and best use. Parcels in the Meadow Technology Campus (MTC) were considered vacant if they only had parking lots. Uses selected for each parcel were premised on the limitations imposed by a development agreement imposed at the time that the property was rezoned. Unlike the entitled properties, where development is already in process, for the unentitled, vacant residential and mixed-use properties, the market factor of 30% was deducted from the potential residential units identified.

Step 4: Housing Capacity of Underutilized Mixed-Use Properties

Within the City of Liberty Lake, the only larger-lot residential developments are located in topographically challenged areas, adjacent to or encompassing areas approaching ≤ 30% slopes, namely in Legacy Ridge, Legacy Ridge West, and platted lots along the eastern border of the City. These areas were not evaluated as underutilized, given the critical area limitations.

Meadowwood Technology Campus (MTC), which was recently rezoned to a mixed-use zoning designation, has several underutilized parcels in addition to the vacant parcels evaluated in the previous step. **Figure 13** evaluates the capacity for residential development on those properties; **Figure 14** maps the location of those underutilized mixed-use parcels. The potential for residential use was again premised on the limitations imposed by a development agreement imposed at the time that the property was rezoned. As with the analysis of the Vacant/Not-Entitled Properties, a 30% market factor (as based upon the methodology adopted by Spokane County) was deducted from the calculated capacity. No other underutilized residential or mixed-use properties were identified.

UNDERUTILIZED MIXED -USE LAND RESIDENTIAL CAPACITY			
Description	**TOTAL UNITS**	**MF / Condos / Inst**	**Notes**
MTC - Liberty Launch Parcel 55113.0232	137	137	21.72 ac; 35% redevelopment @ 18 units/ac
MTC - SW Central- 55113.0230	43	43	7.98 acres; 30% redevelopment @18 units/ac
MTC - SE Central- 55113.0212	31	31	5.8 acres; 30% redevelopment @18 units/ac
MTC - Francken -55113.0220	36	36	9.27 ac; 30% redevelopment; vertical mixed use bldg; 2 stories, residential over commercial; 60% bldg coverage; 2000 sq. per apartment
Total Underutilized	247	247	
Market Factor (30%)	-74	-74	
Underutilized, Market Factor-Adjusted	**173**	**173**	

Figure 13: Underutilized Mixed-Use Land – Residential Capacity

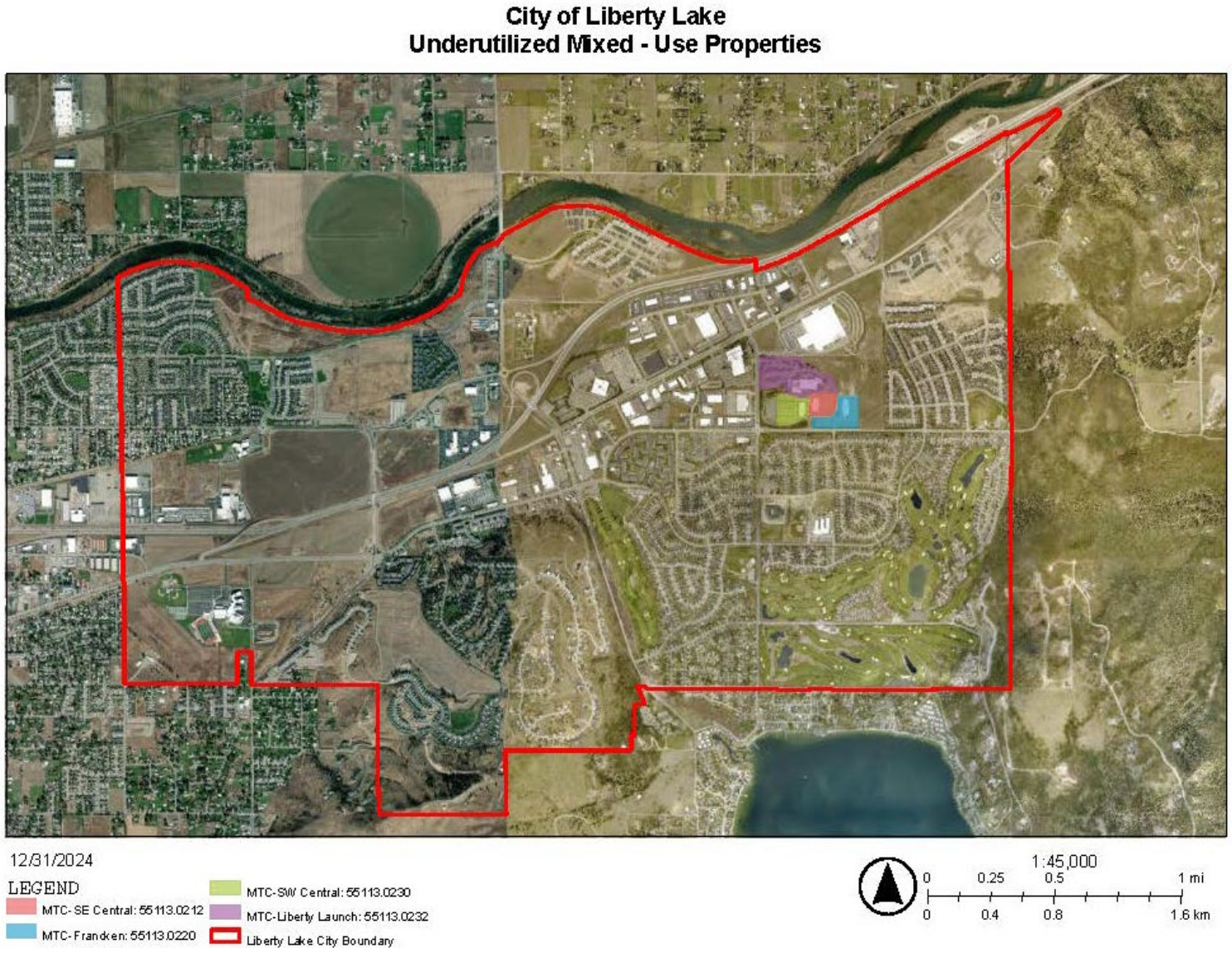


Figure 14: Map of Underutilized Mixed-Use Properties

Available Housing Capacity in Liberty Lake

Figure 15 summarizes the potential, available housing capacity by housing type for Liberty Lake from 2020 through 2046, as discussed above.

LIBERTY LAKE Housing Capacity 2020-2046						
Category	**Total Units**	**SF/ Town Homes**	**Dup/ Tri/ Quad**	**MF/ Condos/ Inst**	**Man. Home**	**ADUs**
Constructed (as of 8/24)	902	705	28	168	1	0
Entitled	4,217	732	242	3,243		
Vacant/Not Entitled[1]	636	21	361	254		
Underutilized[1]	173			173		
TOTAL ENTITLED	**5,928**	**1,458**	**631**	**3,838**	**1**	-

[1]Market Factor Adjusted

Figure 15: Liberty Lake Housing Capacity

Figure 16 compares Liberty Lake's Housing Capacity to its Housing Allocation (see **Figure 7**), as based upon the Housing Type by Assumed Affordability as detailed in **Figure 8**.

LIBERTY LAKE Comparison Of Housing Capacity To Allocation		
Income Category	**Housing Unit Allocation**	**Housing Unit Capacity**
0 -80% AMI[1]	3,555	3,838
80 -120% AMI	600	632
>120% AMI	1,025	1,458
Total Housing Units	**5,180**	**5,928**

[1]Area Median Income

Figure 16: Comparison of Liberty Lake's Housing Capacity to Allocation

Based upon this analysis, it appears Liberty Lake has the capacity, under its current zoning regulations to meet its projected housing demand through 2046. **Appendix A** of this document contains the detailed Liberty Lake Housing Capacity Analysis spreadsheet.

Projected Population Capacity Based on Housing Type

In order to bring the analysis full circle, the City of Liberty Lake projected population capacity based upon housing type, using housing capacity projections from this analysis, and OFM per capita household size and vacancy rates by housing type. The results are summarized in **Figure 17**, which demonstrated that the City of Liberty Lake has the capacity to support is population allocation of 21,934.

Projected Population Capacity Based On Housing Type					
Description	SF / Town Homes	Dup/ Tri/ Quad	MF / Condos / Inst	Manufactured Hm	ALL UNITS
Total Housing Units, 2020-2046	1,458	631	3,838	1	5,928
Per Capita Household Size[1]	2.855	2.4282075	1.789	2.030534	
Vacancy Rate[1]	0.972	0.906665	0.87	0.98	
Population Capacity, 2020-2046	4,046	1,390	5,973	2	11,411
Liberty Lake 2020 Census Population					13,150
Liberty Lake 2046 Population Capacity					24,561

[1]Based upon OFM rates

Figure 17: Projected Population Capacity

Emergency Housing

Utilizing the allocation of housing needs for Spokane County based upon the Housing for All Planning Tool (HAPT) Method C, as developed by Berk Consulting for Washington Department of Commerce and recommended by SCEO in allocating housing for Spokane County, it is projected that the City of Liberty Lake will have a demand for 227 emergency housing beds by 2046.

In response to the enactment of HB 1220 in 2021, the City of Liberty Lake amended its development code by Ordinance 280 to allow Emergency Shelters in all zones within the City of Liberty Lake which allow for hotels and motels. Specifically, that ordinance allowed emergency shelters and emergency housing in all commercial and mixed-use zones within the City, with some development standards that included separation distance, occupancy limits and proximity to transit. The City recently adopted Ordinance 309, which amended those development standards to eliminate separation distances, occupancy limits (other than those dictated by adopted Building & Fire Codes), and proximity to fixed transit route requirements. With this change, the City completed a Land Capacity Analysis for Emergency Housing, identifying vacant mixed-use and commercially-zoned properties where Emergency Housing & Shelters are permitted. **Figure 18** maps vacant properties where Emergency Housing & Shelters would be permitted, and **Figure 19** estimates the potential capacity for shelter beds on those properties. Based on this analysis, there is more than sufficient land capacity to meet future Emergency Shelter & Housing needs.

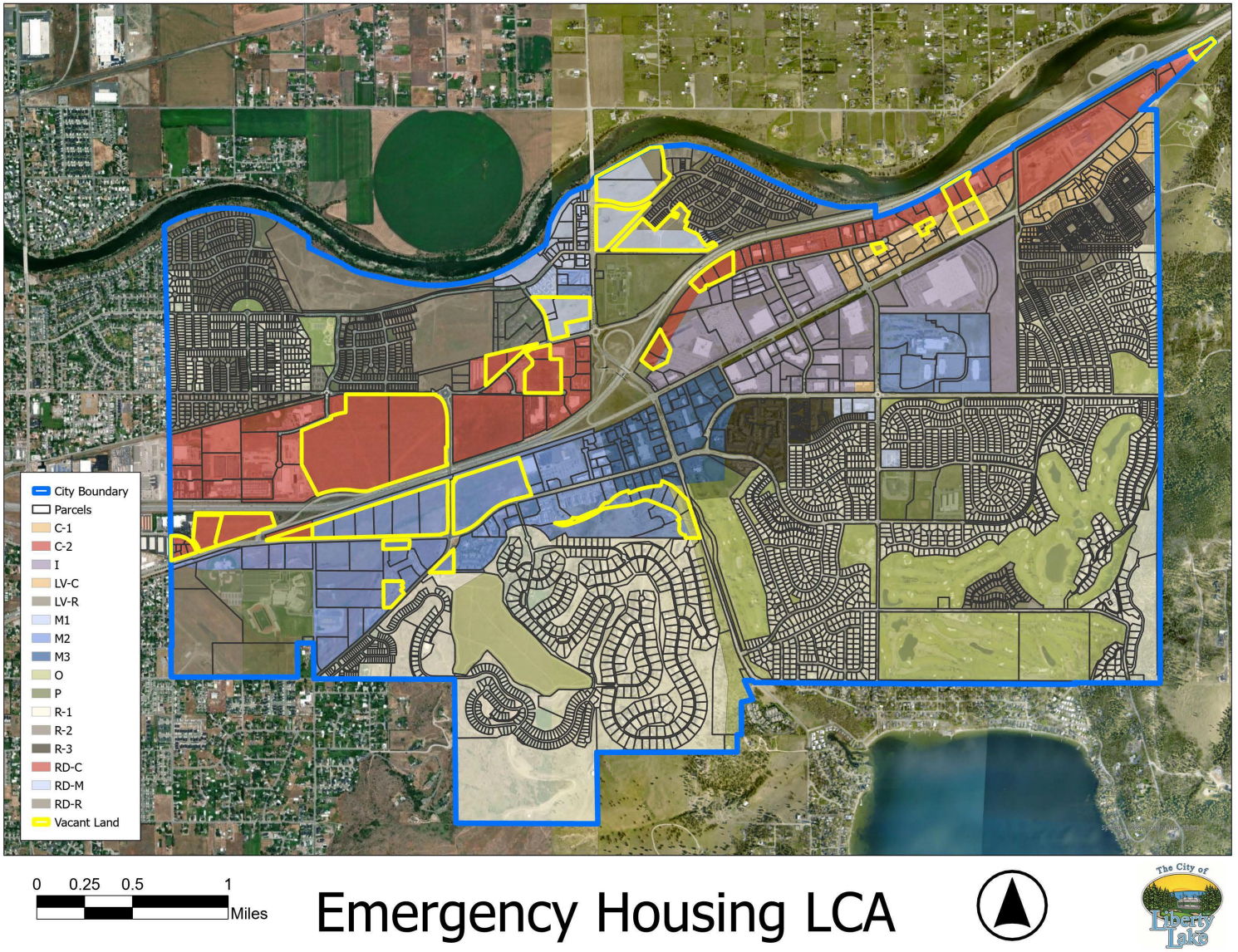


Figure 18: Vacant Properties Zoned for Emergency Housing & Shelters

Emergency Housing Land Capacity Analysis							
Description	Parcel No.	Zoning	Available Acres	Max Lot Coverage %	Bldg Area Capacity (sq. ft.)	Bed Capacity (@ 1/200 sq. ft.)	General Location
VACANT LAND (as of 12/2024)[1]							
North of I-90							
Telido Station	55162.9078 55162.9071	RD-C	74.2	60%	1,939,291	9,696	N of I-90, S of Mission Ave
Leland/Marks Property	55094.9076 55054.9056	C-2	5.17	60%	135,123	676	N of Mission
Entregar Seattle Property	55094.9060 55094.9061	C-2	11.3	60%	295,337	1,477	N of George Gee Lane, S of Mission
Hermann Family Ventures	55094.9106 55094.9103 55094.9100	C-2	11.59	60%	302,916	1,515	N of Mission, E of Bitterroot, W of Harvard
Trutina Commercial	55102.9069 55102.9028 55102.9202 55102.9222	RD-M	55.5	80%	1,934,064	9,670	E of Harvard, N of Indiana
South of I-90							
The Point BSP	55174.2701-2707	C-2	3.52	60%	91,999	460	N of Appleway, W of Broadway
Ridgeline Center	55175.9048	C-2	6.3	60%	164,657	823	N of Appleway, E of Broadway
Centennial	55175.9049	C-2	10.26	60%	268,155	1,341	
Centennial Country Vista BSP	55175.2601	C-2	2.79	60%	72,919	365	N of Country Vista, W of Kramer Pkwy
Centennial Country Vista BSP	55165.2602-2605, 55162.2606-2607	M-2	36.3	70%	1,106,860	5,534	N of Country Vista, W of Kramer Pkwy
Stanley BSP	55163.1302 55163.1396	M-2	5.18	70%	157,949	790	S of Country Vista, W of Kramer Pkwy
BSP 96-50 remaining parcel	55161.9178	M-2	26.61	70%	811,392	4,057	N of Country Vista, E of Kramer Pkwy
Legacy Ridge West Unplatted	55163.9215	M-2	2.29	70%	69,827	349	SW Corner Kramer/Country Vista
20th Amendment to BSP 96-50 (Jake's Townhomes)	55156.2002 55152.2003-2008	M-2	18.51	70%	564,407	2,822	S of Country Vista, W of Liberty Lake Rd
Amendment to BSP 88-03	55103.0201 55103.0202	C-2	4.96	60%	129,635	648	N of Appleway, E of Liberty Lake Rd
BSP 94-38 AP 12	55103.9167 55103.9168 55103.9169	C-2	6.04	60%	157,861	789	North Side of Eastern Term. Knox Ln
SW Corner, Swing & Knox	55116.9046	C-1	0.73	60%	19,079	95	SW Corner, Swing & Knox
RSR Commercial	55112.9055-9057	C-1	1.23	60%	32,147	161	W of Fairway, n of Appleway
Old Appleway LLC	55112.9094-9095	C-2	5.02	60%	131,203	656	NE corner of Eagle & Knox
Eagle Lane	55112.9064-9067	C-1	6	60%	156,816	784	W of Eagle Lane, N of Appleway
Rudeen Property	55013.9052	C-2	1.34	60%	35,022	175	N of Appleway, E of Northwest Trends
				Potential Bed Capacity		**42,883**	

Figure 19: Emergency Housing Land Capacity Analysis

Urban Growth Area

Based upon this Land Capacity Analysis, the City of Liberty Lake does not appear to require the expansion of adjacent Urban Growth Areas to meet its housing allocation for 2046. As such, the City of Liberty Lake is not proposing any joint planning of the adjacent UGAs.

Commercial & Industrial Lands Inventory

The City of Liberty Lake completed an inventory of vacant and underutilized properties zoned for commercial, light industrial, and mixed uses. For the purpose of this analysis, the portions of mixed-use properties that were identified for residential use were excluded from the category "available acres", as were road rights-of-way, overhead and gas utility easements, and the

developed portion of underutilized properties. Based upon this analysis, 388.22 acres of vacant, and 37.04 acres of underutilized commercial, industrial and mixed-use zoned properties are available for commercial and industrial development, for a combined total of 425.26 acres of available lands for commercial and industrial development.

Figure 20 shows the location and zoning of vacant and underutilized commercial, industrial and mixed-use zoned properties available for commercial and industrial development. **Appendix B** of this document contains the complete inventory.

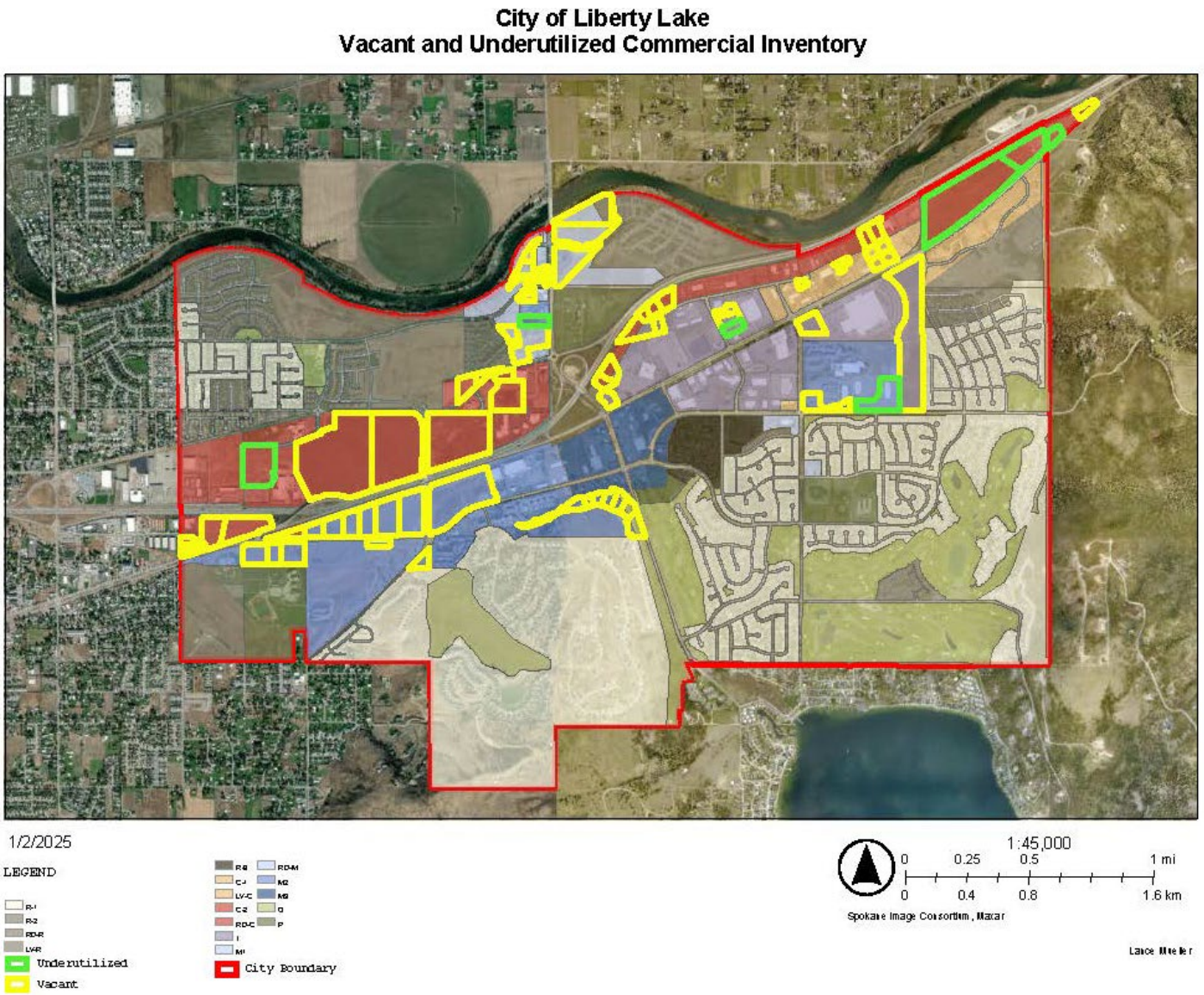


Figure 20: Vacant & Underutilized Commercial & Industrial Properties

APPENDIX A: LIBERTY LAKE LAND CAPACITY ANALYSIS

Liberty Lake Housing Capacity Analysis

Description	TOTAL UNITS	SF / Town Homes	Dup/ Tri/ Quad	MF / Condos / Inst	Manufactured Hm	ADUs	Notes
CONSTRUCTED, 2020-8/2024							
Constructed Units, 2020 - 3/2024	850	665	16	168	1		
Constructed Units, 4/2024 - 8/2024	52	40	12				
Total Constructed (as of 8/2024)	902	**705**	**28**	**168**	**1**	**0**	
ENTITLED							
Vacant , platted SFR residential lots	170	170					Trutina, Legacy Ridge, River Crossing, Hawkstone, Rocky Hill
Multi-Family Residential Projects	2,264			2,264			Signal Point, Liberty Heights, Stanley, Centennial Country Vista BSP
River Crossing East	703	200	151	352			
River Crossing 2020	539	91	91	357			
Trutina Preliminary Plat (remaining)	198	108		90			Estimated based on density of existing multifamily (18 units/acre)
Legacy Ridge West	68	68					Based on 2024 Minor Modification
Hawkstone	275	95		180			
Total Remaining Entitled	4,217	732	**242**	**3,243**			
VACANT/NOT ENTITLED							
Gun Club (R2 Zone)	383		383				37.5 ac -15% (infrastructure) = 31.88 ac@ 12 units/acre
Bella Lago II (R1 Zone)	20	20					20.56 ac, 20 units based on preapp; significant area of 30% slope
Peil Property, adjacent to Bella Lago II-55145.9065	10	10					10.69 ac, same density as Bella Lago; significant area of 30% slope
Legacy Ridge Mixed Use (55163.9215)	20			20			50% commercial /50% MF @ 18 units/acre
Hermann Family Ventures (55094.9083, 55094.9106, 55094.9100)	134		134				13.09 ac-15% infrastructure = 11.13 acre@ 12 units/ac. (dup/tri/quad)
Telido Station RD-C (94.35 ac - 11.9 acres gas & electric easements)	126			126			82.45 ac developable-15% (infrastructure) = 70.08; 10% residential =7.08 ac@18 units/ac
MTC Vacant (55113.0235)	64			64			3.65 ac west of signal point @ 18 units/ac
MTC Vacant Molter frontage (55113.0229)	89			89			4.96 acres fronting on Molter @18 units/ac
MTC Vacant Mission Frontage (55113.0227)	63			63			4.82 ac; vertical mixed use bldgs; 2 stories, residential over commercial; 60% bldg coverage; 2000 sq. per apartment
Total Vacant/Not Entitled	909	30	516	363			
Market Factor (30%)	-273	-9	-155	-109			
Vacant/Not Entitled, Market Factor-Adjusted	**636**	**21**	**361**	**254**			
UNDERUTILIZED							
MTC - Liberty Launch Parcel 55113.0232	137			137			21.72 ac; 35% redevelopment @ 18 units/ac
MTC - SW Central- 55113.0230	43			43			7.98 acres; 30% redevelopment @18 units/ac
MTC - SE Central- 55113.0212	31			31			5.8 acres; 30% redevelopment @18 units/ac
MTC - Francken -55113.0220	36			36			9.27 ac; 30% redevelopment; vertical mixed use bldg; 2 stories, residential over commercial; 60% bldg coverage; 2000 sq. per apartment
Total Underutilized	247			247			
Market Factor (30%)	-74			-74			
Underutilized, Market Factor-Adjusted	**173**			**173**			
TOTAL HOUSING UNITS 2020-2046	**5,928**	**1,458**	**631**	**3,838**	**1**	**-**	
Assumed Affordable 0-80% AMI	**3,838**			**3,838**			
Assumed Affordable 80-120% AMI	**632**		**631**		**1**		
Assumed Affordable >120%	**1,458**	**1,458**					

TOTAL HOUSING ALLOCATION 2020-2046	(Berk Method C)
Housing Allocation 0-80% AMI	**3,557**
Housing Allocation 80-120% AMI	**613**
Housing Allocation >120%	**1,143**
Emergency Housing (Beds)	**227**

APPENDIX B: LIBERTY LAKE COMMERCIAL/INDUSTRIAL LANDS INVENTORY

Developable Commercial/Industrial Land Inventory

Description	Parcel No.	Zoning	Uses Allowed	Total Acres	Available Acres	General Location	Notes
VACANT (as of 12/2024)[1]							
North of I-90							
Telido Station	55162.9078; 55162.9071	RD-C	Comercial, Light Industrial, Multi-Family	94.35	74.2	N of I-90, S of Mission	11.9 acres in gas line and overhead utility easements; 10% is assumed to be used for multi-family
DNR Property	55161.9025	C-2	Comercial, Light Industrial	32.11	32.11	N of I-90, S of Mission	
Leland/Marks Property	559094.9076; 99054.9056	C-2	Comercial, Light Industrial	5.17	5.17	N of Mission	
Entregar Seattle Property	55094.9060; 55994.9061	C-2	Comercial, Light Industrial	11.3	11.3	N of George Gee Lane, S of Mission	
Hermann Family Ventures	55094.9106; 55094.9103; 55094.9100	C-2	Comercial, Light Industrial	11.59	11.59	N of Mission, E of Bitterroot, W of Harvard	
River District Town Center (NOLL)	55091.0302-0312; 55094.0501-0505; 55091.0406-0410	RD-M	Commercial, Mixed Residential	11.06	8	W of Harvard	Mixed use zone, assume 75% ground floor commercial
Trutina Commercial	55102.9069; 55102.9028; 55102.9202; 55102.9222	RD-M	Commercial, Mixed Residential	55.5	32.5	E of Harvard, N of Indiana	~23 acres of remaining entitled for residential uses
South of I-90							
The Point BSP	55174.2701-2707	C-2	Commercial, Light Industrial	3.52	3.52	N of Appleway, W of Broadway	
Ridgeline Center	55175.9048	C-2	Commercial, Light Industrial	6.3	6.3	N of Appleway, E of Broadway	
Centennial	55175.9049	C-2	Commercial, Light Industrial	10.26	10.26	N of Appleway, W of Green Acres Flyover	Identified as potential future STA Park & Ride
Centennial Country Vista BSP	55175.2601	C-2	Commercial, Light Industrial	2.79	2.79	E of Appleway, W of Green Acres Flyover	Did not include vested MF residentiaL properties
Centennial Country Vista BSP	55165.2602-2605, 55162.2606-2607	M-2	Commercial, Multi-family	36.3	36.3	N of Country Vista, W of Kramer Pkwy	Did not include vested MF residentiaL properties
Centennial BSP	55174.2608-2610	M-2	Commercial, Multi-family	13.86	13.86	S of Country Vista, N of Ridgeline HS	Did not include vested MF residentiaL properties
Stanley BSP	55163.1302, 55163.1396	M-2	Commercial, Multi-family	5.18	10.76	S of Country Vista, W of Kramer Pkwy	Did not include vested MF residentiaL properties
BSP 96-50 remaining parcel	55161.9178	M-2	Commercial, Multi-family	26.61	26.61	N of Country Vista, E of Kramer Pkwy	Proposed 21st Amendment to BSP 96-50
Legacy Ridge West Unplatted	55163.9215	M-2	Commercial, Multi-family	2.29	1.15	SW Corner Kramer/Country Vista	Assumed 50% Commercial, 50% MF
20th Amendment to BSP 96-50 (Jake's Townhomes)	55156.2002, 55152.2003-2008	M-2	Commercial, Multi-family	18.51	18.51	S of Country Vista, W of Liberty Lake Rd	Did not include vested MF residentiaL properties

Description	Parcel No.	Zoning	Uses Allowed	Total Acres	Available Acres	General Location	Notes
Amendment to BSP 88-03	55103.0201-0202, 0204	I, C-2	Commercial, Light Industrial	7.04	7.04	N of Appleway, E of Liberty Lake Rd	
BSP 94-38 AP 12	55103.9165-9169, 55193.9172	I, C-2	Commercial, Light Industrial	14.9	14.9	Eastern Term. Knox Ln	
N Madson, ptn of Wagner Add	55104.9297, 55104.9182	I	Commercial, Light Industrial	3.66	3.66	E of Madson Rd, N of Appleway	
SW Corner, Swing & Knox	55116.9046	C-1	Commercial	0.73	0.73	SW Corner, Swing & Knox	
RSR Commercial	55112.9055-9057	C-1	Commercial	1.23	1.23	W of Fairway, n of Appleway	
Old Appleway LLC	55112.9094-9095	C-2	Commercial, Light Industrial	5.02	5.02	NE corner of Eagle & Knox	
Eagle Lane	55112.9064-9067	C-1	Commercial	6	6	W of Eagle Lane, N of Appleway	
Rudeen Property	55013.9052	C-2	Commercial, Light Industrial	1.34	1.34	N of Appleway, E of Northwest Trends	Requires significant frontage improvement, topographic challenges
Huntwood Vacant	55115.0215	I	Commercial, Light Industrial	34.95	34.95	S of Appleway, E of Country Vista Blvd	
Huntwood Vacant 2	55116.0216	I	Commercial, Light Industrial	4.58	3.6	SE Corner of Appleway & Molter	Portion of the site serves as a swale for Huntwood site
MTC Vacant Mission Frontage	55113.0227	M-2	Commercial, Multi-family	4.82	4.82		Assume vertical mixed use bldgs; 2 stories, residential over commercial; 60% bldg coverage;
			TOTAL ACREAGE AVAILABLE VACANT		**388.22**		
UNDERUTILIZED (as of 12/2024)							
North of I-90							
Western States CAT	55171.1702	RD-C	Comercial, Light Industrial, Multi-Family	13.4	5.63	N side of Cataldo Ave	Land identified for future expansion
2121 N Harvard Rd	55094.9028	C-2	Comercial, Light Industrial	3.18	2.42	W side of Harvard, Nof Mission	Home valued at $266K, no public sewer
South of I-90							
Bike Hub Property	55104.9183	I	Commercial, Light Industrial	2.07	1.29	E of Madson Rd, N of Appleway	
Bretz Marine & RV	55116.9157	C-2	Commercial, Light Industrial	39.53	16.5	N of Appleway, E of Simpson Trail	
Clearwater Landscaping	55026.9006	C-2	Commercial, Light Industrial	9.59	7.5	N of Appleway, e of Hawkstone Loop	
Cannabis & Glass	55013.9016	C-2	Commercial, Light Industrial	2.08	0.6	N of Appleway, S of Cannabis & Glass	Parking for Cannabis & Glass on a portion of the lot
MTC- Mission Frontage/Franken	55113.022	M-2	Commercial, Multi-family	9.27	3.1	N of Mission Ave, SW corner of MTC	Assume vertical mixed use bldg; 2 stories, residential over commercial; 60% bldg coverage on available land for redevelopment
			TOTAL ACREAGE AVAILABLE UNDERUTILIZED		**37.04**		
TOTAL AVAILABLE ACREAGE FOR COMMERCIAL/INDUSTRIAL DEVELOPMENT					**425.26**		

[1]Does not include properties that were under review for Building Permits at the time of this inventory.

APPENDIX "C"

LIBERTY LAKE – 2046

Appendix 1: Setting GHG Goals and Targets for the Climate Element

Prepared for
City of Liberty Lake

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT

August 2025

Parametrix

Appendix 1: Setting GHG Goals and Targets for the Climate Element

Prepared for

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Acknowledgements

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Parametrix, a sustainability consulting firm with offices across the western United States, OR.

Beth Miller, PhD, and Maddie Cheek are primary authors with analytical support from Stephen Greenslade.

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Acronyms and Abbreviations

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1. Introduction

1.1 The Climate Element of the Comprehensive Plan and Greenhouse Gas Emissions Reduction Sub-Element

In 2023, Washington State passed legislation (HB 1181) that added a climate goal to the Growth Management Act (GMA). This legislation requires that planning communities, including Liberty Lake, complete a Climate Element as part of the 2025 Comprehensive Plan update. The Climate Element consists of two parts: (1) Greenhouse Gas (GHG) Emissions Reduction Sub-Element that requires that communities quantify their baseline GHG emissions and include policies to decrease those emissions and (2) a Resilience Sub-Element that requires communities to analyze and plan for future climate vulnerabilities.

Completion of the Climate Element is required for state-funded grant and loan programs such as the Public Works Board, Drinking Water State Revolving Fund, Centennial Clean Water Fund, Recreation and Conservation Office, and Pre-Disaster Mitigation Grants.

1.2 Purpose of this Document

This document includes an overview of Liberty Lake's GHG emissions inventory results, an emissions forecast based on existing state policies, and emissions reduction goals and policies to include in the GHG Emissions Reduction Sub-Element. Its purpose is to provide the necessary context and data to support the goals and policies that are set out in the GHG Sub-Element.

The project team conducted a GHG emissions inventory to identify community-wide GHG emissions sources and to establish an emissions baseline to measure against in the future. The project team has forecast various emissions scenarios, both with and without local policy action, and emissions reduction targets were set based on the achievable potential determined by this analysis. Goals and policies were selected based on the Commerce Menu of Measures, input from the Climate Policy Advisory Team, and various meetings with individual interested parties.

1.3 Glossary of Terms

- Electrification – The conversion of a machine or system to the use of electrical power. Building electrification refers to converting appliances that run on natural gas and/or other fuels to electricity. Transportation or fleet electrification refers to converting gas or diesel-powered vehicles to electric vehicles.
- Environmental justice – The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, rules, and policies. Environmental justice includes addressing disproportionate environmental and health impacts in all laws, rules, and policies by prioritizing vulnerable populations and overburdened communities, striving for the equitable distribution of resources and benefits, and eliminating harm.[1]

[1] Climate Element Planning Guidance (p. 138) – December 2023 Intermediate Version https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx

- Global Warming Potential (GWP) – GWPs provide a common unit of measure to allow comparisons of the global warming impacts of different greenhouse gases. Specifically, the GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period of time, relative to the emission of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years.[2]
- GHG emissions – The release of gases into the atmosphere that trap heat and contribute to the greenhouse effect, leading to climate change. These gases, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), are emitted from various sources, both natural and human-caused.
- Net-zero emissions – A state in which the total amount of GHGs released into the atmosphere by human activities is balanced by the amount removed or sequestered, resulting in no net increase in atmospheric GHG concentration. This means that any emissions that are unavoidable are offset by measures that remove or store carbon dioxide from the atmosphere.
- Metric ton of carbon dioxide equivalent (MT CO_2e) – Some GHGs are more potent than others. A MT CO_2e is a unit of measurement used to compare the warming potential of different GHGs by converting them into an equivalent amount of carbon dioxide (CO_2) emissions. It is a way to quantify the total impact of various GHGs on climate change.
- Upstream fuel production – Refers to the initial stages of producing fuels such as gasoline, diesel, and natural gas. This includes activities such as mining and extracting raw materials, processing and refining them, and distributing the final products to fuel retailers. These processes generate emissions before the fuel is sold to consumers
- Vehicle miles traveled (VMT) – Measures the total number of miles driven by all vehicles in a specific area over a period of time (e.g., 1 day, 1 year). VMT is a key tool used in transportation planning and policy decisions, as it reflects the demand for vehicle travel and impacts on infrastructure and the environment.
- Vulnerable and overburdened communities – Communities that experience the consequences of climate change first and worst—for example, communities with higher rates of poverty and limited English proficiency. These communities are more vulnerable to climate change due to historical trends, including the impact of redlining.[3]

2. GHG Inventory

2.1 2022 Inventory Results

What is a GHG inventory and what is it used for?

A GHG emissions inventory is a comprehensive accounting of GHGs released into the atmosphere from various sources within a specific area or organization (e.g., the City of Liberty Lake) over a set

[2] Environmental Protection Agency – Understanding Global Warming Potentials
https://www.epa.gov/ghgemissions/understanding-global-warming-potentials

[3] Climate Element Planning Guidance (p. 3, p. 12) – December 2023 Intermediate Version
https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx

period of time (e.g., calendar year 2022). Inventories are used to track emissions, to identify major sources, and to inform strategies for reducing climate impact and meeting environmental goals. An initial inventory can serve as a baseline that future inventories can be compared against to track progress. Commerce guidance stipulates that 2022 should be used as the emissions baseline year to track progress toward achieving net-zero emissions by 2050, which is consistent with Washington's statewide emissions reduction target.[4]

Every community has a unique carbon footprint. The purpose of completing an inventory is not to judge any given place in relation to others, but rather to establish a baseline against which a community can assess its own progress in reducing emissions over time.

Overall Results

In 2022, the Liberty Lake community was responsible for nearly **258,000 MT CO_2e**, made up of both locally produced and imported emissions. Local emissions are released directly within a specific geographic area and include emissions from buildings and energy use, transportation, waste disposal, refrigerants, and land use (Figure 1). Local emissions totaled just over **118,000 MT CO_2e**. Imported emissions refer to the emissions generated outside the area on behalf of city residents, such as the production of food and goods purchased by residents in the city. Imported emissions totaled nearly **140,000 MT CO_2e**.

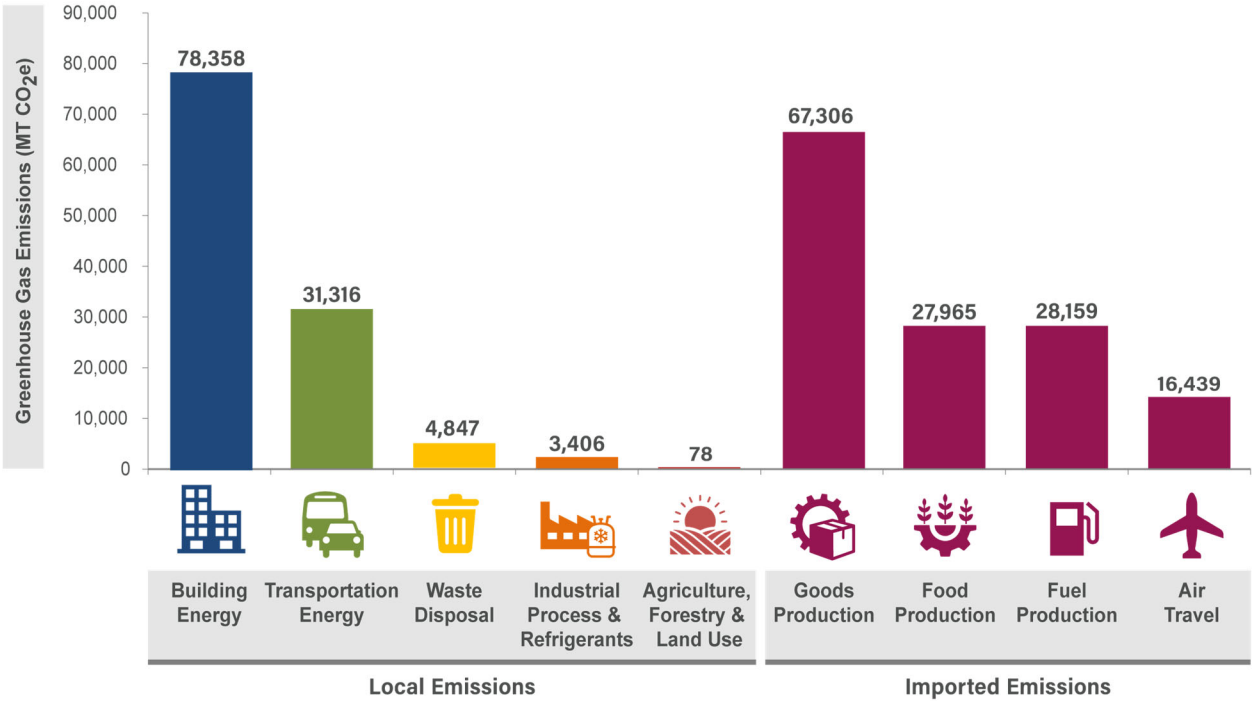


Figure 1. Communitywide Greenhouse Gas Emissions

Liberty Lake's per capita emissions **(10.5 MT CO_2e)** were lower than the statewide average **(13.5 MT CO_2e)**. Per capita emissions are useful to understand because they may help identify areas

[4] Climate Element Planning Guidance (p. 43) – December 2023 Intermediate Version https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx

of opportunity for policy and planning. Per capita emissions for electricity and natural gas were higher in Liberty Lake than the statewide average, but transportation emissions were lower than the state average (Figure 2). The relatively high building emissions in Liberty Lake are likely due to more extreme seasonality that requires more heating and cooling.

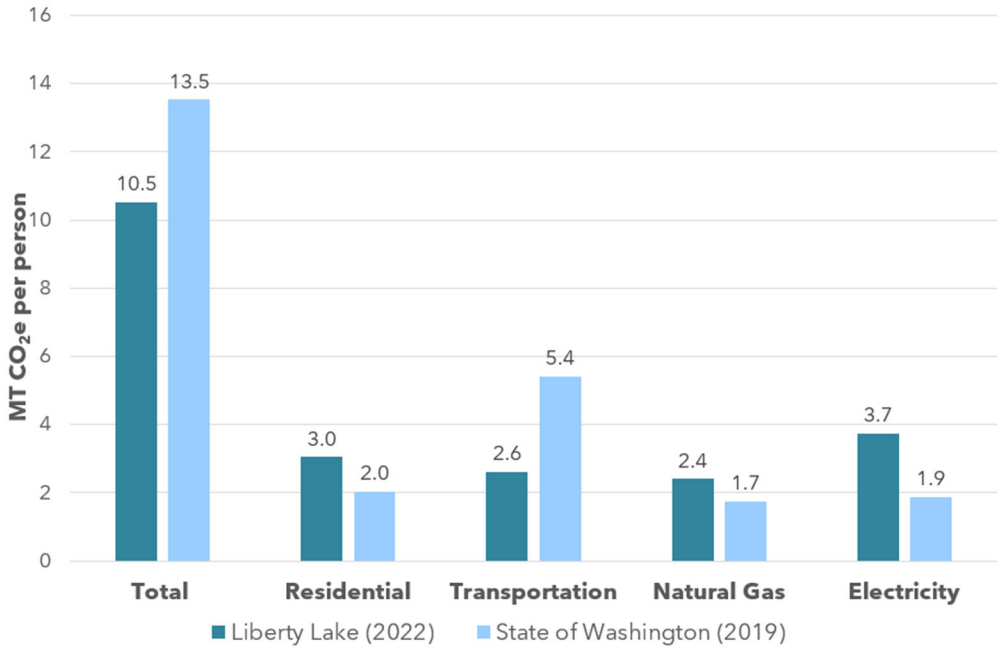


Figure 2. Per Capita Emissions in Liberty Lake and Washington State

Buildings

Building emissions come from the use of electricity, natural gas, and other building fuels such as propane. Communitywide building emissions in 2022 totaled over **78,000 MT CO_2e**, about **62%** of Liberty Lake's local emissions.[5] Figure 3 shows that residential electricity and natural gas use, and commercial electricity use, are the largest drivers of building emissions in Liberty Lake.

[5] Electricity and natural gas emissions are based on Liberty Lake sales data from Avista, and other sources are downscaled from state averages, for more information see section 2.2 Methodology.

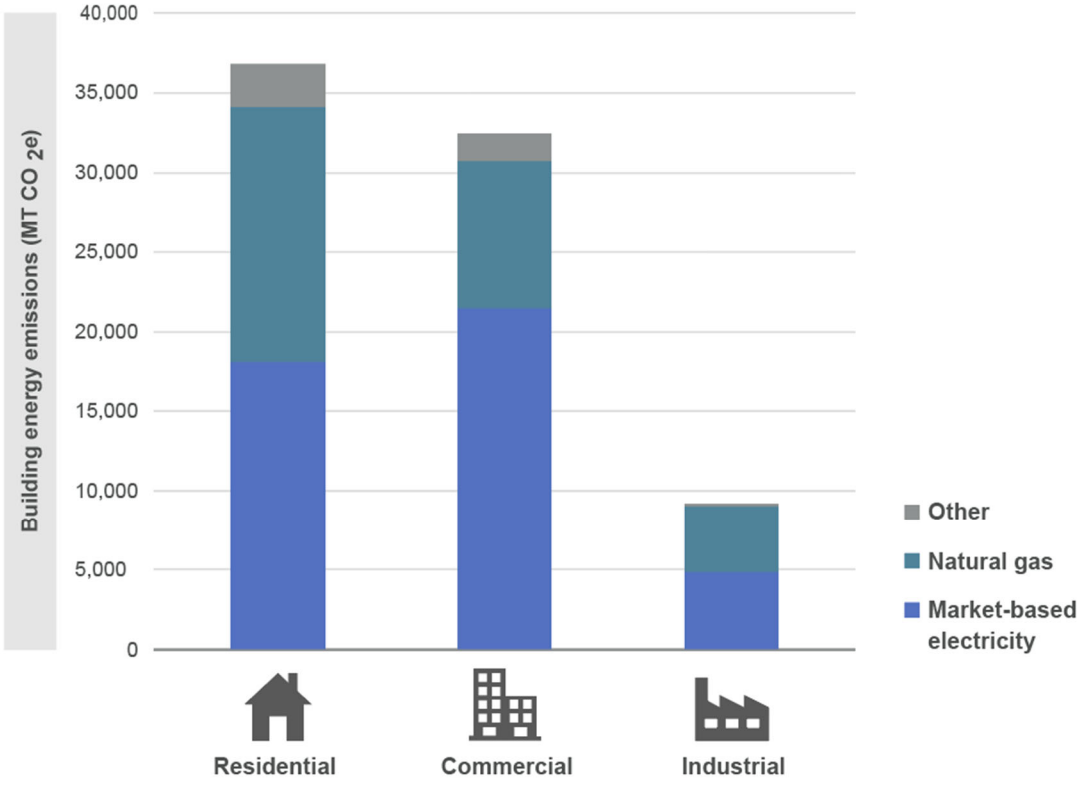


Figure 3. Building Emissions by Building Type and Energy Source

The Washington Clean Energy Transformation Act requires that all electric utilities in the state produce 100% fossil free electricity by 2045. Electricity emissions will decrease over time because of a cleaner electricity grid, but looking at energy usage over time can help Liberty Lake determine whether its buildings are becoming more efficient. Existing buildings can be made more efficient by upgrading appliances and fixtures with energy-efficient options and adding weatherization features such as increased insulation. New buildings can be built to be more efficient with more insulation, better windows, and more efficient HVAC and lighting systems, among other things. Energy efficiency improvements can also save users money, particularly as energy prices increase.

Transportation

Transportation emissions come from the use of fuels such as gasoline and diesel, and from electricity for charging. Communitywide transportation emissions totaled over **31,000 MT CO_2e in 2022**, about **25%** of Liberty Lake's local emissions. Figure 4 shows that the majority of communitywide transportation emissions came from the use of passenger vehicles, followed by freight and off-road vehicles.

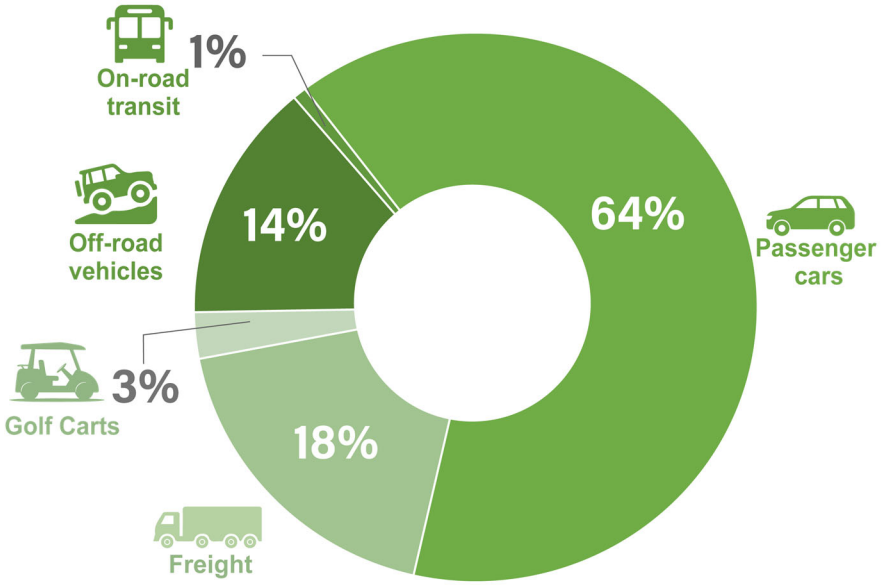


Figure 4. Communitywide Transportation Emissions by Source

One way to measure the intensity of transportation in a jurisdiction is through VMT, which measures the total miles driven by all the vehicles in a given time period (e.g., daily or yearly). **Total annual VMT was estimated to be over 85 million miles** in 2022, with over 95% of those miles from passenger cars, about 4% from freight vehicles, and less than 1% from transit vehicles. Average per capita VMT was estimated to be over **7,000 miles per person**.

The VMT estimate in this inventory includes local traffic (i.e., trips within Liberty Lake's geographic boundary) and passthrough traffic (i.e., trips taken on the stretch of I-90 that goes through Liberty Lake's geographic boundary). While some of those trips are not generated by the Liberty Lake community, the purpose of this inventory is to provide a repeatable measure, against which to measure progress. Reductions in local traffic would lead to a reduction in overall VMT. If future increases in pass-through traffic are so large that they obscure local VMT reduction progress, it would likely be helpful to revisit this methodology.

Waste, Refrigerants, and Land Use

Collectively, emissions from waste, refrigerants, and land use were over **8,000 MT CO_2e**, about **7%**, of local emissions in Liberty Lake in 2022. Waste emissions totaled nearly **5,000 MT CO_2e** and include emissions from solid waste and wastewater. Emissions from solid waste and wastewater result from materials breaking down in the landfill or wastewater treatment facility and releasing methane, a potent GHG. The most common chemical gases in most HVAC and refrigeration equipment are thousands of times more potent than CO_2 at trapping heat in the atmosphere.[6] Emissions from refrigerants totaled over **3,000 MT CO_2e.** Land use emissions were based on fertilizer applications to golf courses and land use changes. These emissions totaled less than **80 MT CO_2e**.

[6] California Air Resources Board – https://ww2.arb.ca.gov/resources/documents/high-gwp-refrigerants

Imported Emissions

Imported emissions refer to the emissions generated outside the area during the production and transport of goods and services that are consumed locally. Imported emissions totaled nearly 140,000 MT CO_2e. The Washington State Department of Commerce does not require communities to report on imported emissions as part of the Climate Element, but doing so provides a more complete picture of Liberty Lake's emissions profile and provides insight into areas where individuals can take action to reduce their carbon footprint (Figure 5). For example, the production of goods is the highest portion of imported emissions. Community members can choose to buy less, buy used, and/or repair and reuse broken items to reduce emissions. For food, meat production—specifically beef production—drives emissions, and community members can reduce their personal carbon footprint by consuming fewer beef products. These examples are included for educational purposes only; the goals and policies included in the Climate Element address local emissions only and do not address imported emissions.

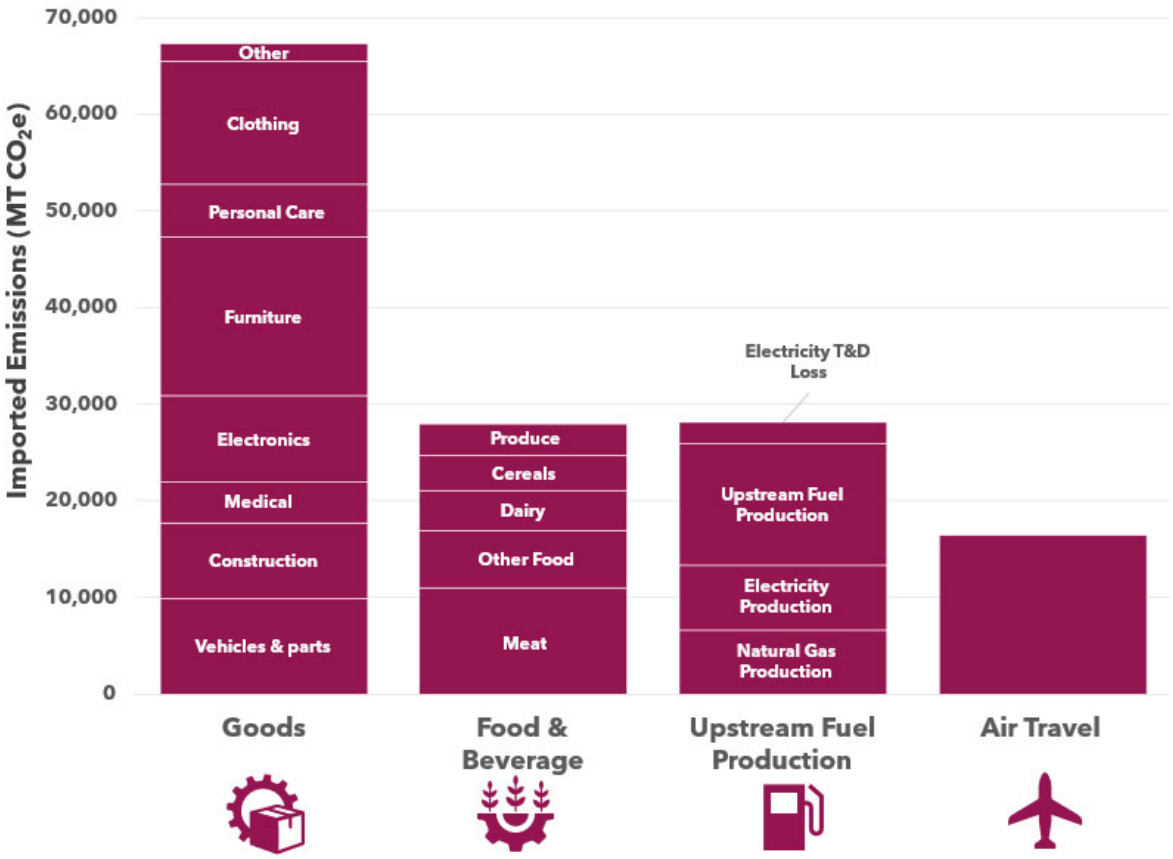


Figure 5. Breakdown of Imported Emissions

2.2 Methodology

Buildings

Includes emissions from electricity, natural gas, and other stationary sources (propane, diesel). Electricity and natural gas usage data were provided by Avista. The emissions associated with electricity use are based on Avista's specific utility emissions intensity, as reported by Avista. This method of electricity emissions accounting is referred to "market-based" accounting. With this method, credit is also given for renewable electricity purchases residents made from the utility. Solar production from rooftop or privately owned solar panels decreases the total kWh purchased from the utility and so represents emissions-free electricity. Propane and diesel usage were estimated based on state averages and scaled down by population.

Transportation

Includes emissions from passenger cars, freight, golf carts, and off-road vehicles.

Passenger car and freight emissions were estimated using Replica software, which provides VMT estimates from cell phone data for a given area. The VMT estimates were then converted to emissions based on passenger car population data from the Washington State Department of Licensing and fuel efficiency estimates from the US Department of Energy. The Spokane Transit Authority provided transit fuel usage data.

Golf cart emissions were estimated based on the number of golf carts in the City's fleet, the City's fuel budget, and golf cart registration data from the City.

Off-road vehicle emissions were estimated based on the statewide inventory and scaled down by population.

Waste and Wastewater

Includes emissions from wastewater treatment and from exported solid waste.

Waste emissions were estimated by entering data from the local wastewater utilities into the U.S. Environmental Protection Agency's (EPA's) Local GHG Inventory Tool.

Waste haulers provided weight (wet short tons) of solid waste collected in Liberty Lake. The EPA FLIGHT tool was used to look up the destination landfill (Greater Wenatchee Landfill), and landfill emissions were estimated proportionally based on tons of solid waste.

Refrigerants

Includes emissions from all high GWP refrigerants.

Refrigerants are used in air conditioners, vehicles, refrigerators, and industrial cooling systems. Liberty Lake refrigerant use was downscaled from EPA data based on population. This estimate is considered of medium accuracy.

Agriculture, Forestry, and Land Use

Includes emissions from agriculture, forestry, and land use change from the conversion of bluegrass land to development and synthetic fertilizer applications to golf courses.

Land use change emissions were calculated based on estimates of previous land area that was assumed to be rangeland. The associated emissions were then calculated using an EPA emissions factor per acre of rangeland converted. This total was averaged over 20 years of development.

Emissions from synthetic fertilizer use were calculated based on fertilizer use and type data from the three golf courses in Liberty Lake.

Imported Emissions

Imported emissions are comprised of the emissions from the production of all the goods, food and beverages, fuel production, and air travel for residents of Liberty Lake. Emissions estimates for goods, food and beverages, and air travel are based on income data from the U.S. Census Bureau and the Berkeley CoolClimate Calculator.

Emissions from upstream fuel production are based on statewide and national fuel production averages for electricity, natural gas, gasoline, and diesel usage.

2.3 Emissions Forecast With Existing State Policies

Forecast

The emissions inventory detailed above gives a snapshot of Liberty Lake's emissions in 2022, but the city is growing quickly and the state has many policies in place that will affect emissions over the next 25 years. Commerce guidance stipulates that the GHG Emissions Reduction Sub-Element, "should be developed with an overall target of reaching net-zero emissions by 2050," which is consistent with Washington's statewide target.[7] To understand where Liberty Lake should focus its policies to coordinate with the state's efforts and fill in any gaps, Figure 6 shows Liberty Lake's forecast emissions through 2050 including population growth and the impacts of state policies. Under this scenario, natural gas and diesel are the primary remaining sources of emissions in 2050.

[7] Climate Element Planning Guidance (p. 42-43) – December 2023 Intermediate Version https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx

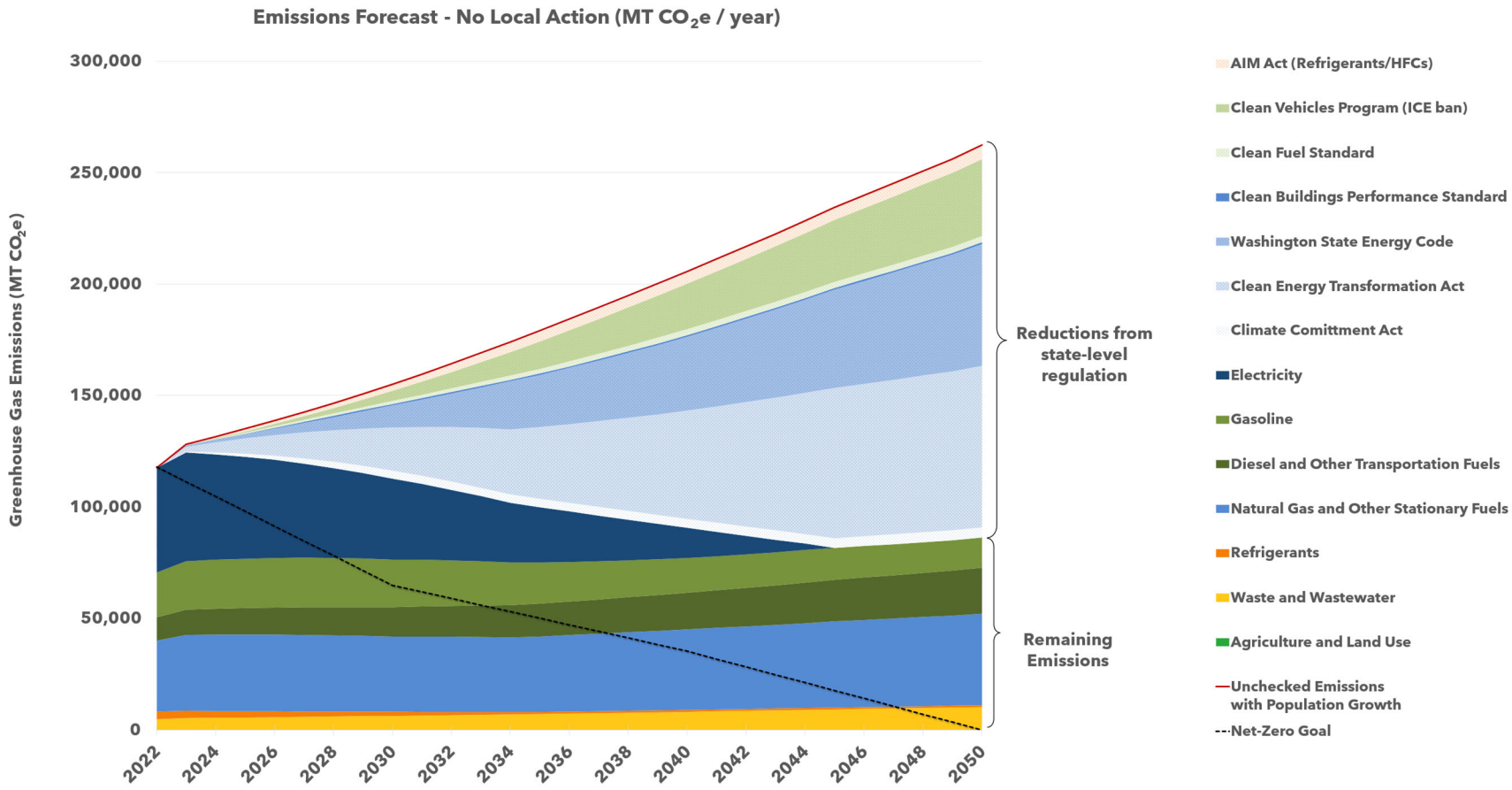


Figure 6. Communitywide Emissions Forecast – 2022–2050[8]

[8] This figure is revised from a previous version and contains a new, more conservative estimate of the effect of the Clean Vehicles Program on the population of electric vehicles and consequent gasoline emissions in Liberty Lake.

- The red line shows Liberty Lake's unchecked emissions growth over time, based on population growth projections. It shows that emissions would be increasing, instead of decreasing, over time.
- State policies that will reduce emissions are shown in the lighter-colored wedges. In 2050, Liberty Lake's emissions are expected to be about 65% lower than projected unchecked emissions if state policies achieve their emissions reduction targets as intended. The list of policies included in the forecast is included below in the Emissions Forecast Methodology section.
- The darker-colored wedges show Liberty Lake's remaining emissions—those emissions that will need to be addressed by local policy and action if they are to be reduced to net zero by 2050 in line with Commerce guidance. Remaining emissions come from gasoline, diesel and other transportation fuels, natural gas and other stationary fuels, refrigerants, and waste and wastewater.

Emissions Forecast Methodology

Unchecked Emissions Growth

The red "Unchecked Emissions with Population Growth" line (Figure 6) represents forecast emissions over time if there were no policy interventions and 2022 emissions grew proportionally with population growth. Growth projections were based on the observed growth rate of 9% in 2023 and forecasted growth rate of 2.1% to 2.5% (based on Spokane County Growth allocations) from 2024 to 2050.

Net Zero by 2050

The black "Net-Zero Goal" line (Figure 6) shows a linear decrease in emissions to reach the goal of net zero by 2050. Net-zero emissions could include some credit for carbon sequestration or the purchase of offsets.

Reductions From Regulation

There are several state policies in place that will reduce emissions from buildings and energy use, transportation, and refrigerants. The effects of these policies were included in the forecast to demonstrate remaining emissions that Liberty Lake will need to address with local policy to reach net zero by 2050 goal.

- Clean Buildings Performance Standard – Aims to improve energy efficiency and reduce GHG emissions from existing large commercial buildings by setting performance standards and requiring energy use benchmarking.
- Clean Fuel Standard – Requires fuel suppliers to gradually reduce the carbon intensity of transportation fuels to 20% below 2017 levels by 2034.
- Clean Energy Transformation Act – Requires all electric utilities in the state to transition to 100% clean electricity by 2045. It sets interim goals of eliminating coal-fired electricity by 2025 and achieving a GHG-neutral electricity supply by 2030, promoting cleaner energy and environmental justice.
- Clean Vehicles Program rule – A state target to phase out the sale of new gasoline-powered passenger vehicles by 2035. This policy promotes the adoption of electric vehicles to reduce air pollution and GHG emissions from the transportation sector.

- Climate Commitment Act (CCA) – Established a cap-and-invest program that sets a statewide limit on GHG emissions, which declines over time. The goal of the CCA is to help reduce GHG emissions by 95% by 2050.[9] It requires large emitters to purchase allowances at auction and reinvests the proceeds into programs that support clean energy, climate resilience, and environmental justice.
- Washington State Energy Code – Sets efficiency standards for new residential and commercial buildings, requiring features such as improved insulation, efficient heating systems, and electrification of space and water heating.
- Washington State HFC Regulations – WAC 173-443 restricts the use of hydrofluorocarbons (HFCs) and other fluorinated gases with a Global Warming Potential of more than 150. It also prohibits the manufacture and sale of products containing restricted refrigerants in Washington State. The state estimates that this will decrease HFC emissions by 75% by 2035.[10]

Remaining Emissions in 2050

The remaining emissions include those from natural gas and other stationary fuels, gasoline, diesel and other transportation fuels, waste and wastewater, and refrigerants. In order to achieve zero emissions, the City will need to target the darker-colored emissions above the black line in Figure 6. Local policies and actions will be needed to reduce these remaining emissions to achieve net-zero emissions by 2050.

2.4 Climate Element Targets

Commerce Requirements

Liberty Lake's Climate Element was developed between April 2024 and June 2025 based on the Intermediate Planning Guidance issued by Commerce in December 2023.[11] The GHG Emissions Reduction Sub-Element requires the following.

Overall reduction in GHG emissions from transportation and land use without increasing emissions elsewhere in Washington.

The top emissions sources in Liberty Lake are building energy (62% of local emissions) and transportation energy (25% of local emissions). To ensure that Liberty Lake can reach its emissions targets, policies that affect buildings, land use, and transportation are included here. Transportation policies include policies to reduce VMT and to switch fuels to lower-carbon options.

[9] The CCA established a goal of reducing Washington State's GHG emissions by 95% by 2050, while Commerce guidance directs cities and counties to develop the GHG Emissions Reduction Sub-Element with an overall target of reaching net-zero emissions by 2050 (Climate Element Planning Guidance (p. 42) – December 2023 Intermediate Version https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx)

[10] Washington State HFC Page: Hydrofluorocarbons - Washington State Department of Ecology

[11] Climate Element Planning Guidance – December 2023 Intermediate Version https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx

Per capita reduction in VMT without increasing emissions elsewhere in Washington.

In 2008, Washington State established statewide per capita VMT reduction benchmarks, which are codified in RCW 47.01.440.3. These benchmarks were established relative to a forecast 2020 VMT baseline for passenger vehicles (motorcycles, cars, SUVs, and pickup trucks) estimated at 75 billion minus the VMT from vehicles over 10,000 pounds. These targets call for an 18% reduction in VMT per capita by 2020, a 30% reduction by 2030, and a 50% reduction by 2050.

The climate element—combined with the land use and transportation elements—include policies designed to reduce Liberty Lake's VMT while improving the transportation system and quality of life.

Prioritize reductions that benefit vulnerable and overburdened communities to maximize the co-benefits of reduced air pollution and environmental justice.

Climate change disproportionately impacts populations with health-related sensitivities, as well as vulnerable populations such as the very young, the elderly, and people with lower incomes.[12] Therefore, it is important to consider and consult these populations specifically when designing climate strategies.

Report progress on implementation every 5 years.

Commerce guidance states that jurisdictions should use 2022 as their emissions baseline year and set incremental targets that lead to achieving net-zero emissions in 2050, consistent with Washington's statewide target. Reports to Commerce must detail progress implementing policies to reduce emissions and per capita VMT to achieve local goals and targets. Reporting can include both quantitative and qualitative reporting.

The GMA requires cities, counties, and Commerce to report progress toward implementing Comprehensive Plan commitments and goals. Cities and counties must provide Commerce with an implementation report that details progress achieved 5 years after updating their Comprehensive Plan, including the climate element. The estimated cost for collection, analysis and reporting as required by Commerce is estimated to cost $45,000 to $50,000 per reporting cycle, in today's dollars. Any updating of goals, policies, and specific implementation strategies, as may be needed due to underperformance, would require additional resources. Reporting every 5 years strikes a good balance between administrative cost and time and sufficient monitoring to understand progress or lack thereof. The City could opt to assess progress more frequently dependent on available funding and staff resources.

Commerce must evaluate and report on the impact adopted climate elements have had on local GHG and VMT reduction goals and include this information in guidance published after 2025. The evaluation will reference information from the 5-year progress reports and, at a minimum, include results from local emissions inventories and an index of climate elements with a correlation of impacts on local emissions.

To track progress toward the goal of net-zero emissions by 2050, Commerce guidance states that, "When tracking progress, targets should be evaluated on a total and per capita basis so that progress is not masked by population growth."[13]

[12] ibid.

[13] Climate Element Planning Guidance (p. 43) – December 2023 Intermediate Version https://deptofcommerce.app.box.com/s/fpg3h0lbwln2ctqjg7jg802h54ie19jx

Outreach Efforts

Outreach for the Climate Element is ongoing and is intentionally seeking input with a focus on vulnerable and overburdened populations and the broad array of viewpoints and needs present in the community. Specifically, the outreach team is scheduling targeted focus groups with the following identified communities:

- Retirement age adults.
- Lower-income individuals.
- Youth.
- Community members for whom English is not their first language.

The project team also conducted two workshops focused on building and transportation emissions and invited participants from across the community who have a stake in Liberty Lake's building and land use planning or transportation systems.

In accordance with climate element guidance, the City assembled the Climate Policy Advisory Team: a group of Liberty Lake residents that was assembled through an open and advertised selection process. The team has been working to ensure that the policies included in the Climate Element are consistent with needs and goals of the Liberty Lake community.

Finally, the City has been reaching out to representatives of citizens who may not be inclined to support climate action to ensure that their concerns are taken seriously.

Setting Targets

Even with the estimated maximum reductions from the policies currently under consideration, the City is not projecting the ability to reduce emissions linearly to zero by 2050. The City's future development is nearly entirely entitled, it is not a utility provider, and it is a relatively small member of the regional transportation system; all of these factors reduce its ability to affect its overall emissions. The City has a strong role to play in public education and in using its permits and fees to encourage and incentivize changes in purchases and behavior. Given that the technological and social landscapes are both rapidly changing, it is likely that some reductions that are difficult or impossible to achieve now will be within reach in the coming decades. **Therefore, targets for this current Comprehensive Plan are in line with currently achievable reductions.** Current policies are also designed to leverage future reductions when they become achievable.

3. Emissions Reduction Goals

3.1 Sources of Significant Remaining Emissions and Reductions Potential

The goals and policies in the GHG Emissions Reduction Sub-Element are intended to reduce the local emissions that are not addressed by state or federal policy, including emissions from buildings, transportation, and waste. This section discusses the emissions sources that will not be fully addressed by state-level actions and provides an estimate of the reduction potential of (currently technologically achievable) actions, termed "scaled measures" in this report. The quantitative results presented in Table 1 assumes best-case implementation of actions to decrease building, transportation, and other emissions.

Table 1. Emissions Reductions by Measure

Scaled Measure #	Scaled Measure Name	Total Emissions Reduction (MT CO_2e)[14]
B-1	Building Efficiency	108,000
B-2	Building Electrification	147,000
B-3	Solar Installation	217,000
T-1	Densification	21,000
T-2	Multifamily EV	107,000
T-3	City Fleet Conversion	2,000

Buildings

After state and federal policies are factored in, the largest source of remaining emissions from buildings is natural gas usage. In most buildings, the biggest end uses for natural gas are space and water heating. Best practices to reduce emissions from natural gas include wide-ranging efficiency measures, switching from gas furnaces and water heaters to electric heat pumps and heat pump water heaters, and solar installation.

Existing Building Efficiency

Over the course of the next 20 years, if all the homes in Liberty Lake were to be upgraded to the greatest possible efficiency (reducing both natural gas and electricity usage), Liberty Lake homes could decrease emissions by 108,000 MT CO_2e. (Scaled Measure B-1.)

Efficiency measures include weatherization, upgraded water heating insulation and optimization, and upgraded appliances such as air conditioners, clothes dryers, electronics, food preparation, refrigeration, conventional heaters, and lighting. All appliance upgrades are assumed to occur at the end of the appliance's natural life.

If in addition to efficiency upgrades, Liberty Lake also upgraded all residential natural gas air and water heating to energy-efficient electric heat pumps, at the end of the existing appliance's life, an additional 147,000 MT CO_2e could be saved. (Scaled Measure B-2.)

Rooftop Solar

For electrification to provide the maximum potential GHG reductions, the electricity must be as low emissions as possible. While statewide regulations are driving down the emissions associated with utility-provided electricity, Liberty Lake can reduce its emissions sooner, reduce electricity costs, and increase resilience by installing rooftop solar on as many rooftops as are cost-effective over the life of the panel. Project Sunroof[15],which analyzes the solar potential of roofs based on angle of exposure, surrounding vegetation, and local climate, estimates that Liberty Lake could generate up to 162,000 MWh of solar energy per year. This is in excess of the 145,000 MWh of electricity that the city currently uses, including commercial and industrial uses. If Liberty Lake were to install all

[14] These numbers are revised from a previous version.

[15] https://sunroof.withgoogle.com/

current solar capacity (excluding future development) over the next 20 years (5% per year), 217,000 MT CO_2e could be saved. (Scaled Measure B-3)

Transportation

After state and federal policies are considered, the largest sources of remaining emissions from transportation are emissions from gasoline and diesel usage in passenger vehicles and freight vehicles. Best practices to reduce emissions from transportation include (1) decreasing VMT, (2) switching from gasoline-powered cars to electric vehicles (EVs), and (3) using lower-carbon diesel alternatives.

VMT Reduction

For Liberty Lake, many of the measures to reduce VMT are achieved through land use and transportation design. VMT reduction will become increasingly disconnected from transportation emissions as zero-emission vehicles become more common over time, but VMT reduction remains a standalone goal as part of the Climate Element.

Liberty Lake's planned infill and entitled development will increase the city's density. When cities are denser, people are closer to the places where they need to go each day, reducing their need to drive. More density also means that services such as public transit are more effective and convenient. If density increases proceed as planned, Liberty Lake can expect a future decrease of 21,000 MT CO_2e due to VMT reduction alone. (Scaled Measure T-1.)

Electric Vehicles

The switch to EVs is being mandated by the state, but the City can help make that switch easier and more convenient by increasing the availability of EV chargers (especially in multifamily housing that predates new building codes) and by converting its own fleet.

Residents of multifamily housing have a lower rate of EV adoption than those living in single-family homes.[16] One possible reason is due to the relative difficulty of charging at home without a dedicated garage or driveway to charge in. Especially in the future as the costs of new EVs come down and used EVs become more available, the ease of at-home charging will become an important driver of EV adoption rates for multifamily residents. If Liberty Lake were to increase charging capacity at existing multifamily housing such that multifamily residents were as likely to adopt EVs as single-family residents, they could save up to 107,000 MT CO_2e. (Scaled Measure T-2.)

In addition, if Liberty Lake were to convert its own fleet of vehicles from gas to electric, it could save 2,000 MT CO_2e, assuming that vehicles are converted at the end of their natural lives and that only those with appropriate battery replacements are converted (light and medium duty). (Scaled Measure T-3.)

Cumulative Effect

The above actions decrease remaining emissions in 2050 by an additional 34% over state actions, but they do not achieve the zero-by-2050 goal set by the state (Figure 7). They do, however, come very close to achieving interim 2035 targets. As alternative technologies and fuels become available, Liberty Lake will be able to continue to adapt its policies to reduce its emissions.

[16] Plug in America, "The Expanding EV Market: Observations in a year of growth", 2022 https://pluginamerica.org/wp-content/uploads/2022/03/2022-PIA-Survey-Report.pdf

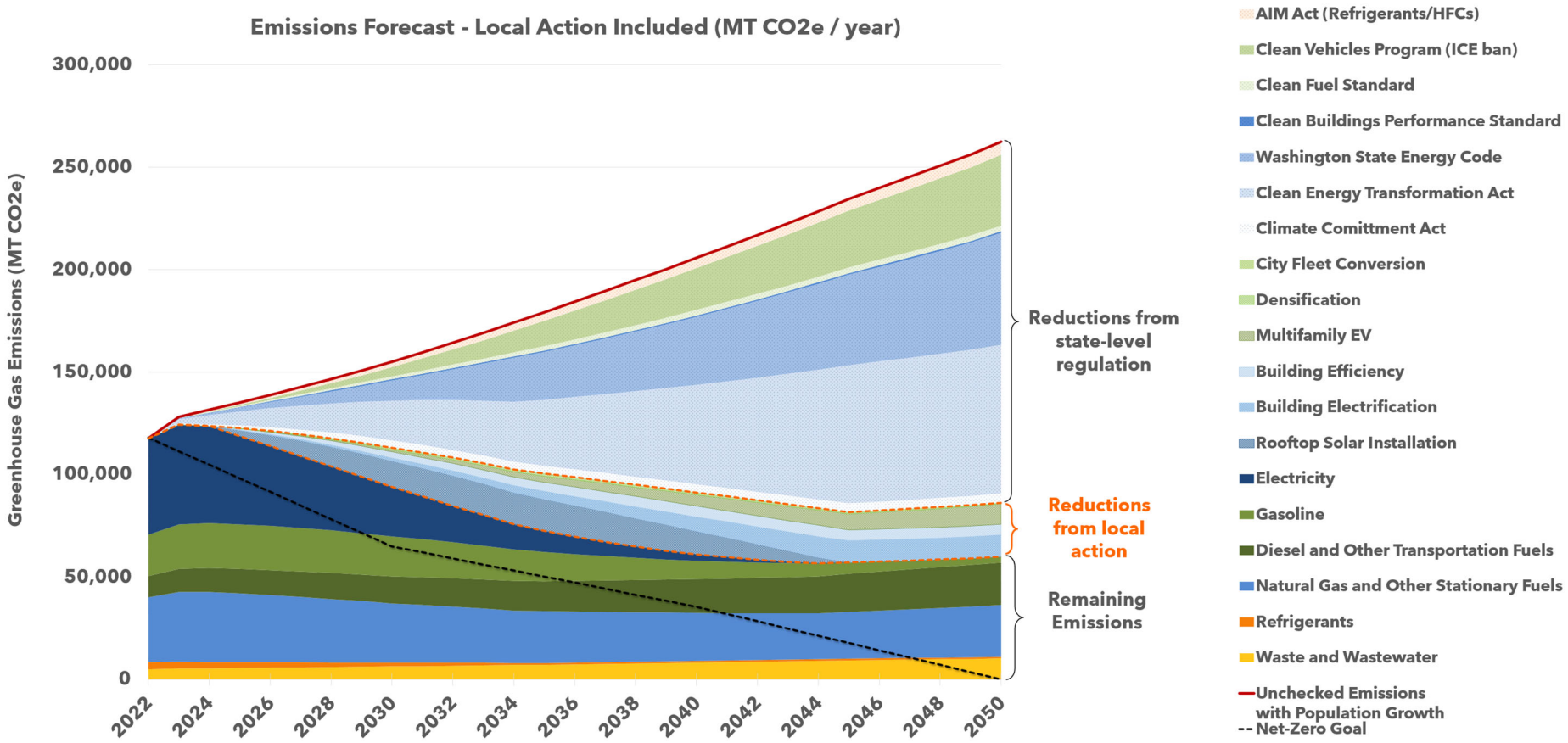


Figure 7. Emissions Reductions from Local Actions

Annual Reduction Targets

Despite action from the state as well as actions from Liberty Lake, The policies contained in this document are not expected to lead to net zero by 2050 without other substantial changes in both technology and legislation.

These targets are set to allow Liberty Lake to track their progress through time and to take advantage of new mitigation opportunities as they come up. Positive reduction values indicate an increase in emissions due to population growth.

Table 2. Annual Reduction Targets

Year	Total Remaining Emissions (MT CO_2e)	% Reduction from 2022	% Reduction from projected with population growth	% Reduction in per-capita emissions
2022	118,004	0%	0%	0%
2023	124,078	5%	-3%	-2%
2024	123,375	5%	-6%	-5%
2025	118,558	0%	-12%	-11%
2026	113,749	-4%	-18%	-17%
2027	108,860	-8%	-23%	-22%
2028	103,901	-12%	-29%	-28%
2029	98,959	-16%	-34%	-33%
2030	93,961	-20%	-39%	-38%
2031	89,459	-24%	-44%	-42%
2032	84,972	-28%	-48%	-46%
2033	80,507	-32%	-52%	-51%
2034	76,072	-36%	-56%	-54%
2035	72,914	-38%	-59%	-57%
2036	70,235	-40%	-62%	-60%
2037	67,824	-43%	-64%	-62%
2038	65,677	-44%	-66%	-64%
2039	63,786	-46%	-68%	-66%
2040	62,147	-47%	-70%	-68%
2041	60,892	-48%	-71%	-69%

Year	Total Remaining Emissions (MT CO_2e)	% Reduction from 2022	% Reduction from projected with population growth	% Reduction in per-capita emissions
2042	59,787	-49%	-72%	-71%
2043	58,986	-50%	-73%	-72%
2044	58,488	-50%	-74%	-73%
2045	59,077	-50%	-75%	-73%
2046	59,536	-50%	-75%	-73%
2047	60,032	-49%	-75%	-74%
2048	60,562	-49%	-76%	-74%
2049	61,128	-48%	-76%	-74%
2050	62,045	-47%	-76%	-75%

3.2 Climate Element GHG Goals

The draft GHG Emissions Reduction Sub-Element includes eight goals across six focus areas. Goals are based on the Commerce Menu of Measures and were updated to fit the Liberty Lake context based on feedback from City staff and the Climate Policy Advisory Team. This section provides the rationale behind the inclusion of the draft goals and sub-goals. Table 3 through Table 8 provide a summary of the draft goals and sub-goals. *Note: None of the goals or policies in the GHG Sub-element are standalone or "silver bullet" solutions. Meeting the goal of net zero by 2050 will require coordinated efforts across sectors, creative use of the tools and mechanisms at the City's disposal, and further technological advances.*

What is required?

As required by the Department of Commerce, the Climate Element is one of several elements of the Comprehensive Plan update. The policies included in the GHG Sub-Element must reduce VMT per capita, reduce GHG emissions overall, and do so in a way that does not unjustly burden already struggling communities. Many of the policies included in this element tie into other parts of the Comprehensive Plan update including Housing, Land Use, Transportation, and Natural Environment. In addition, new State building codes put out by Commerce also bolster the GHG reduction goals set out in this document.

What role can the City play?

Incentivize

The main way that the City can incentivize change is through permitting and plan review fees. Permit-based incentives often offer fee discounts for desired outcomes such as energy-saving features in buildings. In this way, the City can offer financial benefits and endorse climate-friendly actions.

Educate

The City has a role in informing and educating its residents. The City can hold events and conduct outreach at events.

Partner

There are many regional actors that the City can work and collaborate with to achieve its goals; local utilities, water and sewer purveyors, schools, builders, and transit agencies all have a role to play, and the City can partner with them to decrease GHG emissions.

Support

For some issues where the City does not have direct control over operations and outcomes (such as wastewater), the City can officially support GHG reduction measures and make it a policy to speak out in favor of such policies.

Lead by Example

The City should lead by example by implementing climate-friendly reforms within its own operations. This has the dual advantage of lowering the City's operational emissions and being an ambassador for lower emissions policies.

3.3 Building Energy Reductions

Existing Buildings

Existing buildings are and will remain the biggest source of GHG emissions for Liberty Lake—now and in the future. Building energy emissions come from the use of electricity and natural gas appliances. As mentioned, electricity emissions are expected to decrease to zero by 2045 to comply with the Washington Clean Energy Transformation Act. This means that remaining emissions will be primarily from the use of natural gas.

Space and water heating are the primary end uses for natural gas. On average, 33% of natural gas used in residential buildings is used for space heating and 36% for water heating.[17] In commercial buildings, 57% of natural gas is used for space heating and 14% for water heating.[18] Switching from gas-powered furnaces and water heaters to electric heat pump and heat pump water heater options as those appliances reach the end of their useful life provides the biggest opportunity to decrease natural gas emissions. Switching from gas-powered appliances to electric appliances is known as *building electrification*.

Heat pumps result in efficiency gains because they work by transferring heat instead of generating it. Heat pumps can reduce electricity use for heating up to 75% compared to electric resistance heating such as furnaces and baseboard heaters, saving energy and money.[19] New models of heat pumps

[17] Residential Energy Consumption Survey 2020 survey data, Table HC 1.8, Total West averages.

[18] Commercial Buildings Energy Consumption Survey 2018 survey data, Table E8, Total West averages.

[19] Energy.Gov – Heat Pump Systems: https://www.energy.gov/energysaver/heat-pump-systems

are rated to work down to -5˚F, and so they can function effectively, even in Liberty Lake's cold winters.[20]

In addition to using the most efficient technology, improvements can be made by weatherizing existing buildings. Even with homes built as recently as 1990, efficiency improvements can significantly cut energy usage.

To support efficiency improvements in existing buildings, the City can educate the community, partner with other organizations to promote energy efficiency programs (e.g., Avista or Spokane Neighborhood Action Partners), and/or offer incentives by reducing or waiving permit fees for high-efficiency equipment (e.g., electric heat pumps).

New Buildings

Liberty Lake is a growing community, and there is an opportunity to reduce future emissions by making sure that new buildings are built to be as energy efficient as possible.

Liberty Lake encompasses an area of approximately 4,001 acres, or just over 6.25 square miles. As of August of 2024, the city had a total of 5,021 parcels of land. The vast majority of vacant residential and mixed-use lands within the city are already approved for development, either through an approved preliminary plat or an approved binding site plan. Based upon population and development trends within the city, Liberty Lake is expected to reach full buildout within the next 20 years.[21]

The Washington State Energy Code is set by the Washington State Building Code Council and is typically updated every 3 years. It is based on the International Energy Conservation Code and includes state-specific amendments to meet Washington's energy efficiency goals. Local jurisdictions are required to enforce the state energy code and cannot adopt a less stringent code.

As with existing buildings, the City can educate about and/or incentivize the adoption of efficient technologies such as electric heat pumps and heat pump water heaters to increase energy efficiency in new buildings,

Streetlights and Traffic Signals

Streetlights and traffic signals are big electricity users and improving their efficiency will help to reduce communitywide emissions. This can be done by upgrading streetlights and traffic signals from high-pressure sodium (HPS) options to light-emitting diode (LED) options when it's time to replace them. LED options have become increasingly more affordable due to technological advancements and increased production volume, resulting in lower upfront costs and lower energy bills for consumers due to efficiency gains from LED bulbs.

Additionally, the City could consider pursuing Dark Sky Certification through Dark Sky International – an organization that supports and advocates for reducing light pollution and its negative effects on wildlife, human health, energy usage, and aesthetics. Because many of the lighting codes were already developed with Dark Sky compliance in mind, gaining certification is not expected to require major changes in existing code.

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[20] DOE Factsheet on Air Source Heat Pumps: https://www.energystar.gov/sites/default/files/asset/document/ES_ASHPs_Factsheet_2023_508.pdf

[21] Liberty Lake Land Capacity Analysis: https://www.libertylakewa.gov/DocumentCenter/View/8795/Land-Capacity-Analysis-Tech-Memo---v-2-4-2025?bidId=

Local Renewables – Solar

The energy emissions reductions outlined above all require shifting from a fossil fuel (such as natural gas) to electricity. However, realizing the maximum emissions reductions requires a zero-emissions electricity grid. The Washington Clean Energy Transformation Act requires utilities to transition to 100% clean electricity by 2045, but Liberty Lake can play its part in facilitating this transition and make progress more quickly by increasing local solar generation.

Additional benefits to increased local solar generation, especially if it incorporates battery storage, include increasing resilience by providing a source of energy when the regional grid is unavailable and saving money on energy over time.

The City can help to increase local solar generation by installing solar on its own facilities, partnering with other public entities to install solar on public buildings, educating homeowners and realtors, and partnering with Avista on local projects and incentive options.

Building Energy Reduction Goals

Table 3. Building Energy Reduction Goals and Sub-Goals

Goal 1	**Encourage buildings to use renewable energy, conserve resources, and implement efficient technologies and practices to reduce greenhouse gas emissions.**
Sub-goal 1.1	Increase community awareness of energy efficiency measures and benefits.
Sub-goal 1.2	Make existing buildings more energy efficient.
Sub-goal 1.3	Make future buildings more energy efficient.
Sub-goal 1.4	Increase efficiency of streetlights and traffic signals
Goal 2	**Promote solar electricity generation and storage.**
Sub-goal 2.1	Install solar on public buildings.
Sub-goal 2.2	Promote solar on private buildings.
Sub-goal 2.3	Increase small-scale battery storage to pair with local solar generation.

3.4 VMT Reductions

As mentioned, one of the requirements of the Climate Element is that it results in reductions in per capita VMT without increasing emissions elsewhere in the state. Per capita VMT reductions can be achieved through a variety of actions and policies that affect land use, active transportation, and public transit. Many of the goals that support reducing VMT align with other elements of the Comprehensive Plan, such as the Housing, Land Use, and the Transportation Elements.

Land Use

One way to reduce VMT is to make it so that people are closer to the places they need to go by fostering higher-intensity land uses in mixed-use development and transit corridors. This can be accomplished by supporting land use changes that increase density, improve transportation network connectivity, and site key community locations such as schools closer to where people live.

This is a collaboration with the Land Use Element.

Active Transportation

Another way to reduce VMT is to increase the number of trips that are taken via active transportation modes such as walking or biking instead of in cars. This means improving safety and connectivity by improving and expanding the sidewalk network, bike lanes, bike paths, and bike parking facilities to ensure that people feel safe and comfortable traveling outside of their cars. People are also most likely to walk or bike if their destination is closer (see the Land Use section above).

Public Transportation

Public transportation is a regional service provided by Spokane Transit Authority (STA). Liberty Lake can support increased transit ridership by partnering with STA to provide free or reduced-cost fares, increase service frequency, provide better routes, and educate the community about STA's service offerings.

VMT Reduction Goals

Table 4. VMT Reduction Goal and Sub-Goals

Goal 3	Reduce vehicle miles traveled to achieve greenhouse gas reduction goals.
Sub-goal 3.1	Foster higher-intensity land uses in mixed-use development and transit corridors.
Sub-goal 3.2	Increase housing diversity and supply within urban growth areas to reduce greenhouse gas emissions and support environmental justice.
Sub-goal 3.3	Partner with STA and support improvements to public transit reliability and convenience.
Sub-goal 3.4	Improve the active transportation network.

3.5 Remaining Transportation Emissions Reductions

Even with VMT reductions, Liberty Lake will not meet its goal of net-zero emissions by 2050 without reducing remaining transportation emissions from passenger cars, freight vehicles, and off-road vehicles. Reducing remaining transportation emissions will require electrification of vehicles and use of renewable fuels such as renewable diesel.

Electric Vehicle Charging

Washington's Clean Vehicles Program rule sets a target to phase out the sale of new gasoline-powered passenger vehicles in Washington State by 2035. Currently, a vast system of gas stations supports gas-powered cars. With more EVs on the road, additional infrastructure is required to ensure that drivers feel confident that they will be able to charge EVs quickly and conveniently. Many people can and do charge at home, but at present this is more difficult for people who live in multifamily housing. Building codes require that *new* multifamily housing provides more EV infrastructure, but that still leaves over 1,600 *existing* units underserved. Making it easy for multifamily residents to charge at home will support the transition to EVs.

The City can support EV adoption by educating residents and supporting EV infrastructure projects, particularly at multifamily housing.

Renewable Diesel (R99)

Some vehicle types are more difficult to electrify than others. For very heavy-duty vehicles and some other specialty vehicles, affordable or feasible electric options do not exist yet. For these vehicles and while the fleet is electrifying, there are renewable fuel options. Renewable diesel (R99) is chemically equivalent to fossil diesel and can be used as a "drop-in fuel" in nearly all engines that run on conventional diesel. This product is different from biodiesel that must be blended (usually 5%, also known as B5) with fossil diesel to avoid engine damage.

The Climate Commitment Act (CCA) established a Cap-and-Invest program that sets a statewide limit on GHG emissions, which declines over time to help meet the state's climate goal of reducing GHG emissions by 95% by 2050. While R99 has not been previously widely available in Washington, it is commonly used in California and Oregon. Because the Cap-and-Invest program in Washington is subsidizing the market, the supply of R99 in Washington is expected to increase substantially, especially once planned refineries in the Pacific Northwest come online.

The City can directly ask its fuel suppliers to provide R99 and provide education to local fuel distributors to do the same. It can also stay up to date on emerging technologies like hydrogen fuel and support those options as they become more available and affordable.

Transportation Emission Reduction Goals

Table 5. Transportation Emissions Reduction Goals and Sub-Goals

Goal 4	**Increase electric vehicle (EV) adoption.**
Sub-goal 4.1	Provide education about EVs, including education about life cycle emissions and batteries.
Sub-goal 4.2	Expand alternative fueling infrastructure, including but not limited to EV charging infrastructure.
Goal 5	**Explore opportunities for renewable diesel blends.**
Sub-goal 5.1	Provide education about renewable diesel blends.

3.6 Natural Spaces and Local Biodiversity

As a relatively small and suburban geographic area, carbon sequestration opportunities are limited. However, preserving and enhancing natural spaces and local biodiversity will provide cooling relief in the height of summer and sequester a small amount of carbon.

There are more goals and policies about protecting natural resources in the Resilience Sub-element, but for the purposes of the GHG Sub-element, the City can support natural spaces and local biodiversity by requiring open space set-asides for new development, improving and expanding urban forest management, and maximizing tree canopy coverage in parking lots.

Table 6. Natural Spaces And Local Biodiversity Goal

Goal 6	Protect local biodiversity, such as fire-resistant trees, to boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities.

3.7 Waste and Wastewater

Waste and wastewater are projected to increase through time as Liberty Lake grows. The main way to decrease waste emissions is by decreasing waste. Waste reduction has multiple benefits including cost reduction, reduction of upstream emissions involved in producing food and goods, reduced landfill emissions, and extension of the life of current landfills.

Wastewater treatment is a source of potent methane and nitrous oxide GHG emissions. Programs that capture methane from wastewater can have a double benefit of reducing emissions and producing renewable natural gas that can be used in place of fossil natural gas.

The City can support waste and wastewater emissions reduction by educating the community about waste reduction, partnering with solid waste haulers to increase waste diversion efforts, and supporting new waste diversion programs (e.g., composting, recycling for construction and demolition debris).

Table 7. Waste and Wastewater Goal and Sub-Goals

Goal 7	Develop targeted campaigns for reducing and managing waste to reduce GHG emissions.
Sub-goal 7.1	Provide education about reducing waste.
Goal 8	Reduce emissions from waste and wastewater.
Sub-goal 8.1	Reduce emissions from solid waste.
Sub-goal 8.2	Reduce emissions from wastewater treatment.

3.8 City Operations

The City of Liberty Lake can lead by example by adopting lower-emission practices in its own operations to reduce emissions from buildings and energy use, fleet fuels, employee commutes, supply-chain purchasing, and waste management.

Maintaining continuity of essential City services is critical, particularly during an emergency. The City should refer to the Hazard Mitigation Plan to ensure that operational changes do not impede the City's ability to maintain essential services in case of emergency (e.g., preserving backup power and fueling options).

Table 8. City Operations Goal and Sub-Goals

Goal 9	Reduce emissions from City operations.
Sub-goal 9.1	Reduce emissions from City buildings and energy use.

Goal 9	Reduce emissions from City operations.
Sub-goal 9.2	Convert public fleets to zero-emission vehicles and develop supporting infrastructure and programs (e.g., charging stations).
Sub-goal 9.3	Reduce emissions from employee commute.
Sub-goal 9.4	Reduce supply chain emissions from City operations and purchasing.
Sub-goal 9.5	Increase recycling at City facilities.

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APPENDIX "D"

Emission Reduction Measures Integration Table (*for all pathways*)							
Goal *(Note your goals in this column.)*	**Policy** *(Note your policies that support the applicable goals in Column A.)*	**Minimum Requirements** *(Note the Minimum Requirement(s) that the measure addresses [select all that apply].) OPTIONS: Requirement 1: Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington; Requirement 2: Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse*	**Sector** *(Note the sector(s) that the measure addresses [select all that apply].) OPTIONS: Buildings & Energy, Cultural Resources & Practices; Economic Development; Emergency Management; Health & Well-being; Ecosystems; Transportation; Agriculture & Food Systems; Waste Management; Water Resources; Zoning & Development*	**Co-benefits** *(Note the measure's co-benefits [select all that apply].) OPTIONS: reduces emissions; sequesters carbon; enhances resilience; improves salmon recovery; promotes economic development; promotes equity and justice; provides cost savings; provides ecosystem services; protects tribal treaty rights; improves health and wellbeing; improves air quality; builds community knowledge; supports housing supply and diversity*	**Menu of Measures Nexus** *(If you use a goal or policy from Commerce's Menu of Measures, note the measure number here.)*	**Notes** *(If desired, note changes to your development regulations to help your jurisdiction implement this policy.)*	**Metric to evaluate success** *(Note how achievement of goal can be measured at the goal level)*
Goal 1	Encourage buildings to use renewable energy, conserve resources, and implement efficient technologies and practices to reduce greenhouse gas emissions.						kWh and therms per capita, per housing unit, and overall
Sub-goal 1.1	Increase community awareness of energy efficiency measures and benefits.						
Policy 1.1.1	Provide cost savings and emissions-reduction marketing campaigns, educational workshops, activities, and engagement opportunities (e.g., Energy Fair), especially those that prioritize vulnerable communities.	1,3	Buildings and Energy	Reduces emissions Enhances resilience Provides cost savings Builds community knowledge Supports housing supply and diversity	Policy ID# X.05	Language modified to include cost concerns and spell out specifics and use language that is locally palatable	
Sub-goal 1.2	Make existing buildings more energy efficient.						
Policy 1.2.1	Partner with public and not-for profit agencies to promote programs that provide for the preservation and weatherization of older housing stock in cost-burdened communities (e.g., seniors and lower income households, etc.) to reduce emissions and increase resilience.	1,3	Buildings and Energy	Reduces emissions Improves health and wellbeing Enhances resilience Provides cost savings Builds community knowledge Supports housing supply and diversity	Policy ID# F.02	Changes made reflect the local character, specifically the omission of "particularly at higher densities" because there are not areas of higher density that are in need of preservation. Also added specific reference to partnerships which will be necessary in a smaller city such as Liberty Lake as well as a callout for the specific groups that are in need of extra attention: seniors and low income.	
Policy 1.2.2	Support and expand low-cost energy audit programs offered by partners such as Avista and Spokane Neighborhood Action Partners (SNAP). Identify barriers to utilizing existing programs and ways to address them.	1,3	Buildings and Energy	Reduces emissions Improves health and wellbeing Enhances resilience Provides cost savings Builds community knowledge Supports housing supply and diversity	CPAT		
Policy 1.2.3	When it is time to replace old equipment, incentivize the retrofit of buildings for energy efficiency. Note: Incentives can be implemented through mechanical and building permit fee reductions or waivers upon completion of efficiency or GHG reduction measures.	1,3	Buildings and Energy	Reduces emissions Improves health and wellbeing Enhances resilience Provides cost savings Builds community knowledge Supports housing supply and diversity	Policy ID# E.03	Language added to specify the timing and mechanism of this policy.	
Sub-goal 1.3	Make future buildings more energy efficient.						
Policy 1.3.1	Incentivize additional net-zero greenhouse gas emission features such as electric heat pumps, electric heat pump water heaters, pellet stoves, or solar panels for all new residential and commercial structures. Note: Incentives can be provided through reduction or waiving of building permit fees when the permit applicant performs desired efficiency or GHG reduction measures.	1	Buildings and Energy	Reduces emissions Improves health and wellbeing Enhances resilience Provides cost savings	Policy ID# E.01	Liberty Lake does not have the power to require things like this of new development so "Require" was changed to "Incentivize" and more detail was added to specify what kinds of net zero features would be incentivized. Pellet stoves were added as a resilience feature for the cold climate. The note about the nature of incentives was added to clarify the mechanism through which this policy would be implemented.	
Policy 1.3.2	Incentivize green building certification to improve energy and environmental performance.	1	Buildings and Energy	Reduces emissions	Policy ID# E.07	No Changes	
Sub-goal 1.4	Increase efficiency of streetlights and traffic signals.						
1.4.1	Pursue Dark Sky certification.	1	Buildings and Energy	Provides ecosystem services Improves health and wellbeing			
1.4.2	Convert all streetlights and traffic signals to high-efficiency options (e.g., LEDs).	1	Buildings and Energy	Reduces emissions			
Goal 2	Promote solar electricity generation and storage.						MW of installed solar capacity
Sub-goal 2.1	Install solar on public buildings.						
Policy 2.1.1	Partner with other public entities to install solar on other public facilities.	1	Buildings and Energy	Reduces emissions Enhances resilience	City		
Sub-goal 2.2	Promote solar on private buildings.						
Policy 2.2.1	Educate homeowners, property managers, and business owners about solar.	1	Buildings and Energy	Reduces emissions Enhances resilience Builds community knowledge	CPAT		
Policy 2.2.2	Work with partners like Avista to provide incentives for solar on private buildings or over parking areas.	1	Buildings and Energy	Reduces emissions Enhances resilience	Policy ID# G.03	Liberty Lake is not in a position to require solar panels but they can work with the utility to incentivize	
Policy 2.2.3	Partner with the Board of Realtors to promote an analysis of solar capacity to be completed upon sale of a home or building using free tools like Project Sunroof.	1	Buildings and Energy	Reduces emissions Enhances resilience Provides cost Savings Builds community knowledge	City		
Policy 2.2.4	Explore opportunities to encourage and support the development of solar cooperatives.	1,3	Buildings and Energy	Reduces emissions Enhances resilience Provides cost Savings Builds community knowledge	Policy ID# R.08	Similar to 2.3.1, the goal is to support community solar initiatives specifically	
Sub-goal 2.3	Increase small-scale battery storage to pair with local solar generation.						
Policy 2.3.1	Collaborate with Avista to facilitate the development of community-owned, small-scale renewable energy generation projects, such as local microgrid solar and battery storage facilities, in low-impact sites.	1,3	Buildings and Energy	Reduces emissions Enhances resilience Provides cost Savings Builds community knowledge	Policy ID# E.04	Language added to clarify the types of energy and that it would be community owned.	
Policy 2.3.2	Work with Avista to determine whether and where large-scale battery storage is needed and develop a plan for City engagement.	1	Buildings and Energy	Reduces emissions Enhances resilience	CPAT		
Goal 3	Reduce vehicle miles traveled to achieve greenhouse gas reduction goals.						VMT
Sub-goal 3.1	Foster higher density land uses in mixed-use development and transit corridors.						
Policy 3.1.1	Facilitate the siting of complimentary destinations such as commercial-employment centers, schools or education centers, and residential developments (e.g., co-located library, community center, farmer's market).	1,2	Zoning and Development	Reduces emissions Enhances resilience Promotes economic development Promotes equity and justice Improves health and wellbeing Supports housing supply and diversity	Policy ID# I.19	Added wording to clarify the types of locations	

Emission Reduction Measures Integration Table (*for all pathways*)							
Goal *(Note your goals in this column.)*	**Policy** *(Note your policies that support the applicable goals in Column A.)*	**Minimum Requirements** *(Note the Minimum Requirement(s) that the measure addresses [select all that apply].) OPTIONS: Requirement 1: Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington; Requirement 2: Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse*	**Sector** *(Note the sector(s) that the measure addresses [select all that apply].) OPTIONS: Buildings & Energy, Cultural Resources & Practices; Economic Development; Emergency Management; Health & Well-being; Ecosystems; Transportation; Agriculture & Food Systems; Waste Management; Water Resources; Zoning & Development*	**Co-benefits** *(Note the measure's co-benefits [select all that apply].) OPTIONS: reduces emissions; sequesters carbon; enhances resilience; improves salmon recovery; promotes economic development; promotes equity and justice; provides cost savings; provides ecosystem services; protects tribal treaty rights; improves health and wellbeing; improves air quality; builds community knowledge; supports housing supply and diversity*	**Menu of Measures Nexus** *(If you use a goal or policy from Commerce's Menu of Measures, note the measure number here.)*	**Notes** *(If desired, note changes to your development regulations to help your jurisdiction implement this policy.)*	**Metric to evaluate success** *(Note how achievement of goal can be measured at the goal level)*
Policy 3.1.2	Increase multimodal capacity in coordination with the location of higher-density housing, mixed use, and commercial centers.	1,2	Transportation Zoning and Development	Reduces emissions Enhances resilience Promotes economic development Promotes equity and justice Promotes cost savings Improves health and wellbeing Supports housing supply and diversity	Policy ID# I.04	altered wording to include housing and mixed use	
Policy 3.1.3	Maintain or increase minimum residential densities within urban growth areas.	1,2	Zoning and Development	Reduces emissions Enhances resilience Promotes economic development Promotes equity and justice Improves health and wellbeing Supports housing supply and diversity	Policy ID# K.04	Added "Maintain or" because Liberty Lake already has several areas that are being developed at a high density for a city of this size	
Policy 3.1.4	Prioritize infill development through zoning, permitting, and capital investments.	1,2	Zoning and Development	Reduces emissions Enhances resilience Promotes economic development Promotes equity and justice Improves health and wellbeing Supports housing supply and diversity	Policy ID# C.06	added capital projects to this list	
Sub-goal 3.2	Increase housing diversity and supply within urban growth areas to reduce greenhouse gas emissions and support environmental justice.						
Policy 3.2.1	Allow or encourage middle housing types (such as duplexes, triplexes, and ADUs) and micro-housing units (such as providing co-living, unit lot subdivisions, tiny homes, and cottage housing) on all residential lots.	1,2,3	Zoning and Development	Reduces emissions Enhances resilience Promotes economic development Promotes equity and justice Supports housing supply and diversity	Policy ID# K.02 Policy ID# K.05	Combined the two policies into one	
Sub-goal 3.3	Partner with STA and support improvements to public transit reliability and convenience						
Policy 3.3.1	Continue to evaluate land uses near transit corridors in partnership Spokane Transit Authority (STA) to support (prioritize and promote) planned expansions of the transit system.	1,2,3	Transportation Zoning and Development	Reduces emissions Promotes economic development Promotes equity and justice	Policy ID# H.01	Altered to be more relevant to the existing landscapes and partnerships of Liberty Lake	
Policy 3.3.2	Prioritize, develop, and maintain mobility hubs in transportation-efficient locations — especially in overburdened communities experiencing a scarcity of transportation alternatives.	1,2,3	Transportation Zoning and Development	Reduces emissions Promotes economic development Promotes equity and justice Supports housing supply and diversity	Policy ID# I.16	Unchanged	
Policy 3.3.3	Address active transportation and other multimodal types of transportation options in concurrency programs – both in assessment and mitigation.	1,2,3	Transportation	Reduces emissions Promotes economic development Promotes equity and justice Supports housing supply and diversity	Policy ID# I.22	Unchanged	
Policy 3.3.4	Support improvements to transit to increase speed, frequency, and reliability.	1,2,3	Transportation	Reduces emissions Promotes economic development Promotes equity and justice Supports housing supply and diversity	Policy ID# AI.03	Changed to "support" because Liberty Lake does not have direct control of the transit agency or their operations.	
Policy 3.3.5	Partner with STA to promote existing public transit routes and services.	1,2,3	Transportation	Reduces emissions Promotes economic development Promotes equity and justice Supports housing supply and diversity Builds community knowledge	City Staff	The bus routes are relatively robust but there is not a culture of using them.	
Sub-goal 3.4	Improve the active transportation network						
Policy 3.4.1	Continue to support and expand a safe, well-connected, and attractive bicycle and pedestrian transportation network to encourage active and multimodal transportation options to reduce single-occupancy vehicle dependence.	1,2,3	Transportation Zoning and Development	Reduces emissions Promotes economic development Promotes equity and justice Improves health and wellbeing Supports housing supply and diversity	Policy ID# I.14 Policy ID# H.03 Policy ID# I.04	Language modified to combine policies	
Policy 3.4.2	Formalize the City's "Complete Streets" policy by integrating it into the City's development code.	1,2,3	Transportation Zoning and Development	Reduces emissions Promotes economic development Improves health and wellbeing	Policy ID# I.18	Language modified to acknowledge that this is already a policy	
Policy 3.4.3	Continue to implement and expand complimentary, mixed land uses versus traditional zoning, such as locating business districts, parks and schools in neighborhoods to promote cycling and walking and reduce driving.	1,2,3	Transportation Zoning and Development	Reduces emissions Promotes economic development Improves health and wellbeing	Policy ID# V.11	Language modified to acknowledge that this is already a policy	
Goal 4	Increase electric vehicle (EV) adoption.						EV registration percentage
Sub-goal 4.1	Provide education about EVs, including education about life cycle emissions and batteries.						
Policy 4.1.1	Increase community education on electric vehicles – including cars, trucks, and golf carts – by developing and sharing educational materials.	1	Transportation	Reduces emissions Improves air quality Builds community knowledge	CPAT		
Policy 4.1.2	Partner with other organizations to increase community awareness of EVs (e.g., the electric utility, non-profits).	1	Transportation	Reduces emissions Improves air quality Builds community knowledge	CPAT		
Sub-goal 4.2	Expand alternative fueling infrastructure, including but not limited to electric vehicle charging infrastructure.						
Policy 4.2.1	Require electric vehicle charging infrastructure in all new buildings in accordance with state law.	1	Transportation	Reduces emissions Improves air quality	Policy ID# AD.01		
Policy 4.2.2	Prioritize EV infrastructure for existing multifamily housing stock and other places with a demonstrated need.	1,3	Transportation	Reduces emissions Improves air quality Promotes equity and justice	Policy ID# AD.01	Split off from the above policy to acknowledge that there are different approaches to existing and future buildings	

Emission Reduction Measures Integration Table (*for all pathways*)							
Goal *(Note your goals in this column.)*	**Policy** *(Note your policies that support the applicable goals in Column A.)*	**Minimum Requirements** *(Note the Minimum Requirement(s) that the measure addresses [select all that apply].) OPTIONS: Requirement 1: Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington; Requirement 2: Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse*	**Sector** *(Note the sector(s) that the measure addresses [select all that apply].) OPTIONS: Buildings & Energy, Cultural Resources & Practices; Economic Development; Emergency Management; Health & Well-being; Ecosystems; Transportation; Agriculture & Food Systems; Waste Management; Water Resources; Zoning & Development*	**Co-benefits** *(Note the measure's co-benefits [select all that apply].) OPTIONS: reduces emissions; sequesters carbon; enhances resilience; improves salmon recovery; promotes economic development; promotes equity and justice; provides cost savings; provides ecosystem services; protects tribal treaty rights; improves health and wellbeing; improves air quality; builds community knowledge; supports housing supply and diversity*	**Menu of Measures Nexus** *(If you use a goal or policy from Commerce's Menu of Measures, note the measure number here.)*	**Notes** *(If desired, note changes to your development regulations to help your jurisdiction implement this policy.)*	**Metric to evaluate success** *(Note how achievement of goal can be measured at the goal level)*
Policy 4.2.3	Investigate options for zero emissions heavy duty vehicles as they become available (including but not limited to electric and hydrogen).	1	Transportation	Reduces emissions Improves air quality	City Staff		
Goal 5	Explore opportunities for renewable diesel blends.						Educational campaigns, availability of R99 in the community
Sub-goal 5.1	Provide education about renewable diesel blends.						
Policy 5.1.1	Increase community awareness of renewable diesel blends by developing and sharing educational materials.	1	Transportation	Reduces emissions Improves air quality Builds community knowledge	City Staff		
Goal 6	Protect local biodiversity, such as fire-resistant trees, to boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities.						Plan adoption, tree canopy cover
Policy 6.1.1	Require open space set-asides (such as parks) for new residential and multifamily development.	1,3	Ecosystems	Reduces emissions Sequesters carbon Enhances resilience Promotes equity and justice Provides ecosystem services Improves health and wellbeing Supports housing supply and diversity Improves air quality	Policy ID# AB.01	Specify residential	
Policy 6.1.2	Improve and expand urban forest management to maximize or conserve carbon storage, while increasing wildfire resiliency.	1,3	Ecosystems	Reduces emissions Sequesters carbon Enhances resilience Provides ecosystem services Improves health and wellbeing Improves air quality	Policy ID# AB.03	Added concern about wildfire resiliency, to speak to east-side concerns	
Policy 6.1.3	Maximize tree canopy coverage in surface parking lots.	1	Ecosystems	Reduces emissions Sequesters carbon Enhances resilience Provides ecosystem services Improves health and wellbeing Improves air quality	Policy ID# AB.04	Unchanged	
Goal 7	Develop targeted campaigns for reducing and managing waste to reduce GHG emissions.						Educational campaigns, tons of waste recycled or composted, tons of waste sent to the landfill
Sub-goal 7.1	Provide education about reducing waste.						
Policy 7.1.1	Provide educational programming to reduce food waste in the community with an emphasis on the largest waste streams.	1	Waste Management Agriculture and Food Systems	Reduces emissions Provides cost Savings Builds community knowledge	City Staff		
Policy 7.1.2	Increase community awareness of best practices to reduce waste by developing and sharing educational materials that focus on the seven Rs: rethinking what to buy, refusing products that are not needed, reducing what is bought, reusing things, repairing things, regifting, then recycling.	1	Waste Management Agriculture and Food Systems	Reduces emissions Provides cost Savings Builds community knowledge	CPAT and Planning Commission		
Goal 8	Reduce emissions from waste and wastewater.						Tons of waste sent to the landfill, volume of water sent to wastewater treatment
Sub-goal 8.1	Reduce emissions from solid waste.						
Policy 8.1.1	Work with Waste Management to identify opportunities to leverage waste collection rates to encourage waste diversion like recycling and composting.	1	Waste Management	Reduces emissions	Policy ID# X.06	Modified because the city does not control waste management	
Policy 8.1.2	Increase staff and facility capacity for composting programs to divert 25% of community organic waste from entering landfills. This could be done by providing composting services in community gardens and/or by expanding the City's waste management contract to include organic waste.	1	Waste Management	Reduces emissions Provides ecosystem services	Policy ID# X.03	Modified to add language about implementation options	
Policy 8.1.3	Encourage the development of a program that will enable and/or incentivize recycling of construction and demolition debris.	1	Waste Management	Reduces emissions	Policy ID# X.02	Target date not yet chosen, language modified to acknowledge that this will be a program that Liberty Lake cannot implement on its own	
Policy 8.1.4	Continue to evaluate options for alternatives to landfill disposal of solid waste.	1	Waste Management	Reduces emissions	Planning Commission		
Sub-goal 8.2	Reduce emissions from wastewater treatment.						
Policy 8.2.1	Pursue policies to increase water conservation and decrease the volume of effluent to the wastewater treatment facility.	1	Waste Management Water Resources	Reduces emissions Provides ecosystem services	Policy ID# X.05	Methane capture is not possible with current wastewater system, but an improvement in GHG emissions was deemed possible through decreased effluent volume	
Goal 9	Reduce emissions from City operations						kWh and therms purchased by the city, gallons of gasoline and diesel purchased by the city, tons of waste sent to the landfill
Sub-goal 9.1	Reduce emissions from City buildings and energy use						kWh and therms purchased by the city, MW of solar installed
Policy 9.1.1	Conduct an energy audit of City facilities.	1	Buildings and Energy	Reduces emissions Provides cost savings			
Policy 9.1.2	Replace natural gas furnaces and water heaters with electric heat pump options when it's time to replace equipment in City facilities.	1	Buildings and Energy	Reduces emissions Provides cost savings	Policy ID# E.05	Modified to emphasize cost effectiveness	
Policy 9.1.3	Install solar on all possible City owned buildings where it is cost effective to do so.	1	Buildings and Energy	Reduces emissions Provides cost savings Enhances resilience	Policy ID# E.06	Edited based on CPAT feedback	
Policy 9.1.4	Install distributed renewable energy generation and battery infrastructure at public facilities to store renewable electricity generated on site and provide emergency power that ensures continuity of operations.	1	Buildings and Energy	Reduces emissions Provides cost savings Enhances resilience	Policy ID# O.02	Unchanged	
Policy 9.1.5	Develop plan for City's voluntary compliance with Washington State Clean Buildings Performance Standard (CBPS) and similar laws.	1	Buildings and Energy	Reduces emissions Provides cost savings Enhances resilience	City Staff		
Sub-goal 9.2	Convert public fleets to zero-emission vehicles by [insert target date] and develop supporting infrastructure and programs (e.g., charging stations and dedicated lanes for electric cars and buses).						Number of ZEV in the fleet
Policy 9.2.1	Install EV charging stations at City facilities.	1	Transportation	Reduces emissions Improves air quality	City Staff		

Emission Reduction Measures Integration Table (*for all pathways*)							
Goal *(Note your goals in this column.)*	**Policy** *(Note your policies that support the applicable goals in Column A.)*	**Minimum Requirements** *(Note the Minimum Requirement(s) that the measure addresses [select all that apply].) OPTIONS: Requirement 1: Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington; Requirement 2: Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse*	**Sector** *(Note the sector(s) that the measure addresses [select all that apply].) OPTIONS: Buildings & Energy, Cultural Resources & Practices; Economic Development; Emergency Management; Health & Well-being; Ecosystems; Transportation; Agriculture & Food Systems; Waste Management; Water Resources; Zoning & Development*	**Co-benefits** *(Note the measure's co-benefits [select all that apply].) OPTIONS: reduces emissions; sequesters carbon; enhances resilience; improves salmon recovery; promotes economic development; promotes equity and justice; provides cost savings; provides ecosystem services; protects tribal treaty rights; improves health and wellbeing; improves air quality; builds community knowledge; supports housing supply and diversity*	**Menu of Measures Nexus** *(If you use a goal or policy from Commerce's Menu of Measures, note the measure number here.)*	**Notes** *(If desired, note changes to your development regulations to help your jurisdiction implement this policy.)*	**Metric to evaluate success** *(Note how achievement of goal can be measured at the goal level)*
Policy 9.2.2	Develop and implement a plan to convert City fleet to EVs at end of useful life, where appropriate.	1	Transportation	Reduces emissions Improves air quality Provides cost savings	City Staff		
Policy 9.2.3	Purchase and use renewable diesel in City fleet vehicles that use diesel when locally available.	1	Transportation	Reduces emissions Improves air quality	City Staff		
Policy 9.2.4	Develop and implement a plan to convert City-owned golf carts to electric options at end of useful life and as is operationally feasible.	1	Transportation	Reduces emissions Improves air quality	City Staff		
Sub-goal 9.3	Reduce emissions from employee commute.						Employee commute VMT
Policy 9.3.1	Continue to implement, promote, and expand Liberty Lake's Commute Trip Reduction program within the Liberty Lake community.	1	Transportation	Reduces emissions Improves air quality Provides cost savings	CPAT		
Sub-goal 9.4	Reduce supply chain emissions from City operations and purchasing.						Purchasing policies adopted
Policy 9.4.1	Prioritize the use of lower-carbon building materials in new construction and building retrofits where feasible to reduce embodied carbon.	1	Waste Management Zoning and Development	Reduces emissions	Policy ID# P.02	Unchanged	
Policy 9.4.2	Use recycled materials in the construction of transportation and other infrastructure facilities where feasible.	1	Waste Management Zoning construction Development	Reduces emissions	Policy ID# D.03	Unchanged	
Policy 9.4.3	Explore including Environmental Product Declarations (EPDs) in City procurement policy to prioritize purchasing lower-emissions materials and goods.	1	Zoning and Development	Reduces emissions	City Staff		
Policy 9.4.4	Phase out the use of gas-powered landscaping equipment for City operations.	1	Buildings and Energy	Reduces emissions Improves air quality Promotes health and wellbeing	Policy ID# Z.05	Added "for City operations"	
Sub-goal 9.5	Increase recycling at City facilities.						Tons of waste recycled
Policy 9.5.1	Design and implement a full recycling program for all City facilities.	1	Waste Management	Reduces emissions	City Staff		
Policy 9.5.2	Work with the City's waste hauler to ensure that waste streams are taken to the appropriate waste processing destinations (e.g., recycling to a recycling facility, trash to the landfill).	1	Waste Management	Reduces emissions	City Staff		

APPENDIX "E"

IMAGINING OUR FUTURE

GUIDING OUR GROWTH

LIBERTY LAKE – 2046

Climate Vulnerability and Risk Assessment Report

Prepared for

City of Liberty Lake

May 2025

Parametrix

Climate Vulnerability and Risk Assessment Report

Prepared for

City of Liberty Lake
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APPENDIX A - LIBERTY LAKE CLIMATE VULNERABILITY INDEX – CORRELATION ANALYSIS

Acronyms and Abbreviations (continued)

Glossary

Biogeochemical cycles – Natural pathways through which essential elements of living matter are circulated. They involve the movement and transformation of chemical elements and compounds between living organisms, the atmosphere, and the Earth's crust. Consisting of the water, carbon, nitrogen, oxygen and phosphorus cycles.

Climate variability – The way aspects of climate (such as temperature and precipitation) differ from an average. Climate variability occurs due to natural and sometimes periodic changes in the circulation of the air and ocean, volcanic eruptions, and other factors.

Climate resiliency – The capacity of social systems, economic systems, and ecosystems to cope with a hazardous event, trend, or disturbance. It is a concept to describe how well people or ecosystems are prepared to bounce back from certain climate hazard events.

Compounding hazards – Occur when two or more extreme events occur simultaneously, often with different causes. These can generate multiplicative damage and losses. They are increasing in likelihood as the Earth's climate changes. These interactions between multiple hazards exacerbate the societal and ecosystem impacts of individual hazards and hinder the ability of communities to respond and cope.

Extreme precipitation – For this study, extreme precipitation is defined at the 25-year, 24-hour event, and is based on the storm that has 4% chance of occurring in any given year.

Green stormwater infrastructure – Systems that use natural processes to manage stormwater, providing benefits such as capturing and filtering runoff, creating wildlife habitats, and recharging groundwater.

Green roofs – Roofs that are partially or completely covered with plants and vegetation.

Impermeable surface – Any natural or artificial material that does not allow water or other fluids to readily penetrate or pass through it. Examples of such surfaces are concrete, oil, and gravel. Impermeable surfaces are often used to house metallic structures as a corrosion-prevention measure.

Urban heat island – Refers to the fact that cities tend to get much warmer than their surrounding rural landscapes, particularly during the summer. This temperature difference occurs when cities' unshaded roads and buildings gain heat during the day and radiate that heat into the surrounding air. As a result, highly developed urban areas can experience mid-afternoon temperatures that are 15°F to 20°F warmer than surrounding, vegetated areas.

Urban form – The physical layout and design of cities including their infrastructure, buildings, and public spaces. It plays a crucial role in influencing economic activities, social interactions, and environmental sustainability.

Wildland urban interface – Those areas where human development meets areas that are covered with more than 50% wildlands. Intermix are those areas where structures intermingle with wildlands. To be considered intermix, a development or structure must be surrounded on two or more sides by wildlands.

1. Climate Change

1.1 Introduction

The Climate Vulnerability and Risk Assessment Report for the City of Liberty Lake (City) is a comprehensive evaluation of the potential impacts of climate change on the region. This report provides a detailed understanding of the various climate risks that the City may face in the coming decades–particularly, drought, extreme heat, and increased precipitation–and the potential impacts associated with these risks. By leveraging the latest climate science and modeling, this report shows how the projected changes in Liberty Lake's climate may affect infrastructure, ecosystems, and public health.

Climate change refers to long-term shifts in temperatures and weather patterns, primarily driven by increasing concentrations of greenhouse gases in the atmosphere. These gases trap heat, leading to a rise in Earth's average surface temperature.

In the context of the City, climate change is projected to result in several changes by the 2050s and 2080s. These include increases in total annual precipitation, decreases in late summer precipitation, and increases in drought severity. Additionally, average summer maximum temperatures are expected to rise, leading to more days with extreme heat.

The cumulative effects of climate change for the City include an increased likelihood of wildfires and increases in drought. These changes will also lead to temperatures higher than historical averages and more extreme high temperatures in the future.

1.2 Geography

Liberty Lake is in the Spokane Valley in eastern Washington. The City of Liberty Lake lies within the Columbia River Basin on the western edge of the Rocky Mountains. According to the U.S. Census Bureau, the city has a total area of 6.25 square miles (15.90 km^2) with no waterbodies as of 2020.

The Spokane Valley-Rathdrum Prairie Aquifer (SVRP Aquifer) is the sole source of water for over a million people in Spokane County and Kootenai County, Idaho. The U.S. Environmental Protection Agency designated the SVRP Aquifer as a sole source aquifer in 1978. The aquifer underlies about 370 square miles in two states. It has one of the fastest flow rates in the United States, flowing as much as 60 feet per day in some areas. The volume of the entire aquifer is about 10 trillion gallons, making it one of the most productive aquifers in the country. Water from adjacent lakes, mountain streams, the Spokane River, and precipitation flow through the gravel and cobbles laid down by the ice age floods between 10,000 and 22,000 years ago.[1]

[1] Spokane County Public Works https://www.spokanecounty.org/1219/Spokane-Valley-Rathdrum-Prairie-Aquifer

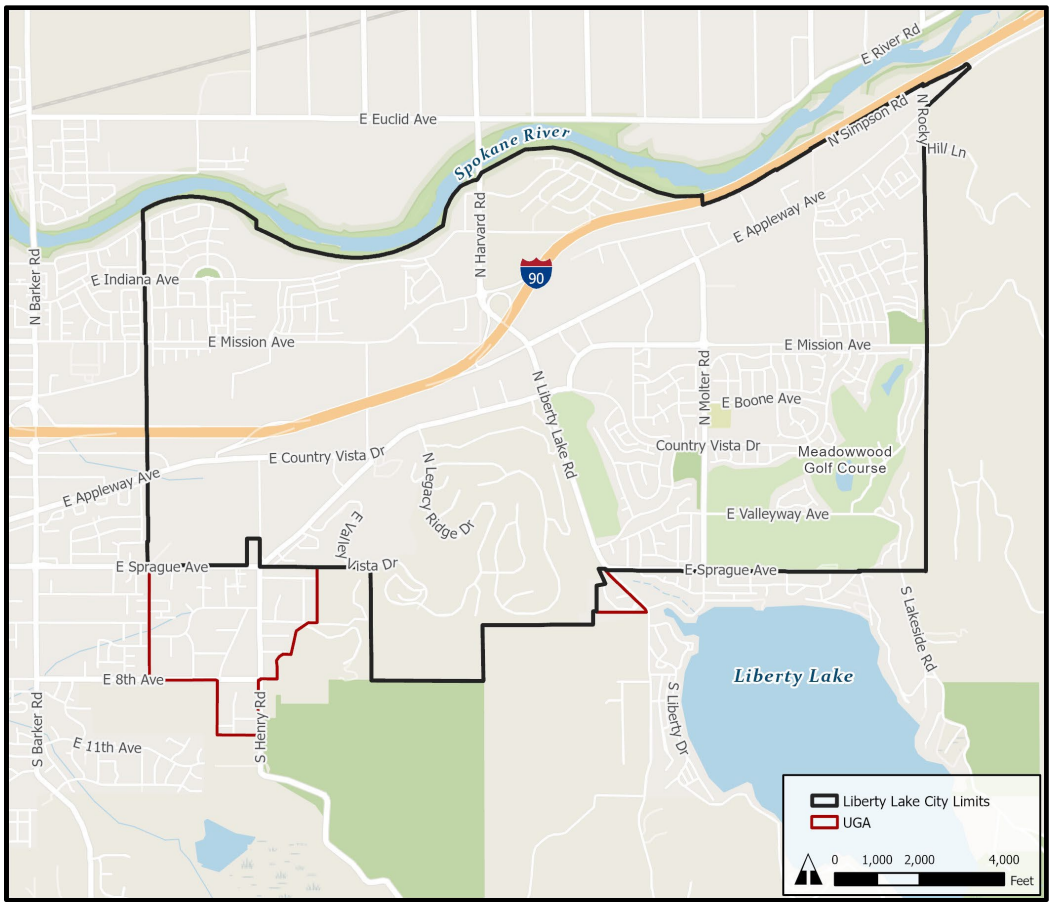


Figure 1. Topographic Map of the City of Liberty Lake

2. Risk

2.1 Risk Methodology

The Parametrix team evaluated six potential climate risks, and the impacts were categorized as high, moderate, or low. There are seven potential climate risks associated with Washington State and identified through work by the University of Washington and Washington State University.[2] Of the seven potential climate risks identified, sea-level rise does not apply to the City of Liberty Lake. Additional assumptions, quantitative data, and information are included in risk narratives in the following section.

2.2 Overall Risk Assessment

The potential climate risks were rated based on qualitative information about the impact, likelihood of the potential climate risk occurring, and the ability to mitigate each climate risk, and then classified as high, moderate, or low. The combined risk score reflects these three factors. A high

[2] Raymond, C.L, T.P. Nadreau, M. Rogers, Z. Kearl. 2022. Biophysical Climate Risks and Economic Impacts for Washington State. Report prepared for the Washington State legislature. Climate Impacts Group, University of Washington, Seattle.

impact means that the climate risk will result in disruption or danger to Liberty Lake's people or infrastructure. High probability means that the potential climate risk is likely to occur in the next 70 years based on the available science and data of projected changes in climate. Mitigation difficulty is the degree of difficulty for the City to implement new policies or actions that can effectively adapt to the climate risk. Table 1 is an assessment of the potential climate risks for the City.

Table 1. Climate Risks

Climate Risk	Impact	Probability	Mitigation Difficulty	Risk Rating
Temperature	High	High	Moderate	High
Extreme Precipitation	Moderate	High	Low	Moderate
Landslides	Low	Low	Low	Low
Decreased Snowpack (Water Resource)	High	High	High	High
Wildfires	High	High	Moderate	High
Wildfire Smoke	High	High	Low	Moderate

For planning purposes and prioritization of actions, the risks that are shown as high probability and high impact should be considered first, and to the best ability of the City, be key parts of a resiliency strategy. The high risks associated with regional temperature increases will reduce snowpack by 2070, leading to longer dry periods and minimal late spring or early summer runoff. This will reduce water availability in summer and worsen drought conditions. Dry weather will extend the fire season, increasing risks of wildfires and smoke, which will affect air quality for the entire Spokane Valley.

2.3 Impact Details

Temperature

There is consensus among global scientific models that within the next 5 years the average global surface temperature will increase by 2.7°F (1.5°C). The City can anticipate a shift in severe weather events including the increase of hot days defined as days over 100°F. Like other cities in eastern Washington, the City of Liberty Lake will experience warmer summers overall and an increase in 90°F humidex days. Humidex is short for *humidity index*; it defines how hot the weather feels. When the minimum humidex exceeds 65°F, it signifies nighttime heat stress, which is discussed further below.

Human Health

Heat exposure is a concern because it can aggravate cardiovascular diseases and respiratory illnesses, as well as cause heat stroke and dehydration. Small children, the elderly, people living alone, those who are pregnant, people with chronic diseases, persons of color[3], and low-income populations are particularly at risk. Temperature extremes also impact people's ability to access

[3] They are a focus in the CVI because current systems perpetuate systemic historical barriers to resources such as healthcare, education, and housing, which can exacerbate their vulnerability to climate hazards. In a CVI, they are a key focus because historical and ongoing inequities increase their exposure to risks and reduce their ability to recover from climate-related events such as floods, heatwaves, and storms.

transit, because waiting along roadsides where the heat is increased causes heat stress and discomfort for transit riders. Exposure to extreme heat will vary locally based on features that exacerbate extreme heat, such as the extent of paved surfaces, tree canopy for shade, or proximity to waterbodies. Emergency management services that serve areas of the city with more vulnerable populations and less social cohesion will be more affected by increases in the demand for services related to extreme heat emergencies. Certain populations are expected to be more affected by increases in the number of days with a minimum humidex above 65°F. The elderly, very young, people with preexisting health conditions, and people without housing or that live in substandard housing that lacks cooling systems are likely to be more affected. More frequent extreme nighttime heat events are expected to increase the demand for emergency services to plan, prepare, and respond to human health impacts.

Transportation Infrastructure

High temperatures can soften asphalt roads and cause cracking in concrete roads, leading to buckling and peeling which increases maintenance and replacement needs. Research has shown that heat waves affect bridge structures in similar ways, including stressing thermal expansion joints and prestressed concrete girders which accelerate material degradation and create or accelerate cracks in concrete and steel components.

Buildings and Homes

Heat can have negative impacts on buildings and community assets including schools, hospitals, and libraries. Heat impacts can be higher in areas where there is highly impermeable surface coverage and limited shade due to the urban heat island effect. However, there are many strategies that can mitigate these impacts that also benefit urban form and design, such as green stormwater infrastructure, street trees and other sources of shade, green roofs, and strategies to reduce or capture heat from buildings.

The heat impact to buildings is driven by building age, construction type, and insulation requirements at the time of construction. Older buildings, historic buildings, mobile homes, and public buildings may not have adequate insulation or air conditioning. As temperatures rise, these buildings may need expensive retrofits and require increased energy use for cooling. Days with low air quality, for example from wildfire smoke, can be a compounding hazard because natural ventilation is not available.

Ecosystems

Critical ecosystem services, such as shade and spring snowmelt runoff, that regulate temperature and buffer streams and wildlife habitat from heat impacts are important to conserve and protect. Increasing temperatures and repeated extreme heat events can result in ecosystem stress, reducing the ability of the system to provide these critical services. Ecosystems in more open areas, such as parks and golf courses, may be impacted by increased temperatures and extreme heat events because of the lack of shade. Wetlands, depending on the buffer area, would also see increased surface water temperatures during extreme heat.

Extreme Precipitation

As temperatures rise, more evaporation occurs over the ocean, which in turn alters the intensity, duration, and frequency of precipitation. Increased precipitation intensity contributes to increased flood risk, greater soil erosion, higher sediment transport in streams, increased runoff contributing to water quality impairment, and increased landslide vulnerability. Roads and pedestrian paths can

become impassable due to flooding or downed trees, and public transit stops can become flooded or inaccessible. Extreme precipitation may impact the ability to access and utilize trails and parks. Flooding can lead to trail erosion and damage to park assets. Extreme precipitation events and the resulting impacts can also degrade local streams and wetlands through runoff and erosion, water temperature changes, and pollution. Extreme precipitation includes snowfall, and increases in the intensity of snowfall will compound urban issues such as snow removal and flooding when accumulated snow is followed by rain.

Landslides

Increased extreme precipitation causes increased land saturation, contributing to an increased likelihood of landslides. Areas with steep terrain, land previously burned in wildfires, areas impacted by deforestation, and areas along streams and rivers are particularly at risk. Landslides impact water quality by dumping sediment, debris, soil, and rocks into waterbodies. Transportation systems are vulnerable to landslides because roads and bridges can become damaged and/or impassible, and public transit stops can become inaccessible because of debris. Landslides that impact homes or other structures can have financial impacts on local property owners. The city is at low risk of landslides due to ice age floods depositing heavy material at the bottom of the valley floor.[4] The City of Liberty Lake has not experienced historical landslides according to the Washington State Department of Natural Resources geologic hazard mapping.

Loss of Snowpack

The SVRP Aquifer beneath Liberty Lake is fed by lakes that rely on snowmelt from the Rocky Mountain and Selkirk Ranges. These mountain ranges will experience changes in snowpack throughout the twenty-first century, with more rain-dominated basins along the western front range. By 2070, no snow is expected after April 1 in this region. During the twentieth century, snowpack was typical through July.

The SVRP Aquifer is supplied from lakes in the Rocky Mountain Western Slope including Hayden, Pend-Orielle and Priest Lake. These lakes are fed by precipitation (rain and snow). Long-term water supply is dependent on snowpack through early summer. A reduction in late-season snowpack will mean more severe and long-term drought for the SVRP Aquifer.

The consequences of drought are extensive, affecting water quality, water quantity, public health, the economy, the natural environment, and public infrastructure. Economic impacts of drought refer to the financial costs incurred by individuals or businesses. The economic costs are associated with increased costs for water and energy as well as loss of vegetation.

Social impacts of drought encompass the ways in which drought affects people's health and safety, including public safety, health issues, conflicts arising from insufficient water supply, and changes in lifestyle. Losses range from local impacts such as loss of vegetation and aesthetics to the larger context of crop and wildlife losses.

Moreover, drought significantly affects the environment. Plants and animals rely on water. During a drought, their food supply may diminish and their habitats can be damaged. While some damage may be temporary, allowing habitats and food supplies to return to normal post drought, other environmental impacts may be long-lasting or even permanent.

[4] Washington Geologic Information Portal Washington State Department of Natural Resources and U.S. Geological Survey. https://geologyportal.dnr.wa.gov/2d-view#natural_hazards?-13988207,-12951110,5758377,6289767?Surface_Geology,500k_Surface_Geology,Map_Units

Wildfire

Wildfires are already common in Eastern Washington and damage forests, grasslands, and structures. Changing weather patterns increase the wildfire risk in two ways: (1) over time, winter precipitation is increasing at the same time summer precipitation is decreasing, resulting in drier summers, (2) warmer weather during the increasingly dry summers further exacerbates drought and decreases moisture content in the atmosphere and soil. Increased wildfires throughout the region contribute to increased greenhouse gas emissions. The burning material releases greenhouse gases made up mostly of CO_2 and methane. This deteriorates air quality (particulate pollution) as well. Local wildfire events may result in increased stormwater runoff due to the destruction of vegetation and reduction of soil absorption post wildfire. Vegetation destruction can also increase the risk of landslides although there is a low risk of landslides in Liberty Lake, more exposed soils and loss of vegetation can cause more sedimentation in runoff.

The most immediate risk of wildfire is the threat to human life in areas where fuel (e.g., trees, grasslands) is close to structures (e.g., homes). Wildfires can spread quickly through residential areas, and severe, fast-moving fires in other regions have devastated suburban developments and commercial areas.[5] Increasing risks throughout the western United States have resulted in increasing insurance costs for property owners in areas considered to be higher risk. There are some mitigation strategies, (e.g., selecting less flammable building materials, reducing vulnerability to embers, storing flammable materials safely, managing vegetation) that can reduce risks to structures, and some insurance carriers may require such measures to obtain insurance.

Wildfires do not typically burn roads, but they can lead to cracks, deformations, and potholes that come later. Wildfires can create conditions where roads and bridges are unsafe or impassable, similar to flooding. Wildfires can burn or destroy bridge structures, especially older bridges with wooden supports. According to the National Interagency Fire Center, landslides and flash flooding are common after wildfires and may lead to road washouts, buckling, and other road impacts.

Fire can reduce safe access to parks and trails, which are at higher risk of being destroyed or seriously damaged by wildfires. Wildfires can threaten drinking water quality through contamination of surface and groundwater during the first rain after a fire. Wildfires can leach chemicals into groundwater and leave many toxic chemicals on soil from burning structures which can also degrade water quality.

The city includes areas that are considered high risk for wildfires. The city also includes both intermix and wildland urban interface areas that are at increased risk of wildfire. Seasonally, there will always be more risk in the summer than in the wetter seasons throughout the city.

The city is also impacted by smoke from regional, national, and international wildfires. Wildfire smoke reduces air quality and can be a significant risk to vulnerable populations including seniors, children, people with underlying health conditions including pregnancy, outdoor workers, and people who are living unsheltered. People who live in non-air-conditioned homes may also be vulnerable to summer wildfire smoke that coincides with higher temperatures or extreme heat events.

Cumulative Impact on Well-Being

While most risks can be directly tied to specific impacts, it is also important to recognize the areas where there may be cumulative impacts to well-being from the combination of multiple impacts. The

[5] Geotechnical Extreme Events Reconnaissance Association, The 2021 Marshall Fire, Boulder County, Colorado, May 2022. https://geerassociation.org/?view=geerreports&id=103&layout=default.

impact of wildfire smoke is one example—the effect on well-being for vulnerable populations will likely be exacerbated if the wildfire smoke impact occurs during hot weather or an extreme heat event where opening windows and fresh air ventilation are the strategy to reduce temperatures. According to the National Institute for Health Care Management), multiple climate impacts can result in stress and anxiety that can reduce well-being and threaten mental health.[6] Many different people may experience some form of climate anxiety, but the impact on mental health may be particularly acute for members of local tribes, who sometimes experience climate impacts as a cultural loss.

3. Climate Modeling

Globally, greenhouse gas concentrations have risen substantially because of human activities and are a primary driver of warming. To project future climate, scientists use "what if" scenarios of plausible future greenhouse gas emissions to drive computer simulations of Earth's climate. There are multiple greenhouse gas scenarios, numerous global climate models (each constructed slightly differently), and multiple techniques for "downscaling" coarse global model projections to local scales. The many possible combinations of scenarios, models, and downscaling techniques are used to estimate a range of possible future climates. The range reflects some of the important unknowns regarding our understanding of the climate system and the potential impact of different approaches over the next decade.

3.1 Updates to Climate Modeling

Climate models are constantly being updated, as different modeling groups around the world incorporate higher spatial resolution, additional physical processes, and biogeochemical cycles. These modeling groups coordinate their updates around the schedule of the Intergovernmental Panel on Climate Change (IPCC) assessment reports, releasing a set of model results in the lead-up to each new report. These coordinated efforts are part of the Coupled Model Intercomparison Projects (CMIP). The 2013 IPCC fifth assessment report (AR5) featured climate models from CMIP5, while the 2021 IPCC sixth assessment report (AR6) features new CMIP6 models. The information presented in this report is from CMIP5 modeling as part of AR5 and is the recommend source of data from the Washington State Department of Commerce.

Parametrix reviewed CMIP6 data when assessing the vulnerability and risk to the city from future climate impacts and assessed whether the risks were greater with CMIP6 information than CMIP5. The results were mostly similar between the two models, but the risks discussed between 2050 and 2080 may occur sooner according to CMIP6 modeling than CMIP5. This information is an important factor in planning, as risks identified to occur in 2050 are based on projections from 2040 to 2060, meaning these impacts would come within the next two decades versus three decades.

Because of the time and expense of providing local data from global models, most of the data used in this report is from CMIP5 with temperature and precipitation information coming from CMIP6 when possible. Based on the current trends from CMIP5 and CMIP6 modeling, this report references the "business as usual" scenario; along with the uncertainty ranges to reflect the most plausible future projections.

[6] https://nihcm.org/publications/climate-change-is-affecting-our-mental-health.

3.2 Uncertainty

Because there are many variables involved in climate, it is not possible to project exactly how climate change will play out into the future. As a result, modeling future climate change must account for uncertainty. Sources of uncertainty in climate forecasting include the following:

1. Different economic and social approaches over the next decade.
2. Uncertainty due to natural variability, which encompasses climate variability and externally driven (e.g., solar, volcanic) natural climate change.
3. Uncertainty in the climate system's response to external forcing due to incomplete knowledge of feedback and time scales in the system.

Acknowledging uncertainty allows the City to be prepared for a range of climate futures. Ultimately, uncertainties in climate projections are unknowable because they can only be verified in the future.

3.3 Future Updates to this Work

The following evaluation and methodology are based on the best climate science available at a local scale or regional scale. As climate science advances, new information will be available, and projections may need to be refined. In particular, the Washington State Department of Natural Resources will release updated Washington State Wildfire Risk mapping which will be updated in summer 2026.

Demographic data provided as part of the evaluation is updated by the U.S. Census Bureau and is updated after each census, usually within the first 5 years. Data provided in this report from the American Community Survey (ACS) are updated after the census is taken.

4. Climate Vulnerability Index

4.1 Purpose

The purpose of a Climate Vulnerability Index (CVI) is to quantify climate vulnerability across key climate, environmental, and community data. The final index can be visualized in maps and tables to help identify and prioritize projects that facilitate climate resiliency across the city. The CVI provides quantitative data to assess the impacts or vulnerability of a community. This in turn can help assess risk along with an understanding of probability and the ability to mitigate the risk (climate impact), as has been done in Section 2.

The CVI is available online via the City of Liberty Lake Climate Element Explorer.

4.2 Methodology and Data

Parametrix grouped indicators which are listed below (from geographic information system [GIS] data layers) into three individual indexes: adaptive capacity, sensitivity, and exposure (Figure 2). Each individual index is composed of 8 to 15 indicators that score each census block group based on their percentile rank compared to other block groups in the city. The indicators are mapped in GIS at the census block group level and exported to a custom Microsoft Excel tool developed by the consulting team to automate the scoring of the indexes for future updates as new source data becomes available. The final map product, a CVI webmap application, allows the user to visualize the block

group scores of either the cumulative index or the CVI or any of the individual indexes (adaptive capacity, sensitivity, and exposure).

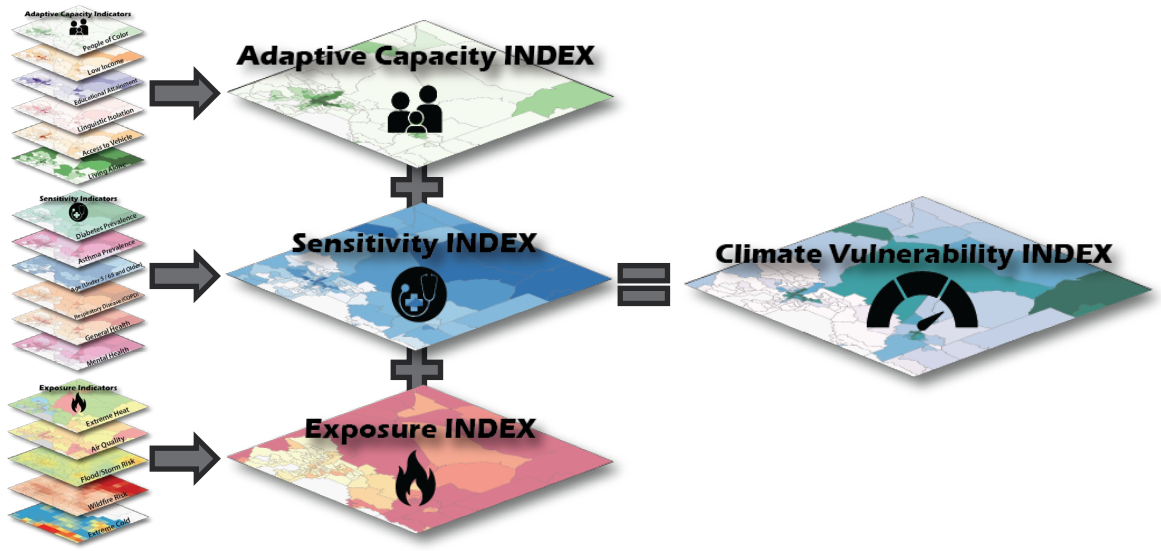


Figure 2. Climate Vulnerability Index Methodology

Adaptive Capacity

Adaptive capacity indicators include features of people or places that can affect their ability to cope with change. These indicators are primarily gathered from the ACS tables mapped at the block group level. There are other indicators such as tree canopy and impervious surface that are used to identify the potential for heat islands. Overall job density and the job density of outdoor professions are determined using longitudinal employer-household dynamics data that are a product of the U.S. Census Bureau.

The Adaptive Capacity Index is made up of the following inputs:

- People of color.[7]
- Low-income households.[8]
- Educational attainment – less than high school degree.

[7] They are a focus in the CVI because current systems perpetuate systemic historical barriers to resources such as healthcare, education, and housing, which can exacerbate their vulnerability to climate hazards. In a CVI, they are a key focus because historical and ongoing inequities increase their exposure to risks and reduce their ability to recover from climate-related events such as floods, heatwaves, and storms.

[8] Following the Office of Management and Budget's Statistical Policy Directive 14, the U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index. The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

- Linguistic isolation.[9]
- Living alone.
- Housing cost burden – less than 30% income to housing ratio.
- Access to a vehicle.
- Housing condition (built before 1980) – homes built before 1980 potentially have dangers such as faulty wiring, cracked foundations, and hazardous building materials.
- Population density.
- Job density.
- Impervious surface.
- Unemployment.
- Outdoor professions – resource and construction jobs likely to be performed outside.
- Population between the ages of 18 and 64 without health insurance.
- Tree canopy coverage.

Sensitivity

Sensitivity indicators include age and health conditions that affect the degree to which the population may be affected by hazards. The Sensitivity Index is composed of GIS inputs from the Centers for Disease Control's "Places: Local Data for Better Health[10]" dataset and data from the ACS.

The Sensitivity Index is made up of the following inputs:

- Less than 5 years old.
- More than 64 years old.
- Diabetes – diagnosed diabetes among adults aged 18 years and older.[11]
- Asthma – current asthma prevalence among adults aged 18 years and older.
- Respiratory disease – chronic obstructive pulmonary disease.
- Heart disease – coronary heart disease.
- Physical health not good for 14 days or more among adults aged 18 years and older.
- Mental health not good for 14 days or more among adults aged 18 years and older.

[9] An entire household's inability to communicate in English can be even more of a barrier than an individual's inability. For example, in the case of a national or local emergency, such households could not receive an emergency communication in English. The concept of "linguistic isolation" was developed in preparation to provide estimates of the numbers and characteristics of households that might need assistance to communicate with government and social services—for example, to follow instructions from the Federal Emergency Management Agency in the event of a disaster.

[10] https://www.cdc.gov/places/index.html

[11] People with diabetes are at greater risk of experiencing dehydration and cardiovascular events during periods of extreme heat.

Exposure

The Exposure Index are the indicators identified by the University of Washington Climate Impacts Group (UW CIG) for the State of Washington from changes in the climate and climate-related natural hazards. The Parametrix team identified climate impacts and projections for Liberty Lake from the UW CIG Climate Mapping for Resilient Washington[12] as recommended by the Washington State Department of Commerce. Table 2 summarizes the changes expected by mid-century (2050s) and end of the century (2080s). For community planning, the business-as-usual scenario is used for climate projections based on social and economic reductions of greenhouse gases that do not dramatically change over time, including uncertainty ranges in parentheses. This approach helps assess risk and populations impacted by these risks within the city. Section 2.3 provides details on the impacts the City is likely to face over the coming decades

Table 2. Climate Impacts and Projections for 2050 and 2080 for RCP8.5 for the City of Liberty Lake

Climate Projection (Key indicators from CMRW Tool)	By 2050s	By 2080s
Total annual precipitation (percentage change)	**8% increase** *(5% to 14%)*	**15% increase** *(7% to 24%)*
Late summer precipitation	**10% decrease** *(-25% to +8%)*	**8% decrease** *(-31% to +30%)*
Change in extreme precipitation (change in 24-hour 25-year precipitation)	**9% increase** (0% to 24%)	**18% increase** (11% to 46%)
Change in hot days (<100 °F), historical is 1 day	**6 days** *(2 to 10)*	**24 days** *(12 to 40)*
90° max. humidex (change in days), historical 2 days	**23** *(11 to 34)*	**55** *(34 to 77)*
65° min. humidex (change in days), historical is 5 days	**13** *(7 to 21)*	**37** *(17 to 59)*
Wildfire, change in high fire days – historical is 48 days (1971–2000)	**10 additional days** *(3 to 17 days)*	

Source: Raymond, C., M. Rogers, 2022. Climate Mapping for a Resilient Washington. Prepared by the Climate Impacts Group, University of Washington, Seattle and Research Data & Computing Services, University of Idaho, Moscow.

CMRW = Climate Mapping for Resilient Washington; RCP = Relative Concentration Pathway

Winds are a concern during and cause significant damage and exacerbate wildfires. As of the time of this study, there is no statistically significant change in the frequency of severe surface winds associated with climate change based on available scientific literature

4.3 Summary of the Climate Vulnerability Index

The CVI quantifies climate vulnerability using indicators in three categories: adaptive capacity, sensitivity, and exposure. It identifies and prioritizes a pathway to climate resiliency in Liberty Lake. While the risk assessment is citywide, more specific information is available for different areas of the

[12] https://cig.uw.edu/resources/analysis-tools/climate-mapping-for-a-resilient-washington/

city. While small in land area, the city has some demographic differences from west to east. CVI is used to map and score census block groups, aiding in future updates and community planning to ensure the resilience of Liberty Lake against these climate threats.

This information is useful in planning for resiliency but should not be taken alone. Open dialogue between planning for resiliency and the communities impacted is important to successful work to increase resiliency over time. These are observations from the CVI:

- Adaptive Capacity: Factors such as tree canopy, job density, and housing conditions contribute to the community's ability to adapt to climate changes. The adaptive capacity is lower on the west side of Liberty Lake than the east side driven by symptoms of low-income communities such as high housing cost burden, outdoor jobs, and lack of health insurance.
- Sensitivity: This category includes age and health conditions that affect vulnerability. For instance, elderly populations or those with preexisting health conditions may be more susceptible to the impacts of climate change. The west side of the city is also higher sensitivity due to elderly population and the health issues associated with the elderly such as chronic obstructive pulmonary disease, cancer, and heart disease.
- Exposure: Focuses on the climate impacts from natural hazards. Since the city is a small area, it is not useful to differentiate the exposures geographically; the community as whole will face the same risks, but the ability to prepare and respond to those risks will differ geographically.

5. Conclusion

This assessment details the projected impacts of climate change on the city of Liberty Lake, including increased precipitation, higher summer temperatures, and resulting risks such as flooding and wildfires. It evaluates climate risks through six categories, emphasizing drought, wildfire, and temperature increases as threats to prioritize. The CVI quantifies vulnerability using indicators grouped into sensitivity, adaptive capacity, and exposure to prioritize climate resiliency projects.

Based on this assessment, the following goals are recommended as part of the Climate Element of the City of Liberty Lake Comprehensive Plan. These goals and policies are under review and are subject to change.

Land use – Establish land use patterns that increase the resilience of the built environment, ecosystems, and communities to climate change.

Water quality – Protect and preserve water quality.

Cultural resources and practices – Ensure that cultural resources and practices, including outdoor recreation and natural resources, are resilient to the impacts of extreme weather and other natural hazards worsened by climate change.

Local transportation system – Ensure that the local transportation system—including infrastructure, routes, and travel modes—can withstand and recover quickly.

Emergency preparedness – Increase community emergency preparedness.

Resilient and sustainable buildings – Ensure that buildings are designed and built sustainably to reduce environmental impacts and remain resilient to extreme weather and other hazards worsened by climate change.

Community health – Protect community health and well-being.

Public education – Increase climate literacy among the general population. Provide information to the public to increase the level of knowledge across the city for people to be more engaged.

Appendix A - Liberty Lake Climate Vulnerability Index – Correlation Analysis

LIBERTY LAKE CLIMATE VULNERABILITY INDEX – CORRELATION ANALYSIS

Pearson Correlation Coefficient Explained

This appendix summarizes the results of correlation analysis performed to understand relationships among the metrics and indexes that make up the Climate Vulnerability Index (CVI). Correlations were calculated using the **Pearson Correlation Coefficient**, which measures the strength and direction of the linear relationship between two variables and ranges from −1 to 1:

- 1 = perfect positive linear relationship (both increase together)
- −1 = perfect negative linear relationship (as one increases, the other decreases)
- 0 = no linear relationship

When interpreting correlation values, remember that **correlation does not imply causation**: a strong correlation means two variables move together, but it does not prove one causes the other.

Correlation Values and Their Significance

For practical interpretation:

Coefficient (r)	Strength	Interpretation
0.90–1.00 or −0.90–(−1.00)	Very strong	Strong linear alignment
0.70–0.89 or −0.70–(−0.89)	Strong	Likely a major contributor
0.40–0.69 or −0.40–(−0.69)	Moderate	Meaningful but not dominant
0.20–0.39 or −0.20–(−0.39)	Weak	Limited influence
0.00–0.19 or −0.00–(−0.19)	Very weak or none	Essentially no linear relationship

Positive values mean variables increase together; negative values mean one increases as the other decreases.

Summary of Correlation Results Across Index Components

To evaluate the CVI's internal consistency and explore how its components interact, Pearson correlations were calculated among the three parent indexes—**Exposure**, **Sensitivity**, and **Adaptive Capacity Burden**—and between each parent index and the overall CVI.

CVI correlations with parent indexes

- The **Adaptive Capacity Burden Index** shows the strongest correlation with the CVI (**r = 0.71**). This highlights that areas facing structural and socioeconomic challenges—such as low income, high housing cost burden, and lower educational attainment—are most strongly associated with higher climate vulnerability.
- The **Sensitivity Index** also has a positive, but weaker, correlation with the CVI (**r = 0.25**), suggesting that demographic factors (like age, disability, or language isolation) play a meaningful but secondary role.
- The **Exposure Index** shows only a very weak correlation with the CVI (**r = 0.11**), indicating that, within Liberty Lake, the geographic pattern of climate-related hazards (e.g., heat, wildfire, drought) doesn't overlap closely with the areas most vulnerable due to social and economic conditions.

This pattern aligns with broader climate equity research: **vulnerability depends not only on exposure but on the capacity of communities to prepare for, cope with, and recover from climate hazards.**

Correlations among the parent indexes

- **Exposure vs. Adaptive Capacity Burden**: **r = –0.24** — areas with higher exposure tend to have slightly lower adaptive capacity burdens, suggesting spatial separation between hazard intensity and social vulnerability.
- **Exposure vs. Sensitivity**: **r = 0.25** — a weak positive relationship, indicating limited overlap between hazard exposure and sensitive populations.
- **Adaptive Capacity Burden vs. Sensitivity**: **r = –0.48** — a moderate negative correlation implies that socially and economically burdened areas may not always be the same areas that have the highest demographic sensitivities.

Internal consistency of each index

Adaptive Capacity Burden Index

- Strongly correlated with:
  - **Low Income Populations** (r = 0.89)
  - **Cost-Burdened Renters** (r = 0.82)
  - **Unemployment Rate** (r = 0.78)
- These correlations confirm that economic hardship is the main driver of adaptive capacity burden in Liberty Lake.

Sensitivity Index

- Strongest correlation with **Percent Disabled** (r = 0.89).
- Moderate correlations with other metrics like **Limited English Proficiency** and **Older Adults**, showing the index captures multiple dimensions of social sensitivity.

Exposure Index

- Strong positive correlations with composite metrics:
    - **Heat Score** (r = 0.76)
    - **Precipitation Score** (r = 0.75)
    - **High Fire Danger Days** (r = 0.60)
- Strong negative correlations with:
    - **Drought Score** (r = –0.77)
    - **Late Summer Precipitation** (r = –0.75)
- These patterns validate the index is sensitive to both extreme heat and precipitation conditions. Some redundancy was identified (e.g., **Ozone and Air Quality**: r = 1.00; **Wildfire Score and WUI Score**: r = 0.99), but these were retained for transparency and consistency.

Conclusion

The correlation analysis demonstrates that the CVI is most influenced by adaptive capacity burdens, moderately by social sensitivity, and only weakly by direct exposure to climate hazards. Internally, each index is consistent with its intended design and shows logical alignment between its composite score and key underlying metrics.

APPENDIX "F"

Liberty Lake Comprehensive Plan Update
Racially Disparate Impacts Analysis | FINAL

Introduction

In 2021, the Washington State Legislature passed House Bill 1220 (HB 1220) as an amendment to the state Growth Management Act (GMA). HB 1220 requires that local governments plan for housing at all income levels and assess the racially disparate impacts (RDI) of existing housing policies. Conditions that indicate that policies have racially disparate impacts can include segregation, cost burden, displacement, educational opportunities, and health disparities.

According to state guidance, there are five steps to understanding and addressing racially disparate impacts:

- Step 1: Engage the Community
- Step 2: Gather & Analyze Data
- Step 3: Evaluate Policies
- Step 4: Revise Policies
- Step 5: Review & Update Regulations

This report accounts for both Step 2 and Step 3 – it includes a summary of findings based on data from the US Census Bureau, US Department of Housing and Urban Development (HUD), and other sources. These findings then inform the policy evaluations and recommendations found at the end of the report.

Key Findings

- According to current research by the Eastern Washington University, Liberty Lake does not have a history of racially restrictive covenants. However, **Liberty Lake was less diverse in 2023 than in 2018**, indicating that there are likely other barriers keeping residents of color out of the city's housing market.
- Between 2017 and 2021 the share of non-white residents decreased in Liberty Lake while increasing in Spokane County.
- Between 2017 and 2021, Liberty Lake added a significant number of white and Hispanic/Latino residents while losing Asian and other race residents.
- **White households in Liberty Lake are more likely to be cost-burdened** (defined as spending more than 30 percent of their income on housing costs) than other racial and ethnic groups. However, 16 percent of Asian and 17 percent of American Indian/Alaska Native households spend more than 30 percent of their incomes on rent.
- Liberty Lake has **rental housing shortages at the high and low end of the market**. The city needs 55 rental units for households making less than 30 percent AMI and 175 rental units for those making more than 80 percent AMI to meet current demand.
- **Displacement risk is generally low** in Liberty Lake, but as the population continues to grow, the City should ensure that there are protections in place for vulnerable and cost-burdened renter households.
- While white households are the most likely of any racial group to make less than 30 percent of AMI, Asian households have the highest share of households making less than the median income.

Historical Context

Throughout the history of the United States, a combination of laws and practices have impacted where specific groups of people live, what opportunities they have access to, and their ability to build wealth through stable housing. Unfortunately, many of these policies explicitly or implicitly benefited white residents at the expense of all others. The

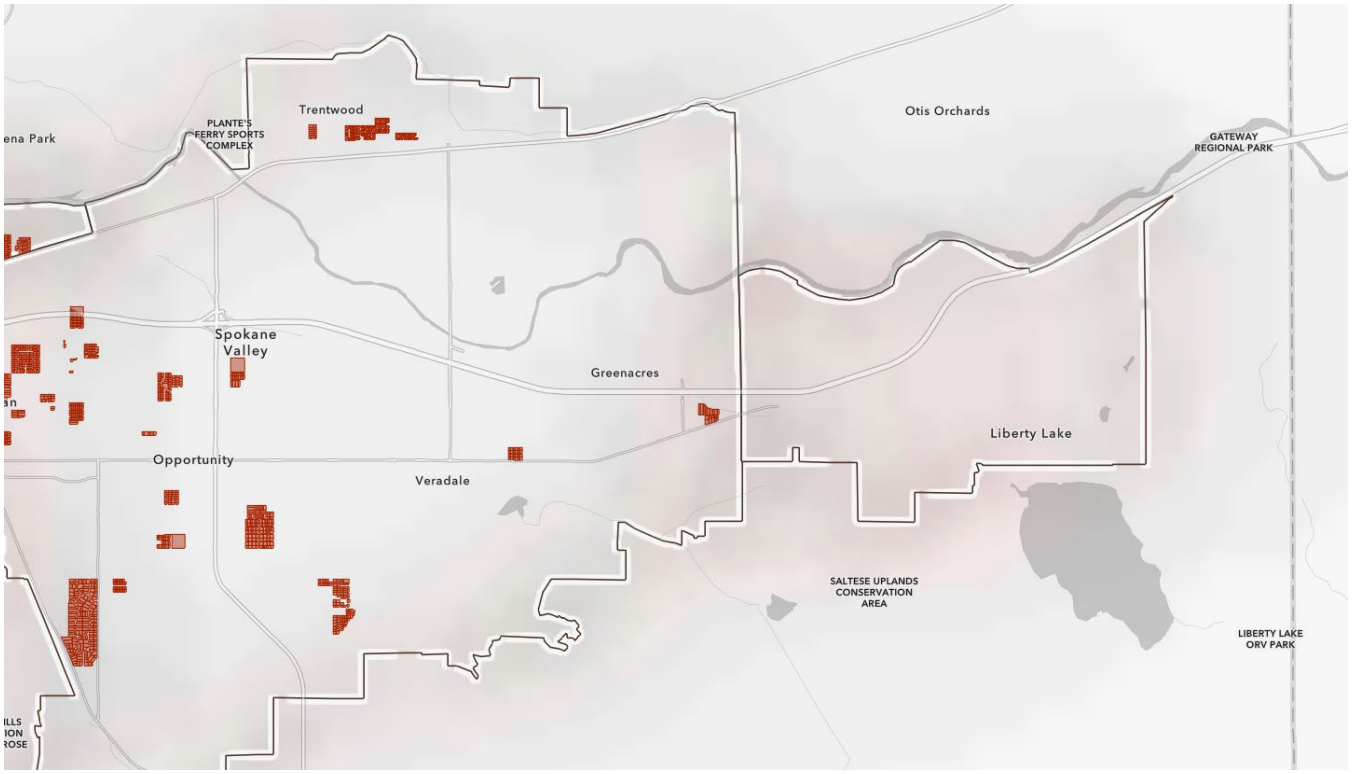
legacy of policies like redlining, which used racial criteria in determining which neighborhoods were suitable for government-backed loans, highway development through predominantly Black neighborhoods, and racial covenants explicitly excluding certain groups from owning specific properties continues to impact non-white communities today.

While many cities have acknowledged the harms of these policies, many of which are no longer legal, there are still policies in effect today that hold cities back from rectifying systemic harms. These can include policies that reference vague concepts like "neighborhood character," as well as those that permit only the most expensive homes to be built, thus shutting lower-income residents out of high-opportunity areas.

This section contains a historic review of some of the known policies and programs that caused racially disparate impacts in Liberty Lake as a starting point in understanding present-day conditions.

Throughout the United States, racial covenants were used to exclude certain races and religious groups from residing in specific neighborhoods, creating exclusive areas for white, Christian residents. These deed restrictions were legally enforceable from 1927 to 1968. Unlike neighboring Spokane Valley, the Washington State Racial Restrictive Covenants Project does not show any known racially restricted parcels or subdivisions in Liberty Lake. This is largely because most of Liberty Lake's subdivisions were not built until the 1970s and 1980s, when these covenants were illegal. However, Liberty Lake today lacks the diversity of other parts of the county and state – 93 percent of city residents are white as of 2023.

Figure 1. Racially Restricted Parcels in Eastern Spokane County

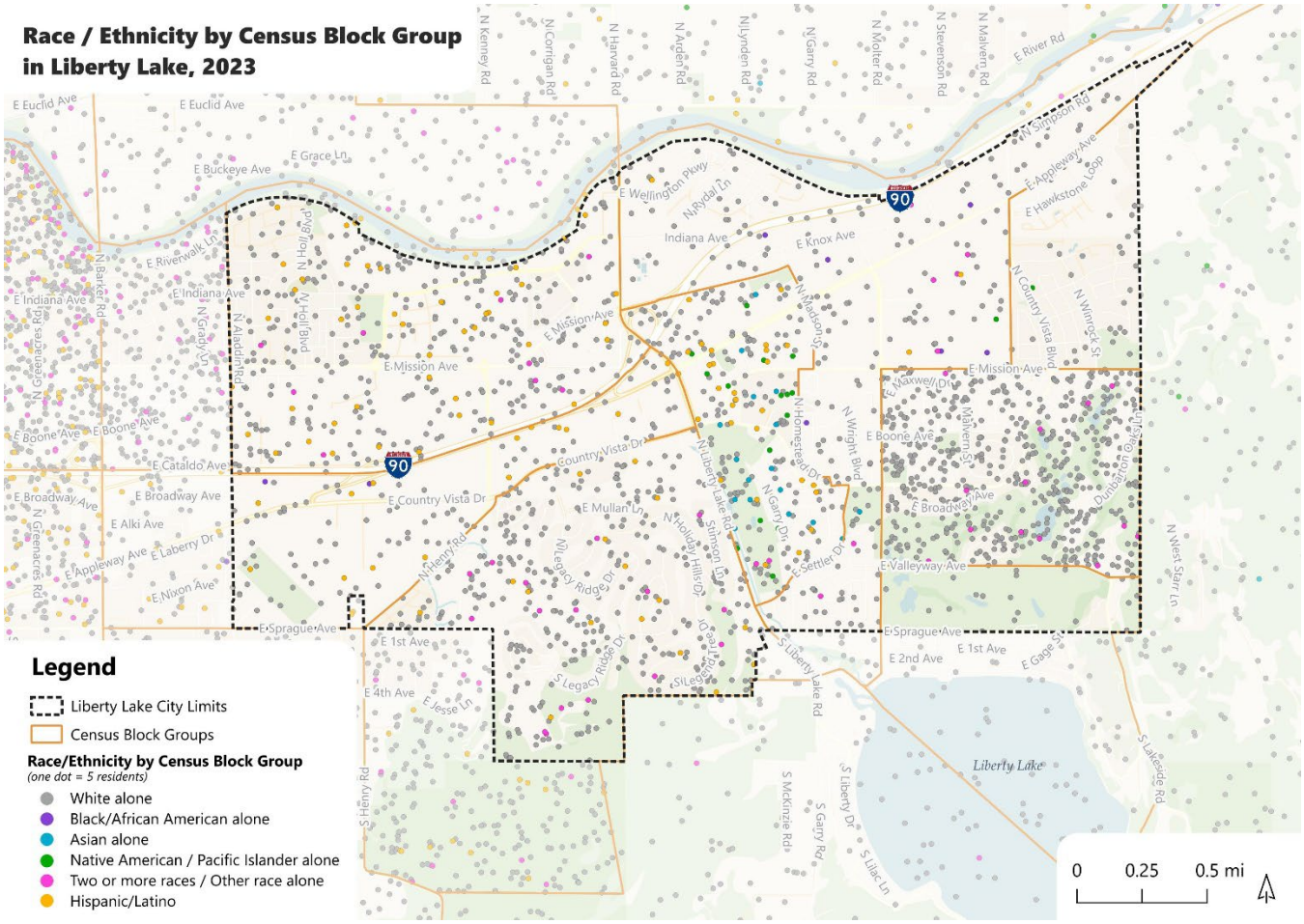


Source: Washington State Racial Restrictive Covenants Project.

The combination of racially restrictive covenants and redlining impacted the ability of Black veterans to fully access homeownership loan benefits through the Servicemen's Readjustment Act of 1944 (GI Bill), which enabled white veterans to buy housing and build wealth in the suburbs. Racial covenants have since been declared unconstitutional, and Fair Housing laws have been put into effect. However, as of 2023 Liberty Lake is less diverse than Spokane County overall. Liberty Lake is predominantly white, with no significant geographic concentrations of BIPOC households. The

area east of N Liberty Lake Road, which has small clusters of Hispanic/Latino and Native American/Pacific Islander households has a relatively high concentration of multifamily housing.

Figure 2. Race and Ethnicity in Liberty Lake by Census Block Group (2023)



Source: US Census Bureau 2023 5-Year ACS; LCG.

Assessing Racially Disparate Impacts

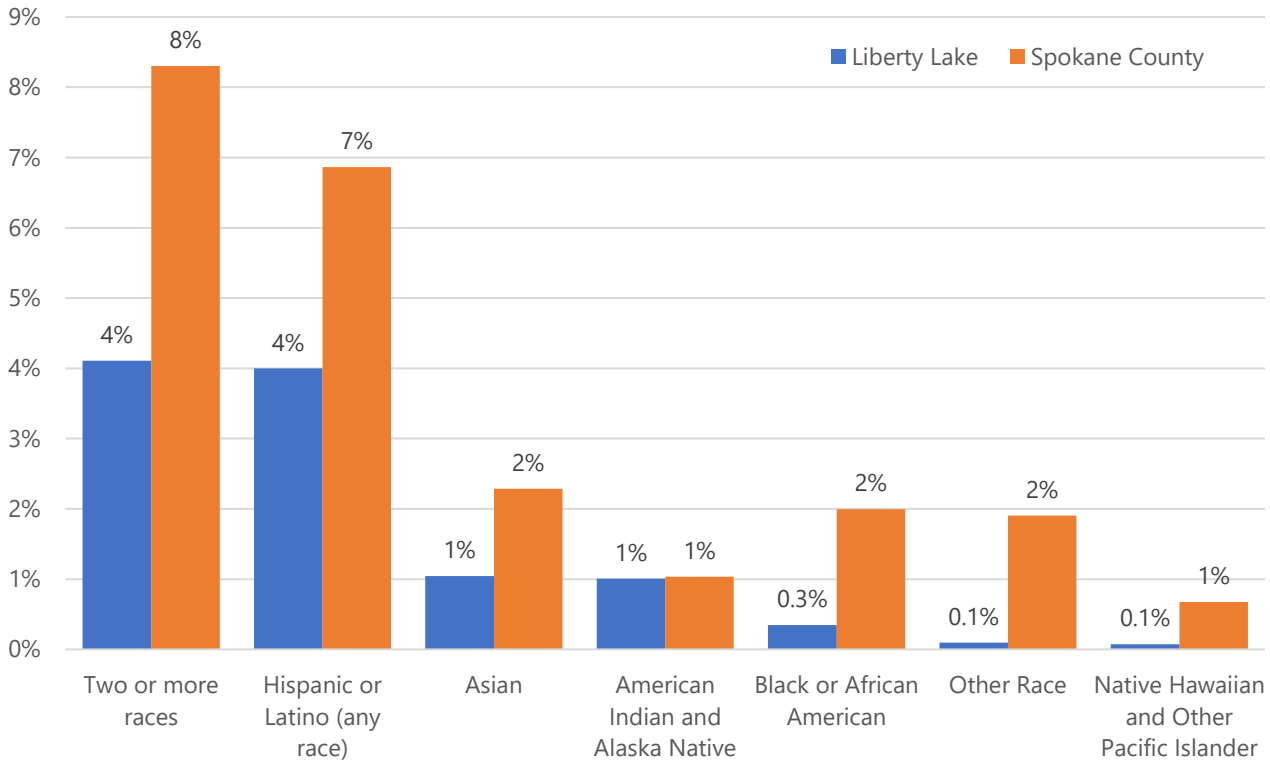
Between 2018 and 2023, Liberty Lake became slightly less diverse. The city grew by more than 3,000 residents over that period, but lost Asian and other race residents. The city went from 90 percent white to 93 percent white over the course of five years. Over the same period, Spokane County's population went from 88 percent white to 84 percent white, with Hispanic or Latino and multiracial residents seeing the biggest countywide gains.

Figure 3. Change in Population by Race/Ethnicity, Liberty Lake and Spokane County

	Liberty Lake			Spokane County		
	2018	**2023**	**Change**	**2018**	**2023**	**Change**
American Indian and Alaska Native	27	125	98	7,248	5,624	(1,624)
Asian	398	130	(268)	11,117	12,438	1,321
Black or African American	0	43	43	8,009	10,866	2,857
Hispanic or Latino (any race)	252	497	245	27,693	37,356	9,663
Native Hawaiian and Other Pacific Islander	0	9	9	2,507	3,673	1,166
Other Race	62	12	(50)	7,063	10,357	3,294
Two or more races	428	511	83	23,093	45,201	22,108
White	8,467	11,605	3,138	438,838	456,164	17,326
Total Population	***9,382***	***12,435***	***3,053***	***497,875***	***544,323***	***46,448***

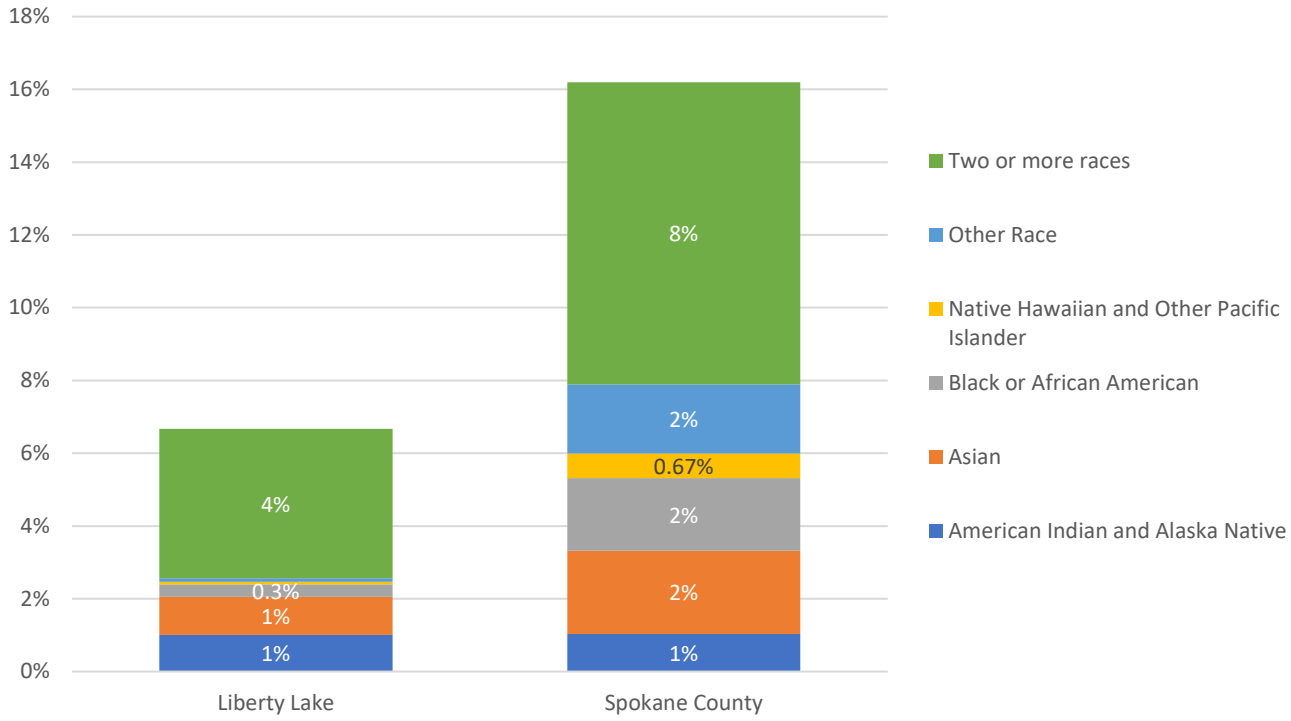
Source: US Census Bureau 2023 5-Year ACS (Table DP05).

Figure 4. Population by Race/Ethnicity in Liberty Lake and Spokane County (2023)



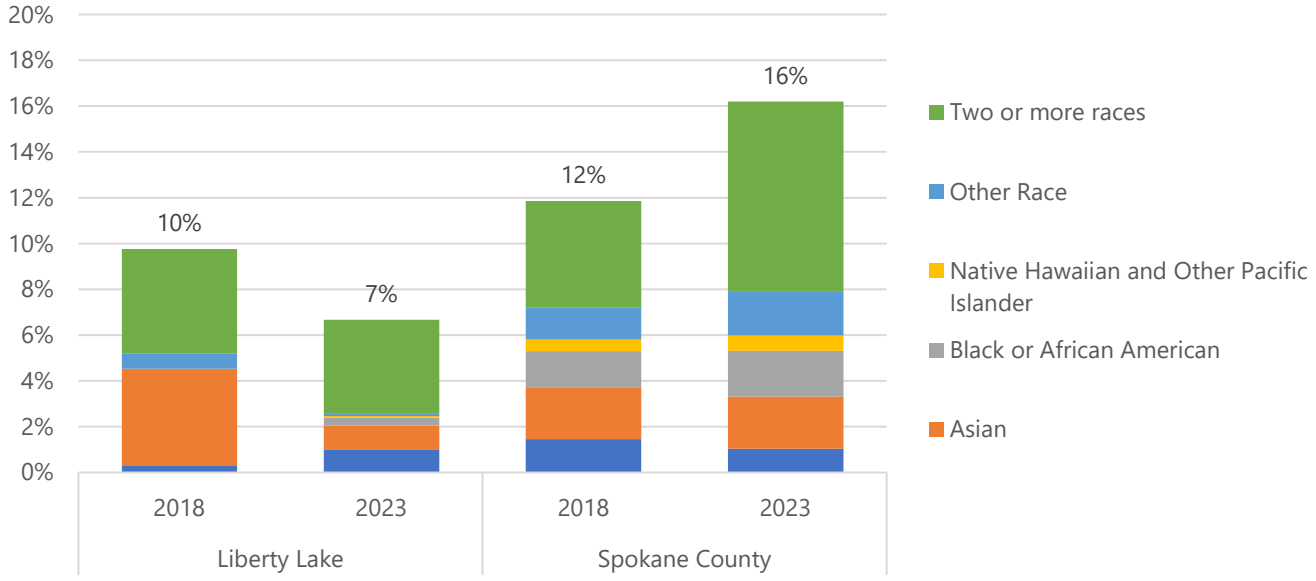
Source: US Census Bureau 5-Year ACS (Table DP05).

Figure 5. Non-White Population by Race in Liberty Lake and Spokane County (2023)



Source: US Census Bureau 5-Year ACS (Table DP05).

Figure 6. Non-White Population of Liberty Lake and Spokane County, 2018-2023



Source: US Census Bureau 5-Year ACS (Table DP05).

Liberty Lake is home to 2,575 homeowner households and 1,375 renter households. Of the homeowner households, just seven percent are cost burdened (spending more than 30 percent of their income on housing costs), compared with 46 percent of renter households. While just four percent of homeowners spend between 30 and 50 percent of their income

on rent, the same is true for 31 percent of renters. In addition, 15 percent of renters are severely cost-burdened, spending more than half of their incomes on rent. This sharp divide in stability between renters and owners can result in racially disparate impacts when renters are more likely to be people of color.

In Liberty Lake, 100 percent of American Indian/Alaska Native households and 42 percent of Asian households rent their homes, compared with 35 percent of white households and 22 percent of Hispanic/Latino households. However, in Liberty Lake the cost barriers impact both white residents and residents of color. Among white households, 23 percent spend at least 30 percent of their incomes on rent, compared with 16 percent of Asian and 17 percent of American Indian/Alaska Native households. All of the Asian households experiencing cost burden spend more than 50 percent of their incomes on housing. None of the city's 90 Hispanic/Latino households are cost burdened.

Figure 7. Number of Households by Cost Burden in Liberty Lake (2021)

	White	Asian	American Indian or Alaska Native	Other Race	Hispanic or Latino (of any race)	Total
Owner Households						
Not Cost Burdened	2,380	55	-	45	70	2,550
Total Cost-Burdened	200	-	-	-	-	200
Cost-Burdened (30-50%)	105	-	-	-	-	105
Severely Cost-Burdened (>50%)	95	-	-	-	-	95
Not Calculated	-	-	-	-	-	-
Total	**2,575**	**55**	**-**	**45**	**70**	**2,745**
Renter Households						
Not Cost Burdened	695	25	75	20	20	835
Total Cost-Burdened	680	15	15	-	-	710
Cost-Burdened (30-50%)	470	-	15	-	-	485
Severely Cost-Burdened (>50%)	210	15	-	-	-	225
Not Calculated	-	-	-	-	-	-
Total	**1,375**	**40**	**90**	**20**	**20**	**1,545**
Total Households	**3,950**	**95**	**90**	**65**	**90**	**4,290**

Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

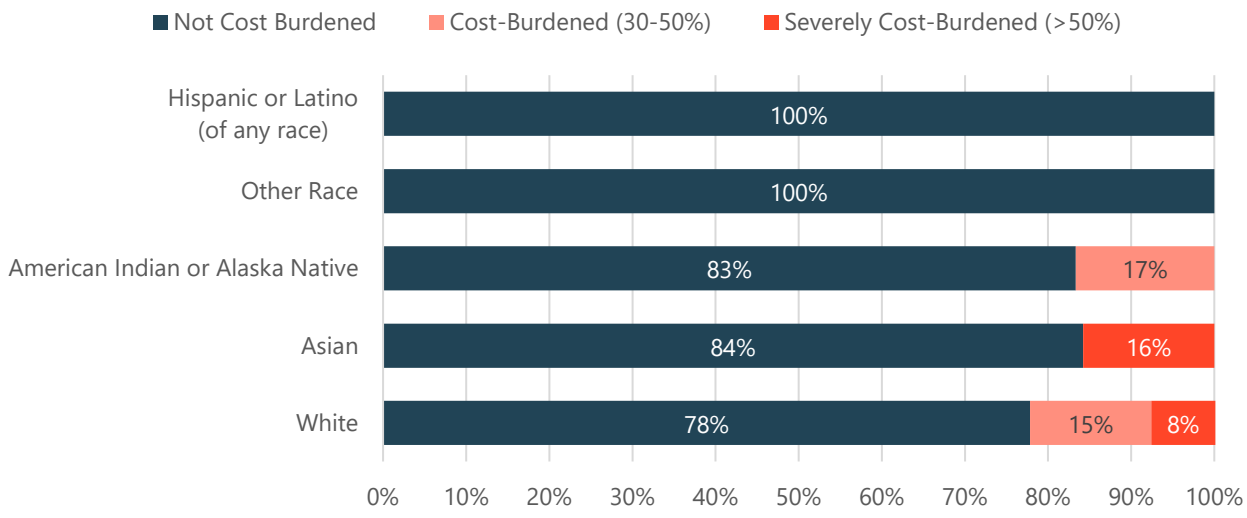
Note: CHAS data for Liberty Lake does not include Black/African American or Pacific Islander households.

Figure 8. Share of Cost Burdened Households by Race and Ethnicity, 2016-2021

	Liberty Lake		Spokane County	
	2016	**2021**	**2016**	**2021**
American Indian and Alaska Native	-	17%	42%	49%
Asian	52%	16%	36%	29%
Black or African American	-	-	50%	45%
Hispanic or Latino (any race)	-	-	35%	42%
Native Hawaiian and Other Pacific Islander	-	-	57%	51%
Other Race	30%	-	35%	33%
White	28%	22%	32%	28%
Total Cost Burdened	***28%***	***21%***	***32%***	***29%***

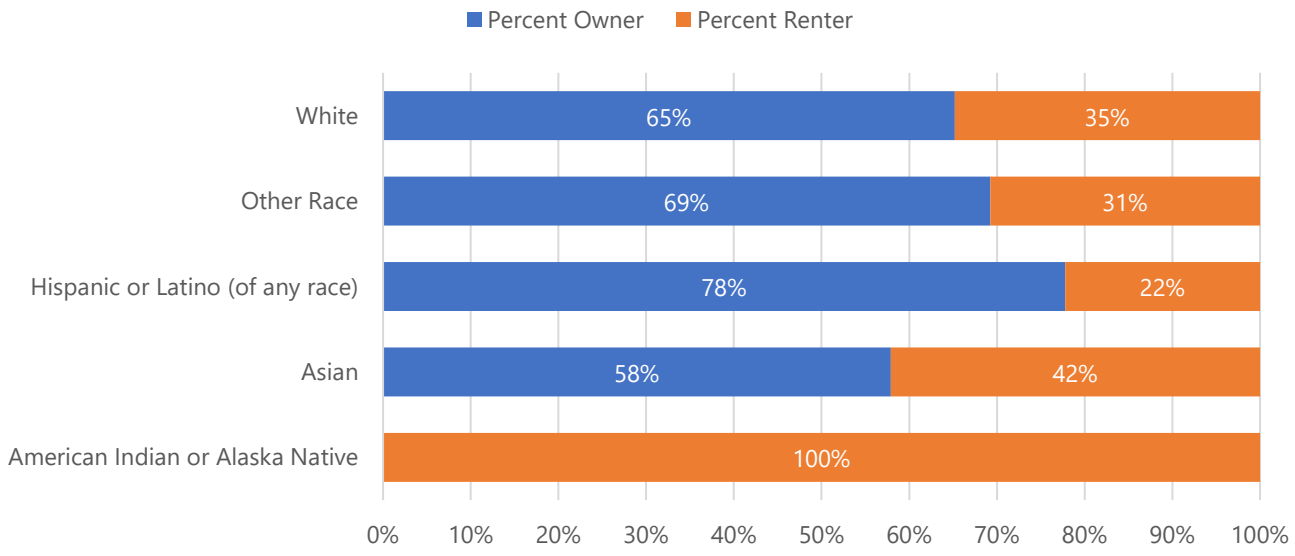
Source: US HUD, 2012-2016 & 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

Figure 9. Liberty Lake Percent of All Households Experiencing Housing Cost Burden (2021)



Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

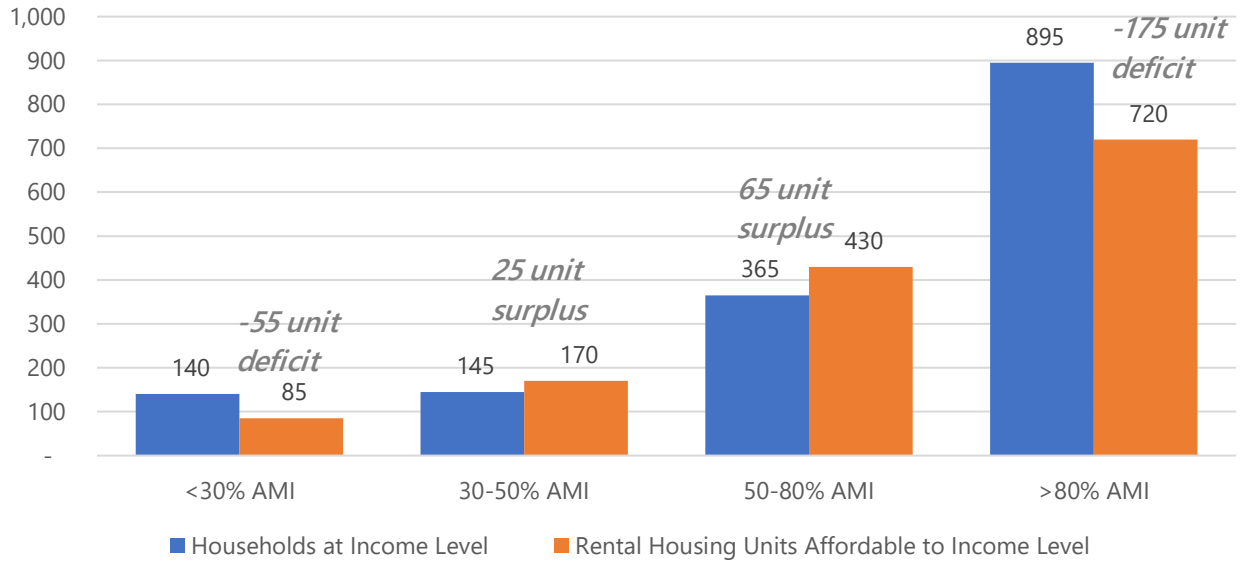
Figure 10. Liberty Lake Owner and Renter Households by Race & Ethnicity (2021)



Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

The renter cost burden in Liberty Lake is driven by a shortage of rental units at the high and low ends of the market (greater than 80 percent AMI and less than 30 percent AMI). Figure 10 below shows the current number of renter households compared with the number of rental units affordable to households in each income level. When there are shortages of units corresponding to a given income level, those households will rent units affordable to a different income level. For instance, the lack of housing at greater than 80 percent AMI indicates that there are likely renters at that income level renting units in the 50 to 80 percent range, making it harder for households in that income range to find housing. Alternatively, the shortage of housing units at the less than 30 percent AMI range indicates that households at that income level are likely cost burdened.

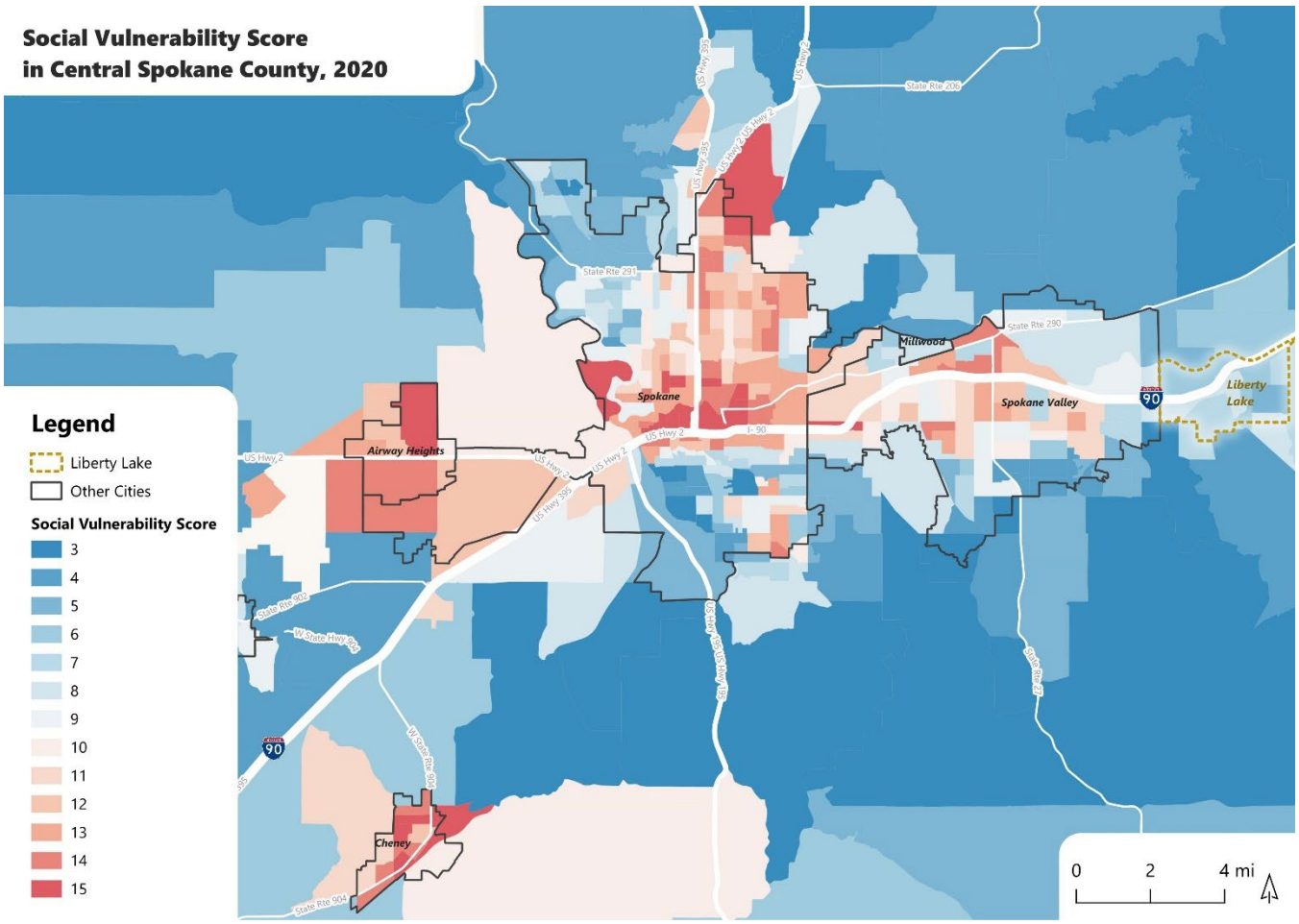
Figure 11. Liberty Lake Renter Households by Income Compared to Rental Units by Affordability, 2021



Sources: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 15C & Table 14B).

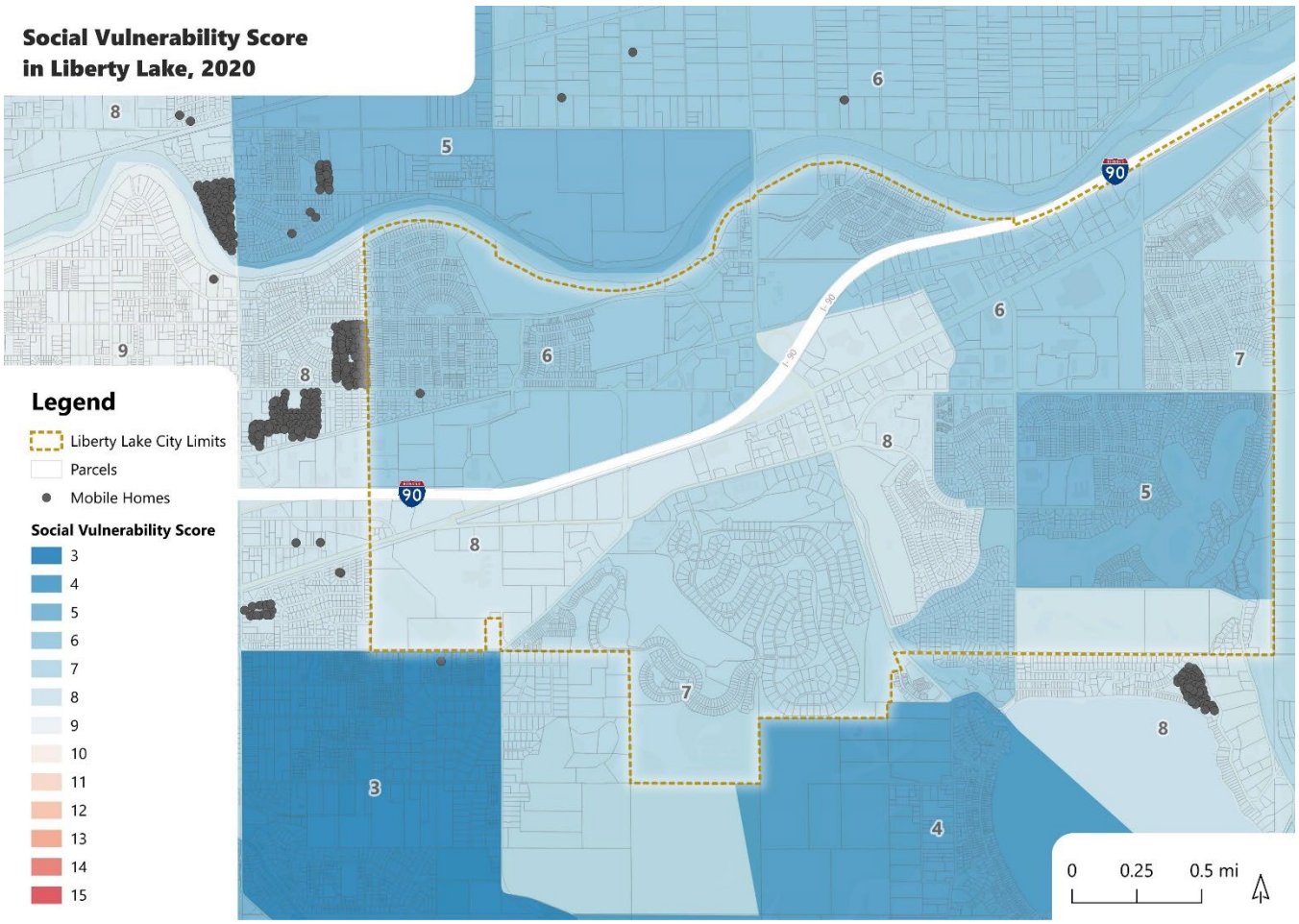
The Washington Department of Commerce has created displacement risk maps for communities based on Census tracts. However, because Liberty Lake is such a small community the tract-level map does not provide the nuance needed to assess displacement risk within the community. The maps below utilize similar methodology to the Department of Commerce maps using data at the Census block group level. Figure 11 and Figure 12 below show the social vulnerability score by Census block group for the county and city. Overall, Liberty Lake has a lower social vulnerability score than many of the neighborhoods in Spokane and Spokane Valley. However, the Census block that contains most of the City's multifamily housing east of N Liberty Lake Road has a higher social vulnerability score than other parts of the city. The adjacent block group to the west also has a relatively high social vulnerability score, but most of the housing in that block group is located outside of Liberty Lake in Spokane Valley.

Figure 12. Social Vulnerability Score for Central Spokane County (2020)



Source: US Census Bureau 5-year ACS 2013 & 2023 (Table B19013); 2020 Decennial Census (Table DP01); 2010 Decennial Census (Table H11); Washington Department of Commerce.

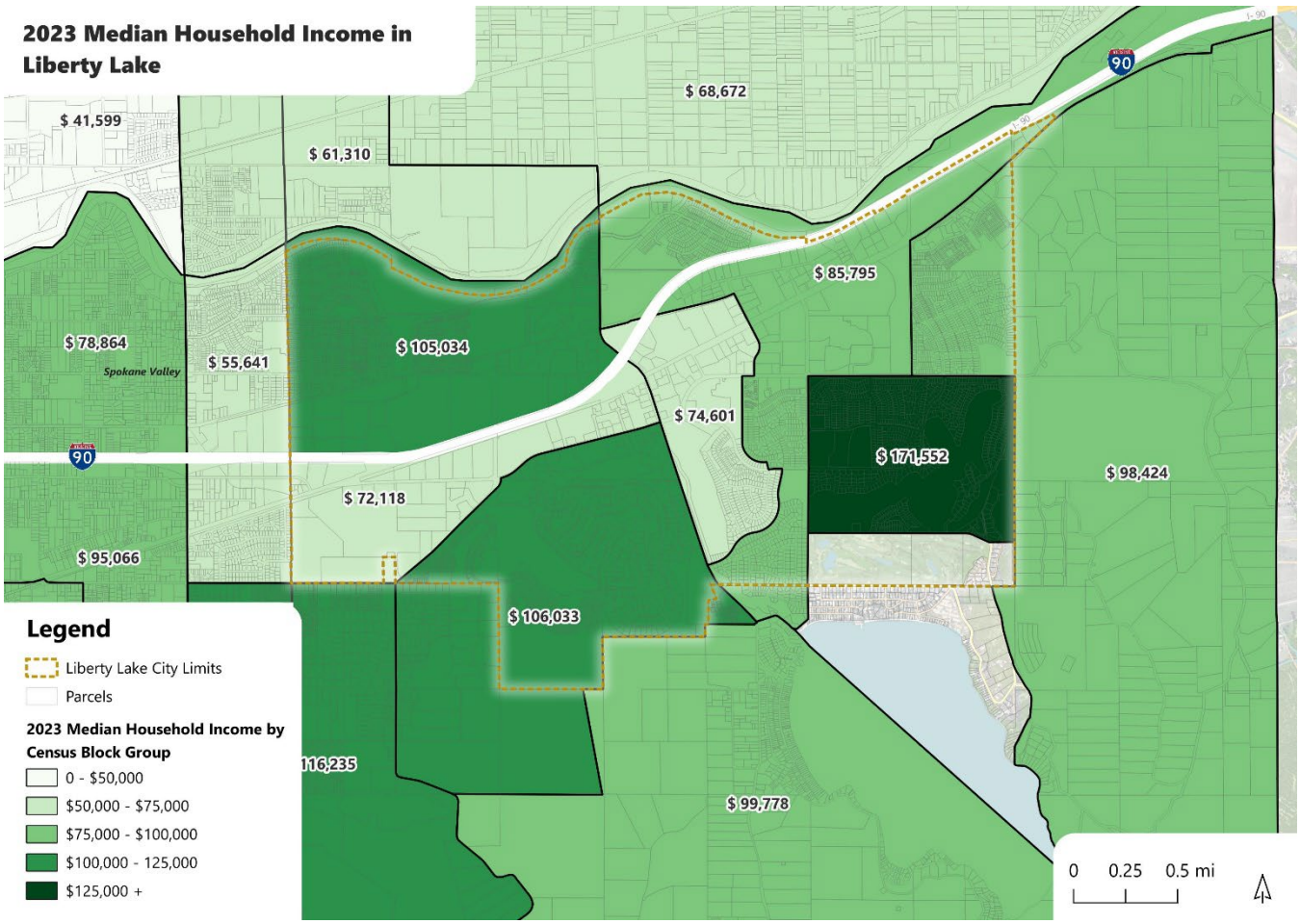
Figure 13. Social Vulnerability Score for Liberty Lake Census Block Groups (2020)



Source: US Census Bureau 5-year ACS 2013 & 2023 (Table B19013); 2020 Decennial Census (Table DP01); 2010 Decennial Census (Table H11); Washington Department of Commerce.

The median income varies considerably by block group in Liberty Lake, with the lowest-income block groups corresponding to those with the highest social vulnerability scores. This indicates that these block groups have the highest risk of displacement. Because the block group east of N Liberty Lake Road also has a higher concentration of multifamily housing as well as concentrations of Hispanic/Latino and Native households, the City should consider implementing policies to mitigate displacement risks for renter households.

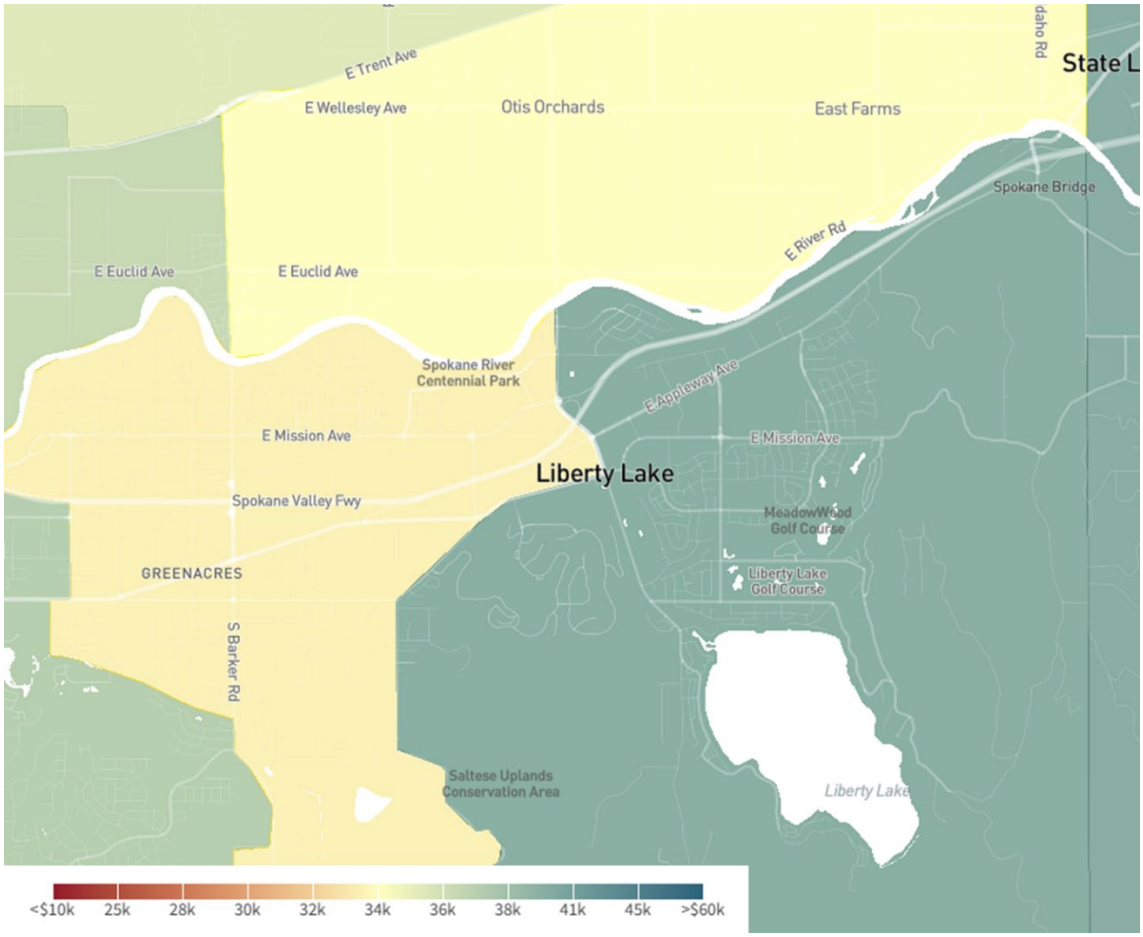
Figure 14. Median Household Income in Liberty Lake Block Groups (2023)



Source: US Census Bureau 2023 5-year ACS (Table B19013).

The Opportunity Atlas is a tool that quantifies opportunity by looking at the potential earnings of low-income children born in each Census tract. Figure 12 below shows that children born to families in the bottom quartile of the income spectrum in most of Liberty Lake can expect to have incomes around $39,000 in adulthood. However, in the western part of the city children born to low-income families can expect to earn slightly less (roughly $33,000).

Figure 15. Opportunity Atlas Map for Liberty Lake



Source: Opportunity Atlas.

Citywide, 84 percent of households make above 100 percent AMI – this includes 88 percent of Hispanic/Latino households, 83 percent of American Indian/Alaska Native households, 73 percent of white households, and 56 percent of Asian households. According to HUD data, all of the households making less than 30 percent of AMI are white.

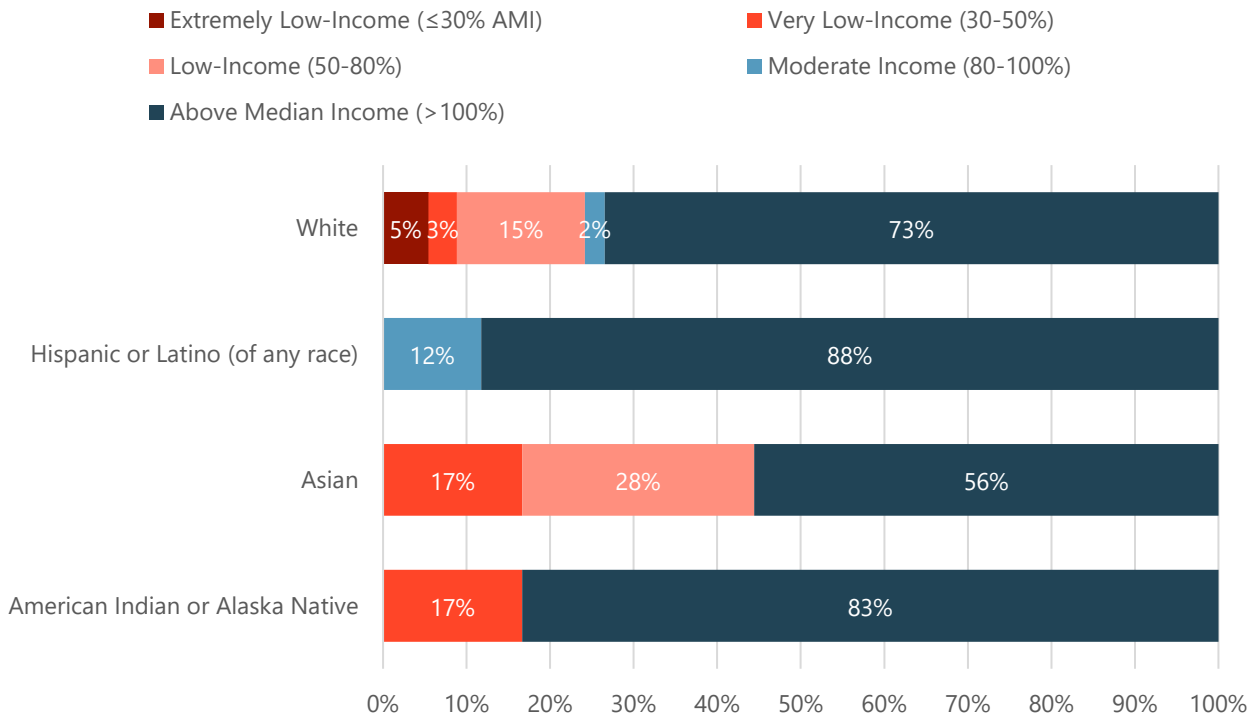
Figure 16. Liberty Lake Count of Households by Income and Race, 2021

Income Category (% of AMI)	American Indian or Alaska Native	Asian	Hispanic or Latino (of any race)	White	Not Reported*	All
Number						
Extremely Low-Income (≤30% AMI)	-	-	-	215	-	215
Very Low-Income (30-50%)	15	15	-	135	-	165
Low-Income (50-80%)	-	25	-	605	-	630
Moderate Income (80-100%)	-	-	10	95	25	130
Above Median Income (>100%)	75	50	75	2,905	45	3,150
Total for published estimates	90	90	85	3,955	70	4,290

Percentage					Not Reported
Extremely Low-Income (≤30% AMI)	0%	0%	0%	5%	0%
Very Low-Income (30-50%)	17%	17%	0%	3%	0%
Low-Income (50-80%)	0%	28%	0%	15%	0%
Moderate Income (80-100%)	0%	0%	12%	2%	36%
Above Median Income (>100%)	83%	56%	88%	73%	64%

Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 1).

Figure 17. Liberty Lake Distribution of Households by Income and Race or Ethnicity, 2021



Sources: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 1).

Policy Evaluation

Based on the above analysis, there is room for improvements to policies in Liberty Lake to reduce racially disparate impacts, and the data was used to inform the next steps of the racially disparate impacts assessment process – evaluating and revising policies that reinforce historical patterns of segregation, displacement, and inequitable outcomes. Taking a proactive approach in shaping policy to address these challenges will benefit all Liberty Lake households as the city seeks to build a more equitable future.

Based on guidance provided by the Washington State Department of Commerce, the following policy evaluation framework was used to evaluate Liberty Lake's existing Housing Element policies:

Criteria	Evaluation
The policy is valid and supports meeting the identified housing needs. The policy is needed and addresses identified racially disparate impacts, displacement and exclusion in housing.	**S** Supportive
The policy can support meeting the identified housing needs but may be insufficient or does not address racially disparate impacts, displacement and exclusion in housing.	**A** Approaching
The policy may challenge the jurisdiction's ability to meet the identified housing needs. The policy's benefits and burdens should be reviewed to optimize the ability to meet the policy's objectives while improving the equitable distribution of benefits and burdens imposed by the policy.	**C** Challenging
The policy does not impact the jurisdiction's ability to meet the identified housing needs and has no influence or impact on racially disparate impacts, displacement or exclusion.	**NA** Not applicable

Goal & Policy Review

Existing Goal / Policy #	Existing Goal/Policy	Equity Assessment	Why	Notes
Goal 1	Preserve the character of existing neighborhoods and support high-quality new development.	Challenging	Department of Commerce guidelines recommend avoiding references to "neighborhood character," which has a history of enshrining exclusive single-family neighborhoods to the detriment of lower-income households.	Specify what about these neighborhoods is worth preserving, i.e.: Maintain safe, healthy, walkable communities and support high-quality new development.

Existing Goal / Policy #	Existing Goal/Policy	Equity Assessment	Why	Notes
Goal 2	Encourage the availability of affordable housing to all economic segments, promote a variety of densities and housing types, and encourage the preservation of existing housing stock.	Supportive	Promoting a variety of densities and housing types aimed at all economic segments will help increase diversity and stabilize existing households.	
Policy 1	Encourage integrated neighborhood developments that protect the environment, provide usable open space, and exhibit exceptional quality and design.	Supportive	Integrating new developments into existing neighborhoods will help maintain existing open space and natural features while providing housing opportunities for households previously shut out of these communities.	
Policy 2	Periodically assess the effects of policies and regulations on the affordability of housing, fair housing choice, and reducing regulatory barriers, where necessary.	Supportive	Ongoing assessments of policies will help ensure that a diversity of housing types at a variety of price levels can be built in Liberty Lake, thus making the city accessible to more types of households.	
Policy 3	Balance housing affordability with environmental integrity, neighborhood character, and public resources in housing regulation.	Challenging	As stated above, references to neighborhood character should be avoided and replaced with more concrete goals.	Remove reference to neighborhood character: Balance housing affordability with environmental integrity, City goals, and public resources in housing regulation.
Policy 4	Periodically review and update standards for accessory dwelling units (ADUs).	N/A		Ensure that ADU standards comply with HB 1337 requirements.

Existing Goal / Policy #	Existing Goal/Policy	Equity Assessment	Why	Notes
Policy 5	Support initiatives by low-income housing advocacy organizations.	Approaching	Supporting initiatives low-income housing advocacy groups is an important policy, as more affordable housing is needed to address racially disparate impacts in Liberty Lake. However, the policy should clearly state how the City plans to support these organizations.	Specify how the City intends to support these organizations, whether through funding for affordable housing, changes to the zoning code or permitting process, or working with them to advocate for city- or state-level changes.
Policy 6	Maintain incentives to encourage cluster development, while preserving open space and protecting critical areas.	N/A		
Policy 7	Ensure a continuum of allowable housing options for special-needs populations through periodic policy reviews.	Supportive	Allowing a wider variety of housing options will help ensure that the needs of all households are met.	
Policy 8	Promote housing development accessible to public transportation for individuals with mobility challenges.	Supportive	Transit-adjacent housing can help households save money by reducing the need for a private vehicle, and can help support those who are unable to drive.	

Washington State Department of Commerce

LOCAL GOVERNMENT DIVISION
GROWTH MANAGEMENT SERVICES

APPENDIX "G"

Periodic Update Checklist for Fully-Planning Cities

Notice: This checklist has been updated with the new 2022-2023 GMA legislation. Rows that include new 2022-2023 legislative changes or updated Commerce guidance are marked with an orange dot ●. Statutory changes adopted since 2015 are emphasized in highlighted text to help identify new GMA requirements that may not have been addressed during the last periodic update or through other amendments outside of the required periodic update process. Additionally, amendments to the GMA, including those from the 2023 legislative session, are summarized in this document on Commerce's GMA Laws and Rules webpage.

City of Liberty Lake
Lisa Key – Director of Community Development
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Lkey@libertylakewa.gov
22710 E Country Vista Dr.
Liberty lake, WA
99019

Overview: This checklist is intended to help cities that are fully planning under the Growth Management Act (GMA) conduct the "periodic review and update" of ***comprehensive plans*** and ***development regulations*** required under RCW 36.70A.130 (5). This checklist identifies components of comprehensive plans and development regulations that may need updating to reflect the latest local conditions or to comply with GMA changes since the last periodic update cycle (2015-2018).

Local governments should review local comprehensive plan policies, countywide planning policies and multicounty planning policies (where applicable) to be consistent with the new requirements.

Checklist Instructions

With the most recent versions of your comprehensive plan and development regulations in hand, fill out each item in the checklist, answering the following questions:

Is this item addressed in your current plan or development regulations? If YES, fill in the form with citation(s) to where in the plan or regulation the item is addressed. Where possible, we recommend citing policy or goal numbers by element rather than page numbers, since these can change. If you have questions about the requirement, follow the hyperlinks to the relevant statutory provision or rules. If you still have questions, visit the Commerce Periodic Update webpage or contact the Commerce planner assigned to your region.

Is amendment needed to meet current statute? Check YES to indicate a change to your plan will be needed. Check NO to indicate that the GMA requirement has already been met. Local updates may not be needed if the statute hasn't changed since your previous update, if your jurisdiction has kept current with required inventories, or if there haven't been many changes in local circumstances.

Use the "Notes" column to add additional information to note where your city may elect to work on or amend sections of your plan or development regulations, to call out sections that are not strictly required by the GMA, or to indicate if the item is not applicable to your jurisdiction.

Submit your checklist! This will be the first deliverable under your periodic update grant.

PlanView system and instructions: Completed checklists can be submitted through Commerce's PlanView portal. The PlanView system allows cities and counties to submit and track amendments to comprehensive plans or development regulations online, with or without a user account. You can also submit via email: reviewteam@commerce.wa.gov Fill out and attach a cover sheet, a copy of your submittal and this checklist. *Please be advised that Commerce is no longer accepting paper submittals*.

For further information about the submittal process, please visit Commerce's Growth Management Act Laws and Rules webpage.

Need help?

Please visit Commerce's periodic update webpage for additional resources.

Or contact:

Suzanne Austin, AICP
Senior Planner
Growth Management Services
WA Department of Commerce
509.407.7955
Suzanne.Austin@commerce.wa.gov

Or, your assigned regional planner

Checklist Navigation

Section I: Comprehensive Plan	Section II: Development Regulations	Appendices
LAND USE	CRITICAL AREAS	APPENDIX A: HOUSING UNIT MINIMUMS PER POPULATION
HOUSING	ZONING CODE	APPENDIX B: ELEMENT UPDATES UNDER HB 1181
CAPITAL FACILITIES	SHORELINE MASTER PROGRAM	
UTILITIES	RESOURCE LANDS	
TRANSPORTATION	ESSENTIAL PUBLIC FACILITIES	
SHORELINE	SUBDIVISION CODE	
ESSENTIAL PUBLIC FACILITIES	STORMWATER	
TRIBAL PLANNING	ORGANIC MATERIALS MANAGEMENT	
CLIMATE CHANGE & RESILIENCY	IMPACT FEES	
ECONOMIC DEVELOPMENT	CONCURRENCY & TDM	
PARKS & RECREATION	TRIBAL PARTICIPATION	
OPTIONAL ELEMENTS	REGULATIONS FOR OPTIONAL ELEMENTS	
CONSISTENCY	PROJECT REVIEW PROCEDURES	
PUBLIC PARTICIPATION	PLAN & REGULATION AMENDMENTS	

Section I: Comprehensive Plan

Land Use Element

Consistent with countywide planning policies (CWPPs) and RCW 36.70A.070(1), amended in 2023

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
Notice: 2021-2022 legislation ESSB 5593: includes changes to RCW 36.70A.130 regarding UGA size, patterns of development, suitability and infrastructure. Coordinate these efforts with your county.	Yes	Yes	Gov Policy 6 & Introduction (Pg 10 *Revisions to this Comp Plan*) Says we will update plan every 8 years	Completed: ☐ Date:
a. The element integrates relevant county-wide planning policies into the local planning process, and ensures local goals and policies are consistent. For jurisdictions in the central Puget Sound region, the plan is consistent with applicable multicounty planning policies. RCW 36.70A.210 WAC 365-196-305 Coordinate these efforts with your county.	Yes, integrated throughout the plan and adopted as appendix B	Yes	With the exception of housing, climate and tribal participation, which were not considered in the currently adopted version.	Completed: ☐ Date:
b. A future land use map showing city limits and UGA boundaries. RCW 36.70A.070(1) amended in 2023 and RCW 36.70A.110(6), WAC 365-196-400(2)(d), WAC 365-196-405(2)(i)(ii)	Yes, Pg 51	No	Will only be updated if changes are proposed for the Land Use map, based on changes to land use or UGA as part of the Periodic Comprehensive Plan Update Process; currently none are anticipated.	Completed: ☐ Date:
c. Consideration of urban planning approaches that increase physical activity and reduce per capita vehicle miles 25 traveled within the jurisdiction, but without increasing greenhouse gas emissions elsewhere in the state. RCW 36.70A.070(1) (amended in 2023) and WAC 365-196-405(2)(j). Additional resources: Commerce's Climate guidance, Transportation Efficient Communities' guidance, and the WA Department of Health Washington State Plan for Healthy Communities and Active Community Environment Toolkit	No	Yes	Climate Chapter work underway w/ consultant	Completed: ☐ Date:

Section I: Comprehensive Plan

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
d. A consistent population projection throughout the plan which should be consistent with the jurisdiction's allocation of countywide population and housing needs. RCW 36.70A.115, RCW 43.62.035 and WAC 365-196-405(f)	Yes Planning Context Section Pg. 11	Yes	Numbers will need to be updated to reflect new projections.	Completed: ☐ Date:
e. Estimates of population densities and building intensities based on future land uses and housing needs. RCW 36.70A.070(1) (amended in 2023), WAC 365-196-405(2)(i) • For cities required to plan under the Buildable Lands Program, RCW 36.70A.215 amended in 2017, some jurisdictions may need to identify reasonable measures to reconcile inconsistencies. See Commerce's Buildable Lands Program page.	Yes, Land Use chapter pg. 46, 48-50, 82	Yes	Will need to update land use and housing narratives as well as include the housing needs analysis; Liberty Lake's Land Capacity Analysis is currently well underway.	Completed: ☐ Date:
f. Provisions for protection of the quality and quantity of groundwater used for public water supplies. RCW 36.70A.070(1) (amended in 2023), WAC 365-196-405(1)(c); WAC 365-196-485(1)(d)	Yes	No	Natural Environment (NE) chapter sections A and B, Contamination Susceptibility of Aquifers (pg 68) NE Goal 2 NE policy 11-15 Pg 67-69 Not in Land Use	Completed: ☐ Date:
g. Identification of lands useful for public purposes such as utility corridors, transportation corridors, landfills, sewage treatment facilities, storm water management facilities, recreation, schools and other public uses. RCW 36.70A.150 and WAC 365-	Yes	Yes	Future land use map identifies areas for public/semi public institutional, and open space/recreational uses. Essential Public Facilities (EPFs) of state or regional significance are cited using	Completed: ☐ Date:

Section I: Comprehensive Plan				
196-340			interlocal w/ County. Ch. 12 EPF, Pg 90-93 The RCW states “The jurisdictions within the county shall prepare a prioritized list of lands necessary for the identified public uses including an estimated date by which the acquisition will be needed.” We will need to develop a list.	

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
h. Identification of open space corridors and green spaces within and between urban growth areas, including lands useful for recreation, wildlife habitat, trails and connection of critical areas, and urban and community forests within the UGA. RCW 36.70A.070(1) amended in 2023, RCW 36.70A.160 and WAC 365-196-335	Yes Land use map	Yes	Incorporation of updated park plan & inclusion of WUI	Completed: ☐ Date:
i. If there is an airport within or adjacent to the city: policies, land use designations (and zoning) to discourage the siting of incompatible uses adjacent to general aviation airports. RCW 36.70A.510, RCW 36.70.547 Note: The plan (and associated regulations) must be filed with the Aviation Division of WSDOT. WAC 365-196-455	No	No	No airport within or adjacent to the City	Completed: ☐ Date:
j. Where applicable, a review of drainage, flooding and stormwater run-off in the area and nearby jurisdictions and provide guidance for corrective actions to mitigate or cleanse those discharges that pollute waters of the state. RCW 36.70A.070(1) (amended in 2023) and WAC 365-196-405(2)(e) Note: RCW 90.56.010(27) defines waters of the state. Additional resources: Commerce's climate guidance, Protect Puget Sound Watersheds, Building Cities in the Rain, Ecology Stormwater Manuals, Puget Sound Partnership Action Agenda	Yes	Maybe	Not in Land Use; NE Policy 8-9 Pg 25; Utility Policy 8 Pg 28; Urban Design (UD) Section Natural Systems and a Basic Strategy Pg 58; NE 67-70; Transportation Section Environment Pg 79	Completed: ☐ Date:

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
k. Policies to designate and protect critical areas including wetlands, fish and wildlife habitat protection areas, frequently flooded areas, critical aquifer recharge areas and geologically hazardous areas. In developing these policies, the city must have included the best available science (BAS) to protect the functions and values of critical areas, and give "special consideration" to conservation or protection measures necessary to preserve or enhance anadromous fisheries. RCW 36.70A.030(6), RCW 36.70A.172, WAC 365-190-080. Best Available Science: see WAC 365-195-900 through -925	Yes	Yes	UD Policy 3, Pg 17 Housing Policy 6, Pg 23 NE Chapter 66-71 See CAO Checklist & Memo re Critical Ordinance Recommended Updates	Completed: ☐ Date:
l. If forest or agricultural lands of long-term commercial significance are designated inside a city: a program authorizing Transfer (or Purchase) of Development Rights. RCW 36.70A.060(4), RCW 36.70A.170	No	No	No forest or ag lands of commercial significance	Completed: ☐ Date:
m. If there is a Military Base within or adjacent to the jurisdiction employing 100 or more personnel: policies, land use designations, (and consistent zoning) to discourage the siting of incompatible uses adjacent to military bases. RCW 36.70A.530(3), WAC 365-196-475	No	No	No military base within or adjacent	Completed: ☐ Date:
n. New section RCW 36.70A.142 (2022), HB 1799: Development regulations newly developed, updated, or amended *after January 1, 2025* allow for the siting of organic materials (OM) management facilities as identified in local solid waste management plans (SWMP) to meet OM reduction and diversion goals. Siting must meet criteria described in RCW 70A.205.040(3). See also RCW 36.70.330. For applicability, see RCW 70A.205.540.	No	No, RCW70A.205.540(3)(a) says Except as provided in (e) of this subsection, the requirements of this section do not apply in a jurisdiction if the department determines that the	Solid Waste is address in the Utilities Element on Page 89	Completed: ☐ Date:

		following apply: (i) The jurisdiction disposed of less than 5,000 tons of solid waste in the most recent year for which data is available; or (ii) The jurisdiction has a total population of less than 25,000 people. Our population is 13,870		
o. Give special consideration to achieving environmental justice in goals and policies, including efforts to avoid creating or worsening environmental health disparities. RCW 36.70A.070(1) amended in 2023.	No	Yes	Current plan does not consider environmental justice, this will be addressed in the climate chapter.	Completed: ☐ Date:
p. The land use element must reduce and mitigate the risk to lives and property posed by wildfires by using land use planning tools and through wildfire preparedness and fire adaptation measures. RCW 36.70A.070(1) amended in 2023. See also: International Wildland-Urban Interface Code	No	Yes	Current plan does not address threats from wildfires. This will likely be addressed in the climate element	Completed: ☐ Date:

Housing Element

New 2021 and 2022 legislation substantially amended the housing-related provisions of the Growth Management Act (GMA), RCW 36.70A.070 (2). Local governments should review local comprehensive plan policies and countywide planning policies to be consistent with the updated requirements. Please refer to Commerce's housing webpage for further information. See also Appendix A of this checklist for the new 2023 minimum housing unit requirements per city population.

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
Notice: For more information about what these housing element requirements involve and what Commerce staff will be reviewing for, please see the Expanded Housing Checklist located on the Updating GMA Housing Elements webpage.				
a. Goals, policies and objectives for: • the preservation, improvement and development of housing RCW 36.70A.070(2)(b); • moderate density housing options including, but not limited to, duplexes, triplexes, and townhomes, within an urban growth area boundary, RCW 36.70A.070(2)(b) and WAC 365-196-410(2)(a); and • Consideration of housing locations in relation to employment locations and the role of ADUs. RCW 36.70A.070(2)(d) new in 2021 Notice: *These items were separately listed in the previous version of the checklist. No content was changed.*	• Yes, Housing Goals 1 & 2 discuss preservation and development. No discussion of improvement • No • No goals or policies regarding housing locations in relation to employment. The land use section discusses it on pg. 48 • Yes, Housing	• Yes • Yes • Yes • Yes	• Current goals and policies do not address improvement • Current goals and policies do not include "provisions for the preservation, improvement, and development of housing, including single-family residences, and within an urban growth area boundary, moderate density housing options including but not limited to, duplexes, triplexes, and townhomes. • Current goals and policies do not "Makes adequate provisions for existing and projected needs of all economic segments of the community, including… Consideration of housing locations in relation to employment location; and Consideration of the role of accessory dwelling units in meeting	Completed: ☐ Date:

Housing Element

New 2021 and 2022 legislation substantially amended the housing-related provisions of the Growth Management Act (GMA), RCW 36.70A.070 (2). Local governments should review local comprehensive plan policies and countywide planning policies to be consistent with the updated requirements. Please refer to Commerce's housing webpage for further information. See also Appendix A of this checklist for the new 2023 minimum housing unit requirements per city population.

	policy 4 addresses ADU's		housing needs;	
b. An inventory and analysis of existing and projected housing needs over the planning period, by income band, consistent with the jurisdiction's share of countywide housing need, as provided by Commerce. RCW 36.70A.070(2)(a) amended in 2021, WAC 365-196-410(2)(b) and (c)	No	Yes	Will be completed as part of the housing element update.	Completed: ☐ Date:

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
c. Identification of capacity of land for housing including, but not limited to, government-assisted housing, housing for moderate, low, very low, and extremely low-income households, manufactured housing, multifamily housing, group homes, foster care facilities, emergency housing, emergency shelters and permanent supportive housing. RCW 36.70A.070(2)(c) amended in 2021, WAC 365-196-410(e) and (f)	No	Yes	LCA is currently well underway.	Completed: ☐ Date:
d. Adequate provisions for existing and projected housing needs for all economic segments of the community, including documenting barriers and actions needed to achieve housing availability. RCW 36.70A.070(2)(d) amended in 2021, WAC 365-196-010(g)(ii), WAC 365-196-300(f), WAC 365-196-410 and see Commerce's Housing Action Plan (HAP) guidance: Guidance for Developing a Housing Action Plan.	No	Yes		Completed: ☐ Date:
e. Identify local policies and regulations that result in racially disparate impacts, displacement, and exclusion in housing, including: • Zoning that may have a discriminatory effect; • Disinvestment; and • Infrastructure availability RCW 36.70A.070 (2)(e) new in 2021	No	Yes		Completed: ☐ Date:
f. Establish policies and regulations to address and begin to undo racially disparate impacts, displacement, and exclusion in housing caused by local policies, plans, and actions. RCW 36.70A.070(2)(f) new in 2021	No	Yes		Completed: ☐ Date:

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
g. Identification of areas that may be at higher risk of displacement from market forces that occur with changes to zoning development regulations and capital investments. RCW 36.70A.070(2)(g) new in 2021 Establish anti-displacement policies, with consideration given to the preservation of historical and cultural communities as well as investments in low, very low, extremely low, and moderate-income housing; equitable development initiatives; inclusionary zoning; community planning requirements; tenant protections; land disposition policies; and consideration of land that may be used for affordable housing. RCW 36.70A.070(2)(h) new in 2021 See also: Support Materials for Racially Disparate Impacts, Exclusion and Displacement Work	No	Yes	Will be addressed in Housing Element.	Completed: ☐ Date:

Capital Facilities Plan (CFP) Element

To serve as a check on the practicality of achieving other elements of the plan, covering all capital facilities planned, provided and paid for by public entities including local government and special districts, etc. including water systems, sanitary sewer systems, storm water facilities, schools, parks and recreational facilities, police and fire protection facilities. Capital expenditures from park and recreation elements, if separate, should be included in the CFP Element. The CFP Element must be consistent with CWPPs, and RCW 36.70A.070(3) amended in 2023. Changes made to this element through HB 1181 (climate change and resiliency) are not required, although jurisdictions should make a good faith effort to incorporate these items to be consistent with the new legislation.

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Policies or procedures to ensure capital budget decisions are in conformity with the comprehensive plan. RCW 36.70A.120	Yes, Transportation Policy (TP) #3, Capital Facilities Plan (CFP) #1-4,	Yes	While currently addressed, the policy should be updated to more clearly address this requirement.	Completed: ☐ Date:
b. An inventory of existing capital facilities owned by public entities, including green infrastructure. RCW 36.70A.070(3)(a) amended in 2023 and WAC 365-196-415(1)(a)	No	Yes	Current CFP does not include an inventory of existing facilities, only a list of projects.	Completed: ☐ Date:
c. A forecast of needed capital facilities. RCW 36.70A.070(3)(b) and WAC 365-196-415(1)(b) Note: The forecast of future need should be based on projected population and adopted levels of service (LOS) over the planning period.	Yes, the project list in the CFP	Yes, it does not discuss levels of service or population projection		Completed: ☐ Date:
d. Proposed locations and capacities of expanded or new capital facilities. RCW 36.70A.070(3)(c) and WAC 365-196-415 (1)(c) and (3)(c) Infrastructure investments should consider equity and plan for any potential displacement impacts.	No	Yes	CFP and CF element do not address location or capacities. No mention of displacement or equity.	Completed: ☐ Date:
e. A six-year plan (at minimum) that will finance such capital facilities within projected funding capacities and identify sources of public money to finance planned capital facilities. RCW 36.70A.070(3)(d), RCW 36.70A.120, WAC 365-196-415(1)(d)	Yes	No	The City will be updating its CFP for the 20-year planning horizon.	Completed: ☐ Date:

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
f. A policy or procedure to reassess the Land Use Element if probable funding falls short of meeting existing needs. RCW 36.70A.070(3)(e) WAC 365-196-415(2)(d) Note: park and recreation facilities shall be included in the capital facilities plan element.	Yes, CFP #4	Yes	CFP 4 - Monitor the implementation of the Capital Improvement Program and development to ensure that the Land Use, Transportation, Utilities, and Capital Facilities Elements are coordinated and consistent and that established Level of Service standards for public facilities and services are achieved. The RCW includes a requirement to reassess the land use element if probable funding falls short of meeting existing needs and to ensure that the land use element, capital facilities plan element, and financing plan within the capital facilities plan element are coordinated and consistent	Completed: ☐ Date:
g. If impact fees are collected: identification of public facilities on which money is to be spent. RCW 82.02.050(5) and WAC 365-196-850(3)	Yes. The Harvard Road plan in included by reference	Yes	It is anticipated that with the changes in the intensity of land use, additional projects will be identified through the network analysis. An update to the Harvard Road Mitigation Plan will be identified in the post-adoption implementation plan,	Completed: ☐ Date:
h. Identify and include information about all public entities, including special purpose districts that own capital facilities. RCW 36.70A.070 (3) amended in 2023	No	Yes	RCW "The county or city shall identify all public entities that own capital facilities and endeavor in good faith to work with other public entities, such as special purpose districts, to gather and include within its capital facilities element the information required by this subsection. If, after a good faith effort, the county or city is unable to gather the information required by this subsection from the other public entities, the failure to include such information in its capital facilities element cannot be grounds	Completed: ☐ Date:

			for a finding of noncompliance or invalidity under chapter 228, Laws of 2023. A good faith effort must, at a minimum, include consulting the public entity's capital facility or system plans and emailing and calling the staff of the public entity." We have not include CVSD, LLSWD, or SVFD in our plan previously, but we have included engaging them in this Comp Plan Work Program and intend to incorporate a discussion of their Capital Facilities plans in our CFP chapter.	
Utilities Element Consistent with relevant CWPPs and RCW 36.70A.070 (4) amended in 2023. Utilities include, but are not limited to: sanitary sewer systems, water lines, fire suppression, electrical lines, telecommunication lines, and natural gas lines. Changes made to this element through HB 1181 (climate change and resiliency) are not required, although jurisdictions should make a good faith effort to incorporate these items to be consistent with the new legislation.				
a. The general location, proposed location and capacity of all existing and proposed utilities, to include telecommunications. RCW 36.70A.070(4)(a) amended in 2023 and WAC 365-196-420	No	Yes	RCW "A utilities element consisting of the general location, proposed location, and capacity of all existing and proposed utilities including, but not limited to, electrical, telecommunications, and natural gas systems." We have an "inventory of Utilities" section, but it does not include location or capacity of proposed or existing facilities	Completed: ☐ Date:
b. Identify and include information and contact information about all public entities, including special purpose districts that own utility systems. RCW 36.70A.070 (4)(b) new in 2023	No	Yes	RCW "The county or city shall identify all public entities that own utility systems and endeavor in good faith to work with other public entities, such as special purpose districts, to gather and include within its utilities element the information required in (a) of this subsection.	Completed: ☐ Date:

Transportation Element

Consistent with relevant CWPPs and RCW 36.70A.070 (6) amended in 2023 by HB 1181. See also the new climate element below for jurisdictional requirements.

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. An inventory of air, water and ground transportation facilities and services, including transit alignments, active transportation facilities, state-owned transportation facilities and general aviation airports. RCW 36.70A.070(6)(a)(iii)(A) amended in 2023 and WAC 365-196-430(2)(c)	No	Yes	Could not find an inventory of transportation facilities. Parks plan has an inventory of active transportation facilities that should be updated with that plan	Completed: ☐ Date:
b. Adopted multimodal levels of service standards for all locally owned arterials, locally and regionally operated transit routes that serve UGAs, state-owned or operated transit routes that serve urban areas if the department of transportation has prepared such standards, and active transportation facilities to serve as a gauge to judge performance of the system and success in helping to achieve environmental justice. RCW 36.70A.070(6)(a)(iii)(B) and (C) amended in 2023, WAC 365-196-430	No	Yes	Do not have an adopted level of service for multimodal. Adopt county/SRTC LOS or include in scope for network analysis	Completed: ☐ Date:
c. Identification of specific actions to bring transportation facilities and services to established multimodal LOS. RCW 36.70A.070(6)(a)(iii)(D) amended in 2023, WAC 365-196-430	No	Yes	Do not have an adopted level of service for multimodal	Completed: ☐ Date:
d. A forecast of multimodal transportation for at least 10 years including land use assumptions used in estimating travel. RCW 36.70A.070(6)(a)(i), RCW 36.70A.070 (6)(a)(iii)(E) amended in 2023, WAC 365-196-430(2)(f)	No	Yes	Do not have an adopted level of service for multimodal	Completed: ☐ Date:

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
e. A projection of state and local system needs to equitably meet current and future demand and equitably implement the multimodal network. RCW 36.70A.070(6)(a)(iii)(F) amended in 2023, WAC 365-196-430(1)(c)(vi) and RCW 47.06	No	Yes	Work w/ SRTC, WSDOT, and potentially PMX as part of the network analysis	Completed: ☐ Date:
f. A transition plan for transportation as required in Title II of ADA. Perform self-evaluations of current facilities and develop a program access plan to address deficiencies and achieve the identification of physical obstacles, establish methods, perform modifications and identify leadership roles. RCW 36.70A.070(6)(a)(iii)(G) new in 2023.	No	Yes	RCW "G) A transition plan for transportation as required in Title II of the Americans with disabilities act of 1990 (ADA). As a necessary step to a program access plan to provide accessibility under the ADA, state and local government, public entities, and public agencies are required to perform self-evaluations of their current facilities, relative to accessibility requirements of the ADA. The agencies are then required to develop a program access plan, which can be called a transition plan, to address any deficiencies. The plan is intended to achieve the following: (I) Identify physical obstacles that limit the accessibility of facilities to individuals with disabilities; (II) Describe the methods to be used to make the facilities accessible; (III) Provide a schedule for making the access modifications; and (IV) Identify the public officials responsible for implementation of the transition plan;	Completed: ☐ Date:

			(iv) Finance, including:…" We will be assessing this as part of our sidewalk master plan.	
g. An active transportation component to include collaborative efforts to identify and designate planned improvements for active transportation facilities and corridors that address and encourage enhanced community access and promote healthy lifestyles. RCW 36.70A.070(6)(a)(vii) amended in 2023, WAC 365-196-430(2)(j)	Yes	Yes	Update Park plan	Completed: ☐ Date:
h. A description of any existing and planned transportation demand management (TDM) strategies, such as HOV lanes or subsidy programs, parking policies, etc. RCW 36.70A.070(6)(a)(vi) and WAC 365-196-430(2)(i)(i)	Yes	No	Pg 79	Completed: ☐ Date:
i. An analysis of future funding capability to judge needs against probable funding resources. RCW 36.70A.070(6)(a)(iv)(A), WAC 365.196-430(2)(k)(iv)	Yes	No	6-year TIP	Completed: ☐ Date:
j. A multi-year financing plan based on needs identified in the comprehensive plan, the appropriate parts of which serve as the basis for the 6-year street, road or transit program. RCW 36.70A.070(6)(a)(iv)(B) and RCW 35.77.010, WAC 365-196-430(2)(k)(ii)	Yes	Yes	6-year TIP, updates needed to transportation section.	Completed: ☐ Date:
k. If probable funding falls short of meeting identified needs of the transportation system, including state transportation facilities, a discussion of how additional funds will be raised, or how land use assumptions will be reassessed to ensure that LOS standards will be met. RCW 36.70A.070(6)(a)(iv)(C) amended in 2023, WAC	No	Yes		Completed: ☐ Date:

365-196-430(2)(l)(iii)				
l. A description of intergovernmental coordination efforts, including an assessment of the impacts of the transportation plan and land use assumptions on the transportation systems of adjacent jurisdictions and how it is consistent with the regional transportation plan. RCW 36.70A.070(6)(a)(v); WAC 365-196-430(1)(e) and 430(2)(a)(iii)	Yes	Yes	**Intergovernmental Coordination** The Growth Management Act requires that all elements of a comprehensive plan be consistent with each other. It is also important that comprehensive plans, and especially transportation plans, be coordinated between neighboring governmental jurisdictions. The transportation goals and policies are intended to address these important planning principles. -Comp Plan Pg 76 There is one transportation goal and it does not address this. TP #9 Support high-capacity transit facilities and services that are consistent with the actions and plans of Spokane Transit Authority, Spokane Regional Transportation Council, and other jurisdictions. TP #10 Preserve existing right-of-way and designate new right-of-way to support high capacity transportation corridors. TP#31Allocate staff resources to work with other transportation	Completed: ☐ Date:

			government agencies in drafting and submitting joint applications for state and federal transportation grants to support projects that benefit multiple jurisdictions. Update will also include review by SRTC for Concurrency.	

Shoreline

For shorelines of the state, the goals and policies of the shoreline management act as set forth in RCW 90.58.020 are added as one of the goals of the Growth Management Act (GMA) as set forth in RCW 36.70A.480. The goals and policies of a shoreline master program for a county or city approved under RCW 90.58 shall be considered an element of the county or city's comprehensive plan.

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. The policies, goals, and provisions of RCW 90.58 and applicable guidelines shall be the sole basis for determining compliance of a shoreline master program with this chapter except as the shoreline master program is required to comply with the internal consistency provisions of RCW 36.70A.070, 36.70A.040(4), 35.63.125, 35A.63.105, 36.70A.480	No.	To be determined, based on meeting with Ecology.	The City has no shorelines within its corporate limits. Comp Plan says, "In compliance with the SMA, the City of Liberty Lake adopted the Spokane County Shoreline Management Program by reference prior to incorporation." However, the County SMP is not listed as an appendix to the comp plan Dev Code says, "Consult with the City of Liberty Lake for more information on the City's adopted Shoreline Management Program."	Completed: ☐ Date:
b. Shoreline master programs shall provide a level of protection to critical areas located within shorelines of the state that assures no net loss of shoreline ecological functions necessary to sustain shoreline natural resources as defined by department of ecology guidelines adopted pursuant to RCW 90.58.060.	N/A			Completed: ☐ Date:
c. Shorelines of the state shall not be considered critical areas under this chapter except to the extent that specific areas located within shorelines of the state qualify for critical area designation based on the definition of critical	N/A			Completed: ☐ Date:

areas provided by RCW 36.70A.030(5) and have been designated as such by a local government pursuant to RCW 36.70A.060(2)				
	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
d. If a local jurisdiction's master program does not include land necessary for buffers for critical areas that occur within shorelines of the state, as authorized by RCW 90.58.030(2)(f), then the local jurisdiction shall continue to regulate those critical areas and their required buffers pursuant to RCW 36.70A.060(2).	N/A			Completed: ☐ Date:
Provisions for siting essential public facilities (EPFs) Consistent with CWPPs and RCW 36.70A.200, amended 2021. This section can be included in the Capital Facilities Element, Land Use Element or in its own element. Sometimes the identification and siting process for EPFs is part of the CWPPs.				
a. A process or criteria for identifying and siting essential public facilities (EPFs). RCW 36.70A.200 and WAC 365-196-550(1) Notes: RCW 36.70A.200, amended 2021 regarding reentry and rehabilitation facilities. EPFs are defined in RCW 36.70A.200. Regional transit authority facilities are included in the list of essential public facilities.	Yes	Yes. The county document needs to be updated to include the new RCW definition	Land Use Policy (LUP) 8 Follow the process for siting of essential public facilities as set forth in the *Spokane County Regional Siting Process for Essential Public Facilities.* We should update our definition on Page 91.	Completed: ☐ Date:
b. Policies or procedures that ensure the comprehensive plan does not preclude the siting of EPFs. RCW 36.70A.200(5) Note: If the EPF siting process is in the CWPPs, this policy may be contained in the comprehensive plan as well. WAC 365-196-550(3)	Yes	No		Completed: ☐ Date:

Tribal Participation in Planning new in 2022 (see HB 1717)

A federally recognized Indian tribe may voluntarily choose (opt-in) to participate in the local and regional planning processes.

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Mutually agreeable memorandum of agreement between local governments and tribes in regard to collaboration and participation in the planning process unless otherwise agreed at the end of a mediation period. RCW 36.70A.040(8)(a) new in 2022, RCW 36.70A.190 new in 2022	Yes	No	PTAC interlocal agreement updated to include Spokane and Kalispel Tribes. Approved by SCEO 9/24/24 for BoCC consideration in Jan.	Completed: ☐ Date:
b. *Port elements*, if adopted, are developed collaboratively between the city, the applicable port and the applicable tribe(s), which shall comply with RCW 36.70A.040(8). RCW 36.70A.085 amended in 2022	N/A			Completed: ☐ Date:
c. *Urban Growth Areas:* counties and cities coordinate planning efforts for any areas planned for urban growth with applicable tribe(s). RCW 36.70A.110(1) amended 2022, RCW 36.70A.040(8)	Yes	No	See note above.	Completed: ☐ Date:

Climate Change and Resiliency

New in 2023, see HB 1181. RCW and WAC updates are forthcoming.

A new required element for comprehensive plans and new goal of the GMA. Designed to reduce greenhouse gas (GHG) emissions, plan for resiliency and support environmental justice. Climate elements must maximize economic, environmental and social co-benefits and prioritize environmental justice in order to avoid worsening environmental health disparities. A climate element can take the form of a single comprehensive plan chapter or be integrated into several chapters/elements such as housing, transportation and land use. Visit Commerce's Climate Program webpage for further guidance, grants, tools and staff contacts.

These requirements for GHG emission reductions and resiliency apply to the following counties and their cities with a population greater than 6,000 as of April 1, 2021. Please also review Appendix B for requirements due in the upcoming periodic update.

- June 30, 2025 Deadline: Clark, Skagit, Thurston, Whatcom
- June 30, 2026 Deadline: Benton, Franklin, Spokane
- June 30, 2029 Deadline: These jurisdictions are only required to update two elements this cycle – the transportation and climate elements

	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Greenhouse gas emissions reduction sub-element: must include goals and policies to reduce emissions and vehicle miles traveled. This sub-element is mandatory for the state's largest and fastest-growing counties and the cities within those counties. RCW 36.70A.070(9) new in 2023	No	Yes		Completed: ☐ Date:
b. Resiliency sub-element: must include goals and polices to improve climate preparedness, response and recovery efforts. This is mandatory for all counties and cities fully planning under the GMA and encouraged for others. RCW 36.70A.070(9) new in 2023	No	Yes		Completed: ☐ Date:

Future required elements: pending state funding

As of 2022, these elements have not received state funding to aid local jurisdictions in implementation. Therefore, these elements are not required to be added to comprehensive plans at this time. Commerce encourages jurisdictions to begin planning for these elements, pending the future mandate.

	In Current Plan? Yes/No If yes, cite section	Notes	
Economic Development Although included in RCW 36.70A.070 "mandatory elements" an economic development element is not currently required because funding was not provided to assist in developing local elements when this element was added to the GMA. However, provisions for economic growth, vitality, and a high quality of life are important, and supporting strategies should be integrated with the land use, housing, utilities, and transportation elements. RCW 36.70A.070(7) amended in 2017	Yes, Chapter 10		Completed: ☐ Date:
Parks and Recreation Implements and is consistent with the capital facilities plan. Include a ten-year demand estimate, evaluation of service and facilities needs and evaluation of tree canopy coverage within UGAs. RCW 36.70A.070(8) amended in 2023 Although included in RCW 36.70A.070 "mandatory elements" a parks and recreation element is not currently required because the state did not provide funding to assist in developing local elements when this provision was added to the GMA. However, parks, recreation and open space planning are GMA goals, and it is important to plan for and fund these facilities.	Yes, adopted as appendix volume 2	Should forward the requirement "Include a ten-year demand estimate, evaluation of service and facilities needs and evaluation of tree canopy coverage within UGAs" to Jen/Derek for inclusion in Park Plan scope.	Completed: ☐ Date:

Optional Elements

Pursuant to RCW 36.70A.080, a comprehensive plan may include additional elements, items, or studies dealing with other subjects relating to the physical development within its jurisdiction, including, but not limited to:

	In Current Plan? Yes/No If yes, cite section	Notes	
Sub-Area Plans	Yes	Intro on page 40 briefly discusses the RDSAP in the context of local history, nothing as it relates to land use or development. No mention of Stonehill/Hawkstone. Should include a discussion of the of River District & Hawkstone Specific Area Plans in Land Use.	Completed: ☐ Date:
Conservation	No		Completed: ☐ Date:
Recreation	Yes		Completed: ☐ Date:
Solar Energy	No		Completed: ☐ Date:

Consistency is required by the GMA				
	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. All plan elements must be consistent with relevant county-wide planning policies (CWPPs) and, where applicable, multi-county planning policies (MPPs), and the GMA. RCW 36.70A.100 and 210, WAC 365-196-305; 400(2)(c); 510 and 520	CWPP Pg 7, GMA Pg 10 TP#9, Page 76,	No		Completed: ☐ Date:
b. All plan elements must be consistent with each other. RCW 36.70A.070 (preamble) and WAC 365-197-040	Yes, intro pg. 7	Yes	Should be reevaluated after current update	Completed: ☐ Date:
c. The plan must be coordinated with the plans of adjacent jurisdictions. RCW 36.70A.100 and WAC 365-196-520	Yes – intro and transportation	Yes	Should be stated more explicitly and clarify the process via commerce and SRTC	Completed: ☐ Date:
Public Participation				
a. Plan ensures public participation in the comprehensive planning process. RCW 36.70A.020(11), .035, and .140, WAC 365-196-600(3) provide possible public participation choices.	Pg 8-9, LU pg. 47 Trans pg. 78		Plan sections should be updated to include description of current engagement efforts, the actual engagement plans (Climate and Comp Plan), as well as result summaries.	Completed: ☐ Date:
b. If the process for making amendments is included in the comprehensive plan: • The plan provides that amendments are to be considered no more often than once a year, not including the exceptions described in RCW 36.70A.130(2), WAC365-196-640 • The plan sets out a procedure for adopting emergency amendments and defines emergency. RCW 36.70A.130(2)(b) and RCW 36.70A.390, WAC 365-196-650(4)	Yes, pg. 10	Yes	It just says “on a yearly basis” and does not indicate that it is limited to once/year This is not currently included, but will be explicitly stated in the update.	Completed: ☐ Date:

Consistency is required by the GMA				
	In Current Plan? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
c. Plan or program for monitoring how well comprehensive plan policies, development regulations, and other implementation techniques are achieving the comp plan's goals and the goals of the GMA. WAC 365-196-660 discusses a potential review of growth management implementation on a systematic basis. New 2021-2022 legislation HB 1241 provides that those jurisdictions with a periodic update due in 2024 have until December 31, 2024 to submit. The legislation also changed the update cycle to every ten years after the 2024-2027 cycle. Jurisdictions that meet the new criteria described in RCW 36.70A.130(9) will be required to submit an implementation progress report five years after the review and revision of their comprehensive plan.	No	Yes	We will be adding an implementation plan to this periodic update to set the table for the future report. We will need to develop a process for creating the implementation progress report.	Completed: ☐ Date:
d. Considerations for preserving property rights. Local governments must evaluate proposed regulatory or administrative actions to assure that such actions do not result in an unconstitutional taking of private property. RCW 36.70A.370. For further guidance see the 2018 Advisory Memo on the Unconstitutional Taking of Private Property	Yes, Governance Policy #4	No	RCW "(2) Local governments that are required or choose to plan under RCW **36.70A.040** and state agencies shall utilize the process established by subsection (1) of this section to assure that proposed regulatory or administrative actions do not result in an unconstitutional taking of private property." We will incorporate a discussion of this in the new chapter "Governance".	Completed: ☐ Date:
e. Encourage the involvement of citizens in the planning process, including the participation of vulnerable populations and overburdened communities, and ensure coordination between	Yes, pg. 8-9	Yes	Current discussion does not include mention of vulnerable and overburdened communities. Should be addressed in Governance, Housing, and Climate	Completed: ☐ Date:

Consistency is required by the GMA				
communities and jurisdictions to reconcile conflicts. HB 1181 (2023) revised RCW 36.70A.020 *Planning Goals* for inclusion of vulnerable populations and overburdened communities. RCW 36.70A.035 *Public Participation* was not amended under HB 1181.			Chapters, at a minimum.	

Section II: Development Regulations

Must be consistent with and implement the comprehensive plan. RCW 36.70A.040, WAC 365-196-800 and 810

Critical Areas

Regulations protecting critical areas are required by RCW 36.70A.060(2), RCW 36.70A.172(1), WAC 365-190-080 and WAC 365-195-900 through 925.

Please visit Commerce's **Critical Areas webpage** for resources and to complete the **Critical Areas Checklist**. Critical areas regulations must be reviewed and updated, as necessary, to incorporate legislative changes and best available science. Jurisdictions using periodic update grant funds to update critical areas regulations must submit the critical areas checklist as a first deliverable, in addition to this periodic update checklist.

Zoning Code

Note: Please review the new 2023 housing laws in the Washington State Housing Laws of 2019 through 2023 guidance, on Commerce's Planning for Housing webpage and Appendix A of this checklist.

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
Notice: For more information about housing regulatory changes regarding supportive housing types, see Supportive Housing Types Review Checklist on the Updating GMA Housing Elements webpage. And for additional information on middle housing and ADU regulations, see the Middle Housing webpage.				
a. Zoning designations are consistent and implement land use designations that accommodate future housing needs by income bracket as allocated through the countywide planning process. (RCW 36.70A.070(2)(c) - amended in 2021 (HB 1220)	Yes, throughout the zoning code	No	There are allowable uses/zones that support housing for all income brackets (for example, emergency housing & shelters are a "limited" use where hotels are outright allowed).	Completed: ☐ Date:
b. Permanent supportive housing or transitional housing must be allowed where residences and hotels are allowed. RCW 36.70A.390 new in 2021, (HB 1220 sections 3-5) "permanent supportive housing" is defined in RCW 36.70A.030; "transitional housing" is defined in RCW 84.36.043(2)(c)	Yes, 10-2A-4	No	Currently a "limited" use. "Limited Uses" in Liberty Lake Development Code are permitted uses that have additional development standards specific to that use.	Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
c. Indoor emergency shelters and indoor emergency housing must be allowed in any zones in which hotels are allowed, except in cities that have adopted an ordinance authorizing indoor emergency shelters and indoor emergency housing in a majority of zones within one-mile of transit. RCW 35A.21.430 amended in 2021, RCW 35.21.683, amended in 2021, (HB 1220 sections 3-5) "emergency housing" is defined in RCW 84.36.043(2)(b)	Yes, 10-2A-4	No	"Emergency housing and shelters" are a "limited" use in the same zones that hotels are a "permitted" use. "Limited Uses" in Liberty Lake Development Code are permitted uses that have additional development standards specific to that use.	Completed: ☐ Date:
d. The number of unrelated persons that occupy a household or dwelling unit except as provided in state law, for short-term rentals, or occupant load per square foot shall not be regulated or limited by cities. (HB 5235), RCW 35.21.682 new in 2021, RCW 35A.21.314 new in 2022, RCW 36.01.227 new in 2021	Yes	No	There is no section to cite because there are no specific limitations on the number of unrelated persons that can occupy a household.	Completed: ☐ Date:
e. Limitations on the amount of parking local governments can require for low-income, senior, disabled and market-rate housing units located near high-quality transit service. RCW 36.70A.620 amended in 2020 and RCW 36.70A.600 amended in 2019	No	Yes	10-3D-3 does not make the distinction based on the type of housing nor proximity to transit.	Completed: ☐ Date:
f. Family day care providers are allowed in all residential dwellings located in areas zoned for residential or commercial RCW 36.70A.450. Review RCW 43.216.010 for definition of family day care provider and WAC 365-196-865 for more information.	Yes, 10-2A-4 and definitions	No		Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
g. Manufactured housing is regulated the same as site built housing. RCW 35.21.684 amended in 2019, RCW 35.63.160, RCW 35A.21.312 amended in 2019 and RCW 36.01.225 amended in 2019. A local government may require that manufactured homes: (1) are new, (2) are set on a permanent foundation, and (3) comply with local design standards applicable to other homes in the neighborhood, but may not discriminate against consumer choice in housing. See: National Manufactured Housing Construction and Safety Standards Act of 1974	Yes, 10-2B-3(C)(10), 10-2A-4	Yes	If manufactured housing needs to be regulated the same as site-built housing, then the regulations for manufactured homes on individual lots (10-2B-3(C)(10)) should not apply. Also, I believe that you need to regulate them the same as single-family housing, so it should match allowable uses in the zoning table.	Completed: ☐ Date:
h. Accessory dwelling units: cities (and counties) must adopt or amend by ordinance, and incorporate into their development regulations, zoning regulations and other official controls. RCW 36.70A.680 amended in 2023, RCW 36.70A.681 amended in 2023, RCW 36.70A.696 amended in 2023, RCW 36.70A.697 amended in 2020, RCW 36.70A.698 amended in 2020, RCW 36.70A.699 amended in 2020 See new Commerce guidance on the Middle Housing webpage	Yes, 10-2B-3(C)(7-8), 10-1C(B)	Yes	The limited use standards for ADUs will need to be modified to meet state standards, particularly RCW 36.70A.680.	Completed: ☐ Date:
i. Residential structures occupied by persons with handicaps, and group care for children that meets the definition of "familial status" are regulated the same as a similar residential structure occupied by a family or other unrelated individuals. No city or county planning under the GMA may enact or maintain ordinances, development regulations, or administrative practices which treat a residential structure occupied by persons with handicaps differently than a similar residential structure occupied by a family or other unrelated individuals. RCW 36.70A.410, RCW 70.128.140 and 150, RCW 49.60.222-225 and WAC 365-196-860	Yes	No	There is no section to cite because there are no specific limitations on these types of developments.	Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
j. Affordable housing programs enacted or expanded under RCW 36.70A.540 amended in 2022 comply with the requirements of this section. Examples of such programs may include: density bonuses within urban growth areas, height and bulk bonuses, fee waivers or exemptions, parking reductions, expedited permitting conditioned on provision of low-income housing units, or mixed-use projects. WAC 365-196-300 See also RCW 36.70A.545 and WAC 365-196-410(2)(e)(i) "affordable housing" is defined in RCW 84.14.010 Review RCW 36.70A.620 amended in 2020, for minimum residential parking requirements.	No	No	This is an optional provision.	Completed: ☐ Date:
k. Limitations on regulating: outdoor encampments, safe parking efforts, indoor overnight shelters and temporary small houses on property owned or controlled by a religious organization. RCW 36.01.290 amended in 2020	No	Maybe	The current code is silent on the matter. Religious organizations should be able to host the homeless regardless of the underlying zoning.	Completed: ☐ Date:
l. Regulations discourage incompatible uses around general aviation airports. RCW 36.70.547 and WAC 365-196-455. Incompatible uses include: high population intensity uses such as schools, community centers, tall structures, and hazardous wildlife attractants such as solid waste disposal sites, wastewater or stormwater treatment facilities, or stockyards. For more guidance, see WSDOT's Aviation Land Use Compatibility Program.	N/A	N/A	There appears to be a helicopter facility nearby across the Idaho border, but other than that, no major aviation facilities exist in or near Liberty Lake.	Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
m. If a U.S. Department of Defense (DoD) military base employing 100 or more personnel is within or adjacent to the jurisdiction, zoning should discourage the siting of incompatible uses adjacent to military base. RCW 36.70A.530(3) and WAC 365-196-475. Visit Military One Source to locate any bases in your area and help make determination of applicability. If applicable, inform the commander of the base regarding amendments to the comprehensive plan and development regulations on lands adjacent to the base.	N/A	N/A	Fairchild Air Force Base is not adjacent to, or even in the general vicinity of Liberty Lake.	Completed: ☐ Date:
n. Electric vehicle infrastructure (jurisdiction specified: adjacent to Interstates 5, 90, 405 or state route 520 and other criteria) must be allowed as a use in all areas except those zoned for residential, resource use or critical areas. RCW 36.70A.695	Yes, 10-3D-7	No		Completed: ☐ Date:
Shoreline Master Program Consistent with RCW 90.58 Shoreline Management Act of 1971				
a. Zoning designations are consistent with Shoreline Master Program (SMP) environmental designations. RCW 36.70A.480	Yes	No	Natural Environment Policy 4 - Liberty Lake has adopted the Spokane County Shoreline Master Program until it is replaced by a City Master Program	Completed: ☐ Date:
b. If updated to meet RCW 36.70A.480 (2010), SMP regulations provide protection to critical areas in shorelines that is at least equal to the protection provided to critical areas by the critical areas ordinance. RCW 36.70A.480(4) and RCW 90.58.090(4) See Ecology's shoreline planners' toolbox for the SMP Checklist and other resources and Ecology's Shoreline Master Programs Handbook webpage	Yes	No	Chapter 6 Critical Areas, General Provisions (10-6B-1) (5)(c) To maintain consistency with state and federal protective measures.	Completed: ☐ Date:

Resource Lands

Defined in RCW 36.70A.030(3), (12) and (17) and consistent with RCW 36.70A.060 and RCW 36.70A.170

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Zoning is consistent with natural resource lands designations in the comprehensive plan and conserves natural resource lands. RCW 36.70A.060(3), WAC 365-196-815 and WAC 365-190-020(6). Consider innovative zoning techniques to conserve agricultural lands of long-term significance RCW 36.70A.177(2). See also WAC 365-196-815(3) for examples of innovative zoning techniques.	N/A	N/A	Liberty Lake does not have any natural resource lands.	Completed: ☐ Date:
b. Regulations to assure that use of lands adjacent to natural resource lands does not interfere with natural resource production. RCW 36.70A.060(1)(a) and WAC 365-190-040 Regulations require notice on all development permits and plats within 500 feet of designated natural resource lands that the property is within or near a designated natural resource land on which a variety of commercial activities may occur that are regulations to implement comprehensive plan	N/A	N/A	Liberty Lake does not have any natural resource lands and is not adjacent to resource land in the County's jurisdiction.	Completed: ☐ Date:
c. For designated agricultural land, regulations encourage nonagricultural uses to be limited to lands with poor soils or otherwise not suitable for agricultural purposes. Accessory uses should be located, designed and operated to support the continuation of agricultural uses. RCW 36.70A.177(3)(b)	N/A	N/A	Liberty Lake does not have any designated agricultural land.	Completed: ☐ Date:
d. Designate mineral lands and associated regulations as required by RCW 36.70A.131and WAC 365-190-040(5). For more information review the WA State Dept. of Natural Resources (DNR)'s Geology Division site	N/A	N/A	Liberty Lake does not have any mineral lands.	Completed: ☐ Date:

Siting Essential Public Facilities

Regulations for siting essential public facilities should be consistent with RCW 36.70A.200 and consider WAC 365-196-550. Essential public facilities include those facilities that are typically difficult to site, such as airports, state education facilities, state or regional transportation facilities, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance abuse facilities, mental health facilities, group homes, and secure community transition facilities. Regulations may be specific to a local jurisdiction, but may be part of county-wide planning policies (CWPPs).

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
Regulations for CWPPs include a process for siting EPFs and ensure EPFs are not precluded. RCW 36.70A.200 amended in 2023, WAC 365-196-550(6) lists process for siting EPFs. WAC 365-196-550(3) details preclusions. EPFs should be located outside of known hazardous areas. Visit Commerce's Behavioral Health Facilities Program page for information on establishing or expanding new capacity for behavioral health EPFs. Note: RCW 36.70A.200 amended by SB 5536 to include EPFs for opioid treatment programs	Yes	No	Liberty Lake has adopted the Spokane County process for siting EPFs.	Completed: ☐ Date:

Subdivision Code

a. Subdivision regulations are consistent with and implement comprehensive plan policies. RCW 36.70A.030(8), RCW 36.70A.040(4)	Yes, 10-4D-1(B)	No		Completed: ☐ Date:
b. Written findings to approve subdivisions establish adequacy of public facilities. RCW 58.17.110 amended in 2018 • Streets or roads, sidewalks, alleys, other public ways, transit stops, and other features that assure safe walking conditions for students. • Potable water supplies, sanitary wastes, and drainage ways. RCW 36.70A.590 amended 2018 • Open spaces, parks and recreation, and playgrounds • Schools and school grounds Other items related to the public health, safety and general welfare, WAC 365-196-820(1).	Yes 10-4A-2(A) 10-3B-3, and 10-4D-5	No, but standards for approval could be more explicitly stated in 10-4D-5	• Streets or roads, sidewalks, alleys, other public ways, transit stops, and other features that assure safe walking conditions for students. • Potable water supplies, sanitary wastes, and drainage ways ○ Utilities Policy 3: Prior to approval of any proposed development inside the city boundaries, project sponsors must: ○ Demonstrate the adequacy of the planned sewer and water conveyance system capacity in	Completed: ☐ Date:

			accordance with established level of service standards; and • Open spaces, parks and recreation, and playgrounds – PROS Plan, Section III Existing Recreation Facilities, LOS pg. 16 • Schools and school grounds	
	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
c. Preliminary subdivision approvals under RCW 58.17.140 and RCW 58.17.170 are valid for a period of five or seven years (previously five years). Note: preliminary plat approval is valid for: seven years if the date of preliminary plat approval is on or before December 31, 2014; five years if the preliminary plat approval is issued on or after January 1, 2015; and ten years if the project is located within city limits, not subject to the shoreline management act, and the preliminary plat is approved on or before December 31, 2007.	Yes, 10-4D-3(C)	No		Completed: ☐ Date:
d. Include in short plat regulations procedures for unit lot subdivisions allowing division of a parent lot into separately owned unit lots. RCW 58.17.060 (3) new in 2023 by SB 5258 - section 11	No	Yes		Completed: ☐ Date:

Stormwater

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Regulations protect water quality and implement actions to mitigate or cleanse drainage, flooding, and storm water run-off that pollute waters of the state, including Puget Sound or waters entering Puget Sound. RCW 36.70A.070(1) Regulations may include: adoption of a stormwater manual consistent with Ecology's latest manual for Eastern or Western Washington, adoption of a clearing and grading ordinance –See Commerce's 2005 Technical Guidance Document for Clearing and Grading in Western Washington. Adoption of a low impact development ordinance. See Puget Sound Partnership's 2012 Low Impact Development guidance and Ecology's 2013 Eastern Washington Low Impact Development guidance. Additional Resources: Federal Grants to Protect Puget Sound Watersheds, Building Cities in the Rain, Ecology Stormwater Manuals, Puget Sound Partnership Action Agenda	Yes, Spokane Regional Stormwater Manual (10-3H)	No	Spokane Regional Stormwater Manual (Article 10-3H)	Completed: ☐ Date:
b. Provisions for corrective action for failing septic systems that pollute waters of the state. RCW 36.70A.070(1). See also: DOH Wastewater Management, Ecology On-Site Sewage System Projects & Funding	Yes	No	Article 10-3I Property Maintenance Standards, 10-3I-3 General Outdoor Maintenance Requirements	Completed: ☐ Date:

Organic Materials Management Facilities

New in 2022, HB 1799 added a section to the GMA aimed at reducing the volumes of organic materials collected in conjunction with other solid waste and delivered to landfills, supporting productive uses of organic material waste and reduction of methane gas (a greenhouse gas).

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
New section RCW 36.70A.142; new in 2022 legislation HB 1799: Development regulations newly developed, updated, or amended *after January 1, 2025* allow for the siting of organic materials (OM) management facilities as identified in local solid waste management plans (SWMP) to meet OM reduction and diversion goals. Siting to meet criteria described in RCW 70A.205.040(3) See also RCW 36.70.330. For applicability, see RCW 70A.205.540	No	Yes		Completed: ☐ Date:

Impact Fees

May impose impact fees on development activity as part of the financing for public facilities, provided that the financing for system improvements to serve new development must provide for a balance between impact fees and other sources of public funds; cannot rely solely on impact fees.

a. If adopted, impact fees are applied consistent with RCW 82.02.050 amended in 2015, RCW 82.02.060 amended in 2023 by SB 5258, .070, .080, .090 amended in 2018 and .100. WAC 365-196-850 provides guidance on how impact fees should be implemented and spent.	Yes, the City Fee Schedule	Yes	RCW 82.02.050 requires deferment of impact fees for single-family detached and attached residential construction.	Completed: ☐ Date:
b. Jurisdictions collecting impact fees must adopt and maintain a system for the deferred collection of impact fees for single-family detached and attached residential construction, consistent with RCW 82.02.050(3) amended in 2016	No	Yes	There does not appear to be any system to defer payment for this development.	Completed: ☐ Date:
c. If adopted, limitations on impact fees for early learning facilities RCW 82.02.060 amended in 2021	No	Yes	The Fee Schedule did not include any exemption for early learning facilities.	Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
d. If adopted, exemption of impact fees for low-income and emergency housing development RCW 82.02.060 amended in 2023. See also definition change in RCW 82.02.090(1)(b) amended in 2018	No	Yes	The Fee Schedule does not appear to include any exemptions for low-income and emergency housing development.	Completed: ☐ Date:
e. Ensure impact fees are not assessed on the construction of accessory dwelling units that are greater than 50 percent (50%) of the impact fees that would be imposed on the principal unit. RCW 36.70A.681 new in 2023 by HB 1337	No	Yes		Completed: ☐ Date:
f. The schedule of impact fees reflects the proportionate impact of new housing units, including multifamily and condominium units, based on the square footage, number of bedrooms, or trips generated, in the housing unit in order to produce a proportionally lower impact fee for smaller housing units. RCW 82.02.060 amended in 2023 by SB 5258	No	Yes		Completed: ☐ Date:
Concurrency and Transportation Demand Management (TDM) **Ensures consistency in land use approval and the development of adequate public facilities as plans are implemented, maximizes the efficiency of existing transportation systems, limits the impacts of traffic and reduces pollution.**				
a. The transportation concurrency requirement includes specific language that prohibits development when level of service standards for transportation facilities cannot be met. RCW 36.70A.070(6)(b) amended in 2023, WAC 365-196-840. Note: Concurrency is required for transportation, but may also be applied to park facilities, etc.	No	Yes	Consistency and Concurrency section of the Comp Plan, pg. 76 The Growth Management Act requires transportation facilities to be concurrent with development. Transportation facilities must be in place and in use within 6 years of the impact of development. The Transportation Improvement Program or TIP identifies specific projects that are needed to mitigate impacts to the transportation system due to existing system deficiencies and expected future growth.	Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
b. Measures exist to bring into compliance locally owned, or locally or regionally operated, transportation facilities or services that are below the levels of service established in the comprehensive plan. RCW 36.70A.070(6)(a)(iii)(B) and (D), RCW 36.70A.070(6)(b) amended in 2023 Levels of service can be established for automobiles, pedestrians and bicycles. See WAC 365-196-840(3) on establishing an appropriate level of service.	No	Yes		Completed: ☐ Date:
c. Highways of statewide significance (HSS) are exempt from the concurrency ordinance. RCW 36.70A.070(6)(a)(iii)(C)	No	Yes	10-4A-2(B)(2) does not mention HSS under exemptions	Completed: ☐ Date:
d. Traffic demand management (TDM) requirements are consistent with the comprehensive plan. RCW 36.70A.070(6)(a)(vi) Examples may include requiring new development to be oriented towards transit streets, pedestrian-oriented site and building design, and requiring bicycle and pedestrian connections to street and trail networks. WAC 365-196-840(4) recommends adopting methodologies that analyze the transportation system from a comprehensive, multimodal perspective.	Yes	No		Completed: ☐ Date:
e. If required by RCW 82.70, a commute trip reduction (CTR) ordinance to achieve reductions in the proportion of single-occupant vehicle commute trips has been adopted. The ordinance should be consistent with comprehensive plan policies for CTR and Department of Transportation rules.	Yes	No	7-1-3 Commute Trip Reduction	Completed: ☐ Date:

Tribal Participation in Planning new in 2022 (see HB 1717)

A federally recognized Indian tribe may voluntarily choose to participate in the county or regional planning process. See Commerce's new Tribal Planning Coordination for GMA webpage for guidance and staff contacts.

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Mutually agreeable memorandum of agreement between local governments and tribes in regard to collaboration and participation in the planning process unless otherwise agreed at the end of a mediation period RCW 36.70A.040(8)(a) new in 2022.	No	Yes	Is being addressed at a County -wide level through an Interlocal Agreement between the Tribes, and the jurisdiction that participates in the Steering Committee of Elected Officials.	Completed: ☐ Date:
b. Policies consistent with countywide planning policies that address the protection of tribal cultural resources in collaboration with federally recognized Indian tribes that are invited, provided that a tribe, or more than one tribe, chooses to participate in the process. RCW 36.70A.210(3)(i) new in 2022.	No	Yes	See above.	Completed: ☐ Date:

Regulations to Implement Optional Elements

a. New fully contained communities are consistent with comprehensive plan policies, RCW 36.70A.350 and WAC 365-196-345	N/A	N/A		Completed: ☐ Date:
b. If applicable, master planned resorts are consistent with comprehensive plan policies, RCW 36.70A.360, RCW 36.70A.362 and WAC 365-196-460	N/A	N/A		Completed: ☐ Date:
c. If applicable, major industrial developments and master planned locations outside of UGAs are consistent with comprehensive plan policies, RCW 36.70A.365, RCW 36.70A.367 and WAC 365-196-465	N/A	N/A		Completed: ☐ Date:
d. Regulations include procedures to identify, preserve, and/or monitor historical or archaeological resources. RCW 36.70A.020(13), WAC 365-196-450	N/A	N/A	There are mentions in the comp plan to protect archaeological sites but no procedure was found.	Completed: ☐ Date:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
e. Other development regulations needed to implement comprehensive plan policies such as energy, sustainability or design are adopted. WAC 365-196-445	N/A	N/A		Completed: ☐ Date:
f. Design guidelines for new development are clear and easy to understand; administration procedures are clear and defensible	Yes	No	Urban Design Policy 3: Public and private sector development shall be subject to citywide design guidelines which are intended to protect the community's scenic views, provide community cohesion, and enhance the community image of Liberty Lake.	Completed: ☐ Date:
g. Local design review includes one or more ascertainable guideline, standard or criterion by which an applicant can determine whether a given building design is permissible under that development regulation. May not result in a reduction in density, height, bulk or scale below the generally applicable development regulations for a development proposal in the applicable zone. RCW 36.70A.630 new in 2023 by HB 1293	No	TBD	Will likely be updating Architectural Design Standards as an implementation strategy following the Comp Plan, because the standards are dated.	Completed: ☐ Date:
Project Review Procedures In 2023, SB 5290 substantially amended local permit review processes. Codification and additional resources from Commerce are forthcoming.				
Project review processes integrate permit and environmental review. RCW 36.70A.470, RCW 36.70B and RCW 43.21C. Also: WAC 365-196-845, WAC 197-11(SEPA Rules), WAC 365-197 (Project Consistency Rule, Commerce, 2001) and Ecology SEPA Handbook. Integrated permit and environmental review procedures for: • Notice of application • Notice of complete application • One open-record public hearing	N/A	N/A		Completed: ☐ Date:

• Combining public hearings & decisions for multiple permits • Notice of decision • One closed-record appeal				

Plan & Regulation Amendments

If procedures governing comprehensive plan amendments are part of the code, then assure the following are true:

	In Current Regs? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Regulations limit amendments to the comprehensive plan to once a year (with statutory exceptions). RCW 36.70A.130(2) and WAC 365-196-640(3)	Yes	No	10-4B-3(E) Project Procedure Types Comprehensive Plan, Revisions to this Comprehensive Plan	Completed: ☐ Date:
b. Regulations define *emergency* for an emergency plan amendment. RCW 36.70A.130(2)(b) and WAC 365-196-640(4)	No	Yes	Regulations only define "emergency" in the context of housing, shelter, and wetlands	Completed: ☐ Date:
c. Regulations include a docketing process for requesting and considering plan amendments. RCW 36.70A.130(2), RCW 36.70A.470, and WAC 365-196-640(6)	Yes	No	Docketing is listed under definitions, with docketing process detailed in 10-4B-5, Type IV Projects	Completed: ☐ Date:
d. A process has been established for early and continuous public notification and participation in the planning process. RCW 36.70A.020(11), RCW 36.70A.035 and RCW 36.70A.140. See WAC 365-196-600 regarding public participation and WAC 365-196-610(2) listing recommendations for meeting requirements.	Yes	No	10-4B-4 Project Permit Review Process & Timeline	Completed: ☐ Date:
e. A process exists to assure that proposed regulatory or administrative actions do not result in an unconstitutional taking of private property RCW 36.70A.370. See the 2018 Advisory Memo on the Unconstitutional Taking of Private Property	Yes	No	Governance Policy 4: Regulations developed by the City of Liberty Lake will not result in or constitute a taking of private property and shall be evaluated as provided for in RCW 36.70A.370.	Completed: ☐ Date:

f. Provisions ensure adequate enforcement of regulations, such as zoning and critical area ordinances (civil or criminal penalties). See implementation strategy in WAC 365-196-650(1).	Yes	No	Article 10-6B Critical Areas. Enforcement. The provisions of this article shall be enforced by the Zoning Administrator or his or her designee in accordance with the procedures in Article 10-1D of this Code. Article 10-1D - Enforcement.	Completed: ☐ Date:

Appendix A: Housing unit minimums per population

See Commerce's Middle Housing webpage for more information and the Middle Housing Fact Sheet for the list of cities that must comply with the following requirements.

Cities with a population less than 25,000 but within the Contiguous UGA with the largest city in a county with a population greater than 275,000				
	In Current zoning? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
Zoning and development regulations allow at least two residential units per lot on all lots zoned predominantly for residential use, unless the lot is smaller than 1,000 square feet. RCW 36.70A.635 (1) and (6) HB 1110	No	Yes		Completed: ☐ Date:

Cities with a population between 25,000 and 75,000				
	In Current zoning? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Zoning and development regulations allow at least: • two residential units on each lot, • four residential units on each lot if at least one unit is affordable, unless the lot is smaller than 1,000 square feet.	N/A	N/A		Completed: ☐ Date:

Cities with a population between 25,000 and 75,000				
b. Zoning and development regulations allow at least four residential units on each lot, within ¼ mile walking distance of a major transit stop.	N/A	N/A		Completed: ☐ Date:

Cities with a population greater than 75,000				
	In Current zoning? Yes/No If yes, cite section	Changes needed to meet current statute? Yes/No	Notes	
a. Zoning and development regulations allow at least: • four residential units on each lot, • six residential units on each lot if at least two units are affordable, unless the lot is smaller than 1,000 square feet.	N/A	N/A		Completed: ☐ Date:
b. Zoning and development regulations allow at least six residential units on each lot, within ¼ mile walking distance of a major transit stop.	N/A	N/A		Completed: ☐ Date:

Appendix B: Element updates per HB 1181

GMA Periodic Update Due Dates	Required Updates to GMA Elements per HB 1181						
	Greenhouse Gas Reduction Sub-element	Climate Resilience Sub-element	Transportation Element	Land Use Element	Capital Facilities Element*	Utilities Element*	Parks & Recreation Element*
For jurisdictions with a 2024 deadline and subject to GHG Emissions Reduction [Sec. 15 (10)]	Due 2029	Due 2029	Due 2029	Due in 2034			
For jurisdictions with a 2025 & 2026 deadline and subject to GHG Emissions Reduction [Sec. 4 (1) and (2)]	X	X	X	X	X*	X*	X*
Jurisdictions not subject to GHG Emissions Reduction (all years) [Sec. 4 (3) and 9(e)(i)]	Optional	X See RCW 36.70A.070(9)(e)	**	Only counties over 20k pop.	X*	X*	X*

Table notes: "X" indicates a GMA update requirement. One asterisk (*) indicates jurisdictions should make a good faith effort to update their elements to be consistent; refer to HB 1181 (Chapter 228, Laws of 2023) for specifics. Two asterisks (**) indicates 22 cities that need to update their transportation element based on population, not whether or not their county is among those that must develop a GHG emissions element.

APPENDIX "H"

SCJ ALLIANCE
CONSULTING SERVICES

Technical Memo

To	Lisa D. Key, Director of Planning & Engineering, City of Liberty Lake
From:	Shareefa Abdulsalam, AICP, Deputy Project Manager
Date:	April 3rd, 2025
Project:	Liberty Lake On-Call Planning (24-000540) Task Order 5: Housing Policy
Subject	Housing Policy Analysis, Implementation Strategies & Programs

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Introduction:

As part of supporting the City of Liberty Lake with its Housing Element update, SCJ Alliance and Leland Consulting prepared a set of reports and completed housing-related checklists to conduct a housing policy analysis and propose implementation strategies and programs. This memo outlines those items and compiles them into a single PDF file for the City's use.

Checklists completed:

- Adequate Provisions Checklists

Reports prepared:

1. Racially Disparate Impacts Analysis
2. Barriers to Affordability Memo
3. Housing Affordability Strategies Memo
4. Housing Strategies Matrix - Required and Recommended Strategies
5. Draft Housing Goals and Policies

Appendix B: Adequate provisions checklists DRAFT 2025-01-14

This appendix provides checklists to use in documenting barriers and programs and actions to achieve housing availability (RCW 36.70A.070(2)(d)). These checklists include the following:

- Exhibit B1: Moderate Density housing barrier review checklist
- Exhibit B2: Low-Rise or Mid-Rise housing barrier review checklist
- Exhibit B3: Supplemental barrier review checklist for PSH and emergency housing
- Exhibit B4: Accessory dwelling unit barrier review checklist
- Exhibit B5: Checklist for local option tools for addressing affordable housing funding gaps

Documentation of the barriers to housing availability and the programs or actions needed to overcome these barriers must be in a public document and typically should be included as an appendix to the comprehensive plan housing element.

Barrier review checklists

Exhibit B1: Moderate Density housing barrier review checklist

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
DEVELOPMENT REGULATIONS			
Unclear development regulations	No	Development regulations are clearly described in the City's code.	
Prohibiting some moderate density housing types, such as: ○ **Duplexes** ○ **Triplexes** ○ **Four/five/six-plexes** ○ **Townhomes** ○ **Cottage housing** ○ **Live-work units** ○ **Manufactured home parks**	No	Duplexes and multifamily housing are not permitted in the R-1 zone and are limited uses in the R-2 and R-3 zones. Manufactured homes are a limited use in all three zones. Limited uses are permitted outright, with some additional standards. These standards are typically not onerous.	
High minimum lot sizes	No	There are no minimum lot sizes.	
Low maximum densities or low maximum FAR	Yes	Although the R-2 zone allows for some types of moderate density housing, the max density is 12 dwelling units per acre. This is lower than what would typically be associated with moderate density housing.	Consider increasing the max density for attached housing in the R-2 zone to 16 dwelling units per acre.
Low maximum building heights	No	The height limit in the R-1, R-2, and R-3 zones is 35 feet,	

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
		which would allow for three-story structures. This is adequate for typical moderate density housing.	
Large setback requirements	No	Setbacks are not overly large.	
High off-street parking requirements	Yes	Duplexes, triplexes, and other multifamily housing are required to have 1.75 parking spaces per dwelling unit, regardless of unit size.	Consider tying the number of parking spaces required to the number of bedrooms, with fewer spaces required for studio and one-bedroom units than for larger, family-sized units.
High impervious coverage limits	No	The maximum lot coverage ranges from 60% for single family homes to 70% for other housing types.	
Lack of alignment between building codes and development codes	No	There does not appear to be a lack of alignment between building and development codes.	
Other (for example: complex design standards, tree retention regulations, historic preservation requirements)	Yes	All ground floor housing units and 75 percent of upper floor housing units are required to have patios or decks measuring at least 35 square feet.	Consider removing this requirement for moderate density housing types.
PROCESS OBSTACLES			
Conditional use permit process	No	A conditional use permit is not required for moderate	

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
		density housing in the R-1, R-2, or R-3 zones.	
Design review	Yes	Design review is required for developments within mixed-use areas as well as planned unit developments and "large-scale" residential developments (large-scale is not defined in the code).	Ensure that design review is not required for the development of moderate density housing in the R-1, R-2, or R-3 zone.
Lack of clear and accessible information about process and fees[1]	No	There is clear and accessible information about process and fees available on the City's website.	
Permit fees, impact fees and utility connection fees	No	Fees scale with the size / value of the project.	
Processing times and staffing challenges	No	City has on-call contracts that allow it to scale up reviews temporarily as needed.	
SEPA process	No	The SEPA process in Liberty Lake does not differ significantly from neighboring communities.	
LIMITED LAND AVAILABILITY AND ENVIRONMENTAL CONSTRAINTS			

[1] For example: guidance resources are unclear or difficult to find, no digital permit tracking system, staff do not provide fee estimates or permitting time estimates are unavailable or inaccurate.

Appendix B: Adequate provisions checklists

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
Lack of large parcels for infill development	Possibly	Vacant, non-entitled land in Liberty Lake has the capacity to accommodate 361 new duplex, triplex, or quadplex units.	Increasing the amount of land available for infill moderate density housing would require either downzoning some parts of the city or expanding city boundaries. We do not recommend downzoning to accomplish this in Liberty Lake, and expanding boundaries would be challenging given existing constraints.
Environmental constraints	No	There are no significant environmental constraints in areas zoned for moderate density housing.	

Appendix B: Adequate provisions checklists

Exhibit B2: Low-Rise or Mid-Rise housing barrier review checklist

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
DEVELOPMENT REGULATIONS			
Unclear development regulations	No	Development regulations are clearly described in the City's code.	
High minimum lot sizes	No	The minimum lot size for multifamily in the M-2 zone is 7,000 square feet (0.16 acres).	
Low maximum densities or low maximum FAR	No	The M-2 zone does not have a maximum density. The minimum density is 12 du/acre in the M-2 zone and six du/acre in the RD-M zone.	
Low maximum building heights	No	The maximum building height in the M-2 zone is 50 feet, enough for four stories. The maximum height in the RD-M zone is 80 feet (approximately seven stories).	
Large setback requirements	No	Setback requirements in the M-2 and RD zones are minimal.	
High off-street parking requirements	Yes	Duplexes, triplexes, and other multifamily housing are required to have 1.75 parking spaces per dwelling unit, regardless of unit size.	Consider tying the number of parking spaces required to the number of bedrooms, with fewer spaces required for studio and one-bedroom units than

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
			for larger, family-sized units.
High impervious coverage limits	No	The maximum lot coverage is 70% for multifamily housing.	
Lack of alignment between building and development codes	No	There does not appear to be a lack of alignment between building and development codes.	
Other (for example: ground floor retail requirements, open space requirements, complex design standards, tree retention regulations, historic preservation requirements)	Yes	In the M-2 zone, all ground floor housing units and 75 percent of upper floor housing units are required to have patios or decks measuring at least 35 square feet. Also, multifamily housing is a limited use in the M-2 zone. It is required to be part of a horizontal or vertical mixed-use development.	Consider removing the balcony/patio requirement for multifamily housing in the M-2 zone. Ensure that the requirement for commercial space in the M-2 zone does not have a negative impact on development feasibility.
PROCESS OBSTACLES			
Conditional use permit process	No	A conditional use permit is not required for multifamily housing in the M-2 or RD zones.	
Design review	Yes	Design review is required for developments within mixed-use areas as well as planned unit developments and "large-scale" residential	Ensure that design review is not required for the development of

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
		developments (large-scale is not defined in the code).	multifamily housing in the R-3 zone.
Lack of clear and accessible information about process and fees	No	There is clear and accessible information about process and fees available on the City's website.	
Permit fees, impact fees and utility connection fees	No	Fees scale with the size / value of the project.	
Process times and staffing challenges	No	City has on-call contracts that allow it to scale up reviews temporarily as needed.	
SEPA process	No	The SEPA process in Liberty Lake does not differ significantly from neighboring communities.	
LIMITED LAND AVAILABILITY AND ENVIRONMENTAL CONSTRAINTS			
Lack of large parcels for infill development	Possibly	Vacant, not entitled land in Liberty Lake has the capacity to accommodate 254 multifamily units.	Liberty Lake is a constrained city and expanding the UGA would therefore be challenging. Therefore, ensuring there are fewer barriers to multifamily development in existing multifamily zones is the best way to increase capacity.
Environmental constraints	No	There are no significant environmental constraints in	

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
		areas zoned for multifamily housing.	

Appendix B: Adequate provisions checklists

Exhibit B3: Supplementary barrier review checklist for PSH and emergency housing

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
DEVELOPMENT REGULATIONS			
Spacing requirements (for example, minimum distance from parks, schools or other emergency/PSH housing facilities)[2]	Yes	Transitional and supportive housing must be at least 0.75 miles from other shelters and no more than 0.25 miles from transit.	Remove the spacing requirement between shelters. Ensure that the transit proximity requirement does not preclude the development of new shelters.
Parking requirements	Yes	Specialty housing must have 0.5 spaces per bed plus one space per employee (based on the largest shift). However, shelters are already required to be proximate to transit, and residents are less likely to own vehicles.	Consider reducing the parking requirement both for residents and employees.
On-site recreation and open space requirements	No	There are no on-site recreation or open space requirements beyond what is typically required for multifamily housing.	
Restrictions on support spaces, such as office space, within a transitional or PSH building in a residential zone	Yes	The R-1 zone does not allow office space and the R-2 zone	Ensure that offices are allowed in conjunction

[2] Note that RCW 35A.21.430 expressly states requirements on occupancy, spacing, and intensity of use may not prevent the siting of a sufficient number of permanent supportive housing, transitional housing, indoor emergency housing or indoor emergency shelters necessary to accommodate each code city's projected need for such housing and shelter under RCW 36.70A.070(2)(a)(ii). The restrictions on these uses must be to protect public health and safety.

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
		requires a conditional use permit for office uses.	with PSH/emergency housing in all residential zones.
Arbitrary limits on number of occupants (in conflict with RCW 35A.21.314)	Yes	The number of units is capped at 20 and the number of residents is capped at 40.	Ensure that City code aligns with the requirements of RCW 35A.21.314
Requirements for PSH or emergency housing that are different than the requirements imposed on housing developments generally (in conflict with RCW 36.130.020)	No	There are no additional requirements specific to PSH or emergency housing.	
Other restrictions specific to emergency shelters, emergency housing, transitional housing and permanent supportive housing	No	There are no additional restrictions related to PSH or emergency housing.	

Exhibit B4: Accessory dwelling unit barrier review checklist

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
DEVELOPMENT REGULATIONS			
Consistent with HB 1337 (2023) • Must allow two ADUs on each lot in urban growth areas; • May not require the owner to occupy the property, and may not prohibit sale as independent units, but may restrict the use of ADUs as short term rentals; • Must allow an ADU of at least 1,000 square feet; • Must set parking requirements based on distance from transit and lot size; • May not charge more than 50% of the impact fees charged for the principal unit; • Must permit ADUs in structures detached from the principal unit; • May not restrict roof heights of ADUs to less than 24 feet, unless that limitation applies to the principal unit; • May not impose setback requirements, yard coverage limits, tree retention mandates, restrictions on entry door locations, aesthetic requirements, or requirements for design review for ADUs that are more restrictive than those for principal units; • Must allow an ADUs on any lot that meets the minimum lot size required for the principal unit; • Must allow detached ADUs to be sited at a lot line if the lot line abuts a public alley, unless the city or county routinely plows snow on the public alley; • Must allow conversions from existing structures, even if they violate current code requirements for setbacks or lot coverage; and • May not require public street improvements as a condition of permitting ADUs.	Yes	ADUs are required to be "clearly subordinate" and may not be more than 35% of the size of the principal unit or 900 SF, whichever is smaller. Just one ADU is allowed per lot, and ADUs cannot be on lots with duplexes or multifamily housing. Houses smaller than 1,200 SF cannot have an ADU, and detached ADUs must be on lots that are at least 8,000 SF. A minimum six-foot sight obscuring fence is required to shield detached ADUs so that the lot continues to appear to be a single-family lot. One off street parking space is required per ADU. The height limit is 24 feet or the height of the principal structure, whichever is less. The principal structure must be owner-occupied.	Revise the requirements for attached and detached ADUs so that it aligns with HB 1337.
Unclear development regulations	No	Development regulations for ADUs are clearly described in City code.	
Large setback requirements	No	Setback requirements for ADUs are not larger than for other residential housing. In the R-1 zone, the rear setback	

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
		for ADUs is smaller than for other housing types.	
Off-street parking requirements	Yes	One off-street parking space is required for an ADU (in addition to the parking required for the principal structure).	Revise the parking requirement to account for distance from transit and lot size.
Other (for example: burdensome design standards, tree retention regulations, historic preservation requirements, open space requirements, etc.)	Yes	ADUs must have a pitched roof with a minimum slope of 4 and 12. While this may not be overly burdensome, it is a requirement that does not apply to other housing types.	Allowing more flexibility for the design of ADUs as outlined in HB 1337.
PROCESS OBSTACLES			
Lack of clear and accessible information about process and fees	No	There is clear and accessible information about process and fees available on the City's website.	
Permit fees, impact fees and utility connection fees that are not proportionate to impact	Possibly	Permit fees are based on the valuation of the structure. Water and sewer connection fees are set by the purveyor, with the largest charging the same price for ADUs and primary structures (around $10,000).	The City does not have the power to change these rates.
Processing times and staffing challenges	No	City has on-call contracts that allow it to scale up reviews temporarily as needed.	

Appendix B: Adequate provisions checklists

Appendix B: Adequate provisions checklists

Exhibit B5: Checklist for local option tools for addressing affordable housing funding gaps

Local option tools for addressing affordable housing funding gaps*	Implementation status	Plans for implementation
Housing and related services sales tax (RCW 82.14.530)	Yes - expected to raise $50,000 annually	
Affordable housing property tax levy (RCW 84.52.105)	No	
REET 2 (RCW 82.46.035) – GMA jurisdictions only and only available through 2025	Yes - use for road preservation and capital projects	
Affordable Housing Sales Tax Credit (RCW 82.14.540) – was only available to jurisdictions through July 2020	No	Not applicable.
Lodging Tax (RCW 67.28.150 and RCW 67.28.160) to repay general obligation bonds or revenue bonds	Yes - use for tourism	
Mental Illness and Drug Dependency Tax (RCW 82.14.460) – jurisdictions with a population over 30,000	No	Not applicable.
Donating surplus public lands for affordable housing projects (RCW 39.33.015)	No - City does not own public lands suitable for affordable housing	
Impact fee waivers for affordable housing projects (RCW 82.02.060)	No	Could currently being considered
Application fee waivers or other benefits for affordable housing projects (RCW 36.70A.540)	No	Could currently being considered
Multifamily Tax Exemption (MFTE) with affordable housing requirement (RCW 84.14)	No	
General funds (including levy lid lifts to increase funds available)	No	

* Some tools may be unavailable for certain jurisdictions. For example, only GMA jurisdictions can use REET 2, or the surrounding county may have already implemented the housing and related services sales tax. See MRSC's summary of Affordable Housing Funding Sources for more details and the Association of Washington Cities (AWC)/MRSC booklet on Homelessness & housing toolkit for cities (2022).

Liberty Lake Comprehensive Plan Update
Racially Disparate Impacts Analysis | 2025-01-31

Introduction

In 2021, the Washington State Legislature passed House Bill 1220 (HB 1220) as an amendment to the state Growth Management Act (GMA). HB 1220 requires that local governments plan for housing at all income levels and assess the racially disparate impacts (RDI) of existing housing policies. Conditions that indicate that policies have racially disparate impacts can include segregation, cost burden, displacement, educational opportunities, and health disparities.

According to state guidance, there are five steps to understanding and addressing racially disparate impacts:

- Step 1: Engage the Community
- Step 2: Gather & Analyze Data
- Step 3: Evaluate Policies
- Step 4: Revise Policies
- Step 5: Review & Update Regulations

This report accounts for both Step 2 and Step 3 – it includes a summary of findings based on data from the US Census Bureau, US Department of Housing and Urban Development (HUD), and other sources. These findings then inform the policy evaluations and recommendations found at the end of the report.

Key Findings

- According to current research by the Eastern Washington University, Liberty Lake does not have a history of racially restrictive covenants. However, **Liberty Lake was less diverse in 2023 than in 2018**, indicating that there are likely other barriers keeping residents of color out of the city's housing market.
- Between 2017 and 2021 the share of non-white residents decreased in Liberty Lake while increasing in Spokane County.
- Between 2017 and 2021, Liberty Lake added a significant number of white and Hispanic/Latino residents while losing Asian and other race residents.
- **White households in Liberty Lake are more likely to be cost-burdened** (defined as spending more than 30 percent of their income on housing costs) than other racial and ethnic groups. However, 16 percent of Asian and 17 percent of American Indian/Alaska Native households spend more than 30 percent of their incomes on rent.
- Liberty Lake has **rental housing shortages at the high and low end of the market**. The city needs 55 rental units for households making less than 30 percent AMI and 175 rental units for those making more than 80 percent AMI to meet current demand.
- **Displacement risk is generally low** in Liberty Lake, but as the population continues to grow, the City should ensure that there are protections in place for vulnerable and cost-burdened renter households.
- While white households are the most likely of any racial group to make less than 30 percent of AMI, Asian households have the highest share of households making less than the median income.

Historical Context

Throughout the history of the United States, a combination of laws and practices have impacted where specific groups of people live, what opportunities they have access to, and their ability to build wealth through stable housing. Unfortunately, many of these policies explicitly or implicitly benefited white residents at the expense of all others. The

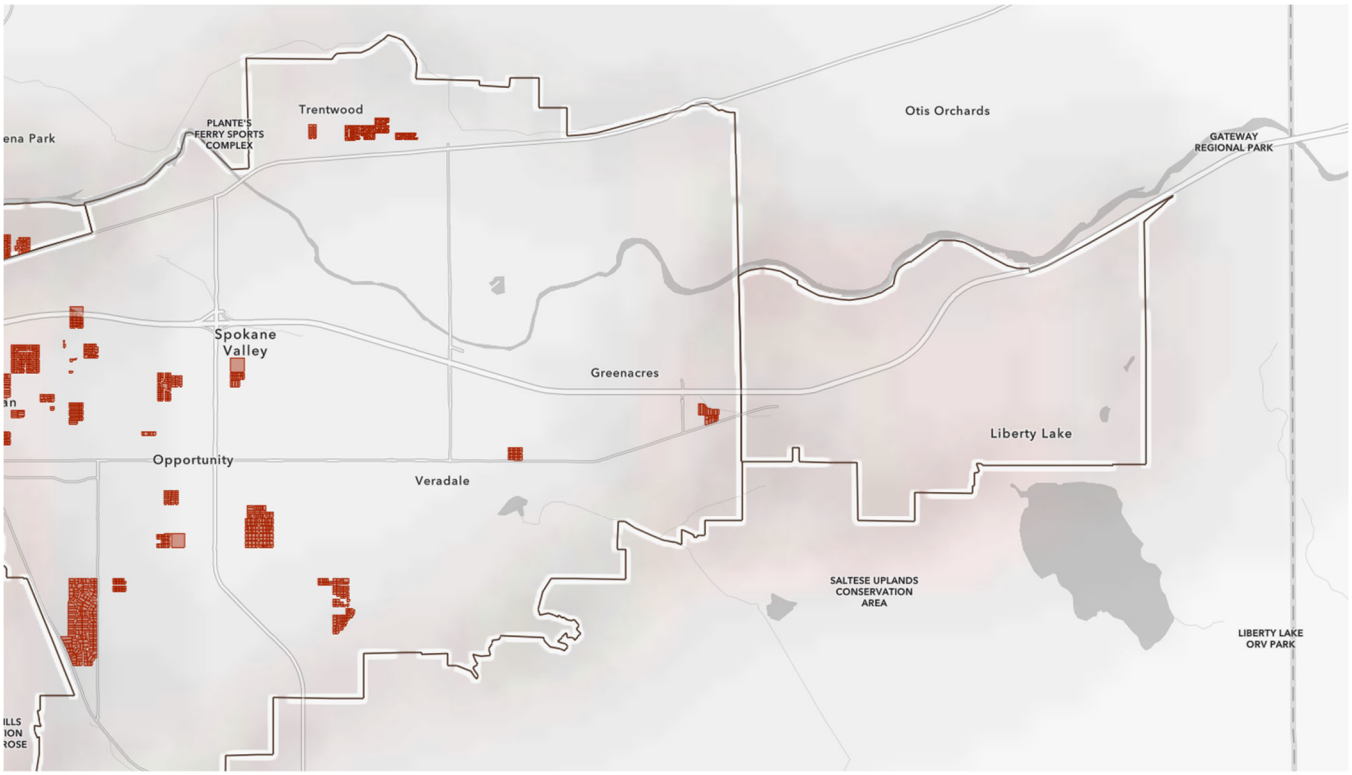
legacy of policies like redlining, which used racial criteria in determining which neighborhoods were suitable for government-backed loans, highway development through predominantly Black neighborhoods, and racial covenants explicitly excluding certain groups from owning specific properties continues to impact non-white communities today.

While many cities have acknowledged the harms of these policies, many of which are no longer legal, there are still policies in effect today that hold cities back from rectifying systemic harms. These can include policies that reference vague concepts like "neighborhood character," as well as those that permit only the most expensive homes to be built, thus shutting lower-income residents out of high-opportunity areas.

This section contains a historic review of some of the known policies and programs that caused racially disparate impacts in Liberty Lake as a starting point in understanding present-day conditions.

Throughout the United States, racial covenants were used to exclude certain races and religious groups from residing in specific neighborhoods, creating exclusive areas for white, Christian residents. These deed restrictions were legally enforceable from 1927 to 1968. Unlike neighboring Spokane Valley, the Washington State Racial Restrictive Covenants Project does not show any known racially restricted parcels or subdivisions in Liberty Lake. This is largely because most of Liberty Lake's subdivisions were not built until the 1970s and 1980s, when these covenants were illegal. However, Liberty Lake today lacks the diversity of other parts of the county and state – 93 percent of city residents are white as of 2023.

Figure 1. Racially Restricted Parcels in Eastern Spokane County

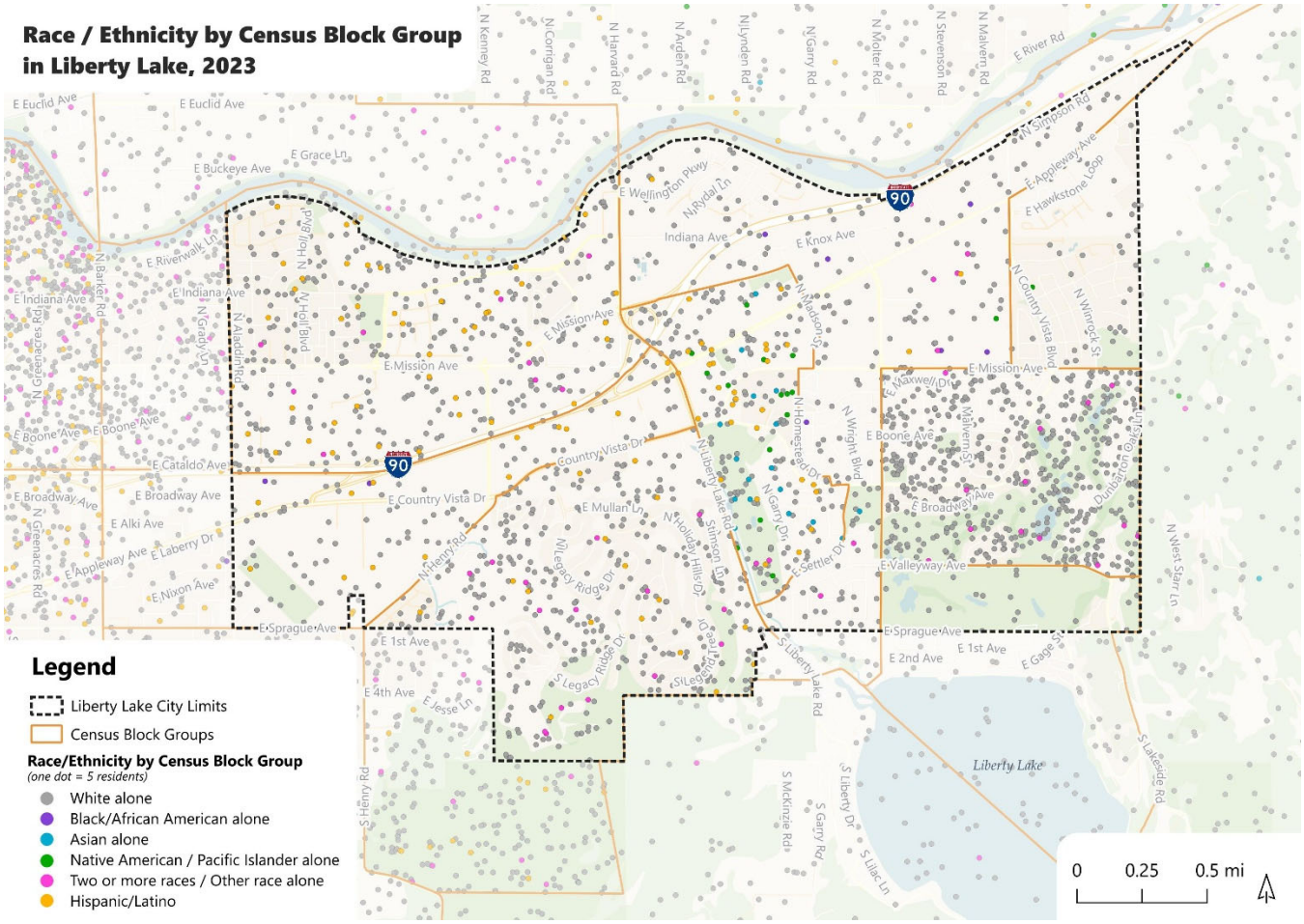


Source: Washington State Racial Restrictive Covenants Project.

The combination of racially restrictive covenants and redlining impacted the ability of Black veterans to fully access homeownership loan benefits through the Servicemen's Readjustment Act of 1944 (GI Bill), which enabled white veterans to buy housing and build wealth in the suburbs. Racial covenants have since been declared unconstitutional, and Fair Housing laws have been put into effect. However, as of 2023 Liberty Lake is less diverse than Spokane County overall. Liberty Lake is predominantly white, with no significant geographic concentrations of BIPOC households. The

area east of N Liberty Lake Road, which has small clusters of Hispanic/Latino and Native American/Pacific Islander households has a relatively high concentration of multifamily housing.

Figure 2. Race and Ethnicity in Liberty Lake by Census Block Group (2023)



Source: US Census Bureau 2023 5-Year ACS; LCG.

Assessing Racially Disparate Impacts

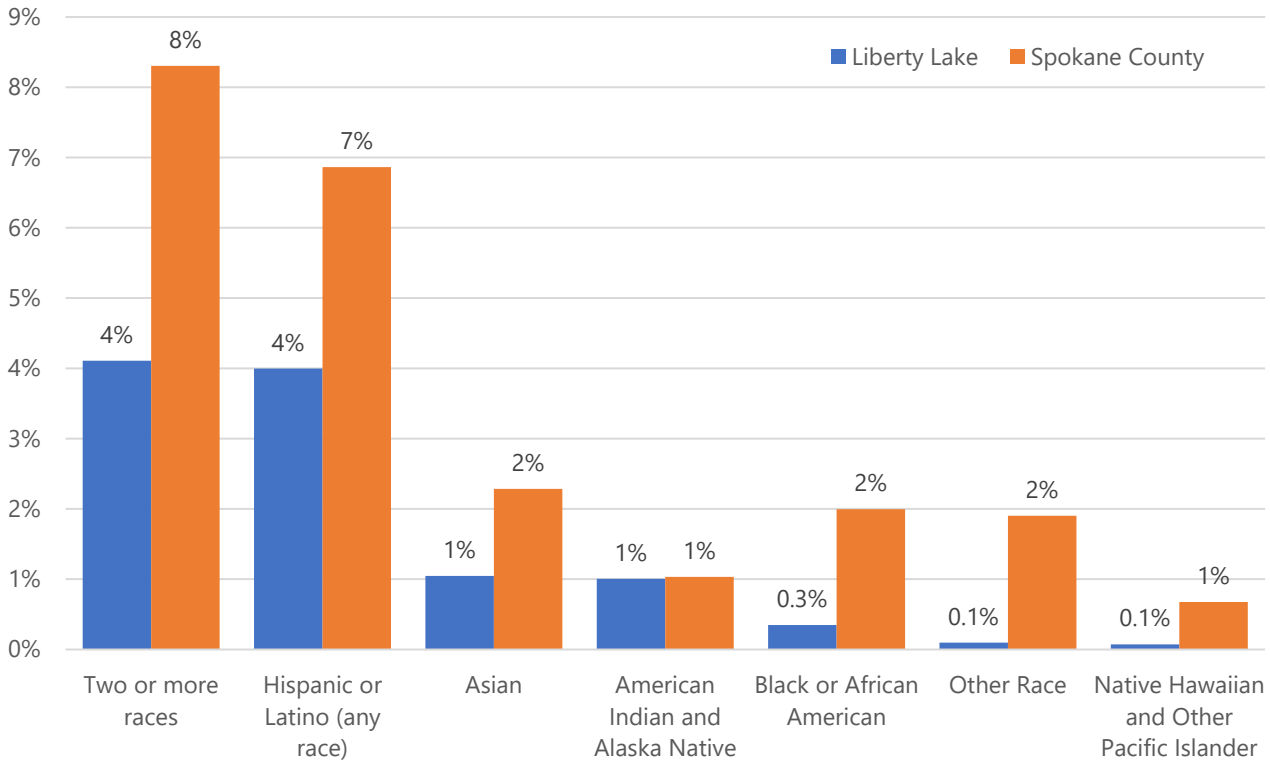
Between 2018 and 2023, Liberty Lake became slightly less diverse. The city grew by more than 3,000 residents over that period, but lost Asian and other race residents. The city went from 90 percent white to 93 percent white over the course of five years. Over the same period, Spokane County's population went from 88 percent white to 84 percent white, with Hispanic or Latino and multiracial residents seeing the biggest countywide gains.

Figure 3. Change in Population by Race/Ethnicity, Liberty Lake and Spokane County

	Liberty Lake			Spokane County		
	2018	**2023**	**Change**	**2018**	**2023**	**Change**
American Indian and Alaska Native	27	125	98	7,248	5,624	(1,624)
Asian	398	130	(268)	11,117	12,438	1,321
Black or African American	0	43	43	8,009	10,866	2,857
Hispanic or Latino (any race)	252	497	245	27,693	37,356	9,663
Native Hawaiian and Other Pacific Islander	0	9	9	2,507	3,673	1,166
Other Race	62	12	(50)	7,063	10,357	3,294
Two or more races	428	511	83	23,093	45,201	22,108
White	8,467	11,605	3,138	438,838	456,164	17,326
Total Population	***9,382***	***12,435***	***3,053***	***497,875***	***544,323***	***46,448***

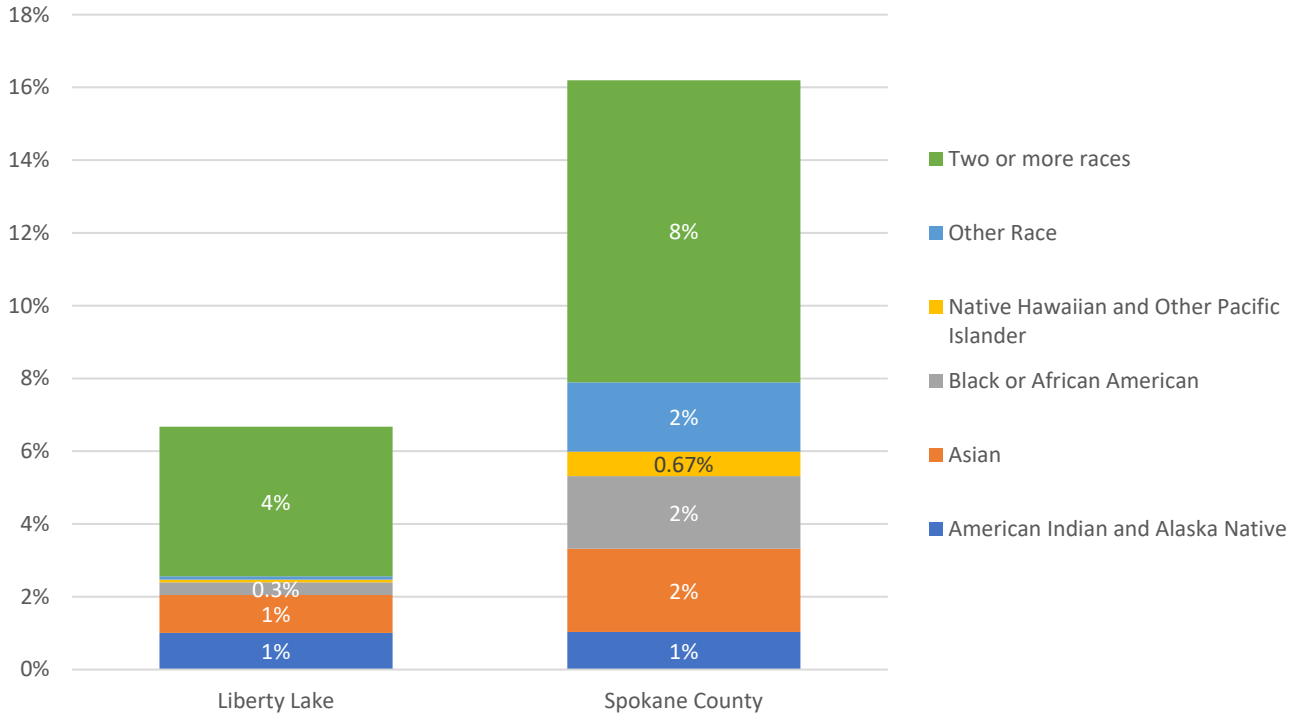
Source: US Census Bureau 2023 5-Year ACS (Table DP05).

Figure 4. Population by Race/Ethnicity in Liberty Lake and Spokane County (2023)



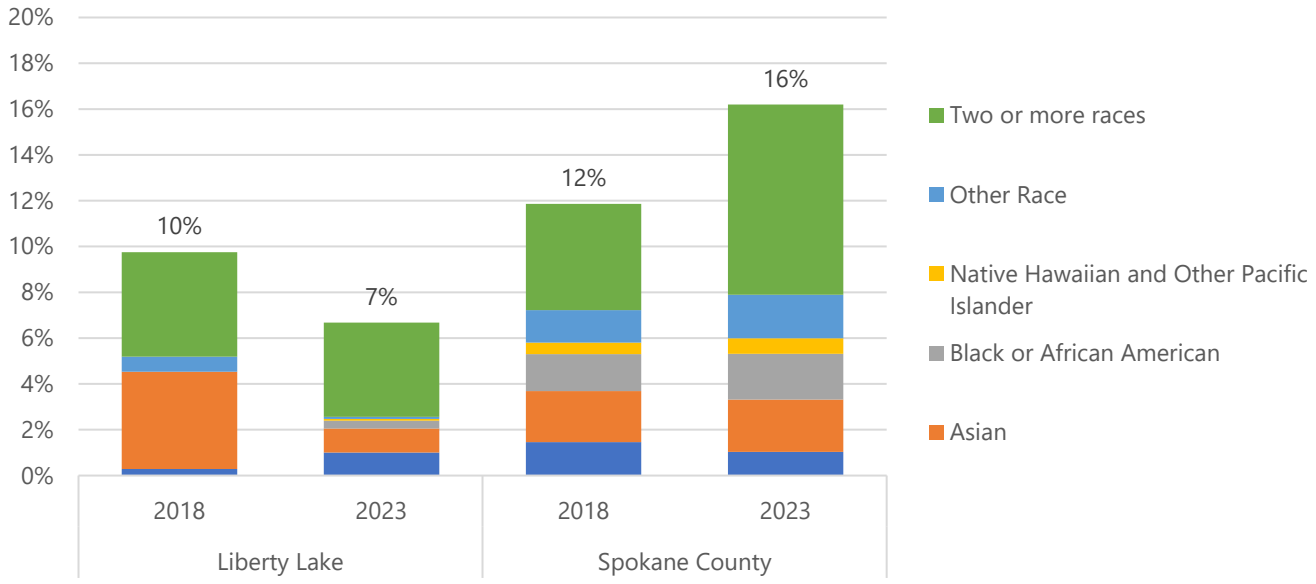
Source: US Census Bureau 5-Year ACS (Table DP05).

Figure 5. Non-White Population by Race in Liberty Lake and Spokane County (2023)



Source: US Census Bureau 5-Year ACS (Table DP05).

Figure 6. Non-White Population of Liberty Lake and Spokane County, 2018-2023



Source: US Census Bureau 5-Year ACS (Table DP05).

Liberty Lake is home to 2,575 homeowner households and 1,375 renter households. Of the homeowner households, just seven percent are cost burdened (spending more than 30 percent of their income on housing costs), compared with 46 percent of renter households. While just four percent of homeowners spend between 30 and 50 percent of their income

on rent, the same is true for 31 percent of renters. In addition, 15 percent of renters are severely cost-burdened, spending more than half of their incomes on rent. This sharp divide in stability between renters and owners can result in racially disparate impacts when renters are more likely to be people of color.

In Liberty Lake, 100 percent of American Indian/Alaska Native households and 42 percent of Asian households rent their homes, compared with 35 percent of white households and 22 percent of Hispanic/Latino households. However, in Liberty Lake the cost barriers impact both white residents and residents of color. Among white households, 23 percent spend at least 30 percent of their incomes on rent, compared with 16 percent of Asian and 17 percent of American Indian/Alaska Native households. All of the Asian households experiencing cost burden spend more than 50 percent of their incomes on housing. None of the city's 90 Hispanic/Latino households are cost burdened.

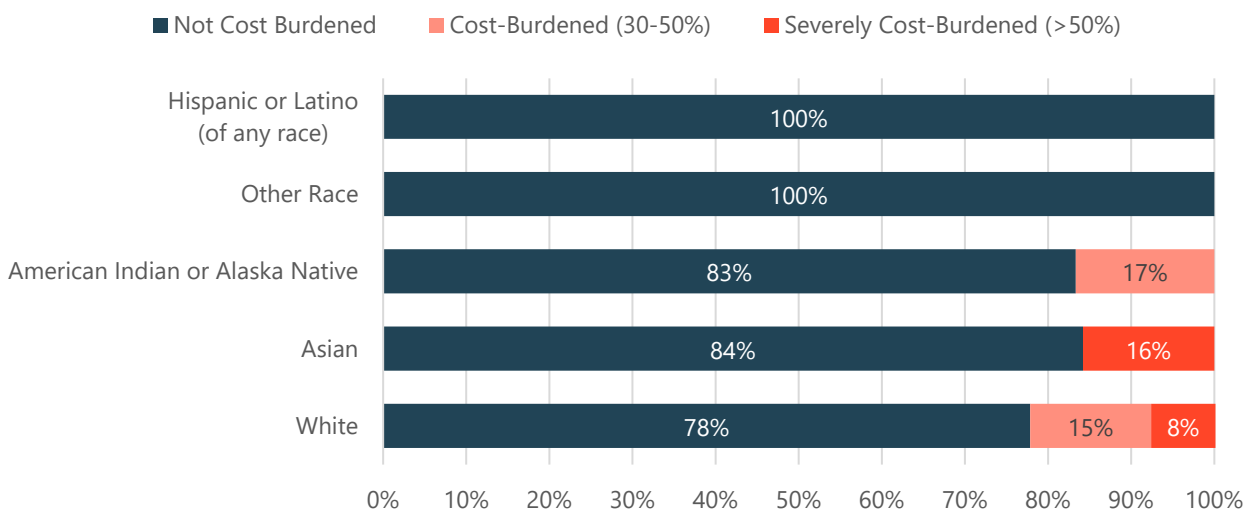
Figure 7. Number of Households by Cost Burden in Liberty Lake (2021)

	White	Asian	American Indian or Alaska Native	Other Race	Hispanic or Latino (of any race)	Total
Owner Households						
Not Cost Burdened	2,380	55	-	45	70	2,550
Total Cost-Burdened	200	-	-	-	-	200
Cost-Burdened (30-50%)	105	-	-	-	-	105
Severely Cost-Burdened (>50%)	95	-	-	-	-	95
Not Calculated	-	-	-	-	-	-
Total	**2,575**	**55**	**-**	**45**	**70**	**2,745**
Renter Households						
Not Cost Burdened	695	25	75	20	20	835
Total Cost-Burdened	680	15	15	-	-	710
Cost-Burdened (30-50%)	470	-	15	-	-	485
Severely Cost-Burdened (>50%)	210	15	-	-	-	225
Not Calculated	-	-	-	-	-	-
Total	**1,375**	**40**	**90**	**20**	**20**	**1,545**
Total Households	**3,950**	**95**	**90**	**65**	**90**	**4,290**

Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

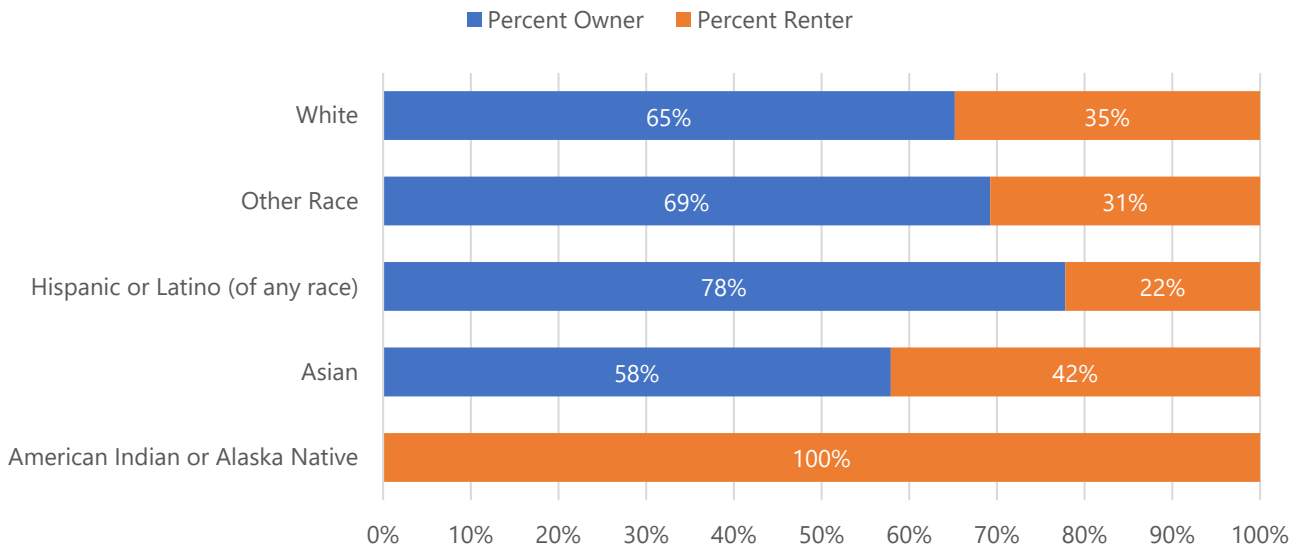
Note: CHAS data for Liberty Lake does not include Black/African American or Pacific Islander households.

Figure 8. Liberty Lake Percent of All Households Experiencing Housing Cost Burden (2021)



Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

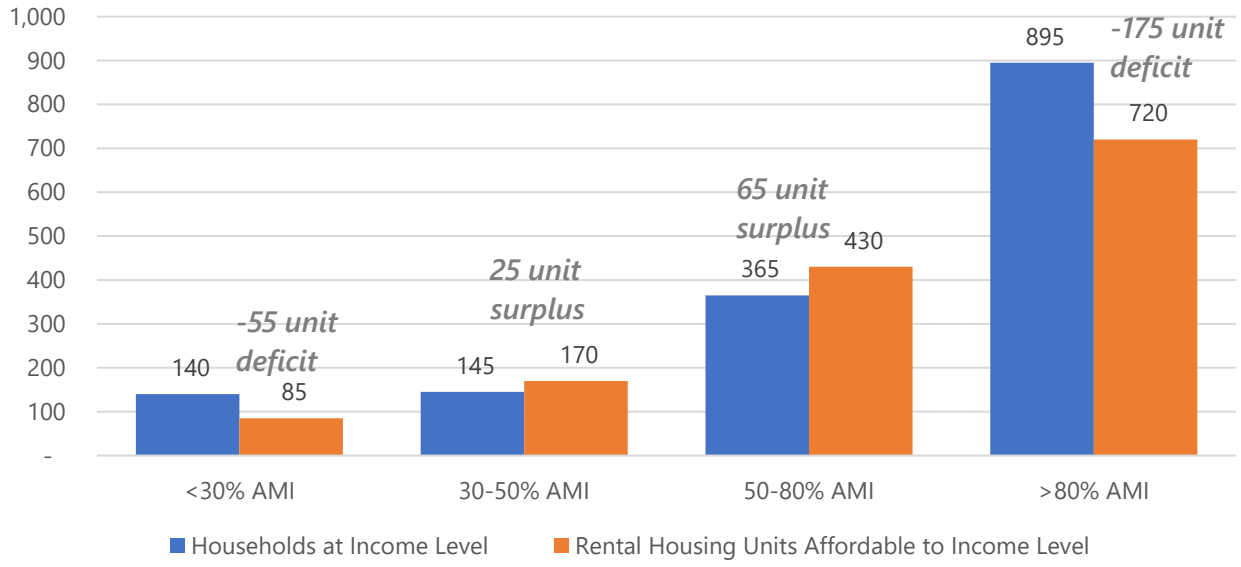
Figure 9. Liberty Lake Owner and Renter Households by Race & Ethnicity (2021)



Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 9).

The renter cost burden in Liberty Lake is driven by a shortage of rental units at the high and low ends of the market (greater than 80 percent AMI and less than 30 percent AMI). Figure 10 below shows the current number of renter households compared with the number of rental units affordable to households in each income level. When there are shortages of units corresponding to a given income level, those households will rent units affordable to a different income level. For instance, the lack of housing at greater than 80 percent AMI indicates that there are likely renters at that income level renting units in the 50 to 80 percent range, making it harder for households in that income range to find housing. Alternatively, the shortage of housing units at the less than 30 percent AMI range indicates that households at that income level are likely cost burdened.

Figure 10. Liberty Lake Renter Households by Income Compared to Rental Units by Affordability, 2021

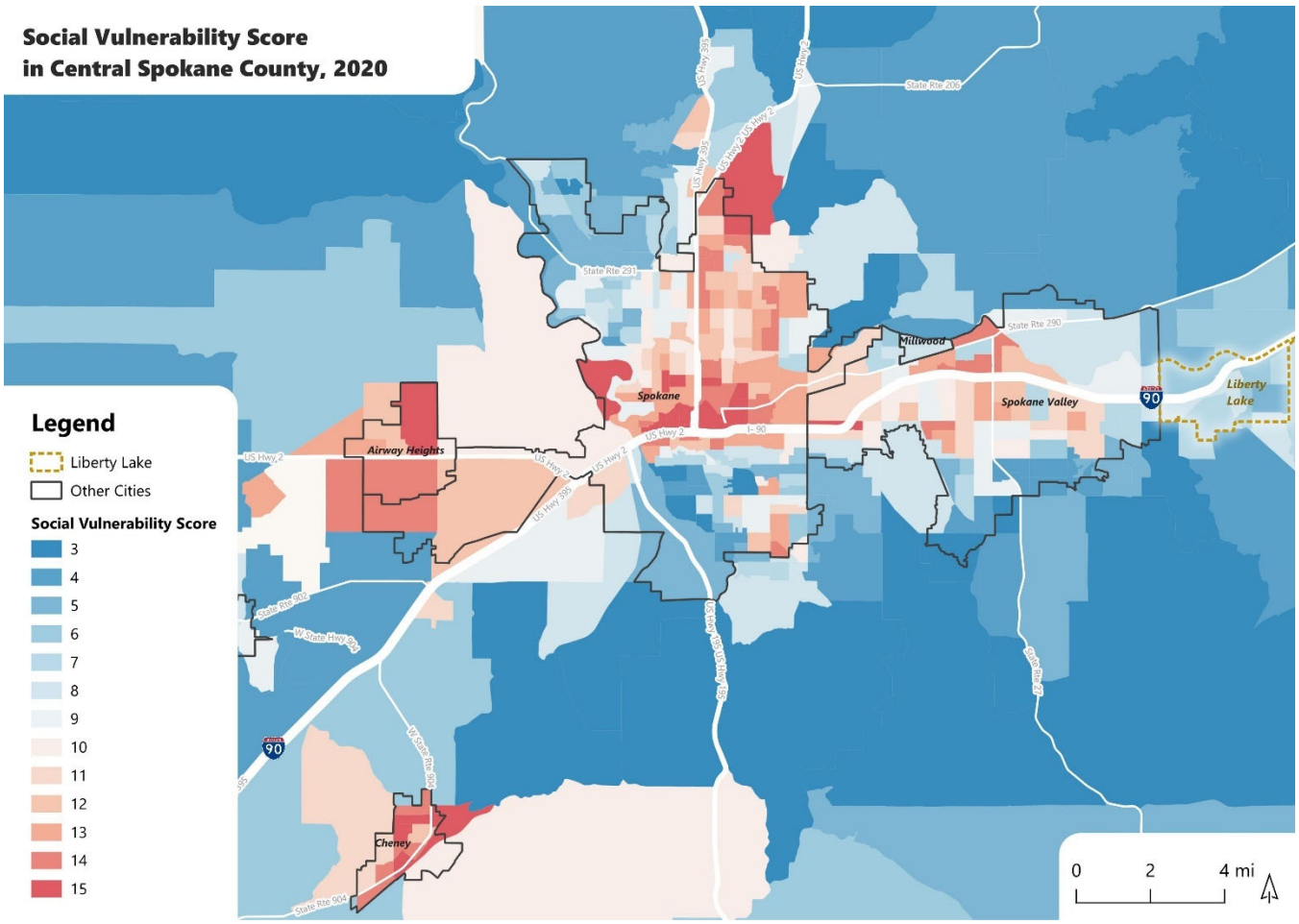


Sources: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 15C & Table 14B).

The Washington Department of Commerce has created displacement risk maps for communities based on Census tracts. However, because Liberty Lake is such a small community the tract-level map does not provide the nuance needed to assess displacement risk within the community. The maps below utilize similar methodology to the Department of Commerce maps using data at the Census block group level. Figure 11 and Source: US Census Bureau 5-year ACS 2013 & 2023 (Table B19013); 2020 Decennial Census (Table DP01); 2010 Decennial Census (Table H11); Washington Department of Commerce.

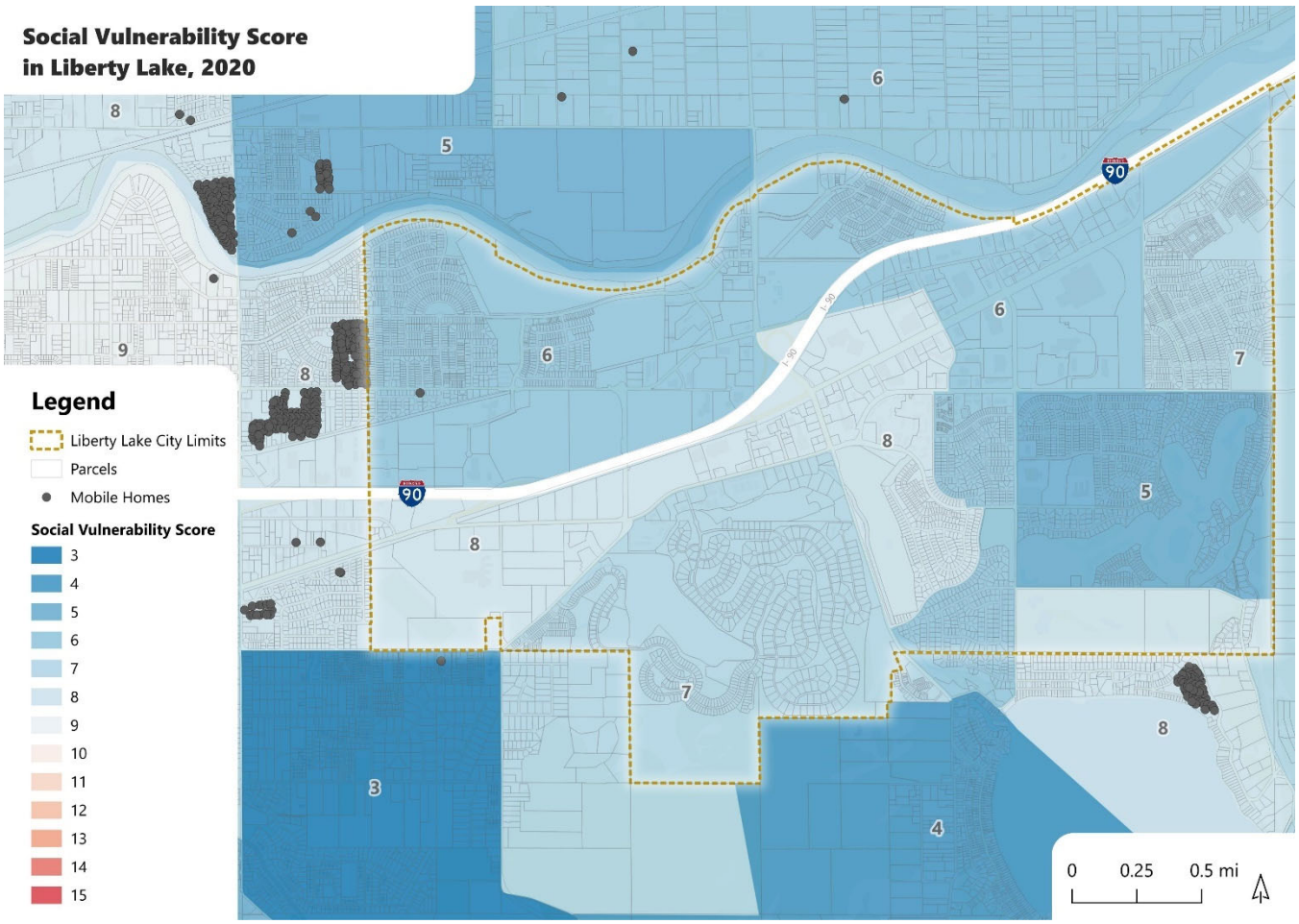
Figure 12 below show the social vulnerability score by Census block group for the county and city. Overall, Liberty Lake has a lower social vulnerability score than many of the neighborhoods in Spokane and Spokane Valley. However, the Census block that contains most of the City's multifamily housing east of N Liberty Lake Road has a higher social vulnerability score than other parts of the city. The adjacent block group to the west also has a relatively high social vulnerability score, but most of the housing in that block group is located outside of Liberty Lake in Spokane Valley.

Figure 11. Social Vulnerability Score for Central Spokane County (2020)



Source: US Census Bureau 5-year ACS 2013 & 2023 (Table B19013); 2020 Decennial Census (Table DP01); 2010 Decennial Census (Table H11); Washington Department of Commerce.

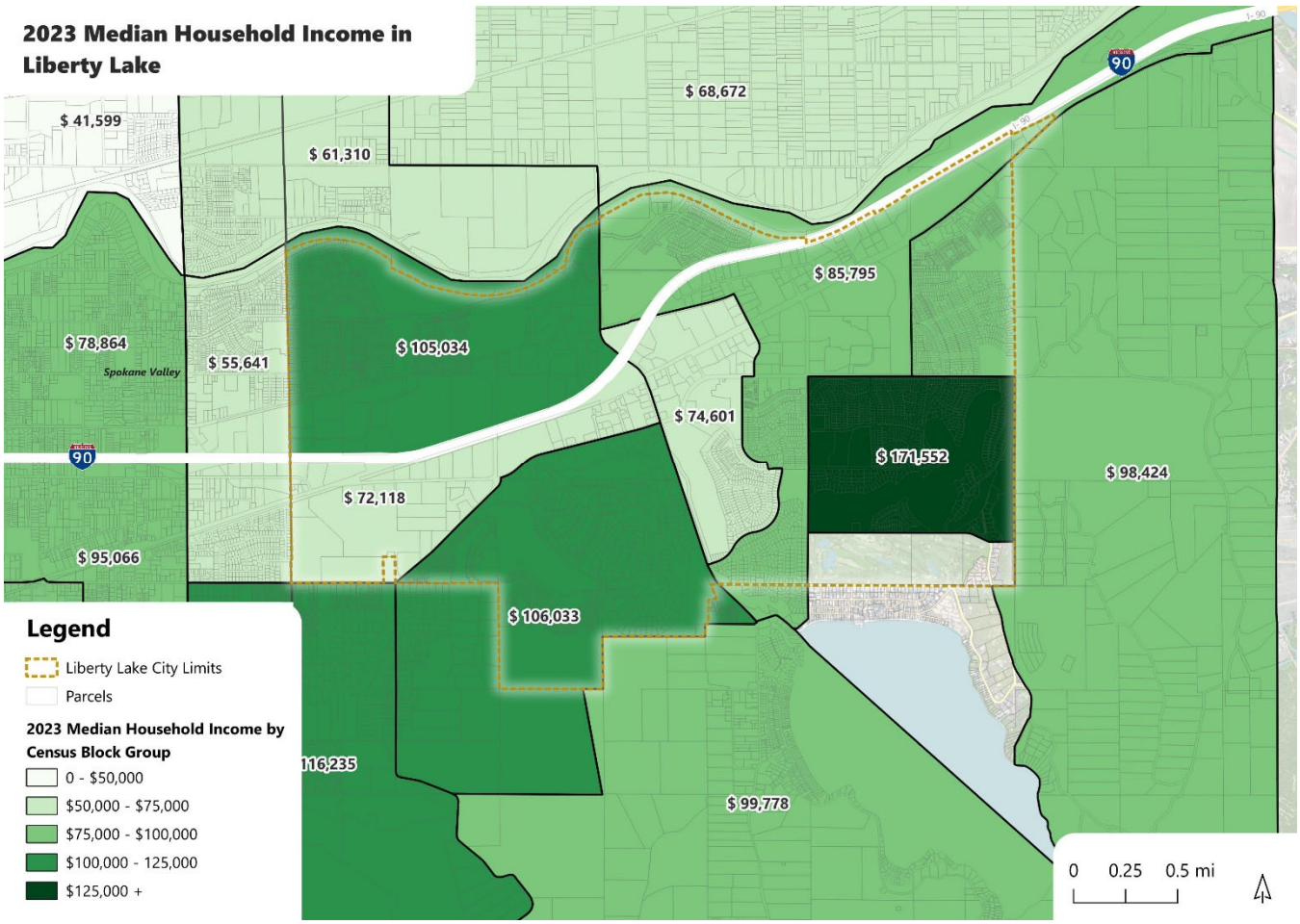
Figure 12. Social Vulnerability Score for Liberty Lake Census Block Groups (2020)



Source: US Census Bureau 5-year ACS 2013 & 2023 (Table B19013); 2020 Decennial Census (Table DP01); 2010 Decennial Census (Table H11); Washington Department of Commerce.

The median income varies considerably by block group in Liberty Lake, with the lowest-income block groups corresponding to those with the highest social vulnerability scores. This indicates that these block groups have the highest risk of displacement. Because the block group east of N Liberty Lake Road also has a higher concentration of multifamily housing as well as concentrations of Hispanic/Latino and Native households, the City should consider implementing policies to mitigate displacement risks for renter households.

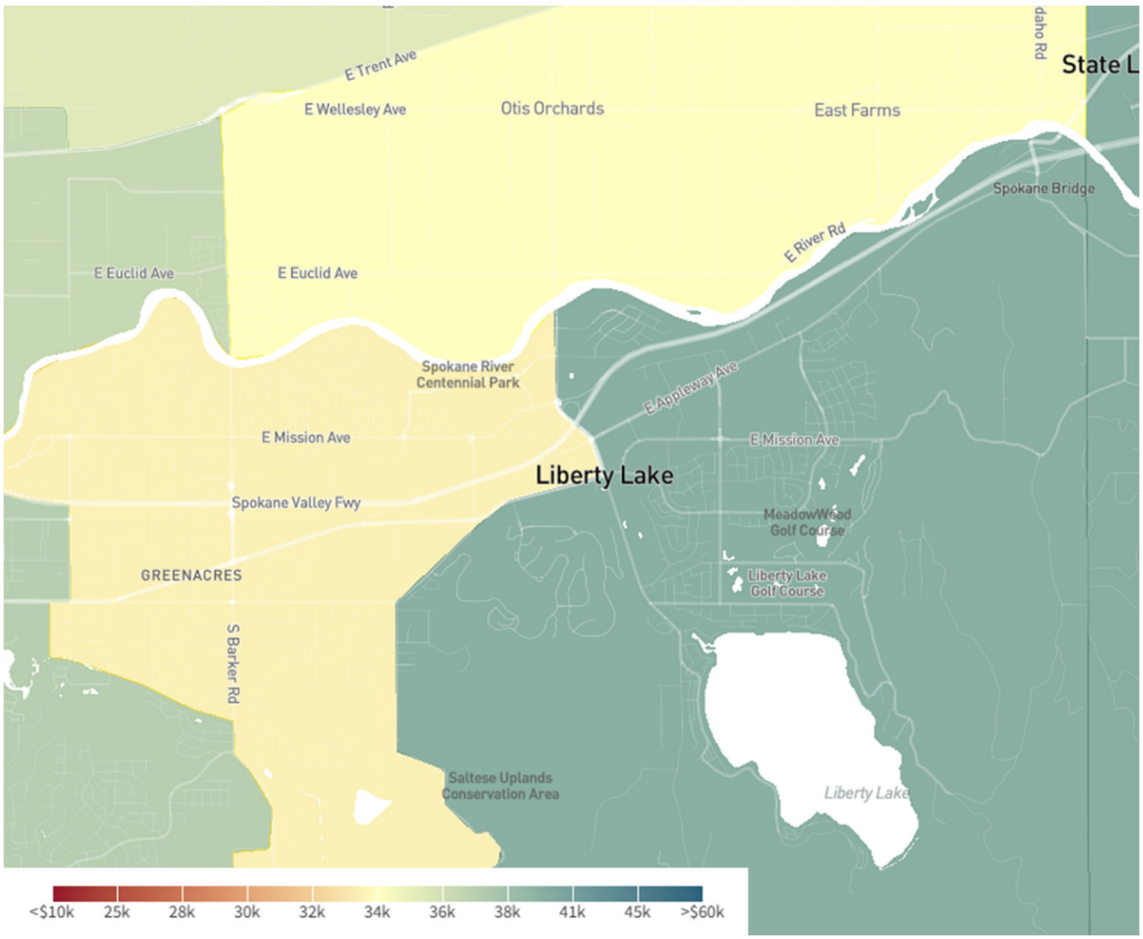
Figure 13. Median Household Income in Liberty Lake Block Groups (2023)



Source: US Census Bureau 2023 5-year ACS (Table B19013).

The Opportunity Atlas is a tool that quantifies opportunity by looking at the potential earnings of low-income children born in each Census tract. Figure 14 below shows that children born to families in the bottom quartile of the income spectrum in most of Liberty Lake can expect to have incomes around $39,000 in adulthood. However, in the western part of the city children born to low-income families can expect to earn slightly less (roughly $33,000).

Figure 14. Opportunity Atlas Map for Liberty Lake



Source: Opportunity Atlas.

Citywide, 84 percent of households make above 100 percent AMI – this includes 88 percent of Hispanic/Latino households, 83 percent of American Indian/Alaska Native households, 73 percent of white households, and 56 percent of Asian households. According to HUD data, all of the households making less than 30 percent of AMI are white.

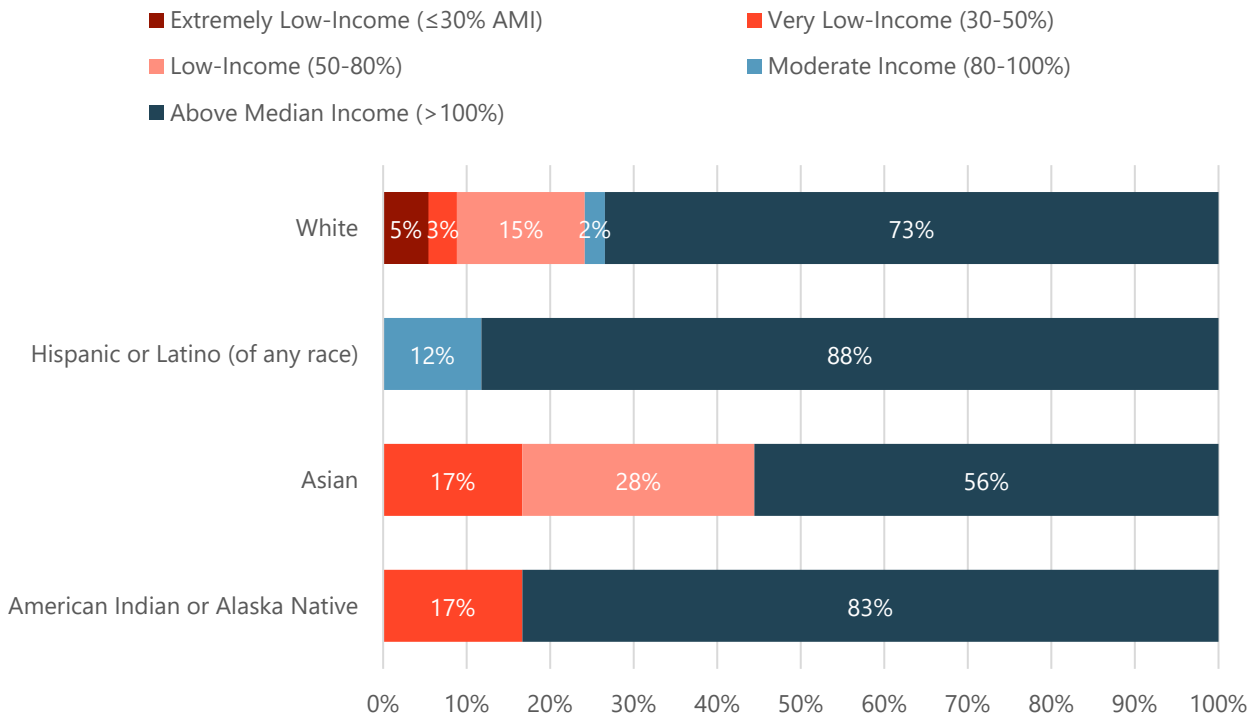
Figure 15. Liberty Lake Count of Households by Income and Race, 2021

Income Category (% of AMI)	American Indian or Alaska Native	Asian	Hispanic or Latino (of any race)	White	Not Reported*	All
Number						
Extremely Low-Income (≤30% AMI)	-	-	-	215	-	215
Very Low-Income (30-50%)	15	15	-	135	-	165
Low-Income (50-80%)	-	25	-	605	-	630
Moderate Income (80-100%)	-	-	10	95	25	130
Above Median Income (>100%)	75	50	75	2,905	45	3,150
Total for published estimates	90	90	85	3,955	70	4,290

Percentage					Not Reported
Extremely Low-Income (≤30% AMI)	0%	0%	0%	5%	0%
Very Low-Income (30-50%)	17%	17%	0%	3%	0%
Low-Income (50-80%)	0%	28%	0%	15%	0%
Moderate Income (80-100%)	0%	0%	12%	2%	36%
Above Median Income (>100%)	83%	56%	88%	73%	64%

Source: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 1).

Figure 16. Liberty Lake Distribution of Households by Income and Race or Ethnicity, 2021



Sources: US HUD, 2017-2021 Comprehensive Housing Affordability Strategy (CHAS) (Table 1).

Policy Evaluation

Based on the above analysis, there is room for improvements to policies in Liberty Lake to reduce racially disparate impacts, and the data was used to inform the next steps of the racially disparate impacts assessment process – evaluating and revising policies that reinforce historical patterns of segregation, displacement, and inequitable outcomes. Taking a proactive approach in shaping policy to address these challenges will benefit all Liberty Lake households as the city seeks to build a more equitable future.

Based on guidance provided by the Washington State Department of Commerce, the following policy evaluation framework was used to evaluate Liberty Lake's existing Housing Element policies:

Criteria	Evaluation
The policy is valid and supports meeting the identified housing needs. The policy is needed and addresses identified racially disparate impacts, displacement and exclusion in housing.	**S** Supportive
The policy can support meeting the identified housing needs but may be insufficient or does not address racially disparate impacts, displacement and exclusion in housing.	**A** Approaching
The policy may challenge the jurisdiction's ability to meet the identified housing needs. The policy's benefits and burdens should be reviewed to optimize the ability to meet the policy's objectives while improving the equitable distribution of benefits and burdens imposed by the policy.	**C** Challenging
The policy does not impact the jurisdiction's ability to meet the identified housing needs and has no influence or impact on racially disparate impacts, displacement or exclusion.	**NA** Not applicable

Goal & Policy Review

Existing Goal / Policy #	Existing Goal/Policy	Equity Assessment	Why	Notes
Goal 1	Preserve the character of existing neighborhoods and support high-quality new development.	Challenging	Department of Commerce guidelines recommend avoiding references to "neighborhood character," which has a history of enshrining exclusive single-family neighborhoods to the detriment of lower-income households.	Specify what about these neighborhoods is worth preserving, i.e.: Maintain safe, healthy, walkable communities and support high-quality new development.

Existing Goal / Policy #	Existing Goal/Policy	Equity Assessment	Why	Notes
Goal 2	Encourage the availability of affordable housing to all economic segments, promote a variety of densities and housing types, and encourage the preservation of existing housing stock.	Supportive	Promoting a variety of densities and housing types aimed at all economic segments will help increase diversity and stabilize existing households.	
Policy 1	Encourage integrated neighborhood developments that protect the environment, provide usable open space, and exhibit exceptional quality and design.	Supportive	Integrating new developments into existing neighborhoods will help maintain existing open space and natural features while providing housing opportunities for households previously shut out of these communities.	
Policy 2	Periodically assess the effects of policies and regulations on the affordability of housing, fair housing choice, and reducing regulatory barriers, where necessary.	Supportive	Ongoing assessments of policies will help ensure that a diversity of housing types at a variety of price levels can be built in Liberty Lake, thus making the city accessible to more types of households.	
Policy 3	Balance housing affordability with environmental integrity, neighborhood character, and public resources in housing regulation.	Challenging	As stated above, references to neighborhood character should be avoided and replaced with more concrete goals.	Remove reference to neighborhood character: Balance housing affordability with environmental integrity, City goals, and public resources in housing regulation.
Policy 4	Periodically review and update standards for accessory dwelling units (ADUs).	N/A		Ensure that ADU standards comply with HB 1337 requirements.

Existing Goal / Policy #	Existing Goal/Policy	Equity Assessment	Why	Notes
Policy 5	Support initiatives by low-income housing advocacy organizations.	Approaching	Supporting initiatives low-income housing advocacy groups is an important policy, as more affordable housing is needed to address racially disparate impacts in Liberty Lake. However, the policy should clearly state how the City plans to support these organizations.	Specify how the City intends to support these organizations, whether through funding for affordable housing, changes to the zoning code or permitting process, or working with them to advocate for city- or state-level changes.
Policy 6	Maintain incentives to encourage cluster development, while preserving open space and protecting critical areas.	N/A		
Policy 7	Ensure a continuum of allowable housing options for special-needs populations through periodic policy reviews.	Supportive	Allowing a wider variety of housing options will help ensure that the needs of all households are met.	
Policy 8	Promote housing development accessible to public transportation for individuals with mobility challenges.	Supportive	Transit-adjacent housing can help households save money by reducing the need for a private vehicle, and can help support those who are unable to drive.	

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Technical Memo

To	Lisa D. Key, Director of Planning & Engineering, City of Liberty Lake
From:	Shareefa Abdulsalam, AICP, Deputy Project Manager Christabel Agyei, Planner
Date:	February 3rd, 2025
Project:	Liberty Lake On-Call Planning (24-000540) Task Order 5: Housing Policy
Subject:	Barriers to Housing Affordability

Introduction

The City of Liberty Lake is updating its housing policy to foster vibrant, livable, and affordable communities. As part of that process, the City wants to identify existing environmental and regulatory barriers to housing affordability and look for opportunities to address those in the policy update.

With fewer new houses being built, demand for housing outpaces availability, and affordability becomes challenging. This is not unique to Liberty Lake. The Washington State Legislature has enacted multiple house bills to address the housing shortage and affordability across the state, and Washington State Department of Commerce (Commerce) has provided numerous tools to guide communities in updating their housing policies.

This memo provides an overview of existing barriers to affordability within Liberty Lake and outlines opportunities to address those barriers. It is broken down into three sections: The first looks at the city's existing environmental constraints and their possible impacts on the feasibility of affordable housing development. The second section identifies regulatory constraints to housing affordability in the existing zoning code, and the final section outlines various opportunities for the City to increase its housing supply and foster a diverse-income community through impactful regulatory and zoning updates.

1 Environmental Constraints

The City of Liberty Lake does not have significant environmentally critical areas that would impact urban development; however, the City does have some areas with severe topography that can make development challenging. Typically, a maximum slope of up to 15 percent is considered suitable for most development

projects. Slopes steeper than 20 percent make standard construction very challenging and may require extensive engineering studies and specialized construction techniques.

Topographic Challenges

Within the City of Liberty Lake, the only larger-lot residential developments are located in topographically challenged areas, adjacent to or encompassing slopes approaching 30 percent, namely in Legacy Ridge, Legacy Ridge West, and platted lots along the City's eastern border. Bella Lago and adjacent, undeveloped properties have significant areas of 30 percent slope, making them challenging and costly to develop.

Topography-related impediments can make housing unaffordable in a range of ways. Physical impediments may require special accommodations that complicate any type of development. One of the most important consequences comes from added construction costs. Hilly ground and steep slopes require a lot of grading, retaining walls, and custom foundations, all adding to the overall development expenses. In a range of cases, topography-related impediments can cause a reduction in the area and number of buildable lands and, therefore, drive housing prices up by limiting the supply of plots.

Topographic challenges also lead to an increase in service costs. Roads, utility installations, and sewer networks are more costly to implement in areas with severe terrain. Once developed, housing in these environments has a larger maintenance burden for owners. Erosion, integrity of foundations, and flood protection require ongoing investment, and long-term affordability is a problem for owners in such environments.

2 Existing Development Regulation Barriers

Commerce prepared a number of checklists to guide communities in developing their housing policies. These checklists track how regulations affect moderate-density housing, low-rise or mid-rise housing, permanent supportive housing, emergency housing, and accessory dwelling units (ADUs). The checklists were completed for Liberty Lake based on existing development regulations in the City, and relevant barriers to housing affordability were identified and are discussed below.

Zoning and Density Restrictions

Zoning laws in Liberty Lake impose limitations on housing development that somewhat restrict affordability, diversity, and accessibility in the local housing market. These regulations reduce land use efficiency and create barriers for moderate-income and vulnerable populations seeking stable, affordable housing.

- The R-1 zone, which covers much of the city's residential land, allows up to four attached single-family dwelling units, and allows for a higher density of development for attached single-family homes (up to six units per acre), as compared to detached single-family homes (which are allowed density up to 4 units per acre). While duplexes, triplexes, and four-plexes are not permitted, their form is similar in appearance to attached, single-family homes. Duplexes are considered compatible in scale with single-family homes and must be permitted in all residential zones per Washington State's HB 1110.
- While ADUs provide a flexible and affordable housing option, Liberty Lake's zoning laws restrict their development by allowing only one ADU per lot and prohibiting them on lots with duplexes or multifamily housing.

- Houses smaller than 1,200 square feet cannot have an ADU, and detached ADUs must be on lots that are at least 8,000 square feet, limiting that option for homeowners with smaller lots and potentially reducing the overall availability of affordable housing options within the community.
- ADUs are only permitted if the primary unit is owner-occupied, further limiting the ability to develop these relatively affordable housing options across the city.
- In R-2 zones, the maximum density is capped at 12 dwelling units per acre, which falls below the standard 16 units per acre typically associated with moderate-density housing. This lower threshold restricts the development of certain housing types and reduces the land's capacity for housing units.
- Zoning regulations in Liberty Lake impose strict spacing requirements on shelters and permanent supportive housing for individuals experiencing homelessness or needing long-term supportive services, requiring these facilities to be at least 0.75 miles apart and within 0.25 miles of public transit. This significantly limits the number of feasible locations for such services, making it challenging to meet the needs of vulnerable populations.

Owner-Occupancy & Size Restrictions on ADUs

Owner-occupancy and size restrictions in Liberty Lake can hinder the feasibility of ADUs as a flexible and affordable housing option. These limitations prevent homeowners from fully utilizing their properties to create additional housing, particularly for rental purposes or multigenerational living.

- Liberty Lake's zoning laws mandate that the principal structure must be owner-occupied in order to allow an ADU on the property.
- The maximum allowable size for an ADU is limited to 35 percent of the primary structure's size or 900 square feet, whichever is smaller, which is more restrictive than the provisions outlined in House Bill 1337. Additionally, ADUs cannot have more than two bedrooms. These limitations may hinder the ability of ADUs to accommodate families for sustained periods of time, further diminishing their potential as affordable housing solutions.

Parking Requirements

High parking requirements in Liberty Lake contribute to higher development costs and limit the land available for housing, making it more challenging to build diverse and affordable housing options, particularly for moderate-income residents and vulnerable populations.

- Duplexes, triplexes, and other multifamily units are subject to a 1.75-parking space requirement per unit regardless of unit size. This drives construction costs up, reduces available building space, and discourages the development of smaller and more affordable housing types.
- For ADUs, the mandate for one dedicated off-street parking space per unit further restricts their viability, particularly on smaller lots where additional off-street parking can be infeasible. This regulation discourages homeowners from building ADUs, ultimately limiting opportunities for additional rental units and affordable housing options.
- Parking requirements in the city do not take into account the proximity of housing developments to public transit options.

- Parking minimums for Specialty and Supportive housing must have 0.5 spaces per bed plus one space per employee, which imposes unnecessary costs on facilities designed for populations less likely to own vehicles, such as individuals experiencing homelessness, seniors, and those with disabilities. These requirements further reduce the financial feasibility of such projects.

Design Standards & Review Processes

Complex design requirements and prolonged review processes can cause project delays and increase risk for developers. This can drive up development costs and reduce the viability of affordable housing options.

- For moderate-density housing, regulations mandate that ground-floor units and 75% of upper-floor units include patios or decks of at least 35 square feet. While aimed at enhancing livability, these requirements increase construction costs and may not always align with the financial feasibility of smaller, more affordable housing projects.
- For multifamily housing in M-1 zones, developers must incorporate a commercial component regardless of local commercial demand. This requirement adds complexity and risk to potential residential projects.
- Detached ADUs are required to have a six-foot sight-obscuring fence intended to preserve the aesthetic of single-family neighborhoods. However, this regulation imposes extra expenses on homeowners, reducing the affordability of developing ADUs.
- ADUs must have a pitched roof with a minimum slope of 4 and 12, and Manufactured homes must have a pitched roof with a minimum slope of 3 and 12. While this may not be overly burdensome, it is a requirement that does not apply to other housing types.
- Manufactured homes are required to be multi-sectional, with a minimum eclosed floor area of 1,000 square feet, thus precluding “tiny homes”.
- Design review is required for all developments within mixed-use areas, planned unit developments, and large-scale residential developments. Subjective and multiple reviews can drive up costs and discourage developers from pursuing the development process.
- The number of units for Permanent Supportive Housing (PSH) and Emergency Housing is capped at 20, and the number of residents is capped at 40. This limits the capacity to provide much-needed supportive housing.

Restrictions on Support Spaces for Permanent Supportive Housing (PSH) & Emergency Housing

Zoning regulations in Liberty Lake create barriers to integrating essential supportive services within housing developments designed for vulnerable populations.

- Office space is not permitted in the R-1 zone, which hinders service providers who work within the specialty housing system from offering on-site assistance.
- In the R-2 zone, office uses require a conditional use permit (CUP), adding an extra layer of approvals, costs, and uncertainty to projects. These restrictions limit the ability of supportive housing developments to provide in-house services which are essential for supporting residents with complex needs.

3 Development Regulation Opportunities

Liberty Lake has a relatively progressive zoning code that allows a variety of middle housing options in multiple zoning districts. The code language is easily understandable and utilizes graphics to convey complex ideas, making the code clear and accessible.

Despite existing barriers to affordable housing development in Liberty Lake, several opportunities for regulatory reform could increase housing options and supply for the City. Liberty Lake can implement targeted changes to accommodate population growth better and create a more balanced housing market. An important and potentially impactful opportunity is to update the code to meet the requirements of recent state legislation, such as HB 1110 and HB 2321 regarding middle housing and HB 1337 for ADUs.

This section of the memo groups opportunities into general categories relating to zoning, parking, development standards, and opportunities for specialty supportive housing.

Zoning and Density

To address housing challenges in Liberty Lake, several zoning changes could increase housing options and improve affordability. The City already permits the development of moderate-density housing types such as duplexes and multifamily housing in R-2 and R-3 zones, as well as attached, single-family homes in the R-1 zone. Manufactured homes, a cost-effective alternative to traditional site-built homes, are also allowed as a limited use in all residential zones.

Opportunities

- **Expanding housing options for R-1 zones to allow duplexes** and other two-unit middle housing configurations (stacked flats, courtyard apartments, cottage housing) would increase the supply of housing units while maintaining the character of established, low-density neighborhoods.[1] Liberty Lake may wish to consider allowing triplexes and four-plexes in the R-1 zone, with densities similar to those provided for attached, single-family homes already allowed in the R-1 zone.
- **Expanding allowable housing options, such as tiny homes and co-living developments in certain residential and mixed-use zoning districts,** can enhance housing affordability. Tiny homes are often prefabricated and relatively inexpensive to build. Co-living tends to be more affordable than renting a studio or a one-bedroom apartment. With shared spaces and amenities, both housing options often foster a sense of community for their residents.
- **Increasing the maximum density for attached housing in R-2 zones to 16 units per acre** to better align with typical moderate-density housing, making more efficient use of available land and providing more homes within a given area.
- **Allowing up to two ADUs per lot** can considerably increase the housing supply in Liberty Lake. Additionally, permitting ADUs on any lot that meets the minimum lot size required for the underlying zone would expand access for a broader array of residents to build them.[2]

[1] Required by HB 1110 and HB 2321
[2] Required by HB 1337

- **Allowing ADUs to be built with duplexes in R-1 zones** can further increase the housing supply.

Parking Requirements

Current parking mandates in Liberty Lake increase development costs and reduce available land for housing. By adjusting parking requirements, the city can lower costs, promote more efficient land use, and increase housing feasibility, particularly for affordable and diverse housing options.

Opportunities

- **Reducing parking requirements for moderate-density housing based on unit size or number of bedrooms** could help make smaller housing units, like studios and one-bedroom apartments, more affordable by aligning parking needs with actual usage. Lowering parking mandates for these units would decrease the space and costs associated with parking, allowing more units to be developed on a given property.
- **Limiting the required spaces to one off-street parking space per unit for two-unit middle housing types in R-1 zones** on lots smaller than 6,000 square feet can make the development more feasible. Additionally, not requiring any off-street parking for middle housing within one-half mile walking distance of a major transit stop encourages targeted density of transit use.[3]
- **Revising parking requirements for ADUs based on proximity to transit** and lot size could make it easier and more cost-effective for homeowners to build ADUs. The city can implement similar parking standards to ADUs as those for middle housing by not requiring off-street parking for ADUs within one-half mile walking distance of a major transit stop.
- **Adjusting parking mandates for permanent supportive housing (PSH)** and emergency housing would eliminate burdensome costs, as residents in these facilities are less likely to own personal vehicles. This adjustment would free up space for more supportive services and housing.

Design and Development Standards

Some design and development standards in Liberty Lake limit the potential for more diverse and affordable housing options. The city can improve design flexibility, accelerate project timelines, and reduce development costs, which would help foster a more affordable and diverse housing market.

Opportunities

- **Modifying or removing the requirement for balconies or patios** in multifamily housing developments would reduce costs and design constraints, allowing developers to explore more cost-effective designs and create affordable housing options with fewer barriers to construction.
- **Increasing design flexibility for accessory dwelling units (ADUs)**, such as increasing the maximum unit size to 1000 square feet[4], removing the fence requirement, and eliminating minimum number of bedrooms would make them a more suitable housing option for more residents.

[3] Required by HB 1110 and HB 2321
[4] Required by HB 1337

- **Allowing separate ownership of duplex units or ADUs** on the original lot through condominiumization or subdivision can increase affordability and enable homeownership for groups with lower incomes.[5]
- **Streamlining the approval process for moderate-density and multifamily housing**, particularly by eliminating design reviews in R-1, R-2, and R-3 zones, or following an administrative design review[6] would accelerate development timelines and lower costs, making project reviews more predictable.
- **Allowing more flexibility in commercial space requirements for housing developments in neighborhood-oriented mixed-use zones** would reduce unnecessary risks on some projects. This would enable developers to prioritize housing units while maintaining some commercial space.
- **Enabling adaptive reuse and encouraging the conversion of existing non-residential buildings into housing developments by easing the design and development standards required for those buildings.** Restoration and repurposing of existing structures often reduce construction costs while maintaining the sense of history and place. This can expand the City's housing supply, revitalize vacant spaces, and enhance affordability.

Requirements for Permanent Supportive Housing (PSH) & Emergency Housing

Current spacing and location requirements for PSH and emergency housing limit the ability to effectively site these critical facilities. Additionally, integrating supportive services within housing developments is essential for promoting long-term housing stability and self-sufficiency for residents. By removing or adjusting these restrictions, Liberty Lake can increase the availability and accessibility of housing options for individuals and families needing supportive and emergency services.

Opportunities

- **Removing spacing requirements between shelters and permanent supportive housing (PSH) facilities** would eliminate unnecessary limitations on where these essential services can be located, especially in areas close to transit services.
- A**djusting transit proximity requirements** for PSH and emergency housing to 0.5 miles would provide greater flexibility in site selection and increase capacity to meet the growing demand for supportive housing.
- **Ensuring that offices are allowed in conjunction with PSH and emergency housing** across all residential zones would enable the integration of on-site case management and other support services, such as counseling, job training, and healthcare. This would enhance residents' housing stability by providing easy access to critical resources.

[5] Required by HB 1110 and HB 2321

[6] Per the Washington Department of Commerce, *Administrative design review* means a development permit process whereby an application is reviewed, approved, or denied by the planning director or the planning director's designee based solely on objective design and development standards without a public pre-decision hearing, unless such review is otherwise required by state or federal law, or the structure is a designated landmark or historic district established under a local preservation ordinance. A city may utilize public meetings, hearings, or voluntary review boards to consider, recommend, or approve requests for variances from locally established design review standards.

- **Removing arbitrary limitations on the number of units and residents at a facility**, and instead, utilizing parameters such as occupant load per square foot or generally applicable health and safety provisions to determine appropriate occupancy.[7]
- **Introduce temporary or short-term rental programs as transitional housing options for specific groups.** These programs would have a specific time limit, usually ranging from a few months to a couple of years, during which participants are provided with housing and supportive services. Including qualifiers for developing these short-term rentals and screening prospective residents would ensure they are not used for tourism and recreational purposes.

Conclusion

The City of Liberty Lake has clear and easily understandable development regulations that include existing laws permitting a variety of medium-density housing options across several zoning districts. However, several areas within the code currently place barriers to housing affordability. The city's code contains restrictive regulations relating to zoning and density, parking requirements, design standards, review processes, and more. In addition, existing topographical constraints and severe slopes in areas within the City further hinder the feasibility of developing affordable housing options.

Nevertheless, through regulatory reforms such as revising zoning codes, updating parking requirements, and simplifying approval processes, Liberty Lake can foster a thriving mixed-income housing community. This memo outlines numerous options for the City to not only meet recent housing-related state requirements but also to enhance overall housing diversity and supply.

[7] Required by RCW 35A.21.314

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Technical Memo

To	Lisa D. Key, Director of Planning & Engineering, City of Liberty Lake
From:	Shareefa Abdulsalam, AICP, Deputy Project Manager Liam Taylor, Planner
Date:	February 12th, 2025
Project:	Liberty Lake On-Call Planning (24-000540) Task Order 5: Housing Policy
Subject	Analysis of Development Code Opportunities & Housing Action Plan Strategies

Introduction:

Following the team's review of Liberty Lake's development regulations, several opportunities to overcome barriers to housing affordability were identified. The Washington State Department of Commerce (Commerce) issued resources, including the Guidance for Updating Your Housing Element (August 2023) and the Housing Action Plan (HAP) Guidance, that provide a range of strategies to address these barriers through regulatory updates and policy changes.

This memo compares the opportunities identified in Liberty Lake's development regulations with the strategies in the Commerce resources mentioned above. Implementing these regulatory changes can significantly improve housing affordability and availability in Liberty Lake. By aligning with Commerce strategies, the city can address key barriers to housing development while leveraging best practices from across Washington State.

While many of the opportunities correspond directly with Commerce recommendations, Liberty Lake is not limited to only those strategies. Liberty Lake should consider other locally tailored opportunities that may not be explicitly covered in the Commerce framework but could still contribute to housing affordability within the city.

The table in this memo outlines the identified opportunities for Liberty Lake, the corresponding Commerce strategies, an explanation of how or why each opportunity is essential for facilitating housing affordability, and which barriers and specific housing needs they address.

Moving forward, SCJ recommends prioritizing the changes required by state legislation and the opportunities with the most significant potential impact, while considering resource availability and community priorities. Further stakeholder engagement and analysis will help refine these strategies into actionable policy changes that support Liberty Lake's housing goals and objectives.

Relevant HAP/ Commerce Strategy	Previously Identified Opportunities for Liberty Lake	Types of Barriers Addressed	Housing Needs Addressed	Why? How?
Increase allowed housing types in existing zones. (HAP Z-6)	• Expand allowable housing options, such as tiny homes and co-living developments in certain residential and mixed-use zoning districts. • Expand housing options for R-1 zones to allow duplexes.	• Development regulations • Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing	**Diversifying housing types** helps meet the needs of different *income levels* and *household sizes.* Allowing tiny homes and co-living arrangements can *provide affordable, space-efficient options,* particularly for single-person households and seniors.
Increase or remove density limits. (HAP Z-7)	• Expand housing options for R-1 zones to allow duplexes. • Increase the maximum density for attached housing in R-2 zones to 16 units per acre.	• Development regulations • Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing	**Increasing density** in low-density residential zones allows for a greater variety of housing types and *increases the supply of attainable housing.* Expanding R-1 to allow duplexes provides *more flexibility* in housing choices while *maintaining neighborhood character.*
Revise ADU standards. (HAP Z-8)	• Allow up to two ADUs per lot. • Allow ADUs to be built with duplexes in R-1 zones.	• Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing	**ADUs** offer a *lower-cost housing alternative* while *increasing overall housing stock.* Permitting multiple ADUs per lot and allowing them with duplexes *promotes infill development* and *maximizes existing infrastructure.*

Reduce off-street parking requirements. (HAP R-1)	• Reduce parking requirements for moderate-density housing based on unit size or number of bedrooms. • Limit the required spaces to one off-street parking space per unit for two-unit middle housing units on smaller lots. • Revise parking requirements for ADUs and middle housing based on proximity to transit. • Adjust parking mandates for permanent supportive housing (PSH).	• Development regulations • Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing	**Lowering parking minimums** *reduces development costs* and makes housing projects *more feasible,* particularly for *smaller units and transit-accessible areas.* Excessive parking requirements can *increase housing costs* and *reduce available land* for development.
Relax ground floor retail requirements. (HAP R-2)	• Allow more flexibility in commercial space requirements for housing developments in neighborhood-oriented mixed-use zones.	• Development regulations • Limited land availability	• Housing supply • Middle-income rental housing	**Allowing flexibility in commercial space requirements** can facilitate mixed-use developments that integrate housing in neighborhood-oriented areas. This can lead to a *better balance of residential and retail space,* reducing vacancies and improving housing availability in key locations.

Manufactured home and tiny house communities. (HAP R-7)	• Remove manufactured homes design standards, such as multi-sectional designs and minimum roof slope. • Eliminate the minimum enclosed floor area of 1,000 square feet to allow for tiny home developments.	• Development regulations • Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing • Very low-income housing	**Eliminating restrictive design standards** and minimum size requirements increases the viability of manufactured homes and tiny houses as affordable housing options. These changes enable the development of smaller, *more affordable housing units that cater to lower-income households, seniors, and individuals seeking alternative living arrangements.*
Permitting process streamlining. (HAP P-6)	• Streamline the approval process for moderate-density and multifamily housing.	• Process obstacles	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing • Very low-income housing	**Simplifying the approval process** reduces delays and uncertainty, making housing development *more predictable and cost-effective.* Expedited permitting can encourage developers to *build more affordable housing.*
Subdivision Process Streamlining. (HAP P-7)	• Allow separate ownership of duplex units or ADUs on the original lot through condominiumization or subdivision.	• Process obstacles	• Housing supply • Affordable homeownership	**Simplifying ownership structures** for duplexes and ADUs enables more *efficient land use and housing development.* Condominiumization or subdivision of these units allows for *increased homeownership opportunities* and improves housing attainability by creating smaller, more affordable ownership options.

Accommodation emergency/PSH housing facilities.	• Remove spacing requirements between shelters and PSH facilities. • Increase or remove transit proximity requirements for PSH and emergency housing. • Ensure that offices are allowed in conjunction with PSH and emergency housing across all residential zones. • Remove arbitrary limitations on the number of units and residents at a facility and instead utilize parameters such as occupant load per square foot or generally applicable health and safety provisions to determine occupancy.	• Development regulations • Process obstacles	• Very low-income housing	**Reducing spacing and transit proximity requirements** expands siting options for emergency and supportive housing, ensuring that these critical facilities can be located where they are most needed. Allowing offices in PSH developments *promotes on-site services that help residents maintain stability.* Using objective health and safety-based occupancy standards instead of arbitrary unit/resident limits prevents unnecessary constraints on housing capacity.
Short-term rental regulations.	• Introduce temporary or short-term rental programs as transitional housing options for specific groups.	• Development regulations	• Housing supply • Very low-income housing	**Short-term rental (STR) regulations** could potentially protect tenants from landlords incentivizing evicting tenants in favor of STRs. STRs could also, in some cases, work as transitional housing options for specific groups.

Required Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Required/ Recommended	Relevant State Legislation	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Allow duplexes and other two-unit middle housing configurations in R-1 zones.	Required	HB 1110, HB 2321	Increase allowed housing types in existing zones. (HAP Z-6) Increase or remove density limits. (HAP Z-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow up to two ADUs per lot.	Required	HB 1337	Increase or remove density limits. (HAP Z-7) Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Increase the maximum allowable size of ADUs to 1,000 square feet.	Required	HB 1337	Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow two ADUs on all lots meeting the minimum lot size requirements for the underlying zone.	Required	HB 1337	Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow separate ownership of duplex units or ADUs on the original lot through condominiumization or subdivision.	Required	HB 1110, HB 2321 HB 1337	Subdivision process streamlining. (P-7)	Process Obstacles	• Housing supply • Affordable homeownership
Limit the required spaces to one off-street parking space per unit for two-unit middle housing types on lots smaller than 6,000 square feet.	Required	HB 1110, HB 2321	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Eliminate parking requirements from middle housing and ADUs within one-half mile of major transit stops.	Required	HB 1110, HB 2321 HB 1337	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing

Required Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Required/ Recommended	Relevant State Legislation	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Remove arbitrary limitations on the number of units and residents at a facility and instead utilize parameters such as occupant load per square foot or generally applicable health and safety provisions to determine occupancy.	Required	RCW 35A.21.314	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Relax the design and development standards for adaptive reuse to encourage the conversion of existing non-residential buildings into housing developments.	Required	HB1042	Development regulations	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Allow co-living housing as a permitted use in any zone that allows at least six multifamily residential units, including lots zoned for mixed-use (by 12/21/2025).	Required	RCW 36.70A.535	Development regulations		• Housing supply • Housing diversity • Low income rental housing • Transitional & Supportive Housing

Recommended Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Required/ Recommended	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Expand allowable housing options, such as tiny homes, cottage clusters, and co-living developments in R-2, R-3, and mixed-use zoning districts in order to increase the diversity of housing options citywide.	Recommended	Increase allowed housing types in existing zones. (HAP Z-6)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Increase the maximum density for attached housing in R-2 zones from 12 to 16 units per acre.	Recommended	Increase or remove density limits. (HAP Z-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Remove ADU design standards such as maximum number of bedrooms, six-foot fence, and minimum roof slope.	Recommended	Revise ADU standards. (HAP Z-8)	Development regulations	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Allow more flexibility in commercial space requirements for housing developments in neighborhood-oriented mixed-use zones.	Recommended	Relax ground floor retail requirements. (R-2)	Development regulations Limited land availability	Housing supply Middle-income rental housing
Remove manufactured home design standards, such as multi-sectional designs and minimum roof slope.	Recommended	Manufactured home and tiny house communities. (R-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing
Eliminate the minimum enclosed floor area of 1,000 square feet to allow for “tiny home” developments.	Recommended	Manufactured home and tiny house communities. (R-7)	Development regulations Limited land availability	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing • Very low-income housing

Recommended Strategies to Increase Housing Supply and Reduce Barriers to Affordability

Proposed Code Update	Required/ Recommended	Relevant HAP/Commerce Strategy	Type of Barrier Addressed	Housing Needs Addresses
Eliminate design reviews in R-1, R-2, and R-3 zones for moderate-density housing , and utilize administrative Design Review for multi-family housing of more than 6 units to streamline the approval process.	Recommended	Permitting process streamlining. (P-6)	Process Obstacles	• Housing supply • Housing diversity • Affordable homeownership • Middle-income rental housing • Senior housing • Very low-income housing
Revise parking requirements for multi-unit housing based on unit size or number of bedrooms.	Recommended	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Adjusting parking mandates for PSH and emergency housing.	Recommended	Reduce off-street parking requirements. (R-1)	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Remove spacing requirements between shelters and PSH facilities.	Recommended	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Increase or remove transit proximity requirements for PSH and emergency housing.	Recommended	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Allow offices in conjunction with PSH and emergency housing across all residential zones.	Recommended	Accommodate emergency/PSH housing facilities.	Development regulations Limited land availability	• Housing supply • Senior housing • Very low-income housing
Allow multi-family residential as a limited use in light industrial zones with appropriate buffers.	Recommended	Development regulations	Development regulations Limited land availability	• Housing supply • Housing diversity • Middle-income rental housing • Senior housing
Explore temporary or short-term rental programs as transitional housing options for specific groups.	Recommended	Short-term rental regulations.	Development regulations	• Senior housing • Very low-income housing

HOUSING GOALS AND POLICIES

Note: Policies reflecting required code changes are highlighted in yellow.

Goal 1: Preserve the aesthetics of existing neighborhoods and support high-quality new development.

Policies:

1. Encourage infill development within existing residential neighborhoods that is compatible with surrounding structures and uses and is consistent with neighborhood design.
2. Encourage neighborhood developments that protect the environment, provide usable open space, and exhibit exceptional quality and design.
3. Maintain incentives to encourage cluster development while preserving open space and protecting critical areas.
4. Maintain architectural design guidelines that provide detailed, human-scale design, while allowing flexibility to use a variety of building styles.

Goal 2: Enhance housing availability and affordability for all economic segments of the population.

Policies:

1. Allow various types of suitable-scale housing, including cottage-style housing, duplexes, and other two-unit housing configurations, to be built within low-density residential zones.
2. Periodically review and update development requirements and design standards for accessory dwelling units (ADUs) and manufactured homes.
3. Periodically review and update residential parking standards.
4. Support more affordable homeownership by streamlining the subdivision and condominiumization processes.
5. Utilize objective design review processes to streamline permitting and approvals of residential developments.
6. Expand allowable housing options, such as tiny homes, cottage clusters, and co-living developments, in medium-density residential and mixed-use zoning districts to promote a variety of densities and housing types.
7. Explore opportunities for mixed-use development in the light industrial zone.

8. Encourage medium- and high-density development by periodically reviewing and updating the standards for multi-family and mixed-use developments.
9. Promote the preservation of existing housing units that provide affordable options for households through partnership with other agencies to provide loans, grants, and other programs.
10. Periodically assess the effects of policies and regulations on housing affordability and fair housing choice, and reduce regulatory barriers, where necessary.
11. Relax design and development standards for adaptive reuse to support the conversion of existing, underutilized non-residential buildings into housing developments.

Goal 3: Accommodate supportive and emergency housing facilities, and support housing for populations with special needs.

Policies:

1. Periodically review and update development and parking standards for emergency and supportive housing projects and facilities.
2. Support initiatives by low-income housing advocacy organizations.
3. Enable a continuum of allowable housing options for special-needs populations through periodic policy reviews.
4. Promote housing development in areas that are accessible to public transportation for individuals with mobility challenges.
5. Support both rental and ownership forms of affordable housing in a variety of types and sizes.
6. Support a range of housing types for retirees and seniors, including condominiums, assisted living, co-, and independent-living communities near essential services and transit.
7. Enable emergency and supportive housing facilities to include related offices and provide on-site services when located in residential zones through revisions to zoning regulations.
8. Consider introducing temporary or short-term rental programs as transitional housing options for specific groups.

APPENDIX "I"

Liberty Lake Network Analysis Update 2025

Prepared for
The City of Liberty Lake

January 2026

Liberty Lake Network Analysis Update 2025

Prepared for

The City of Liberty Lake
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Liberty Lake, WA 99019

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Acronyms and Abbreviations

HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
NCHRP	National Cooperative Highway Research Program
SRTC	Spokane Regional Transportation Council
STA	Spokane Transit Authority
TAZ	Traffic Analysis Zone
WSDOT	Washington Department of Transportation

1. Introduction

In February 2017, the City of Liberty Lake (the City) conducted a network analysis of the transportation system to identify short-term and long-term needs and in September 2020, the study was updated. Since that time, development and roadway project plans have evolved in key areas of the city. The purpose of this study is to update the 2020 network analysis. This study includes an analysis of existing conditions (2025), short-term growth conditions (2028), and long-term growth conditions (2046).

This report documents and summarizes the results and recommendations of the network analysis update. A description of the study area is provided followed by documentation of data collection methods and results. Next, the future land use and growth assumptions are discussed. The methods and results of the use of the Spokane Regional Transportation Council (SRTC) regional travel demand model are also provided. Traffic analysis methods are then presented including detailed traffic performance metrics for short-term (2028) and long-term (2046) conditions. Finally, the report identifies the network-wide mitigations.

2. Study Area

The study area for this analysis includes major roadways and intersections within the City boundaries. The boundaries of the City extend from the Spokane River on the north to Sprague Avenue on the south, and from Aladdin Road on the west to King James Lane on the east. While this analysis focuses on traffic operations, subsections of this section give an overview of transit and active transportation options in the City. Figure 1 shows the study area roadway network and intersections for the analysis.

2.1 Description of Major Roads

There are several key roads within the City.

Country Vista Drive – is a major east-west roadway in the City. West of Mission Avenue, Country Vista Drive is a four-lane arterial with a two-way center turn lane that parallels I-90 to the south. East of Mission Avenue, Country Vista Drive becomes a two-lane roadway that circumnavigates the eastern residential areas of the City and eventually meets Appleway Avenue in the northeastern section of the city.

Liberty Lake Road – is a major north-south roadway that runs from the I-90 ramps on the north to the southern boundary of the City. Liberty Lake Road is four lanes with a center landscaped median between the I-90 ramps and Country Vista Drive. South of the Country Vista Drive intersection, Liberty Lake Road narrows to one lane in each direction.

Harvard Road – is a continuation of Liberty Lake Road north of the I-90 ramps and extends north to the northern city boundary. Harvard Road runs north-south as a two-lane roadway, before expanding out to four lanes with a landscaped median north of the roundabout at Mission Avenue.

Appleway Avenue – runs east to west from Liberty Lake Road to the eastern boundary of the City. It is a four-lane arterial with a landscaped center median and left-turn pockets. East of Molter Road, Appleway Avenue begins narrowing down to one lane in each direction as it continues east towards an interchange with I 90 outside of the city boundaries.

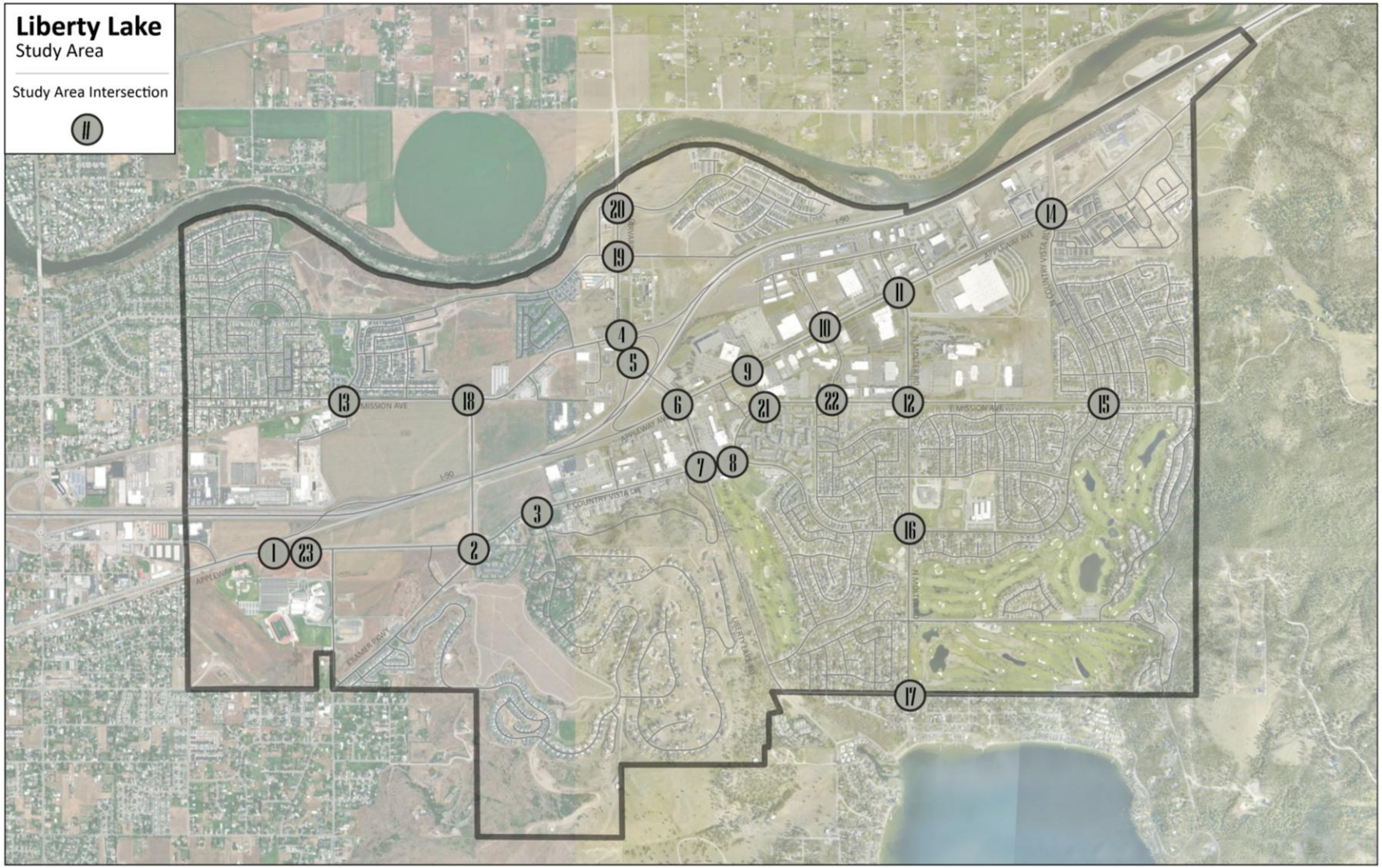


Figure 1 – Study Area

Mission Avenue – is an east-west roadway that has two sections, the western section runs from the western city boundary to Harvard Road as a two-lane roadway, paralleling I-90 to the north. The eastern section of Mission Avenue is a two-lane roadway that runs south of I-90 from an intersection with Country Vista Drive near the center of the City to the eastern city boundary.

Molter Road – is a north-south roadway on the eastern side of the city that runs from Knox Avenue on the north to Sprague Avenue and the southern city boundary on the south. Molter Road is a four-lane roadway with a two-way center turn lane between Appleway Avenue and Mission Avenue. South of the Mission Avenue intersection, Molter Road narrows to one lane in each direction with a two-way center turn lane for most of its length.

Kramer Parkway – is a north-south roadway on the west side of the City that runs from Mission Avenue on the north to Henry Road on the south. Kramer Parkway is a two-lane roadway that includes a bridge over I-90 connecting the northern and southern sides of the City.

2.2 Description of Major Intersections

There are 23 intersections within the City that were studied in this analysis. **Table 1** shows the 23 study area intersections and existing intersection control. The 23 intersections are also shown spatially in **Figure 1**.

Table 1 – Study Area Intersections

#	Intersection	Existing Intersection Control
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB
2	N Kramer Pkwy / E Country Vista Dr	Signal
3	N Legacy Ridge Drive / E Country Vista Dr	Signal
4	E Mission Ave / N Harvard Rd	Roundabout
5	N Harvard Rd / I-90 WB On Ramp	Free
6	N Liberty Lake Rd / Appleway Ave	Signal
7	N Liberty Lake Rd / E Country Vista Dr	Signal
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB
9	N Signal Dr / E Appleway Ave	Signal
10	N Madson St / E Appleway Ave	Signal
11	N Molter Rd / E Appleway Ave	Signal
12	N Molter Rd / E Mission Ave	Roundabout
13	E Mission Ave / N Harvest Pkwy	Roundabout
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled
16	N Molter / E Country Vista Dr	All Way Stop-Controlled
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled
18	E Mission Ave / Kramer Pkwy	Roundabout
19	N Harvard Rd / E Indiana Ave	Signal
20	N Harvard Rd / E Wellington Pkwy	Stop-Controlled EB/WB
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB
22	E Mission Ave / N Madson St	Stop-Controlled SB
23	E Country Vista Dr / Ridgeline HS signal	Signal

2.3 Transit

The City is served by five Spokane Transit Authority (STA) bus routes. These include Route 7 (Valley/Airport), Route 93 (Molter Loop), Route 98 (Greenacres/Liberty Lake), Route 772 (Liberty Lake Express), and Route 724 (Liberty Lake Tech Express).

Route 7 connects the Spokane International Airport with Liberty Lake. This is a new route as of September 2025 that replaced route 74.

Route 93 is a revised version of the tail end of former Route 74, operating counterclockwise from the Mission Avenue Park and Ride along Molter Road, Appleway Avenue, and Signal Road before returning to the park and ride. This routing maintains local connectivity while improving efficiency and travel time reliability.

Route 98 connects the Valley Transit Center in Spokane Valley to the Liberty Lake Park & Ride via Sprague Avenue, Appleway Avenue, Country Vista Drive, and Mission Avenue. This route helps provide access to a portion of the city not currently served by the other bus routes, including some residential neighborhoods.

Route 722 is an express service connecting downtown Liberty Lake to downtown Spokane and the north bank of the Spokane River near the Spokane Arena. It replaces the former Route 172 and provides direct service along Riverside Avenue, continuing north on Monroe Street to the Spokane County Courthouse and Arena. The route also serves the Meadowood Technology Campus in Liberty Lake and operates primarily during peak periods for faster, limited-stop travel.

Route 724 is an express service operating between downtown Spokane and Liberty Lake via I-90, Appleway Avenue, Country Vista Boulevard, and Hawkstone. The route provides fast, limited-stop service focused on commuter travel during peak periods. In the morning, Route 724 operates outbound from Spokane and transitions into Route 722 for the inbound trip. In the afternoon, this pattern reverses, with Route 722 outbound and Route 724 providing the inbound return to Spokane.

2.4 Active Transportation

The Centennial Trail is a regional bikeway that follows the Spokane River and cuts through Liberty Lake. Improving bike lane connections to this trail can greatly improve its accessibility to surrounding communities. There are several bike lanes found along primary roads in Liberty Lake. These roads include Mission Ave (north of I-90), Liberty Lake Road, Country Vista Drive, Kramer Parkway, and Appleway Avenue. Most of these are painted bike lanes. There are a few local roads with bike lanes as well, but coverage can be extended. Liberty Lake has a large network of sidewalks across many of the major roads in the city.

Liberty Lake is currently working on updating their Parks and Recreation Master Plan. This plan will highlight existing active transportation infrastructure, as well as needed improvements.

3. Data Collection

To determine existing conditions both intersection turning movement counts and roadway volume counts were collected as part of this analysis. **Figure 2** summarizes existing traffic volume (2025) in the City including AM and PM peak hour turning movement volumes and peak hour and daily roadway segment volumes. Collected traffic data is included in **Appendix A**.

3.1 Intersection Turning Movement Counts

Quality Counts collected turning movement counts at 17 of the 23 study area intersections on Wednesday, April 30, 2025, in the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM).

Turning movement counts for the other 6 study area intersections were collected as part of the "Spokane Valley Subarea Transportation Plan." Those turning movement counts were collected on Wednesday, May 8, 2024, in the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM). Those turning movement counts were then adjusted to 2025 levels and some volume balancing was applied. Intersection turning movement count locations, including the date of data collection, are shown in **Table 2**.

Table 2 – Turning Movement Count Locations

#	Intersection	Date
1	I-90 WB Off Ramp / E Country Vista Dr	May 8, 2024
2	N Kramer Pkwy / E Country Vista Dr	April 30, 2025
3	N Legacy Ridge Drive / E Country Vista Dr	May 8, 2024
4	E Mission Ave / N Harvard Rd	April 30, 2025
5	N Harvard Rd / I-90 WB On Ramp	April 30, 2025
6	N Liberty Lake Rd / Appleway Ave	April 30, 2025
7	N Liberty Lake Rd / E Country Vista Dr	April 30, 2025
8	E Mission Ave / E Country Vista Dr	April 30, 2025
9	N Signal Dr / E Appleway Ave	April 30, 2025
10	N Madson St / E Appleway Ave	April 30, 2025
11	N Molter Rd / E Appleway Ave	April 30, 2025
12	N Molter Rd / E Mission Ave	April 30, 2025
13	E Mission Ave / N Harvest Pkwy	May 8, 2024
14	N Country Vista Blvd / E Appleway Ave	April 30, 2025
15	E Mission Ave / N Country Vista Blvd	April 30, 2025
16	N Molter / E Country Vista Dr	April 30, 2025
17	E Sprague Ave / N Molter Rd	April 30, 2025
18	E Mission Ave / Kramer Pkwy	April 30, 2025
19	N Harvard Rd / E Indiana Ave	May 8, 2024
20	N Harvard Rd / E Wellington Pkwy	May 8, 2024
21	E Mission Ave / N Signal Dr	April 30, 2025
22	E Mission Ave / N Madson St	April 30, 2025
23	E Country Vista Dr / Ridgeline HS signal	May 8, 2024

3.2 Roadway Volume Counts

Seventy-two-hour roadway tube counts were collected at 11 locations around the City from Tuesday, April 29, 2025 to Thursday, May 1, 2025. The count locations are shown in **Table 3**.

Table 3 – Roadway Volume Count Locations

Location	Date
E Country Vista Dr between Kramer Pkwy and City Limits	April 29, 2025 to May 1, 2025
E Mission Ave between N Harvard Rd and City Limits	April 29, 2025 to May 1, 2025
N Harvard Road between City Limits and E Mission Ave	April 29, 2025 to May 1, 2025
E Country Vista Dr between N Legacy Ridge Dr and N Liberty Lake Rd	April 29, 2025 to May 1, 2025
N Liberty Lake Rd south of E Country Vista Rd	April 29, 2025 to May 1, 2025
E Appleway Ave between N Signal Dr and N Madson St	April 29, 2025 to May 1, 2025
E Appleway Ave east of N Molter Rd	April 29, 2025 to May 1, 2025
N Molter Rd between E Mission Ave and E Country Vista Dr	April 29, 2025 to May 1, 2025
N Molter Rd between N Country Vista Dr and E Sprague Ave	April 29, 2025 to May 1, 2025
E Mission Ave between E Country Vista Blvd and N Molter Rd	April 29, 2025 to May 1, 2025
N Country Vista Blvd north of E Autumn Crossing	April 29, 2025 to May 1, 2025

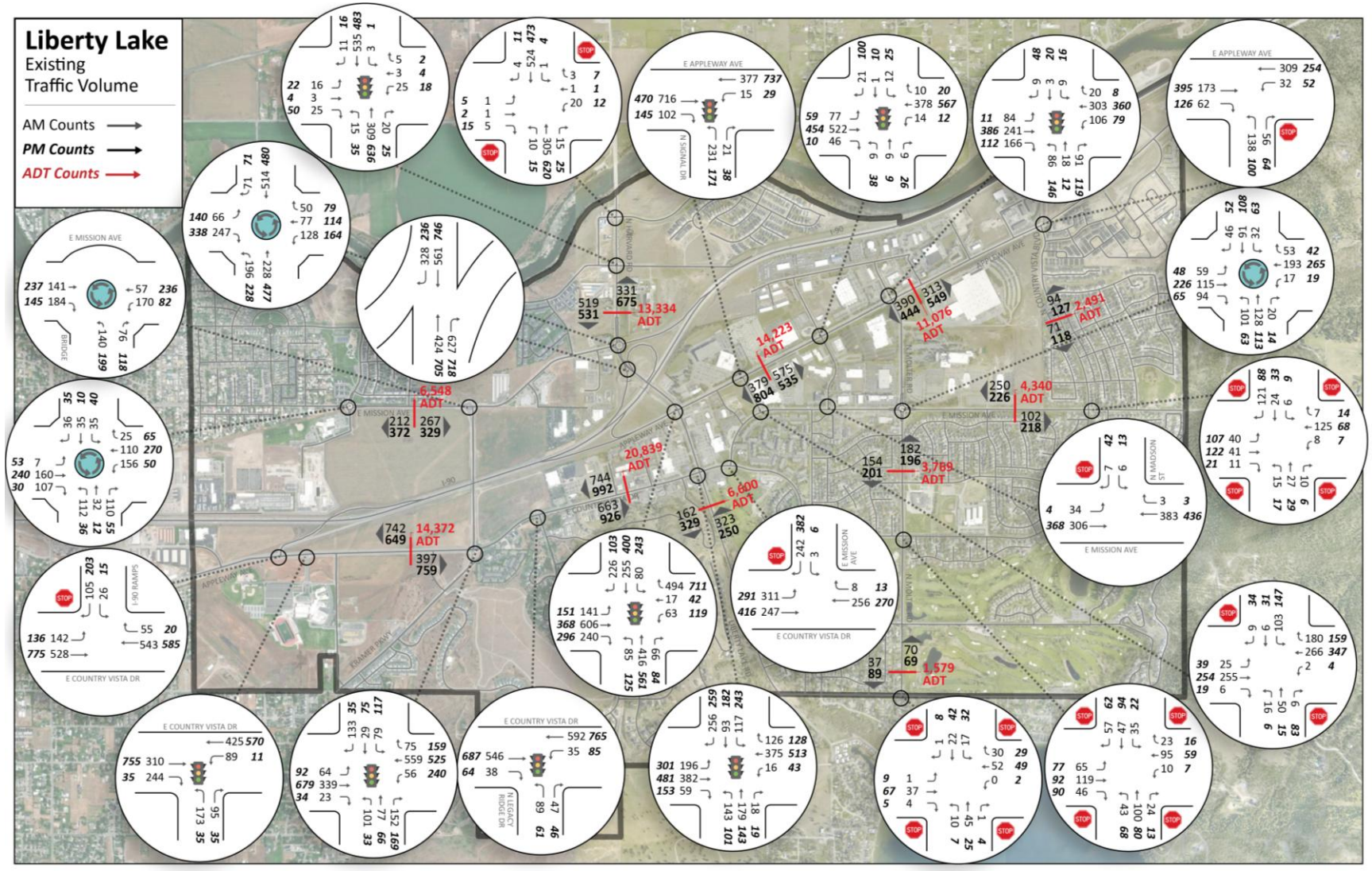


Figure 2 – Existing Traffic Volume (2025)

3.3 Active Transportation

Intersection turning movement counts also include data on pedestrians and bicyclists during peak times. **Table 4** shows AM and PM peak hour pedestrian and bicyclist volumes for each of the study area intersections.

Table 4 – Existing (2025) Peak Hour Pedestrian and Bicyclist Volumes

Int #	Intersection Name	Total Pedestrians		Total Bicyclists	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	I-90 WB Off Ramp / E Country Vista Dr	1	0	0	1
2	N Kramer Pkwy / E Country Vista Dr	4	4	7	2
3	N Legacy Ridge Drive / E Country Vista Dr	4	3	0	0
4	E Mission Ave / N Harvard Rd	4	5	3	1
5	N Harvard Rd / I-90 WB On Ramp	0	0	0	1
6	N Liberty Lake Rd / Appleway Ave	8	3	2	3
7	N Liberty Lake Rd / E Country Vista Dr	4	18	5	9
8	E Mission Ave / E Country Vista Dr	15	23	3	7
9	N Signal Dr / E Appleway Ave	6	0	1	7
10	N Madson St / E Appleway Ave	2	4	0	5
11	N Molter Rd / E Appleway Ave	3	5	3	5
12	N Molter Rd / E Mission Ave	12	18	5	7
13	E Mission Ave / N Harvest Pkwy	7	11	0	0
14	N Country Vista Blvd / E Appleway Ave	2	5	2	2
15	E Mission Ave / N Country Vista Blvd	18	17	0	5
16	N Molter / E Country Vista Dr	50	40	19	11
17	E Sprague Ave / N Molter Rd	12	13	4	4
18	E Mission Ave / Kramer Pkwy	1	12	2	1
19	N Harvard Rd / E Indiana Ave	5	1	0	0
20	N Harvard Rd / E Wellington Pkwy	4	5	0	2
21	E Mission Ave / N Signal Dr	9	3	12	1
22	E Mission Ave / N Madson St	10	28	4	5
23	E Country Vista Dr / Ridgeline HS signal	2	4	0	1

3.4 Golf Carts

Golf cart counts were collected at several of the study area intersections during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM). Golf cart volumes during the AM and PM peak periods are shown in **Figure 3**.

Golf cart volumes were highest in the residential areas in the southwest part of the city, with the highest counted intersection being N Molter / E Country Vista Dr with 11 golf carts between 7:00 AM and 9:00 AM and 20 golf carts between 4:00 PM and 6:00 PM.

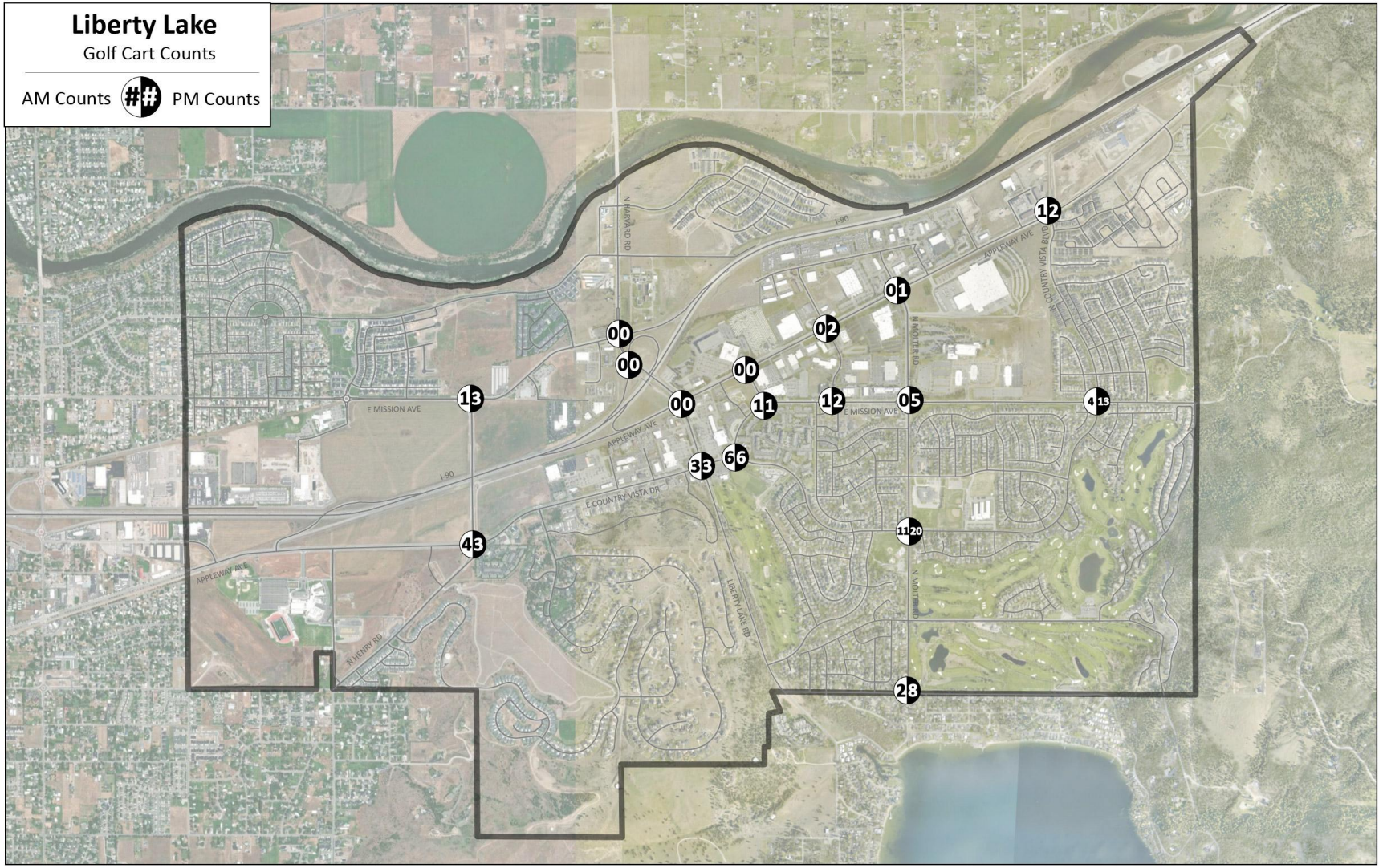


Figure 3 – Existing Golf Cart Volumes (2025)

4. Growth Assumptions

Growth assumptions set the stage for forecasting future traffic volumes at study area intersections and thus understanding transportation system deficiencies. Parametrix conducted an analysis of growth assumptions for both short-term (2028) and long-term (2046) conditions. The primary sources of information to determine the growth assumptions included information about pending and planned developments provided directly by City staff, the Liberty Lake Land Capacity Analysis (February 2025), and socioeconomic forecasts provided within the SRTC regional travel demand model (SRTC model).

4.1 Short-Term Growth (2028)

Parametrix worked closely with City staff to develop assumptions about pending or likely developments in the city within the next three years. Sixteen development areas were identified city-wide and included known or ongoing development and more generic land use growth assumptions for areas likely to develop but where specific plans are unclear or not available at this time.

Parametrix conducted a trip generation analysis to estimate the number of trips new developments would add to city roadways. Where trip generation letters were available for developments, Parametrix used trip generation from those letters. Where trip generation letters were not available for developments, Parametrix used The Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition to select trip generation rates for the planned developments. The trip generation rates are based on studies conducted nationwide.

For each future development, trip generation was calculated for the AM peak hour and the PM peak hour. The trip generation calculation is derived from the square footage or number of dwelling units of a given development.

A build-out adjustment was applied to developments that were anticipated to be partially constructed by 2028. The build-out adjustment was based on the estimated build-out percentage of the future land use in the short-term (2028).

In all, the assumed developments added 1,604 new AM peak hour trips, 2,206 new PM peak hour trips, and 26,511 new daily trips to the Liberty Lake roadway network. Note that a single trip is from an origin to a destination and may go through multiple intersections.

Parametrix then distributed the peak hour trips throughout the road network. Trip distribution for developments was based on trip generation letters that contained development distribution where available and by logical origin and destination pairs and land use patterns where development trip distribution was not available in trip generation letters.

Combining the distributed short-term growth trips with existing traffic counts, Parametrix developed the short-term traffic volumes (2028). **Figure 4** summarizes the short-term traffic volumes (2028). Development trip generation and location assumptions are included in **Appendix B**.

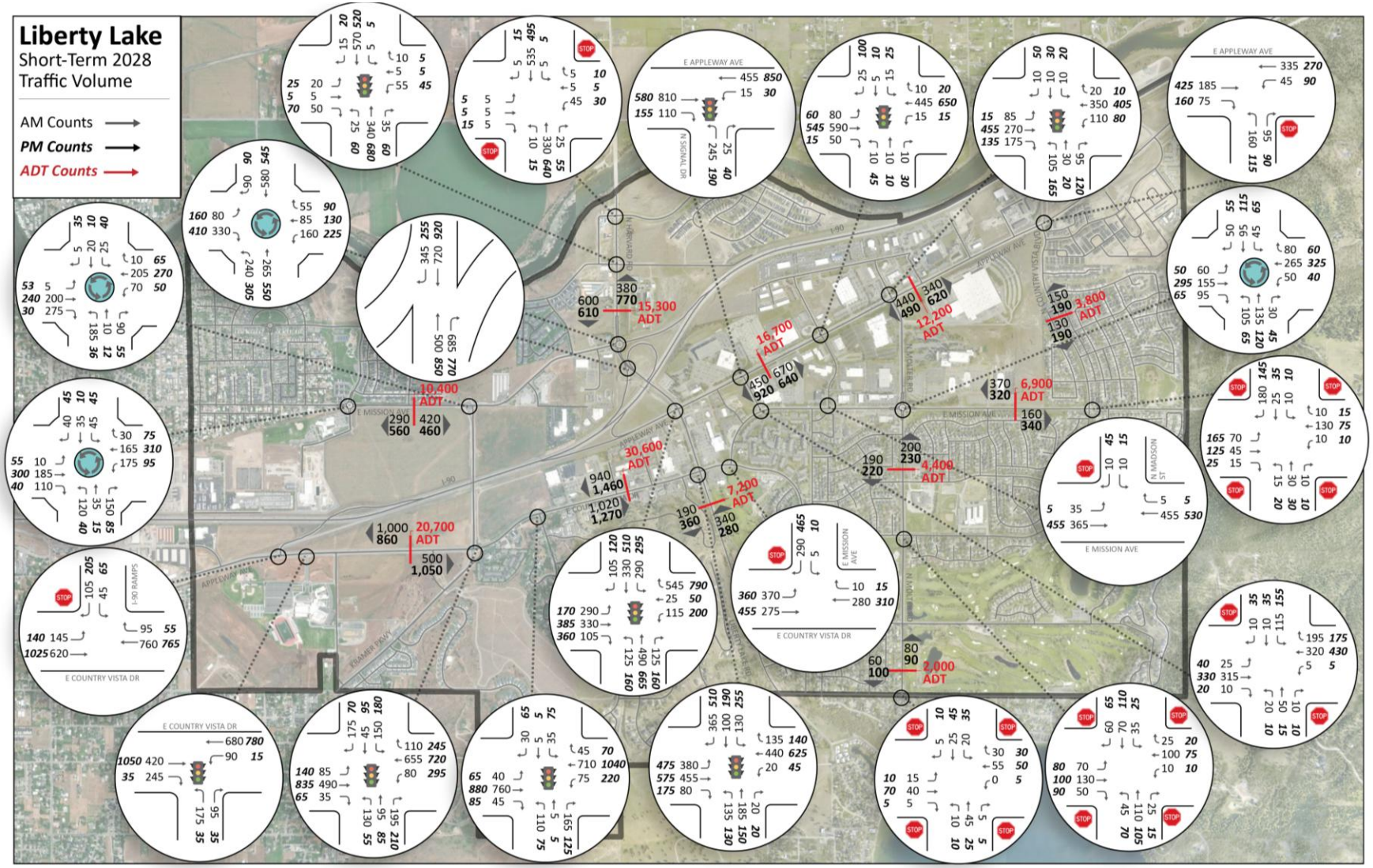


Figure 4 – Short-Term Traffic Volume (2028)

4.2 Long-Term Growth (2046)

Long-term growth projections were guided by the city planning documents previously mentioned, coordination with city staff, as well as the SRTC model. Parametrix used data from the City of Liberty Lake and the SRTC model to analyze the population and employment growth in the city. The SRTC model has a base year of 2022 and a forecast year of 2050. Parametrix used 2024 as a base year and interpolated population and employment data for the analysis year of 2046.

Parametrix worked closely with City staff to understand the planned and desired growth patterns for employment and housing in the city. Parametrix incorporated all this information to refine the SRTC model and generate long-term traffic forecasts as discussed in the following section.

4.2.1 Travel Demand Modeling

The SRTC model was used to develop traffic volume forecasts for 2046 conditions within the City. The SRTC model is a region-wide forecasting tool covering the greater Spokane area from the City of Airway Heights on the west to the City of Liberty Lake on the east. The model utilizes the four-step travel demand forecasting process to evaluate the relationship between land use and the transportation network and thus generate travel pattern predictions for future conditions.

Because of the regional setting of the SRTC model, refinements were made to target results for the smaller scale of this study. Refinements included updates and modifications to base year and horizon year roadway network representations and land use assumptions. For example, Kramer Parkway bridge over I-90 was added in the base year network.

As mentioned previously, land use assumptions for the City in the SRTC model were reviewed with city staff to identify adjustments to better reflect current conditions and plans. The SRTC model divides the region into subareas called traffic analysis zones (TAZs) which contain population, household and employment estimates for their geography. Household and employment values were first modified to better match base year conditions. Then the horizon year population and employment values were adjusted to reflect city land use plans, zoning, and known development proposals. Finally, because the TAZ structure within the city is quite large, additional TAZ centroid connectors were added to represent the travel patterns of smaller TAZs, thus creating virtual TAZ splits. Figure 5 and Figure 6 show the virtual TAZ splits, including households and employment, for the refined SRTC model for 2024 and 2046. Additional documentation of the SRTC model refinement is contained in **Appendix C**.

Finally, with long-term forecasts from the refined SRTC model, Parametrix developed long-term AM and PM intersection turning movement forecasts.

The 2025 existing collected traffic volumes were compared to 2024 base travel demand model outputs forecasts and the 2046 travel demand model outputs to determine the adjustment to apply to 2025 existing collected traffic volumes to forecast 2046 forecasted traffic volumes based on the methodology in National Cooperative Highway Research Program (NCHRP) report 756. Forecasted long-term volumes (2046) were also checked against short-term volumes and increased where necessary. **Figure 7** shows the peak hour long-term traffic volume (2046) at study area intersections.



Figure 5 – 2024 Refined SRTC TAZ MAP

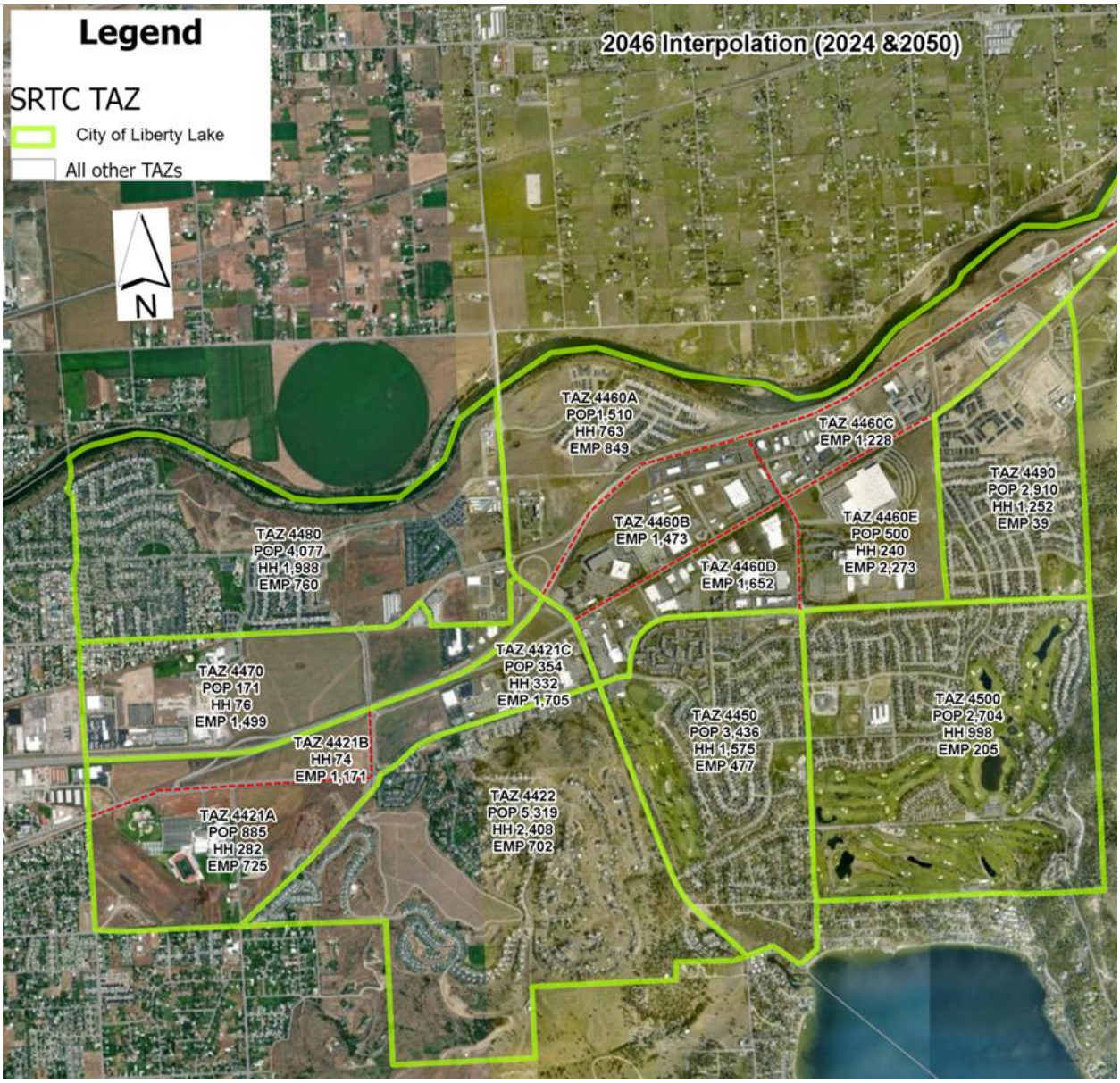


Figure 6 – 2046 Refined SRTC TAZ MAP

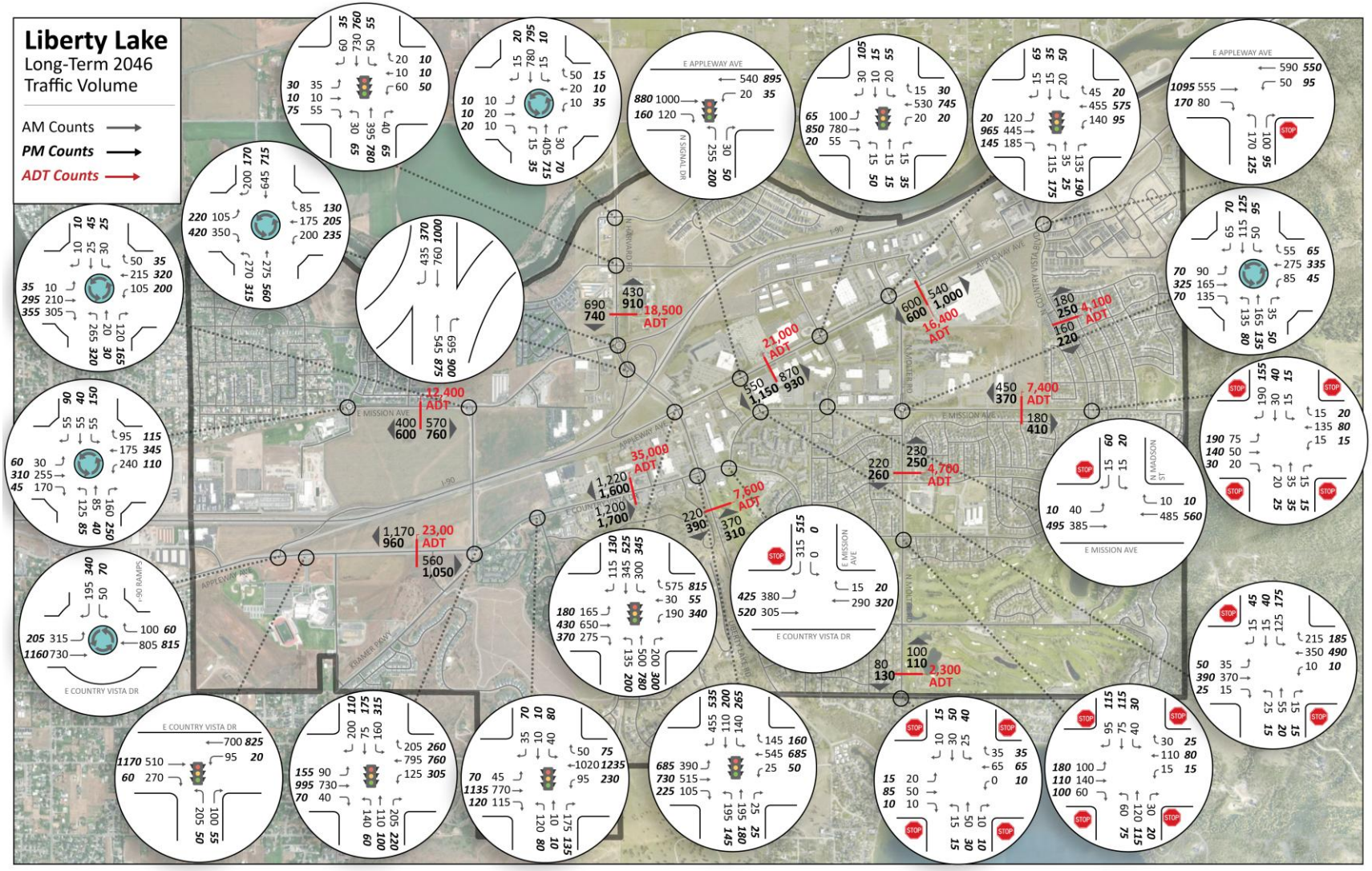


Figure 7 – Long-Term Traffic Volume (2046)

5. Operational Analysis

Parametrix performed an operational analysis on each of the study intersections within Liberty Lake. Intersections were analyzed for three time periods: existing conditions (2025), short-term (2028) and long-term (2046). Mitigation analyses were conducted for short-term (2028) and long-term (2046) conditions. The list of intersections evaluated as part of this analysis was shown previously in **Table 1**.

Traffic volumes used in the existing conditions (2025) analysis can be found in **Figure 2**, traffic volumes used in the short-term (2028) analysis can be found in **Figure 4**, and traffic volumes used in the long-term analysis (2046) can be found in **Figure 7**.

5.1 Analysis Methodology

Vehicular performance at intersections is often defined by the concept of intersection Level of Service (LOS). LOS is defined by average vehicle delay (seconds per vehicle) and is associated with a letter grade on a scale from A (free flowing traffic) to F (intersection failure, major delays). LOS D is often used as a threshold of acceptable traffic operations. In this analysis, mitigations were recommended when intersection performance fell below LOS D.

- A – free flow operation
- B – reasonably unimpeded operation
- C – stable operation
- D – small increases in flow may cause substantial delay
- E – operates with significant delays
- F – operates with extremely slow speeds and/or intersection failures

Parametrix calculated LOS for signalized and stop-controlled intersections using Synchro 11, a traffic engineering software program published by Trafficware using Highway Capacity Manual (HCM) 6th Edition methodology. Where HCM 6th Edition methodology did not provide intersection analysis results, Synchro methodology results were used. **Table 5** illustrates the LOS definitions for unsignalized intersections and signalized intersections.

Table 5 – Level of Service

Level of Service	Unsignalized Intersection Average Delay (sec/veh)[1]	Signalized Intersection Average Delay (sec/veh)
A	0 -10	0 - 10
B	10 - 15	10 – 20
C	15 – 25	20 – 35
D	25 - 35	35 – 55
E	35 - 50	55 – 80
F	> 50	> 80

1. Reported for the worst performing movement for minor stop control, reported as the overall intersection for all-way stop-control.

Parametrix utilized the traffic analysis program SIDRA 9 to evaluate the roundabout intersections. SIDRA supports several methodologies for roundabout analysis including the SIDRA standard roundabout model as well as the HCM 6th Edition methodology. For this analysis, Parametrix reported results using the SIDRA methodology which is the methodology supported by the Washington Department of Transportation (WSDOT). SIDRA methodology reports LOS and average delay based on

the signalized intersection thresholds. Volume to capacity ratios (V/C) above 0.9 at roundabouts are called out.

5.2 Existing Conditions Analysis (2025)

Traffic volumes used in the existing conditions (2025) analysis can be found in **Figure 2**. Existing (2025) AM and PM peak hour LOS and delay are shown **Table 6**. Existing (2025) LOS is also shown spatially in **Figure 8**. Existing (2025) 95th percentile queue lengths by approach (longest 95th percentile queue for each approach) are shown in **Table 7**. Analysis outputs are included in **Appendix D**.

All study intersections operate at LOS D or better in the AM peak hour. Most intersections operate at LOS D or better in the PM peak hour except for the following:

- E Mission Ave / E Country Vista Dr (intersection 8): the southbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

Table 6 – Existing LOS (2025)

#	Intersection	Existing Intersection Control	LOS (Delay in sec/veh)	
			AM	PM
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB	C (24)/SBL	C (19)/SBL
2	N Kramer Pkwy / E Country Vista Dr	Signal	B (19)	B (19)
3	N Legacy Ridge Drive / E Country Vista Dr	Signal	A (6)	A (6)
4	E Mission Ave / N Harvard Rd	Roundabout	A (9)	B (11)
5	N Harvard Rd / I-90 WB On Ramp	Free	-	-
6	N Liberty Lake Rd / Appleway Ave	Signal	C (27)	D (38)
7	N Liberty Lake Rd / E Country Vista Dr	Signal	B (16)	B (18)
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB	D (33)/SBL	**E (36)/SBL**
9	N Signal Dr / E Appleway Ave	Signal	A (10)	A (7)
10	N Madson St / E Appleway Ave	Signal	A (9)	B (10)
11	N Molter Rd / E Appleway Ave	Signal	B (12)	B (13)
12	N Molter Rd / E Mission Ave	Roundabout	A (6)	A (6)
13	E Mission Ave / N Harvest Pkwy	Roundabout	A (7)	A (6)
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB	B (15)/NBL	C (17)/NBL
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled	A (9)	A (9)
16	N Molter / E Country Vista Dr	All Way Stop-Controlled	B (11)	B (10)
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled	A (8)	A (8)
18	E Mission Ave / Kramer Pkwy	Roundabout	A (6)	A (6)
19	N Harvard Rd / E Indiana Ave	Signal	A (9)	A (10)
20	N Harvard Rd / E Wellington Pkwy	Stop-Controlled EB/WB	C (18)/EBL	D (28)/WBL
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB	D (28)/SB	**F (>50)/SB**
22	E Mission Ave / N Madson St	Stop-Controlled SB	B (12)/SB	B (12)/SB
23	E Country Vista Dr / Ridgeline HS signal	Signal	C (30)	C (21)

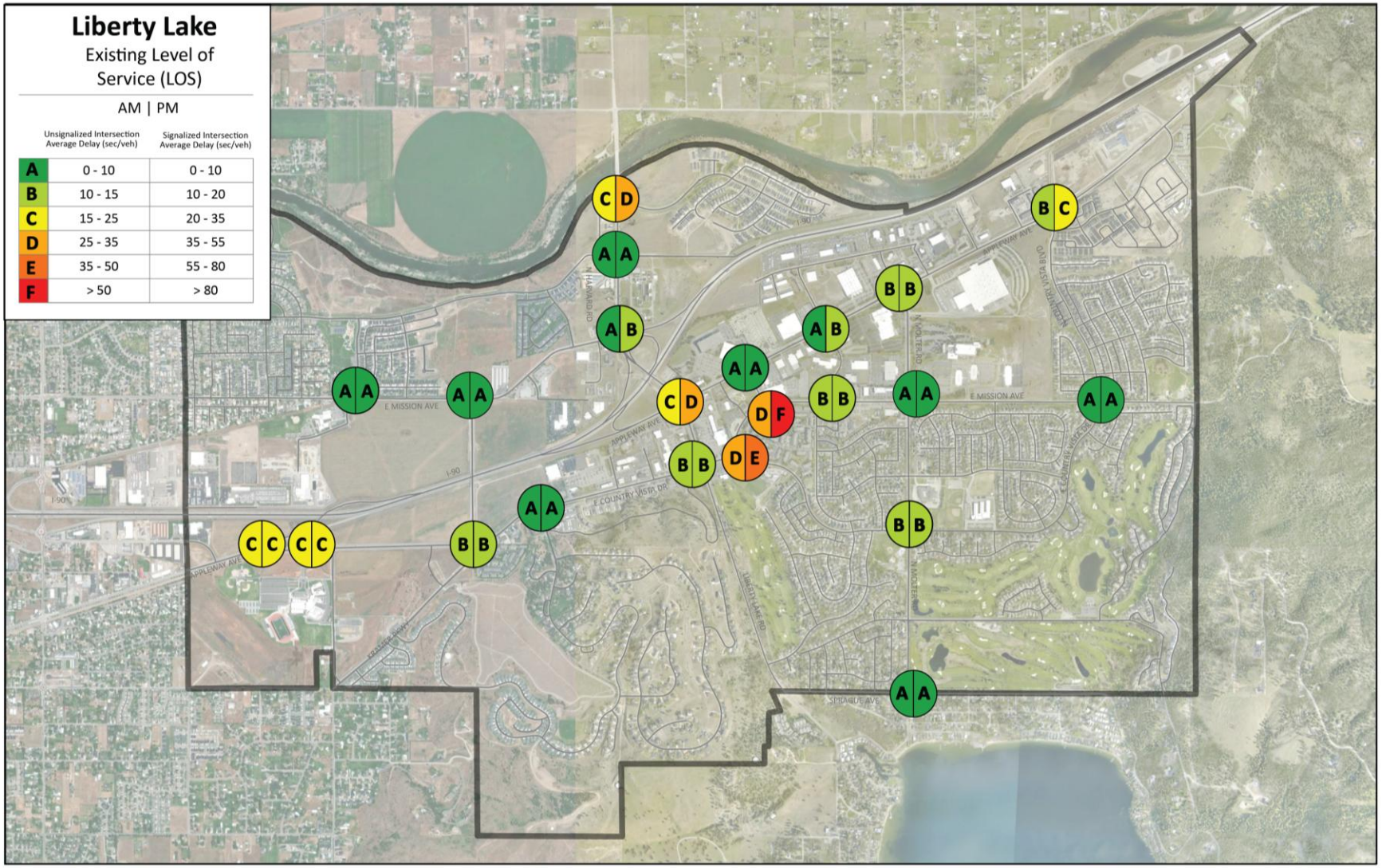


Figure 8 – Existing LOS (2025)

Table 7 – Existing 95th Percentile Queue Lengths (2025)

#	Intersection	Existing Intersection Control	95th Percentile Queues (feet)							
			AM				PM			
			NB	SB	EB	WB	NB	SB	EB	WB
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB	-	25	25	-	-	25	0	-
2	N Kramer Pkwy / E Country Vista Dr	Signal	175	125	100	200	150	50	200	150
3	N Legacy Ridge Drive / E Country Vista Dr	Signal	25	-	50	0	25	-	50	0
4	E Mission Ave / N Harvard Rd	Roundabout	75	150	75	50	150	150	150	150
5	N Harvard Rd / I-90 WB On Ramp	Free	-	-	-	-	-	-	-	-
6	N Liberty Lake Rd / Appleway Ave	Signal	150	200	200	200	275	300	275	375
7	N Liberty Lake Rd / E Country Vista Dr	Signal	50	125	100	125	50	150	150	175
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB	-	25	25	-	-	75	25	-
9	N Signal Dr / E Appleway Ave	Signal	100	-	100	25	50	-	50	25
10	N Madson St / E Appleway Ave	Signal	0	0	50	50	25	25	50	100
11	N Molter Rd / E Appleway Ave	Signal	25	0	50	50	50	25	75	50
12	N Molter Rd / E Mission Ave	Roundabout	25	25	25	25	25	25	50	50
13	E Mission Ave / N Harvest Pkwy	Roundabout	25	25	25	25	25	25	50	50
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB	25	-	-	0	25	-	-	0
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled	0	25	0	25	0	25	25	0
16	N Molter / E Country Vista Dr	All Way Stop-Controlled	25	25	50	25	25	25	50	0
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled	0	0	0	0	0	0	0	0
18	E Mission Ave / Kramer Pkwy	Roundabout	25	-	50	25	50	-	50	50
19	N Harvard Rd / E Indiana Ave	Signal	25	50	0	0	50	50	0	25
20	N Harvard Rd / E Wellington Pkwy	Stop-Controlled EB/WB	0	0	0	0	0	0	0	0
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB	25	50	0	0	0	150	0	0
22	E Mission Ave / N Madson St	Stop-Controlled SB	-	0	0	-	-	0	0	-
23	E Country Vista Dr / Ridgeline HS signal	Signal	200	-	200	150	25	-	250	125

5.3 Short-Term Analysis (2028)

Traffic volumes used in the short-term (2028) analysis can be found in **Figure 4**. Short-term (2028) AM and PM peak hour LOS and delay are shown **Table 8**. Short-term (2028) LOS is also shown spatially in **Figure 9**. Short-term (2028) 95th percentile queue lengths by approach (longest 95th percentile queue for each approach) are shown in **Table 9**. Analysis outputs are included in **Appendix E**.

All study intersections operate at LOS D or better in the AM peak hour except for the following:

- I-90 WB Off Ramp / E Country Vista Dr (intersection 1): the southbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave / E Country Vista Dr (intersection 8): the southbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

All study intersections operate at LOS D or better in the PM peak hour except for the following:

- N Liberty Lake Rd / Appleway Ave (intersection 6): the intersection operates at LOS E.
- N Liberty Lake Rd / E Country Vista Dr (intersection 7): the intersection operates at LOS E.
- E Mission Ave / E Country Vista Dr (intersection 8): the southbound stop-controlled left turn lane operates at LOS F.
- N Harvard Rd/E Wellington Pkwy (intersection 20): the westbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

Table 8 – Short-Term LOS (2028)

#	Intersection	Existing Intersection Control	LOS (Delay in sec/veh)	
			AM	PM
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB	**E (42)/SBL**	D (32)/SBL
2	N Kramer Pkwy / E Country Vista Dr	Signal	C (30)	C (30)
3	N Legacy Ridge Drive / E Country Vista Dr	Signal	B (11)	B (12)
4	E Mission Ave / N Harvard Rd	Roundabout	A (10)	B (16)
5	N Harvard Rd / I-90 WB On Ramp	Free	-	-
6	N Liberty Lake Rd / Appleway Ave	Signal	D (37)	**E (57)**
7	N Liberty Lake Rd / E Country Vista Dr	Signal	C (29)	**E (61)**
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB	**E (47)/SBL**	**F (>50)/SBL**
9	N Signal Dr / E Appleway Ave	Signal	B (10)	A (8)
10	N Madson St / E Appleway Ave	Signal	A (9)	B (11)
11	N Molter Rd / E Appleway Ave	Signal	B (13)	B (14)
12	N Molter Rd / E Mission Ave	Roundabout	A (7)	A (7)
13	E Mission Ave / N Harvest Pkwy	Roundabout	A (7)	A (6)
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB	C (16)/NBL	C (20)/NBL
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled	A (10)	B (10)
16	N Molter / E Country Vista Dr	All Way Stop-Controlled	B (13)	B (11)
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled	A (8)	A (8)
18	E Mission Ave / Kramer Pkwy	Roundabout	A (7)	A (7)
19	N Harvard Rd / E Indiana Ave	Signal	B (11)	B (11)
20	N Harvard Rd / E Wellington Pkwy	Stop-Controlled EB/WB	C (20)/EBL	**E (37)/WBL**
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB	**F (>50)/SB**	**F (>50)/SB**
22	E Mission Ave / N Madson St	Stop-Controlled SB	B (14)/SB	B (14)/SB
23	E Country Vista Dr / Ridgeline HS signal	Signal	C (33)	B (19)

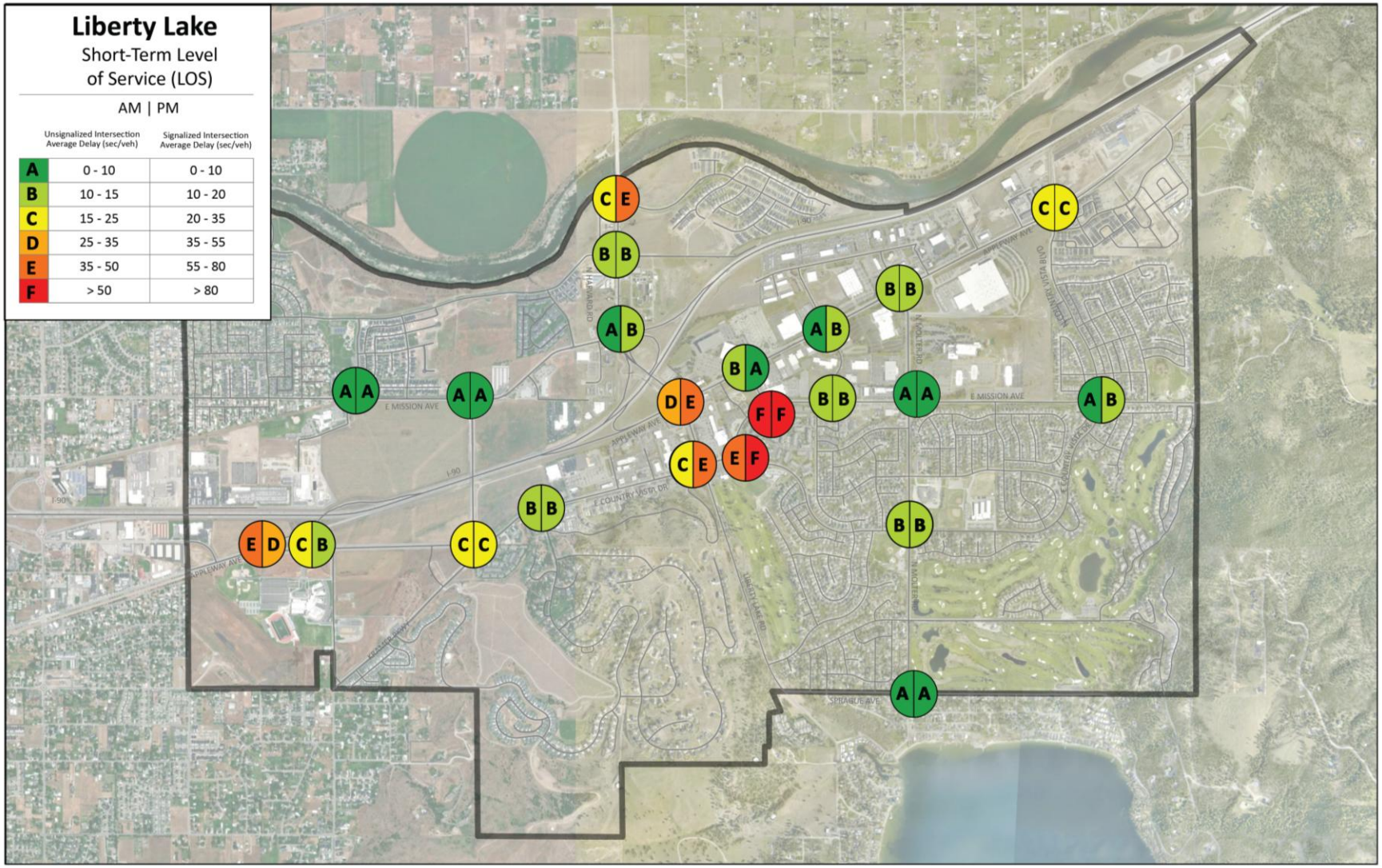


Figure 9 – Short-Term LOS (2028)

Table 9 – Short-Term 95th Percentile Queue Lengths (2028)

#	Intersection	Existing Intersection Control	95th Percentile Queues (feet)							
			AM				PM			
			NB	SB	EB	WB	NB	SB	EB	WB
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB	-	50	25	-	-	50	25	-
2	N Kramer Pkwy / E Country Vista Dr	Signal	300	200	225	375	250	100	350	230
3	N Legacy Ridge Drive / E Country Vista Dr	Signal	75	25	250	225	75	50	175	175
4	E Mission Ave / N Harvard Rd	Roundabout	75	200	150	75	200	250	300	300
5	N Harvard Rd / I-90 WB On Ramp	Free	-	-	-	-	-	-	-	-
6	N Liberty Lake Rd / Appleway Ave	Signal	250	350	275	275	400	475	450	575
7	N Liberty Lake Rd / E Country Vista Dr	Signal	100	350	300	275	125	700	775	525
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB	-	50	50	-	-	100	25	-
9	N Signal Dr / E Appleway Ave	Signal	125	-	150	25	75	-	75	50
10	N Madson St / E Appleway Ave	Signal	0	25	75	50	50	50	75	100
11	N Molter Rd / E Appleway Ave	Signal	25	0	75	50	50	25	100	75
12	N Molter Rd / E Mission Ave	Roundabout	50	25	50	75	50	50	75	75
13	E Mission Ave / N Harvest Pkwy	Roundabout	50	25	50	50	25	25	75	50
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB	50	-	-	0	50	-	-	0
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled	0	25	25	25	0	25	25	25
16	N Molter / E Country Vista Dr	All Way Stop-Controlled	25	25	75	25	25	25	50	25
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled	0	0	0	0	0	0	0	0
18	E Mission Ave / Kramer Pkwy	Roundabout	50	0	75	50	75	0	75	75
19	N Harvard Rd / E Indiana Ave	Signal	50	75	25	25	75	75	50	25
20	N Harvard Rd / E Wellington Pkwy	Stop-Controlled EB/WB	0	0	0	25	0	0	0	25
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB	25	100	0	0	25	275	0	0
22	E Mission Ave / N Madson St	Stop-Controlled SB	-	0	0	-	-	25	0	-
23	E Country Vista Dr / Ridgeline HS signal	Signal	200	-	300	250	50	-	375	175

5.4 Short-Term Mitigation Analysis (2028)

Intersections that operated below LOS D under short-term (2028) conditions were evaluated for mitigations. The following sections document the short-term (2028) mitigation analysis. Analysis outputs are included in Appendix F.

5.4.1 Intersection 1: I-90 WB Off Ramp / E Country Vista Dr

The I-90 WB Off Ramp / E Country Vista Dr intersection southbound stop-controlled left turn lane operates at LOS E in the AM peak hour in short-term (2028) conditions. This intersection is under the jurisdiction of WSDOT and is about 500 feet west of the E Country Vista Dr /Ridgeline HS signal intersection.

Parametrix analyzed a multi-lane roundabout and a signal at the intersection. Both are mitigation options at the intersection. The multi-lane roundabout alternative would operate at LOS A in both the AM and PM peak hour and the signal alternative would operate at LOS B in the AM and PM peak hours. However, because this is a WSDOT intersection, coordination with WSDOT will be needed in order to determine the preferred mitigation alternative.

5.4.2 Intersection 6: N Liberty Lake Rd / Appleway Ave

The N Liberty Lake Rd / Appleway Ave intersection operates at LOS E in the PM peak hour. With the added development volumes under short-term (2028) conditions, the westbound right turn volume at the intersection approaches 800 vehicles in the PM peak hour. There are currently dual westbound right turn lanes at the intersection with protected right turn phasing.

Implementing an overlap phase for the westbound right turn would allow the westbound right turning vehicles to have a green arrow during the protected southbound left turn phase. This would provide the westbound right turning vehicles additional green time during the signal cycle to turn right and would decrease delay and queuing at the intersection. With a westbound right turn overlap phase, the intersection operates at LOS C (32 sec/veh) in the AM peak hour and LOS D (45 sec/veh) in the PM peak hour.

5.4.3 Intersection 7: N Liberty Lake Rd / E Country Vista Dr

The N Liberty Lake Rd / E Country Vista Dr intersection operates at LOS E in the PM peak hour. With the added development volumes under short-term (2028) conditions, the eastbound left turn volume at the intersection approaches 500 vehicles in the PM peak hour. Currently there is a single eastbound left turn lane.

Constructing an additional eastbound left-turn lane allows the intersection to operate at LOS C (25 sec/veh) in the AM peak hour and LOS D (45 sec/veh) in the PM peak hour.

5.4.4 Intersection 8: E Mission Ave / E Country Vista Dr

The E Mission Ave / E Country Vista Dr intersection southbound stop-controlled left-turn lane operates at LOS F in both the AM and the PM peak hour. All other movements operate at acceptable levels.

There are minimal southbound left turning vehicles (5 in the AM peak hour and 10 in the PM peak hour) and minimal southbound left turn queuing. However, due to conflicting turning movements, finding a gap in traffic is difficult for southbound left turners. Signage could be installed to instruct

motorists to not take a southbound left turn during peak hours. With restricted southbound left turns during peak hours the worst movement at the intersection is the southbound right turning movement which operates at LOS B (12 sec/veh) in the AM peak hour and LOS C (16 sec/veh) in the PM peak hour.

5.4.5 Intersection 20: N Harvard Rd/E Wellington Pkwy

The N Harvard Rd/E Wellington Pkwy intersection westbound stop-controlled left turn lane operates at LOS E in the PM peak hour. Based on discussions with Liberty Lake staff, planned improvements at this intersection include a multi-lane roundabout with two approach lanes north and south and one approach lane east and west or a signal. The improvement is developer driven.

With the multi-lane roundabout the intersection operates at LOS A (4 sec/veh) in the AM peak hour and LOS A (3 sec/veh) in the PM peak hour. With a signal the intersection operates at LOS A (6 sec/veh) in the AM peak hour and LOS A (6 sec/veh) in the PM peak hour.

5.4.6 Intersection 21: E Mission Ave/N Signal Dr

The E Mission Ave/N Signal Dr intersection southbound approach operates at LOS F in both the AM and PM peak hour. This poor LOS is due to southbound volume (left turners in particular) having a hard time finding gaps due to conflicting turning movements.

Several alternatives were evaluated that addressed LOS concerns including restricting southbound left and through movements, signalization, and the construction of a roundabout. However, the northwest corner of the intersection is the planned development site for a new library. In coordination with Liberty Lake staff, it was determined that the alternative evaluation for this intersection would coincide with the development of the library and that the preferred mitigation for this analysis would be no-build.

5.4.7 Short-Term (2028) Preferred Mitigation Summary

The preferred short-term (2028) mitigations are shown in **Table 10**. LOS for the short-term (2028) mitigated conditions is shown in **Figure 10**.

Table 10 – Preferred Short-Term (2028) Mitigations

#	Intersection	Preferred Short-Term (2028) Mitigations	LOS (Delay in sec/veh)	
			AM	PM
1	I-90 WB Off Ramp / E Country Vista Dr	Multi-Lane Roundabout	A (6)	A (6)
		Signal	15 (B)	19 (B)
6	N Liberty Lake Rd / Appleway Ave	WBR Overlap Phase	C (32)	D (45)
7	N Liberty Lake Rd / E Country Vista Dr	Dual EBL Turn Lanes	C (25)	D (45)
8	E Mission Ave / E Country Vista Dr	Restrict SBL Turns	B (12)/SBR	C (16)/SBR
20	N Harvard Rd / E Wellington Pkwy	Developer Driven Multi-Lane Roundabout	A (4)	A (3)
		Developer Driven Signal	A (6)	A (6)
21	E Mission Ave / N Signal Dr	No-Build	F (>50)/SB	F (>50)/SB

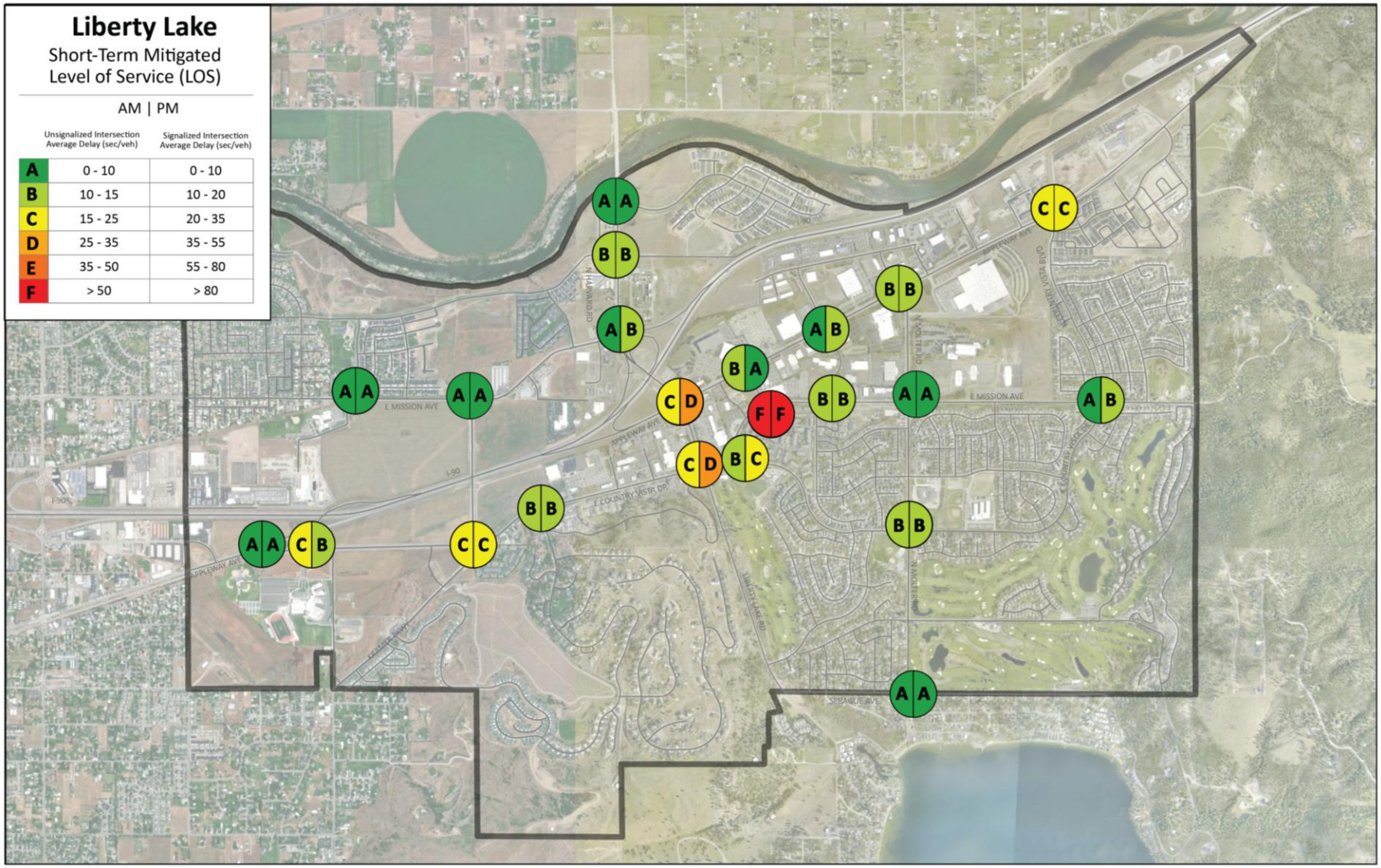


Figure 10 – Short-Term Mitigated LOS (2028)

5.5 Long-Term Analysis (2046)

The long-term (2046) analysis assumes the construction of the short-term (2028) preferred mitigations shown in **Table 10**. Traffic volumes used in the long-term (2046) analysis can be found in **Figure 7**. Long-term (2046) AM and PM peak hour LOS and delay are shown **Table 11**. Long-term (2046) LOS is also shown spatially in **Figure 11**. Long-term (2046) 95th percentile queue lengths by approach (longest 95th percentile queue for each approach) are shown in **Table 12**. Analysis outputs are included in **Appendix G**.

All study intersections operate at LOS D or better in the AM peak hour except for the following:

- E Mission Ave / N Harvard Rd (intersection 4): the intersection has a V/C ratio greater than 0.9.
- N Kramer Pkwy / E Country Vista Dr (intersection 2): the intersection operates at LOS E.
- N Country Vista Blvd / E Appleway Ave (intersection 14): the northbound stop-controlled left turn lane operates at LOS E.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

All study intersections operate at LOS D or better in the PM peak hour except for the following:

- E Mission Ave / N Harvard Rd (intersection 4): the intersection operates at LOS E and has a V/C ratio greater than 0.9.
- N Liberty Lake Rd / Appleway Ave (intersection 6): the intersection operates at LOS E.
- N Liberty Lake Rd / E Country Vista Dr (intersection 7): the intersection operates at LOS E.
- N Country Vista Blvd / E Appleway Ave (intersection 14): the northbound stop-controlled left turn lane operates at LOS F.
- E Mission Ave/N Signal Dr (intersection 21): the southbound stop-controlled approach operates at LOS F.

Table 11 – Long-Term LOS (2046)

#	Intersection	Short-Term Mitigated Intersection Control	LOS (Delay in sec/veh)	
			AM	PM
1	I-90 WB Off Ramp / E Country Vista Dr	Roundabout	A (8)	A (7)
2	N Kramer Pkwy / E Country Vista Dr	Signal	**E (64)**	D (51)
3	N Legacy Ridge Drive / E Country Vista Dr	Signal	B (13)	B (15)
4	E Mission Ave / N Harvard Rd	Roundabout	C (23)*	**E (58)***
5	N Harvard Rd / I-90 WB On Ramp	Free	-	-
6	N Liberty Lake Rd / Appleway Ave	Signal	D (41)	**E (72)**
7	N Liberty Lake Rd / E Country Vista Dr	Signal	D (42)	**E (68)**
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB	B (13)/SBR	C (18)/SBR
9	N Signal Dr / E Appleway Ave	Signal	B (13)	A (9)
10	N Madson St / E Appleway Ave	Signal	A (10)	B (13)
11	N Molter Rd / E Appleway Ave	Signal	B (15)	C (27)
12	N Molter Rd / E Mission Ave	Roundabout	A (7)	A (7)
13	E Mission Ave / N Harvest Pkwy	Roundabout	A (8)	A (8)
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB	**E (38)/NBL**	**F (>50)/NBL**
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled	B (10)	B (11)
16	N Molter / E Country Vista Dr	All Way Stop-Controlled	C (17)	C (16)
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled	A (8)	A (8)
18	E Mission Ave / Kramer Pkwy	Roundabout	A (7)	A (9)
19	N Harvard Rd / E Indiana Ave	Signal	B (12)	B (12)
20	N Harvard Rd / E Wellington Pkwy	Roundabout	A (4)	A (4)
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB	**F (>50)/SB**	**F (>50)/SB**
22	E Mission Ave / N Madson St	Stop-Controlled SB	B (14)/SB	B (15)/SB
23	E Country Vista Dr / Ridgeline HS signal	Signal	D (40)	C (23)

*Roundabout V/C ratio above 0.9.

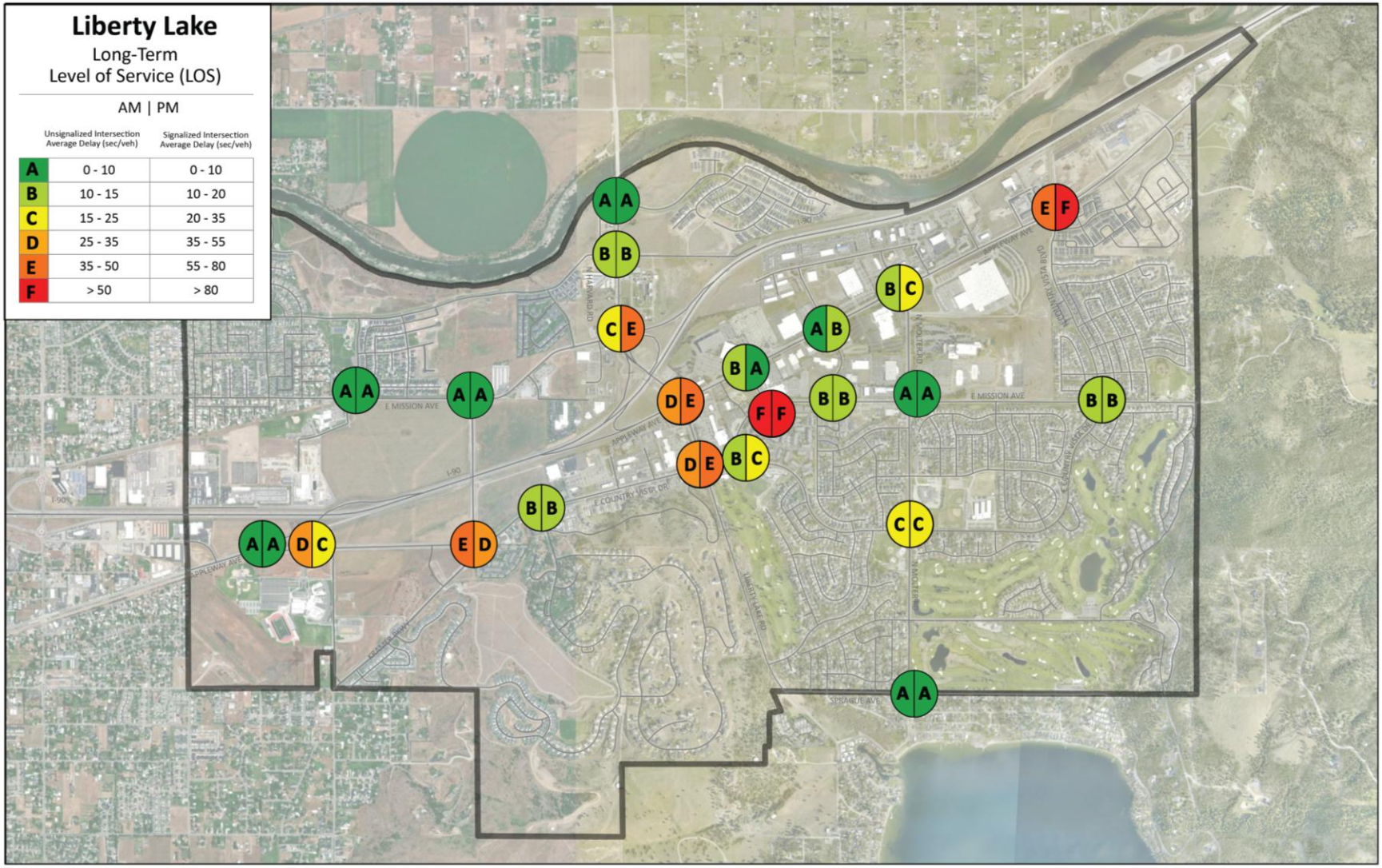


Figure 11 – Long-Term LOS (2046)

Table 12 – Long-Term 95th Percentile Queue Lengths (2046)

#	Intersection	Short-Term Mitigated Intersection Control	95th Percentile Queues (feet)							
			AM				PM			
			NB	SB	EB	WB	NB	SB	EB	WB
1	I-90 WB Off Ramp / E Country Vista Dr	Stop-Controlled SB	-	75	125	150	-	100	125	75
2	N Kramer Pkwy / E Country Vista Dr	Signal	375	275	450	850	300	300	575	450
3	N Legacy Ridge Drive / E Country Vista Dr	Signal	125	25	175	200	100	50	300	275
4	E Mission Ave / N Harvard Rd	Roundabout	100	800	250	125	250	1125	750	1200
5	N Harvard Rd / I-90 WB On Ramp	Free	-	-	-	-	-	-	-	-
6	N Liberty Lake Rd / Appleway Ave	Signal	275	450	350	275	575	775	525	750
7	N Liberty Lake Rd / E Country Vista Dr	Signal	150	550	250	450	125	800	525	675
8	E Mission Ave / E Country Vista Dr	Stop-Controlled SB	-	50	50	-	-	150	50	-
9	N Signal Dr / E Appleway Ave	Signal	125	-	225	50	100	-	150	50
10	N Madson St / E Appleway Ave	Signal	25	25	100	75	50	50	175	150
11	N Molter Rd / E Appleway Ave	Signal	75	0	125	100	125	50	375	125
12	N Molter Rd / E Mission Ave	Roundabout	70	50	50	75	50	50	75	75
13	E Mission Ave / N Harvest Pkwy	Roundabout	50	25	75	75	75	50	75	100
14	N Country Vista Blvd / E Appleway Ave	Stop-Controlled NB	100	-	-	0	125	-	-	25
15	E Mission Ave / N Country Vista Blvd	All Way Stop-Controlled	0	50	25	25	25	50	50	25
16	N Molter / E Country Vista Dr	All Way Stop-Controlled	50	50	150	50	25	50	150	25
17	E Sprague Ave / N Molter Rd	All Way Stop-Controlled	0	0	0	25	0	25	25	25
18	E Mission Ave / Kramer Pkwy	Roundabout	50	0	75	50	100	25	175	125
19	N Harvard Rd / E Indiana Ave	Signal	50	125	50	50	125	125	75	25
20	N Harvard Rd / E Wellington Pkwy	Roundabout	25	50	0	0	50	50	0	0
21	E Mission Ave / N Signal Dr	Stop-Controlled NB/SB	50	200	0	0	25	500	0	0
22	E Mission Ave / N Madson St	Stop-Controlled SB	-	0	0	-	-	25	0	-
23	E Country Vista Dr / Ridgeline HS signal	Signal	225	-	375	250	75	-	525	200

5.6 Long-Term Mitigation Analysis (2046)

Intersections that operated below LOS D under long-term (2046) conditions were evaluated for mitigations. The following sections document the long-term (2046) mitigation analysis. Analysis outputs are included in Appendix H.

5.6.1 Intersection 2: N Kramer Pkwy / E Country Vista Dr

The N Kramer Pkwy / E Country Vista Dr intersection operates at LOS E in the AM peak hour. As traffic volumes increase at the intersection in long-term (2046) conditions, the existing cycle length of 90 seconds is too low.

Increasing the cycle length at the signal to 120 seconds, which matches many other signals in the city, in conjunction with adjusting phase splits will allow the signal operations to improve in the future. With the increased cycle length and optimized phase splits, the signalized intersection operates at LOS D (41 sec/veh) in the AM peak hour and LOS D (45 sec/veh) in the PM peak hour.

5.6.2 Intersection 4: E Mission Ave / N Harvard Rd

The E Mission Ave / N Harvard Rd roundabout operates at LOS E in the PM peak hour and experiences extensive queuing in both the AM and PM peak hours. The intersection V/C ratio is above 0.9 in both the AM and PM peak hours. The three worst performing approaches are the southbound, the eastbound, and the westbound approaches.

N Harvard Rd has a five-lane cross-section north of the roundabout. E Mission Ave also has a five-lane cross section west of the intersection. Expanding the roundabout to include two lanes approaching and two lanes exiting the roundabout on the southbound and eastbound approaches, a second exit lane on the northbound approach, and expanding the I-90 westbound approach to be two lanes would address the operation deficiencies at the roundabout. Also, based on the dimensions of the roundabout it appears that the roundabout was originally constructed with space to be converted to a multi-lane roundabout.

The expanded roundabout operates at LOS A (8 sec/veh) in the AM peak hour and LOS B (11 sec/veh) in the PM peak hour.

5.6.3 Intersection 6: N Liberty Lake Rd / Appleway Ave

The N Liberty Lake Rd / Appleway Ave intersection operates at LOS E in the PM peak hour. In long-term (2046) conditions both the southbound left turn and westbound left turn volumes approach 350 vehicles in the PM peak hour. A single left turn lane on both the southbound and westbound approaches is no longer sufficient for traffic volumes.

With the addition of a second southbound left turn lane and a second westbound left turn lane the intersection operates at LOS C (29 sec/veh) in the AM peak hour and LOS D (43 sec/veh) in the PM peak hour.

5.6.4 Intersection 7: N Liberty Lake Rd / E Country Vista Dr

The N Liberty Lake Rd / E Country Vista Dr intersection operates at LOS E in the PM peak hour. Southbound right turning volumes exceed 450 vehicles in the AM peak hour and approach 550 vehicles in the PM peak hour leading to poor LOS and extensive queuing.

The southbound approach of the intersection currently has a left turn lane and two through lanes, the outer through lane being a shared right turn lane. With the high long-term (2046) southbound right turning volumes the intersection needs a dedicated southbound right turn lane. This could be accomplished by either constructing a southbound right turn lane or by converting one of the two southbound through lanes into a southbound right turn lane. Converting a southbound through lane into a southbound right turn lane works because of the relatively low southbound through volume.

In addition to a dedicated southbound right turn lane, the implementation of a southbound right turn overlap phase would allow the southbound right turning vehicles to get a green arrow during the eastbound left turn phase. The eastbound left turning movement and the southbound right turning movement are the highest volume turning movements at the intersection in long-term (2046) conditions.

With the implementation of a dedicated southbound right turn lane and southbound overlap right turn phasing, the intersection operates at LOS C (29 sec/veh) in the AM peak hour and LOS D (43 sec/veh) in the PM peak hour.

5.6.5 Intersection 14: N Country Vista Blvd / E Appleway Ave

The N Country Vista Blvd / E Appleway Ave intersection northbound left turn lane operates at LOS E in the AM peak hour and LOS F in the PM peak hour. As volumes grow in long-term (2046) conditions, gaps for northbound left turning vehicles become more difficult to find and stop-control no longer operates at an acceptable LOS.

Both a single lane roundabout and a signal were considered as mitigation options for this intersection, however, only the signal operated with an acceptable LOS. The signal would include an eastbound right turn lane, a westbound left-turn lane, and separate northbound right and left turn lanes. A signal at the intersection operates at LOS A (8 sec/veh) in the AM peak hour and LOS B (13 sec/veh) in the PM peak hour

5.6.6 Intersection 21: E Mission Ave/N Signal Dr

The E Mission Ave/N Signal Dr intersection southbound approach operates at LOS F in both the AM and PM peak hour. This poor LOS is due to southbound volume (left turners in particular) having a hard time finding gaps due to conflicting turning movements.

Several alternatives were evaluated that addressed LOS concerns including signalization and the construction of a roundabout. However, the northwest corner of the intersection is the planned development site for a new library. In coordination with Liberty Lake staff, it was determined that the alternative evaluation for this intersection would coincide with the development of the library.

5.6.7 Long-Term (2046) Preferred Mitigation Summary

The preferred long-term (2046) mitigations are shown in **Table 13**. LOS for the long-term (2046) mitigated conditions is shown in **Figure 12**.

Table 13 – Preferred Long-Term (2046) Mitigations

#	Intersection	Preferred Long-Term (2046) Mitigations	LOS (Delay in sec/veh)	
			AM	PM
2	N Kramer Pkwy / E Country Vista Dr	Increase Cycle Length and Adjust Signal Timings	D (41)	D (45)
4	E Mission Ave / N Harvard Rd	Expand Roundabout: Two-Lane SB & EB Approaches /Exits, Two Lane WB Approach, and Two Exit Lanes on NB Approach	A (8)	B (11)
6	N Liberty Lake Rd / Appleway Ave	Dual SBL and Dual WBL Turn Lanes	C (29)	D (43)
7	N Liberty Lake Rd / E Country Vista Dr	Separate SBR Turn Lane and SBR Overlap Phase	C (29)	D (43)
14	N Country Vista Blvd / E Appleway Ave	Signalize Intersection	A (8)	B (13)
21	E Mission Ave / N Signal Dr	Roundabout	A (4)	A (5)
		Signal	A (7)	A (8)

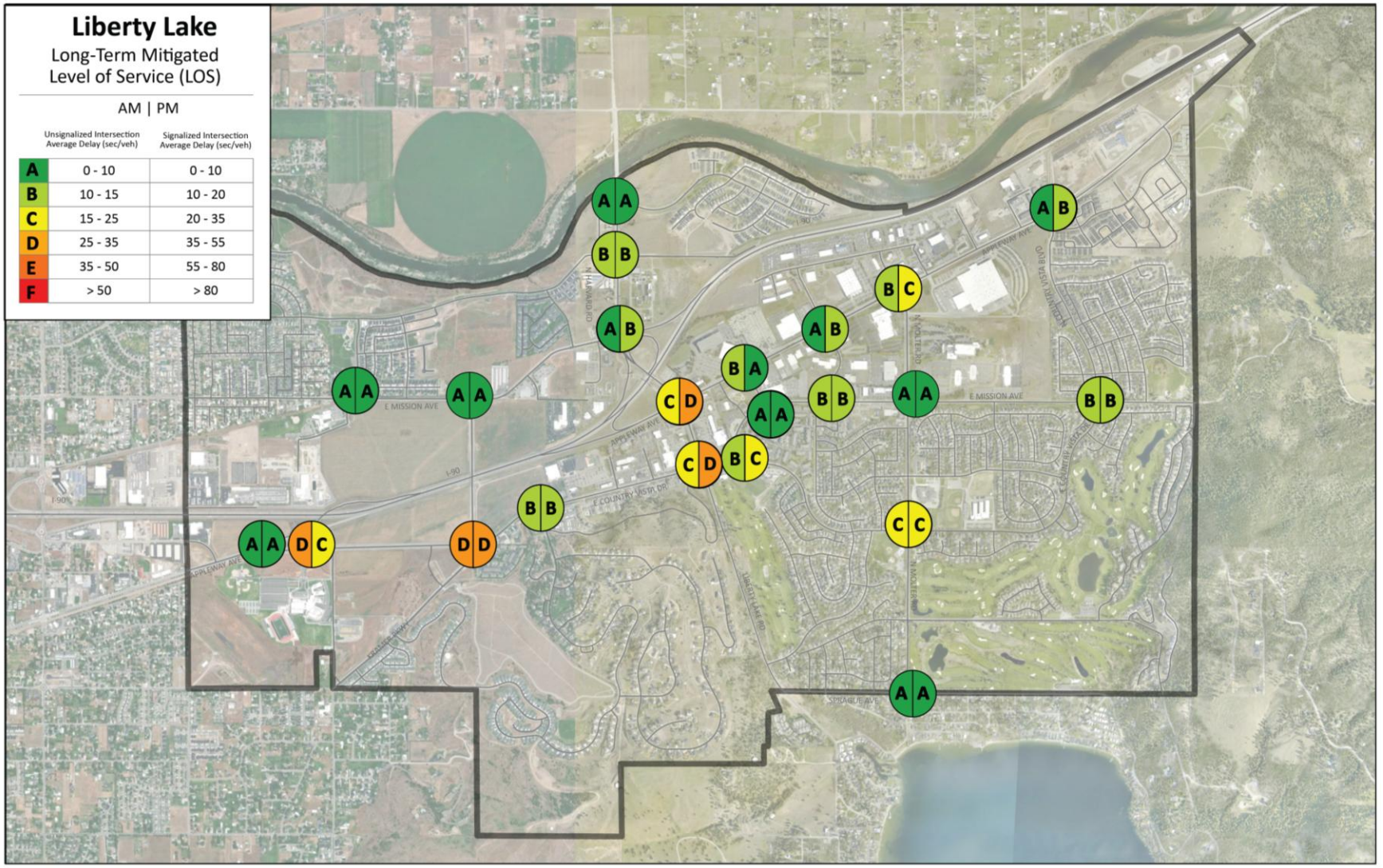


Figure 12 – Long-Term Mitigated LOS (2046)

6. Conclusion

The City of Liberty Lake has been proactive in developing projects to address traffic issues and provide a complete transportation network within the city. Many of the intersections within Liberty Lake remain at acceptable conditions through 2046. In coordination with city staff, Parametrix developed mitigations for several intersections over both the short-term and over the long-term.

In addition to intersections identified for mitigation in Liberty Lake, coordination with WSDOT identified intersections in neighboring jurisdictions with known traffic issues. These locations include the Appleway Avenue / Spokane Bridge Road intersection and the I-90 / Spokane Bridge Road interchange to the east of Liberty Lake in Spokane County, as well as the I-90 / Barker Road interchange to the west of Liberty Lake in the City of Spokane Valley. As needed, the City of Liberty Lake will coordinate with Spokane County and the City of Spokane Valley to share available data to support their analyses of these roadway facilities.

Table 14 provides a summary of mitigations for short-term (2028) and long-term (2046) conditions. Cost estimates for mitigation measures are included in **Appendix I**.

Table 14 – Mitigation Summary

Time Frame	#	Intersection	Mitigation
Short-Term (2028)	1	I-90 WB Off Ramp / E Country Vista Dr	Multi-lane roundabout or signal*
	6	N Liberty Lake Rd / Appleway Ave	WBR Overlap Phase
	7	N Liberty Lake Rd / E Country Vista Dr	Dual EBL Turn Lanes
	8	E Mission Ave / E Country Vista Dr	Restrict SBL Turns
	20	N Harvard Rd / E Wellington Pkwy	Developer Driven Multi-Lane Roundabout or Signal
	21	E Mission Ave / N Signal Dr	No-Build**
Long-Term (2046)	2	N Kramer Pkwy / E Country Vista Dr	Increase Cycle Length and Adjust Signal Timings
	4	E Mission Ave / N Harvard Rd	Expand Roundabout: Two-Lane SB & EB Approaches /Exits, Two Lane WB Approach, and Two Exit Lanes on NB Approach
	6	N Liberty Lake Rd / Appleway Ave	Dual SBL and Dual WBL Turn Lanes
	7	N Liberty Lake Rd / E Country Vista Dr	Separate SBR Turn Lane and SBR Overlap Phase
	14	N Country Vista Blvd / E Appleway Ave	Signalize Intersection
	21	E Mission Ave / N Signal Dr	Roundabout or signal**

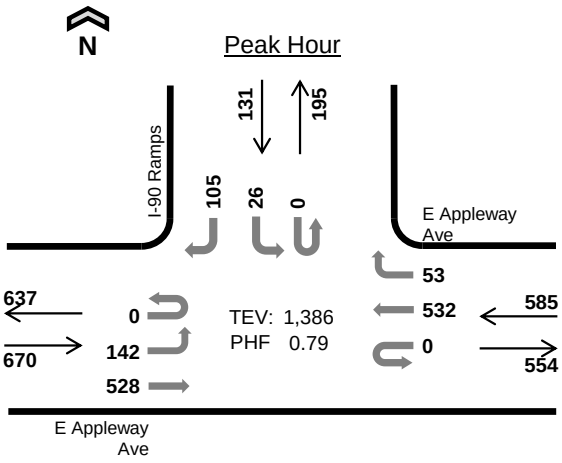
*To be determined in coordination with WSDOT

**To be determined in conjunction with library development

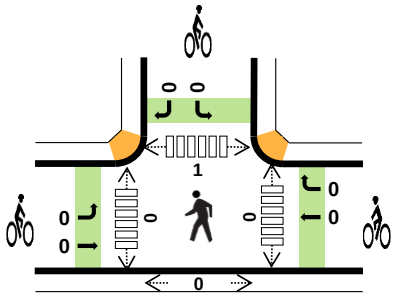
Appendix A

Traffic Data

I-90 Ramps
E Appleway Ave



Date: 05/08/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	4.9%	0.78
WB	5.6%	0.77
NB	-	-
SB	2.3%	0.94
TOTAL	5.0%	0.79

Two-Hour Count Summaries

Interval Start		E Appleway Ave Eastbound				E Appleway Ave Westbound				0 Northbound				I-90 Ramps Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**37**	**104**	**0**	**0**	**0**	**87**	**7**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**23**	**264**	0
7:15 AM		**0**	**31**	**132**	**0**	**0**	**0**	**125**	**17**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**27**	**340**	0
7:30 AM		**0**	**43**	**172**	**0**	**0**	**0**	**173**	**16**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**26**	**437**	0
7:45 AM		**0**	**31**	**120**	**0**	**0**	**0**	**147**	**13**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**29**	**345**	**1,386**
8:00 AM		0	29	108	0	0	0	77	8	0	0	0	0	0	4	0	27	253	1,375
8:15 AM		0	28	82	0	1	0	83	4	0	0	0	0	0	0	0	24	222	1,257
8:30 AM		0	32	110	0	0	0	96	6	0	0	0	0	0	6	0	36	286	1,106
8:45 AM		0	29	82	0	0	0	99	15	0	0	0	0	0	3	0	33	261	1,022
Count Total		0	260	910	0	1	0	887	86	0	0	0	0	0	39	0	225	2,408	0
Peak Hour	**All**	**0**	**142**	**528**	**0**	**0**	**0**	**532**	**53**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**105**	**1,386**	**0**
	HV	**0**	**8**	**25**	**0**	**0**	**0**	**32**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**69**	**0**
	HV%	**-**	**6%**	**5%**	**-**	**-**	**-**	**6%**	**2%**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**3%**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	**10**	**4**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**4**	**11**	**0**	**2**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**9**	**9**	**0**	**0**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**10**	**9**	**0**	**1**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	7	5	0	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	7	5	0	1	*13*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	5	2	0	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	9	3	0	1	*13*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	61	48	0	8	*117*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hr	**33**	**33**	**0**	**3**	***69***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Appleway Ave				E Appleway Ave				0				I-90 Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**2**	**8**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	0
7:15 AM	**0**	**0**	**4**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**17**	0
7:30 AM	**0**	**2**	**7**	**0**	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	0
7:45 AM	**0**	**4**	**6**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**20**	**69**
8:00 AM	0	0	7	0	0	0	5	0	0	0	0	0	0	0	0	0	12	67
8:15 AM	0	3	4	0	0	0	5	0	0	0	0	0	0	0	0	1	13	63
8:30 AM	0	2	3	0	0	0	2	0	0	0	0	0	0	0	0	3	10	55
8:45 AM	0	3	6	0	0	0	3	0	0	0	0	0	0	0	0	1	13	48
Count Total	0	16	45	0	0	0	47	1	0	0	0	0	0	0	0	8	117	0
Peak Hour	**0**	**8**	**25**	**0**	**0**	**0**	**32**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**69**	**0**

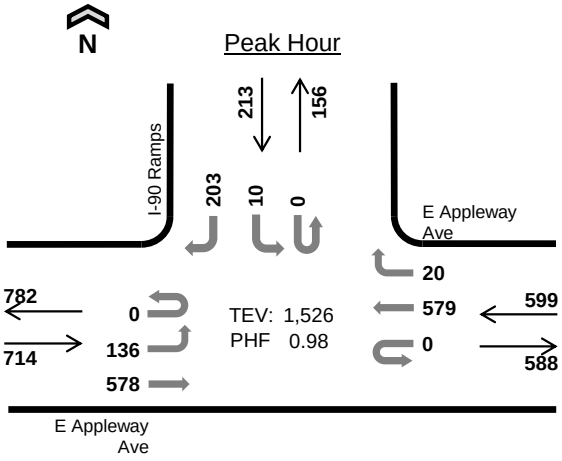
Two-Hour Count Summaries - Bikes

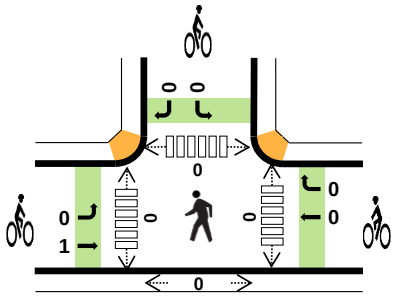
Interval Start	E Appleway Ave			E Appleway Ave			0			I-90 Ramps			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

I-90 Ramps
E Appleway Ave

Date: 05/08/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	4.5%	0.96
WB	2.3%	0.90
NB	-	-
SB	1.9%	0.87
TOTAL	3.3%	0.98

Two-Hour Count Summaries

Interval Start		E Appleway Ave Eastbound				E Appleway Ave Westbound				0 Northbound				I-90 Ramps Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**33**	**152**	**0**	**0**	**0**	**141**	**3**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**42**	**375**	0
4:15 PM		**0**	**38**	**134**	**0**	**0**	**0**	**139**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**56**	**374**	0
4:30 PM		**0**	**39**	**137**	**0**	**0**	**0**	**161**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**388**	0
4:45 PM		**0**	**26**	**155**	**0**	**0**	**0**	**138**	**9**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**60**	**389**	**1,526**
5:00 PM		0	37	129	0	0	0	145	8	0	0	0	0	0	2	0	52	373	1,524
5:15 PM		0	28	141	0	0	0	113	7	0	0	0	0	0	1	0	54	344	1,494
5:30 PM		0	23	155	0	0	0	152	1	0	0	0	0	0	1	0	57	389	1,495
5:45 PM		0	24	114	0	0	0	124	8	0	0	0	0	0	4	0	49	323	1,429
Count Total		0	248	1,117	0	0	0	1,113	44	0	0	0	0	0	18	0	415	2,955	0
Peak Hour	**All**	**0**	**136**	**578**	**0**	**0**	**0**	**579**	**20**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**203**	**1,526**	**0**
	HV	**0**	**4**	**28**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**50**	**0**
	HV%	**-**	**3%**	**5%**	**-**	**-**	**-**	**2%**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**2%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	**21**	**2**	**0**	**2**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**6**	**5**	**0**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**2**	**4**	**0**	**1**	***7***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**3**	**3**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	4	1	0	1	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	2	1	0	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	2	0	2	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	41	19	0	8	*68*	1	0	0	0	*1*	0	0	0	0	*0*
Peak Hr	**32**	**14**	**0**	**4**	***50***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Appleway Ave				E Appleway Ave				0				I-90 Ramps				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**3**	**18**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**25**	0
4:15 PM	**0**	**1**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**12**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**50**
5:00 PM	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	1	6	31
5:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	4	23
5:30 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	2	6	22
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	18
Count Total	0	6	35	0	0	0	19	0	0	0	0	0	0	0	0	8	68	0
Peak Hour	**0**	**4**	**28**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**50**	**0**

Two-Hour Count Summaries - Bikes

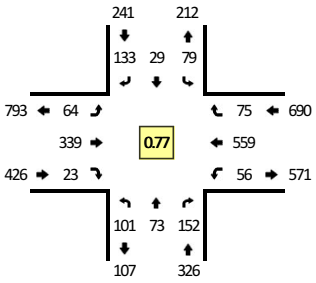
Interval Start	E Appleway Ave			E Appleway Ave			0			I-90 Ramps			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

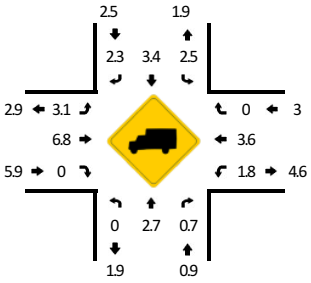
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

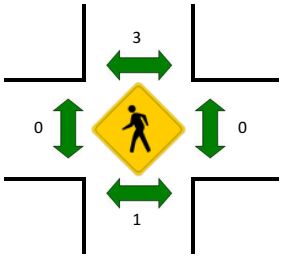
LOCATION: 2. N Kramer Pkwy -- E Country Vista Dr | **QC JOB #:** 16908503
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

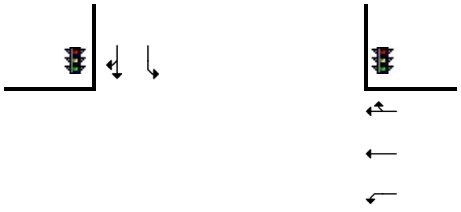
Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

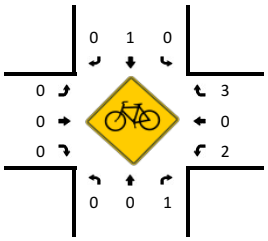


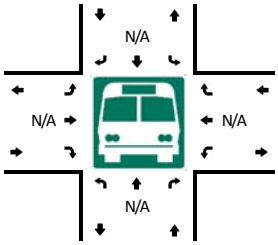
TRUE DATA TO IMPROVE MOBILITY

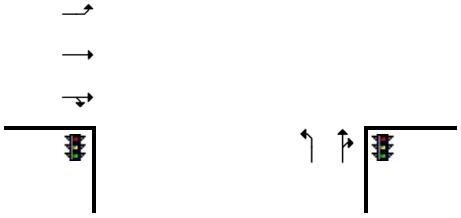


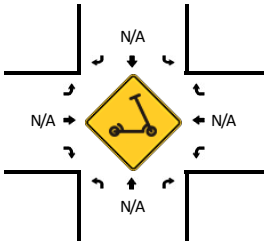












5-Min Count Period Beginning At	2. N Kramer Pkwy (Northbound)				2. N Kramer Pkwy (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	4	4	0	4	0	7	0	0	18	0	0	2	25	5	0	72	
7:05 AM	8	4	10	0	3	2	8	0	3	16	2	0	3	26	4	0	89	
7:10 AM	5	3	7	0	2	2	10	0	6	21	1	0	2	54	6	0	119	
7:15 AM	7	4	10	0	5	2	12	0	2	19	1	0	3	48	3	0	116	
7:20 AM	13	4	6	0	3	0	18	0	6	23	1	0	2	37	3	0	116	
7:25 AM	18	8	7	0	2	0	14	0	3	29	6	0	3	71	3	0	164	
7:30 AM	20	6	18	0	4	4	21	0	6	31	5	0	3	69	3	0	190	
7:35 AM	14	9	13	0	3	3	21	0	9	24	4	0	8	74	7	0	189	
7:40 AM	6	8	12	0	7	2	11	0	8	31	2	0	9	53	10	0	159	
7:45 AM	11	5	11	0	12	0	8	0	8	28	2	0	5	39	1	1	131	
7:50 AM	2	5	19	0	11	2	3	0	0	29	0	0	3	26	17	0	117	
7:55 AM	3	8	12	0	13	2	6	0	7	32	0	0	4	37	11	0	135	1597
8:00 AM	2	6	18	0	5	6	8	0	6	42	1	0	7	23	7	0	131	1656
8:05 AM	0	7	19	0	12	6	1	0	3	30	0	0	6	28	4	0	116	1683
8:10 AM	4	2	14	0	5	0	1	0	0	28	2	0	5	37	2	0	100	1664
8:15 AM	2	3	24	0	7	1	1	0	1	28	0	0	5	29	4	0	105	1653
8:20 AM	1	3	16	0	6	3	0	0	5	18	1	0	3	27	3	0	86	1623
8:25 AM	3	7	12	0	3	4	2	0	5	22	0	0	6	41	6	0	111	1570
8:30 AM	1	4	4	0	2	3	2	0	5	23	1	0	5	30	3	0	83	1463
8:35 AM	4	3	17	0	8	1	1	0	2	22	2	0	14	40	1	0	115	1389
8:40 AM	10	4	27	0	6	3	5	0	1	22	1	0	7	44	6	0	136	1366
8:45 AM	3	7	20	0	7	2	4	0	4	25	2	0	7	32	6	0	119	1354
8:50 AM	3	1	19	0	5	4	2	0	2	26	1	0	11	34	5	0	113	1350
8:55 AM	0	2	13	0	7	2	4	0	4	33	0	0	9	40	7	0	121	1336

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	208	92	152	0	36	28	224	0	72	336	60	0	56	856	52	0	2172
Heavy Trucks	0	0	4		0	4	0		0	16	0		0	24	0		48
Buses																	
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	4	0		0	0	0		8	0	0		12
Scooters																	

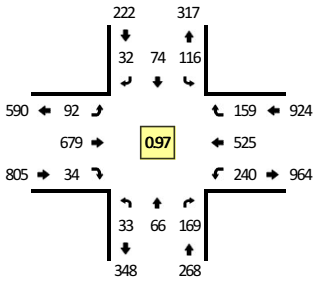
Comments:

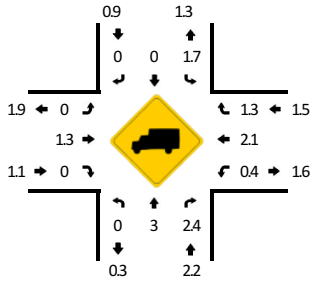
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

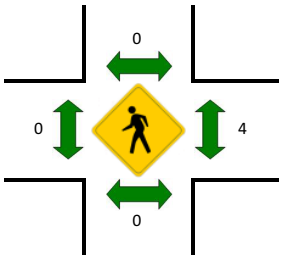
LOCATION: 2. N Kramer Pkwy -- E Country Vista Dr | **QC JOB #:** 16908504
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

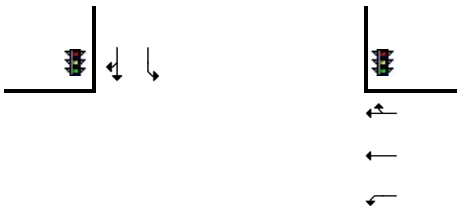
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

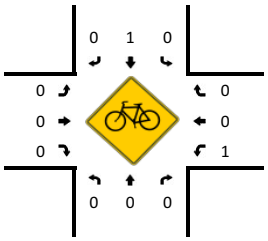


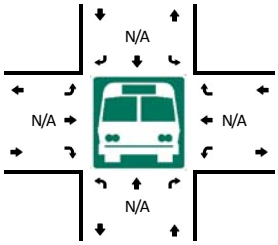


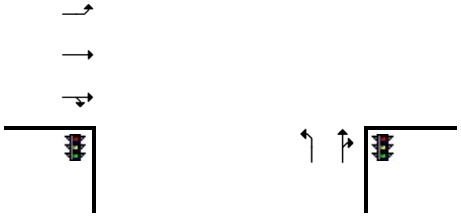
TRUE DATA TO IMPROVE MOBILITY

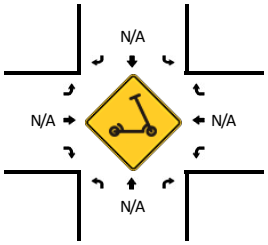












5-Min Count Period Beginning At	2. N Kramer Pkwy (Northbound)				2. N Kramer Pkwy (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	3	22	0	8	7	4	0	2	40	1	0	21	38	7	0	158	
4:05 PM	2	2	14	0	4	3	7	0	6	48	3	0	20	45	9	0	163	
4:10 PM	8	3	11	0	11	7	8	0	4	51	2	0	20	36	5	0	166	
4:15 PM	3	4	18	0	12	8	2	0	6	34	0	0	26	45	5	0	163	
4:20 PM	2	12	13	0	14	5	5	0	9	60	2	0	17	52	18	0	209	
4:25 PM	3	6	11	0	9	7	0	0	10	53	4	0	22	40	12	0	177	
4:30 PM	4	6	16	0	7	8	6	0	10	61	1	0	17	32	16	0	184	
4:35 PM	2	7	13	0	7	2	3	0	11	43	5	0	19	52	6	0	170	
4:40 PM	3	9	14	0	9	4	4	0	8	35	3	0	16	56	17	0	178	
4:45 PM	2	5	10	0	11	4	2	0	8	66	1	0	23	56	17	0	205	
4:50 PM	4	4	20	0	14	7	1	0	5	47	3	0	23	44	8	0	180	
4:55 PM	1	2	10	0	9	8	3	0	5	62	4	0	24	33	16	0	177	2130
5:00 PM	6	3	11	0	10	5	5	0	5	61	3	0	21	31	6	0	167	2139
5:05 PM	1	8	13	0	10	9	2	0	5	69	3	0	18	34	16	0	188	2164
5:10 PM	4	1	21	0	11	5	0	0	9	56	3	0	18	40	10	0	178	2176
5:15 PM	1	3	17	0	5	10	1	0	7	66	2	0	22	55	17	0	206	2219
5:20 PM	2	5	13	0	8	8	3	0	8	45	3	0	23	57	10	0	185	2195
5:25 PM	3	6	14	0	5	7	8	0	5	28	0	0	19	55	13	0	163	2181
5:30 PM	5	3	14	0	13	4	2	0	13	43	2	0	22	32	6	0	159	2156
5:35 PM	5	6	14	0	9	3	3	0	7	54	1	0	21	36	4	0	163	2149
5:40 PM	2	4	9	0	9	8	5	0	6	44	2	0	19	54	7	0	169	2140
5:45 PM	0	4	13	0	10	3	3	0	3	31	3	0	17	55	6	0	148	2083
5:50 PM	7	2	14	0	13	4	2	0	4	51	1	0	12	35	8	0	153	2056
5:55 PM	3	5	27	0	4	4	7	0	7	33	1	0	14	25	8	0	138	2017

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	48	204	0	104	96	12	0	84	764	32	0	232	516	172	0	2288
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	12	4		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

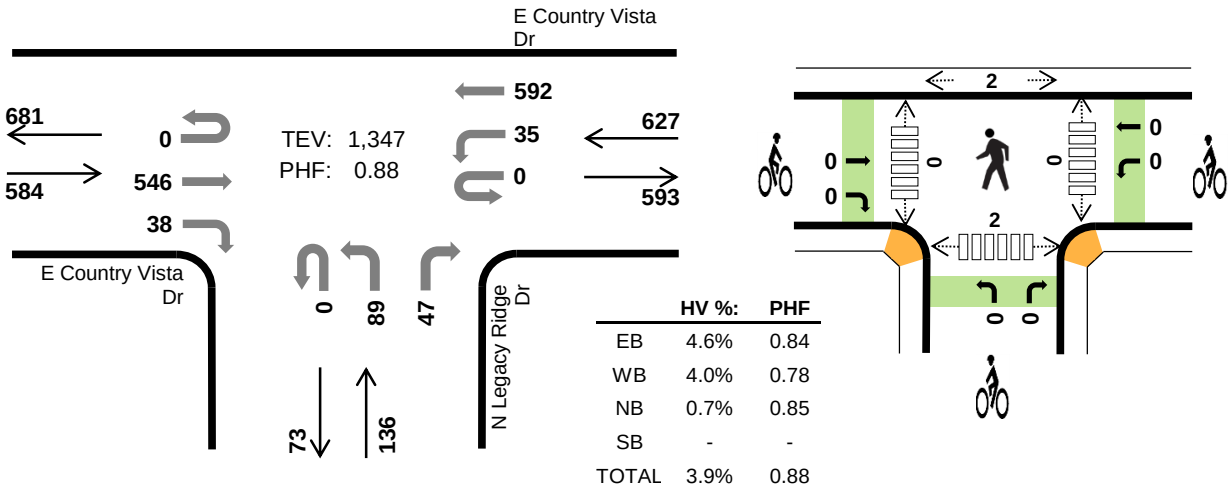
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

N Legacy Ridge Dr
E Country Vista Dr

N

Peak Hour

Date: 05/08/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	4.6%	0.84
WB	4.0%	0.78
NB	0.7%	0.85
SB	-	-
TOTAL	3.9%	0.88

Two-Hour Count Summaries

Interval Start		E Country Vista Dr Eastbound				E Country Vista Dr Westbound				N Legacy Ridge Dr Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	75	5	0	6	127	0	0	17	0	10	0	0	0	0	240	0
7:15 AM		**0**	**0**	**94**	**9**	**0**	**7**	**175**	**0**	**0**	**26**	**0**	**8**	**0**	**0**	**0**	**0**	**319**	0
7:30 AM		**0**	**0**	**130**	**10**	**0**	**12**	**190**	**0**	**0**	**29**	**0**	**11**	**0**	**0**	**0**	**0**	**382**	0
7:45 AM		**0**	**0**	**166**	**8**	**0**	**9**	**134**	**0**	**0**	**22**	**0**	**14**	**0**	**0**	**0**	**0**	**353**	1,294
8:00 AM		**0**	**0**	**156**	**11**	**0**	**7**	**93**	**0**	**0**	**12**	**0**	**14**	**0**	**0**	**0**	**0**	**293**	**1,347**
8:15 AM		0	0	121	12	0	12	87	0	0	17	0	9	0	0	0	0	258	1,286
8:30 AM		0	0	150	8	0	14	128	0	0	13	0	26	0	0	0	0	339	1,243
8:45 AM		0	0	128	8	0	11	124	0	0	8	0	31	0	0	0	0	310	1,200
Count Total		0	0	1,020	71	0	78	1,058	0	0	144	0	123	0	0	0	0	2,494	0
Peak Hour	**All**	**0**	**0**	**546**	**38**	**0**	**35**	**592**	**0**	**0**	**89**	**0**	**47**	**0**	**0**	**0**	**0**	**1,347**	**0**
	HV	**0**	**0**	**24**	**3**	**0**	**1**	**24**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**53**	**0**
	HV%	**-**	**-**	**4%**	**8%**	**-**	**3%**	**4%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	7	8	0	0	*15*	2	0	0	0	*2*	0	0	0	1	*1*
7:15 AM	**5**	**5**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:30 AM	**11**	**8**	**0**	**0**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:45 AM	**4**	**8**	**0**	**0**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	*2*
8:00 AM	**7**	**4**	**1**	**0**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	4	6	0	0	*10*	0	0	0	0	*0*	0	0	1	0	*1*
8:30 AM	6	2	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	5	7	0	0	*12*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	49	48	1	0	*98*	2	0	0	0	*2*	0	0	3	4	*7*
Peak Hr	**27**	**25**	**1**	**0**	***53***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**2**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Country Vista Dr				E Country Vista Dr				N Legacy Ridge Dr				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	7	0	0	0	8	0	0	0	0	0	0	0	0	0	15	0
7:15 AM	**0**	**0**	**4**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	0
7:30 AM	**0**	**0**	**10**	**1**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	0
7:45 AM	**0**	**0**	**3**	**1**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	56
8:00 AM	**0**	**0**	**7**	**0**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**53**
8:15 AM	0	0	4	0	0	1	5	0	0	0	0	0	0	0	0	0	10	53
8:30 AM	0	0	6	0	0	1	1	0	0	0	0	0	0	0	0	0	8	42
8:45 AM	0	0	5	0	0	1	6	0	0	0	0	0	0	0	0	0	12	42
Count Total	0	0	46	3	0	4	44	0	0	1	0	0	0	0	0	0	98	0
Peak Hour	**0**	**0**	**24**	**3**	**0**	**1**	**24**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**53**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Country Vista Dr			E Country Vista Dr			N Legacy Ridge Dr			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	0	0	0	0	0	0	0	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

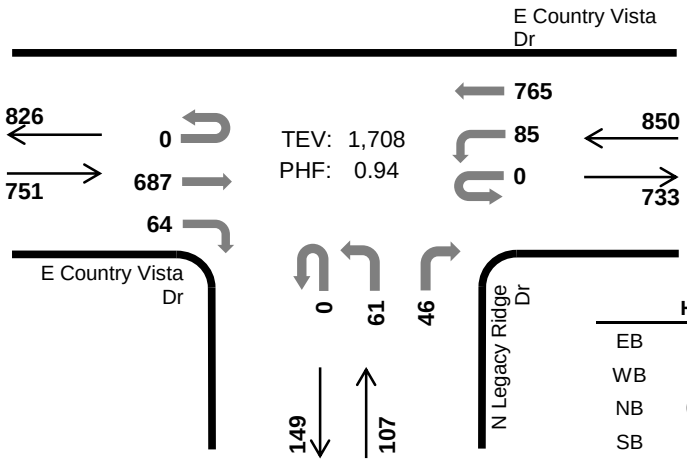
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

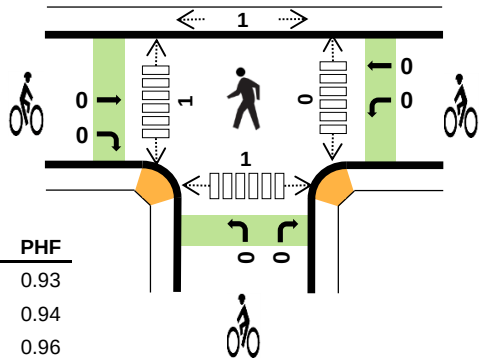
N Legacy Ridge Dr
E Country Vista Dr

N

Peak Hour

Date: 05/08/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	1.2%	0.93
WB	1.2%	0.94
NB	0.0%	0.96
SB	-	-
TOTAL	1.1%	0.94

Two-Hour Count Summaries

Interval Start		E Country Vista Dr Eastbound				E Country Vista Dr Westbound				N Legacy Ridge Dr Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	159	10	0	29	197	0	0	6	0	8	0	0	0	0	409	0
4:15 PM		0	0	160	22	0	21	175	0	0	16	0	15	0	0	0	1	410	0
4:30 PM		0	0	157	18	0	17	207	0	0	16	0	12	0	0	0	0	427	0
4:45 PM		**0**	**0**	**166**	**17**	**0**	**22**	**173**	**0**	**0**	**21**	**0**	**7**	**0**	**0**	**0**	**0**	**406**	1,652
5:00 PM		**0**	**0**	**161**	**12**	**0**	**19**	**205**	**0**	**0**	**12**	**0**	**13**	**0**	**0**	**0**	**0**	**422**	1,665
5:15 PM		**0**	**0**	**177**	**16**	**0**	**20**	**185**	**0**	**0**	**12**	**0**	**15**	**0**	**0**	**0**	**0**	**425**	1,680
5:30 PM		**0**	**0**	**183**	**19**	**0**	**24**	**202**	**0**	**0**	**16**	**0**	**11**	**0**	**0**	**0**	**0**	**455**	**1,708**
5:45 PM		0	0	157	17	0	12	146	0	0	9	0	6	0	0	0	0	347	1,649
Count Total		0	0	1,320	131	0	164	1,490	0	0	108	0	87	0	0	0	0	3,300	0
Peak Hour	**All**	**0**	**0**	**687**	**64**	**0**	**85**	**765**	**0**	**0**	**61**	**0**	**46**	**0**	**0**	**0**	**0**	**1,708**	**0**
	HV	**0**	**0**	**8**	**1**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**
	HV%	**-**	**-**	**1%**	**2%**	**-**	**0%**	**1%**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	5	0	0	*9*	1	0	0	0	*1*	0	0	0	1	*1*
4:15 PM	2	5	2	0	*9*	0	0	0	0	*0*	0	0	0	1	*1*
4:30 PM	3	4	0	0	*7*	0	0	0	0	*0*	0	1	0	4	*5*
4:45 PM	**2**	**5**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
5:00 PM	**3**	**3**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
5:30 PM	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	0	1	1	0	*2*	0	0	1	0	*1*	0	1	1	0	*2*
Count Total	18	25	3	0	*46*	1	0	1	0	*2*	0	3	2	7	*12*
Peak Hr	**9**	**10**	**0**	**0**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Country Vista Dr				E Country Vista Dr				N Legacy Ridge Dr				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	9	0
4:15 PM	0	0	1	1	0	0	5	0	0	2	0	0	0	0	0	0	9	0
4:30 PM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	7	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	32
5:00 PM	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	29
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	23
5:30 PM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**19**
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	14
Count Total	0	0	16	2	0	0	25	0	0	3	0	0	0	0	0	0	46	0
Peak Hour	**0**	**0**	**8**	**1**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Country Vista Dr			E Country Vista Dr			N Legacy Ridge Dr			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Count Total	0	1	0	0	0	0	0	0	1	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

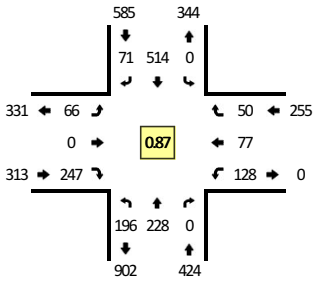
Type of peak hour being reported: Intersection Peak

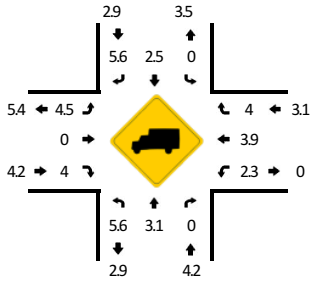
Method for determining peak hour: Total Entering Volume

LOCATION: 4. N Harvard Rd -- E Mission Ave
CITY/STATE: Liberty Lake, WA

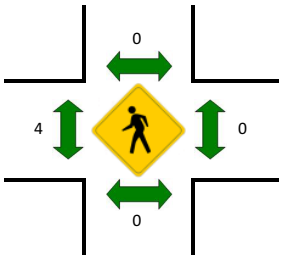
QC JOB #: 16908507
DATE: Wed, Apr 30 2025

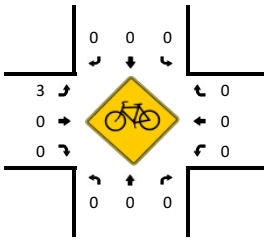
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

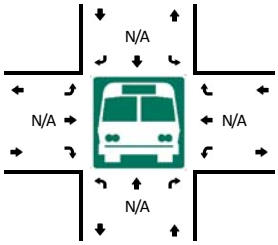


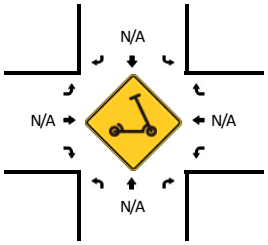


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	4. N Harvard Rd (Northbound)				4. N Harvard Rd (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	5	0	0	0	26	6	0	2	0	13	0	17	6	7	0	90	
7:05 AM	7	12	0	1	0	30	4	0	3	0	22	0	5	5	1	0	90	
7:10 AM	9	13	0	0	0	31	2	0	3	0	19	0	7	4	6	0	94	
7:15 AM	11	10	0	0	0	35	6	0	2	0	12	0	5	3	6	0	90	
7:20 AM	12	15	0	0	0	35	6	0	3	0	18	0	10	6	4	0	109	
7:25 AM	12	14	0	0	0	31	10	0	0	0	9	0	13	4	9	0	102	
7:30 AM	15	9	0	1	0	37	5	0	2	0	11	0	4	9	5	0	98	
7:35 AM	15	13	0	4	0	54	5	0	3	0	15	0	6	4	2	0	121	
7:40 AM	21	13	0	0	0	43	8	0	6	0	22	0	8	7	5	0	133	
7:45 AM	27	13	0	1	0	52	5	0	3	0	19	0	6	5	7	0	138	
7:50 AM	23	36	0	1	0	43	10	0	5	0	21	0	12	4	12	0	167	
7:55 AM	19	17	0	1	0	44	7	0	5	0	22	0	15	12	5	0	147	1379
8:00 AM	19	21	0	1	0	34	8	0	14	0	22	0	10	8	4	0	141	1430
8:05 AM	9	19	0	1	0	47	6	0	11	0	29	0	14	6	4	0	146	1486
8:10 AM	8	23	0	0	0	33	6	0	3	0	22	0	13	6	0	0	114	1506
8:15 AM	11	23	0	1	0	51	4	0	1	0	18	0	13	4	3	0	129	1545
8:20 AM	12	18	0	0	0	39	2	0	7	0	18	0	11	9	3	0	119	1555
8:25 AM	8	14	0	2	0	34	5	0	6	0	19	0	14	8	3	0	113	1566
8:30 AM	11	18	0	1	0	40	5	0	2	0	20	0	6	4	2	0	109	1577
8:35 AM	11	20	0	1	0	27	5	0	6	0	21	0	9	4	5	0	109	1565
8:40 AM	10	19	0	1	0	44	8	0	4	0	21	0	11	0	2	0	120	1552
8:45 AM	6	17	0	0	0	44	8	0	5	0	25	0	6	5	3	0	119	1533
8:50 AM	12	21	0	0	0	32	5	0	4	0	19	0	15	9	3	0	120	1486
8:55 AM	16	23	0	1	0	27	6	0	4	0	17	0	13	3	5	0	115	1454

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	244	296	0	12	0	484	100	0	96	0	260	0	148	96	84	0	1820
Heavy Trucks	12	4	0		0	8	8		4	0	8		4	4	4		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

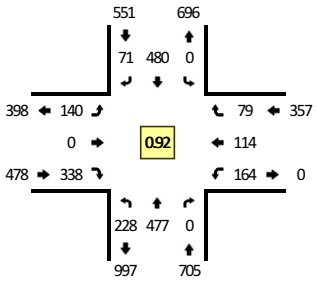
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 4. N Harvard Rd -- E Mission Ave
CITY/STATE: Liberty Lake, WA

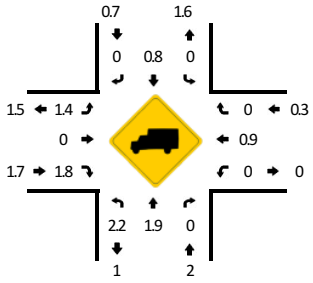
QC JOB #: 16908508
DATE: Wed, Apr 30 2025

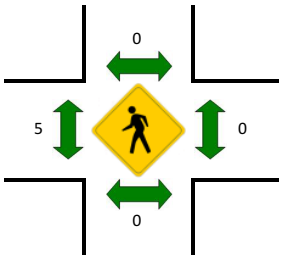
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM



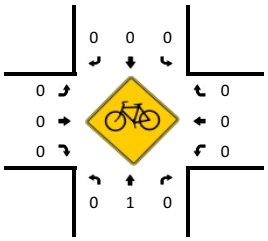


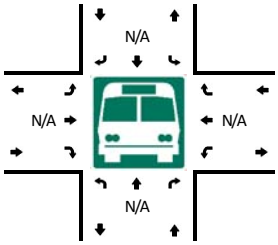
TRUE DATA TO IMPROVE MOBILITY



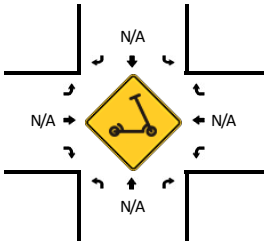












5-Min Count Period Beginning At	4. N Harvard Rd (Northbound)				4. N Harvard Rd (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	47	0	2	0	38	11	0	8	0	26	0	14	7	4	0	178	
4:05 PM	21	40	0	1	0	35	8	0	9	0	24	0	11	11	12	0	172	
4:10 PM	16	42	0	0	0	42	8	0	11	0	19	0	8	12	5	0	163	
4:15 PM	21	29	0	0	0	24	2	0	8	0	23	0	19	13	6	0	145	
4:20 PM	18	41	0	1	0	31	7	0	7	0	17	0	14	15	5	0	156	
4:25 PM	18	37	0	1	0	30	4	0	8	0	19	0	8	10	9	0	144	
4:30 PM	16	29	0	1	0	27	6	0	9	0	24	0	12	7	5	0	136	
4:35 PM	20	45	0	1	0	44	7	0	11	0	33	0	10	8	3	0	182	
4:40 PM	19	44	0	1	0	44	8	0	8	0	24	0	16	8	4	0	176	
4:45 PM	23	41	0	2	0	43	6	0	8	0	23	0	13	11	5	0	175	
4:50 PM	20	34	0	3	0	36	6	0	12	0	19	0	12	14	8	0	164	
4:55 PM	26	37	0	2	0	47	5	0	9	0	35	0	6	9	6	0	182	1973
5:00 PM	20	44	0	4	0	28	7	0	9	0	27	0	15	11	7	0	172	1967
5:05 PM	15	44	0	0	0	48	3	0	16	0	37	0	10	10	10	0	193	1988
5:10 PM	16	42	0	0	0	44	5	0	12	0	26	0	18	11	10	0	184	2009
5:15 PM	9	39	0	0	0	48	9	0	10	0	41	0	20	10	8	0	194	2058
5:20 PM	19	29	0	1	0	37	3	0	15	0	30	0	13	10	4	0	161	2063
5:25 PM	11	44	0	1	0	30	8	0	15	0	22	0	14	6	7	0	158	2077
5:30 PM	15	34	0	0	0	31	4	0	15	0	21	0	17	6	7	0	150	2091
5:35 PM	12	44	0	0	0	44	3	0	7	0	19	0	5	7	5	0	146	2055
5:40 PM	17	39	0	0	0	39	8	0	10	0	16	0	13	8	6	0	156	2035
5:45 PM	19	41	0	0	0	28	11	0	12	0	21	0	14	9	3	0	158	2018
5:50 PM	10	24	0	0	0	34	12	0	6	0	28	0	7	9	4	0	134	1988
5:55 PM	20	34	0	1	0	27	5	0	10	0	19	0	5	10	6	0	137	1943

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	500	0	0	0	560	68	0	152	0	416	0	192	124	112	0	2284
Heavy Trucks	4	8	0		0	4	0		0	0	4		0	0	0		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

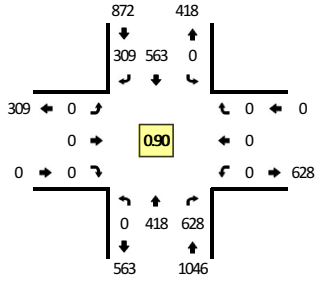
Type of peak hour being reported: Intersection Peak

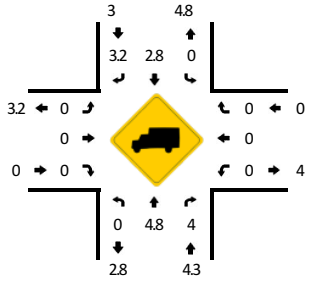
Method for determining peak hour: Total Entering Volume

LOCATION: 5. N Harvard Rd -- I 90 WB On Ramps
CITY/STATE: Liberty Lake, WA

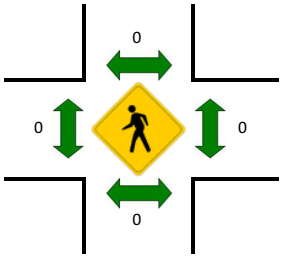
QC JOB #: 16908509
DATE: Wed, Apr 30 2025

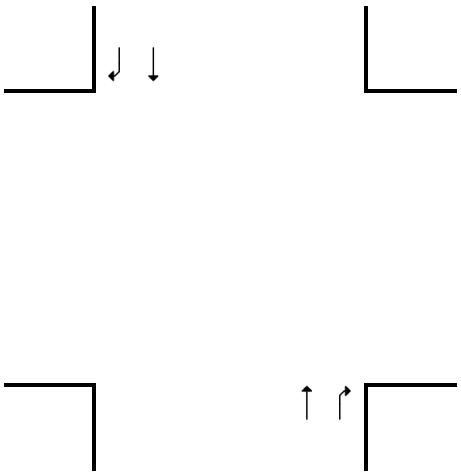
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

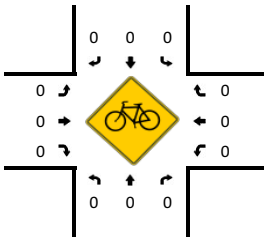


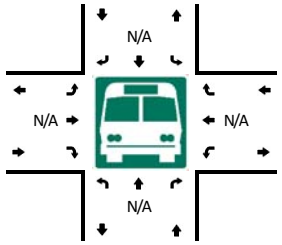


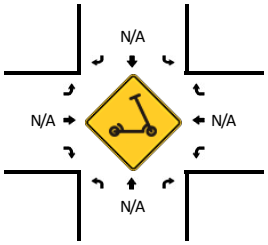
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	5. N Harvard Rd (Northbound)				5. N Harvard Rd (Southbound)				I 90 WB On Ramps (Eastbound)				I 90 WB On Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	13	36	0	0	42	16	0	0	0	0	0	0	0	0	0	107	
7:05 AM	0	20	51	0	0	35	24	0	0	0	0	0	0	0	0	0	130	
7:10 AM	0	22	57	0	0	33	24	0	0	0	0	0	0	0	0	0	136	
7:15 AM	0	21	51	0	0	26	25	0	0	0	0	0	0	0	0	0	123	
7:20 AM	0	28	62	0	0	35	29	0	0	0	0	0	0	0	0	0	154	
7:25 AM	0	27	66	0	0	39	14	0	0	0	0	0	0	0	0	0	146	
7:30 AM	0	23	57	0	0	31	24	0	0	0	0	0	0	0	0	0	135	
7:35 AM	0	34	64	0	0	38	38	0	0	0	0	0	0	0	0	0	174	
7:40 AM	0	34	58	0	0	48	26	0	0	0	0	0	0	0	0	0	166	
7:45 AM	0	43	52	0	0	52	28	0	0	0	0	0	0	0	0	0	175	
7:50 AM	0	59	53	0	0	55	22	0	0	0	0	0	0	0	0	0	189	
7:55 AM	0	39	34	0	0	54	26	0	0	0	0	0	0	0	0	0	153	1788
8:00 AM	0	39	54	0	0	55	18	0	0	0	0	0	0	0	0	0	166	1847
8:05 AM	0	26	45	0	0	61	27	0	0	0	0	0	0	0	0	0	159	1876
8:10 AM	0	33	45	0	0	46	23	0	0	0	0	0	0	0	0	0	147	1887
8:15 AM	0	33	38	0	0	49	34	0	0	0	0	0	0	0	0	0	154	1918
8:20 AM	0	31	52	0	0	45	24	0	0	0	0	0	0	0	0	0	152	1916
8:25 AM	0	27	44	0	0	48	22	0	0	0	0	0	0	0	0	0	141	1911
8:30 AM	0	25	32	0	0	45	18	0	0	0	0	0	0	0	0	0	120	1896
8:35 AM	0	36	51	0	0	48	14	0	0	0	0	0	0	0	0	0	149	1871
8:40 AM	0	30	37	0	0	54	24	0	0	0	0	0	0	0	0	0	145	1850
8:45 AM	0	23	53	0	0	53	24	0	0	0	0	0	0	0	0	0	153	1828
8:50 AM	0	33	53	0	0	54	12	0	0	0	0	0	0	0	0	0	152	1791
8:55 AM	0	49	46	0	0	44	13	0	0	0	0	0	0	0	0	0	152	1790

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	544	652	0	0	620	304	0	0	0	0	0	0	0	0	0	2120
Heavy Trucks	0	24	32		0	20	12		0	0	0		0	0	0		88
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

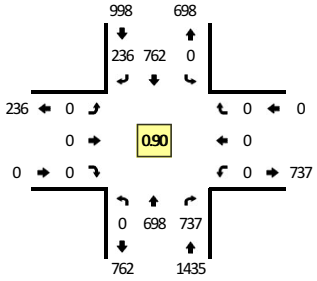
Report generated on 5/12/2025 11:41 AM

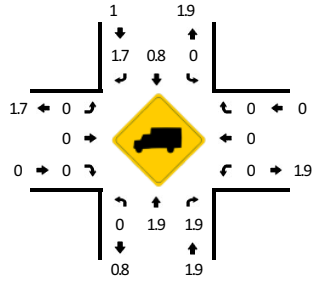
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

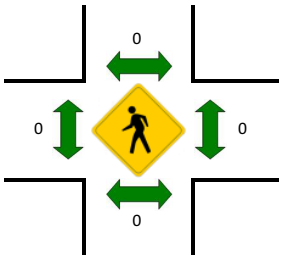
LOCATION: 5. N Harvard Rd -- I 90 WB On Ramps | **QC JOB #:** 16908510
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

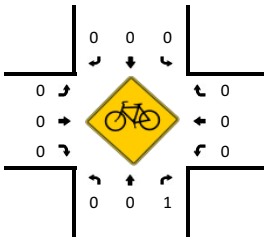


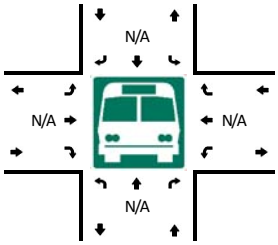




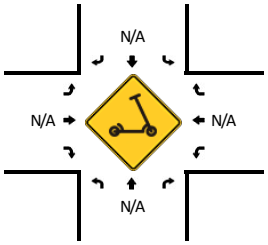












5-Min Count Period Beginning At	5. N Harvard Rd (Northbound)				5. N Harvard Rd (Southbound)				I 90 WB On Ramps (Eastbound)				I 90 WB On Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	68	61	0	0	65	19	0	0	0	0	0	0	0	0	0	213	
4:05 PM	0	59	86	0	0	51	22	0	0	0	0	0	0	0	0	0	218	
4:10 PM	0	57	67	0	0	52	16	0	0	0	0	0	0	0	0	0	192	
4:15 PM	0	53	64	0	0	53	18	0	0	0	0	0	0	0	0	0	188	
4:20 PM	0	59	52	0	0	46	17	0	0	0	0	0	0	0	0	0	174	
4:25 PM	0	60	50	0	0	48	10	0	0	0	0	0	0	0	0	0	168	
4:30 PM	0	45	54	0	0	47	15	0	0	0	0	0	0	0	0	0	161	
4:35 PM	0	64	68	0	0	67	22	0	0	0	0	0	0	0	0	0	221	
4:40 PM	0	66	63	0	0	63	22	0	0	0	0	0	0	0	0	0	214	
4:45 PM	0	64	50	0	0	61	21	0	0	0	0	0	0	0	0	0	196	
4:50 PM	0	53	65	0	0	43	22	0	0	0	0	0	0	0	0	0	183	
4:55 PM	0	67	44	0	0	59	33	0	0	0	0	0	0	0	0	0	203	2331
5:00 PM	0	68	63	0	0	57	18	0	0	0	0	0	0	0	0	0	206	2324
5:05 PM	0	54	90	0	0	76	18	0	0	0	0	0	0	0	0	0	238	2344
5:10 PM	0	62	64	0	0	70	19	0	0	0	0	0	0	0	0	0	215	2367
5:15 PM	0	51	67	0	0	82	24	0	0	0	0	0	0	0	0	0	224	2403
5:20 PM	0	41	58	0	0	68	15	0	0	0	0	0	0	0	0	0	182	2411
5:25 PM	0	55	57	0	0	54	13	0	0	0	0	0	0	0	0	0	179	2422
5:30 PM	0	53	48	0	0	62	9	0	0	0	0	0	0	0	0	0	172	2433
5:35 PM	0	52	62	0	0	46	22	0	0	0	0	0	0	0	0	0	182	2394
5:40 PM	0	54	32	0	0	48	21	0	0	0	0	0	0	0	0	0	155	2335
5:45 PM	0	60	43	0	0	51	14	0	0	0	0	0	0	0	0	0	168	2307
5:50 PM	0	32	27	0	0	51	20	0	0	0	0	0	0	0	0	0	130	2254
5:55 PM	0	60	52	0	0	44	9	0	0	0	0	0	0	0	0	0	165	2216

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	668	884	0	0	912	244	0	0	0	0	0	0	0	0	0	2708
Heavy Trucks	0	16	20		0	8	0		0	0	0		0	0	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

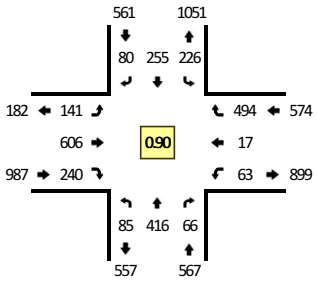
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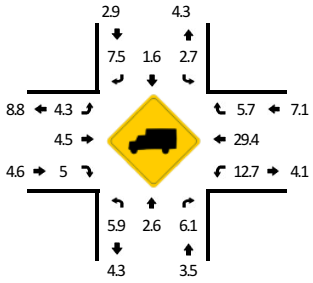
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

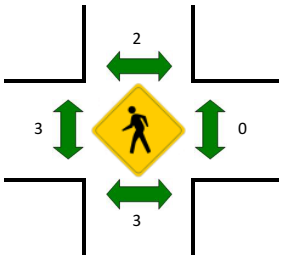
LOCATION: 6. N Liberty Lake Rd -- E Appleway Ave | **QC JOB #:** 16908511
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

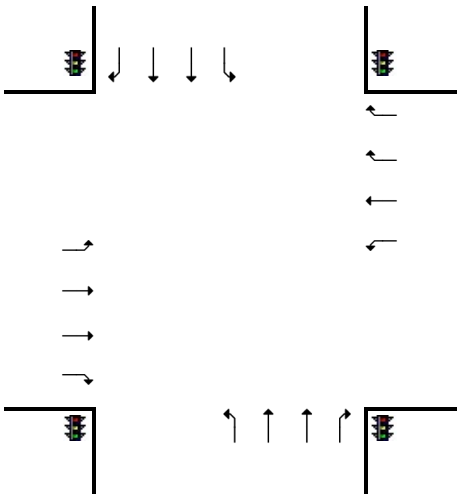
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

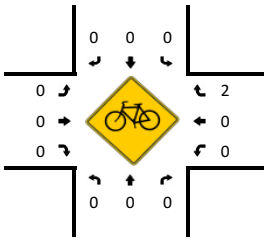


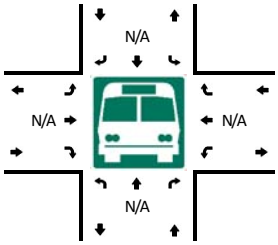


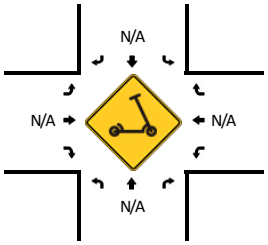
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	6. N Liberty Lake Rd (Northbound)				6. N Liberty Lake Rd (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	13	2	0	17	26	5	0	4	29	13	0	1	1	31	0	148	
7:05 AM	7	37	6	0	12	13	9	0	2	28	15	0	3	0	30	0	162	
7:10 AM	2	38	6	0	11	10	4	0	5	43	15	0	4	2	37	0	177	
7:15 AM	4	41	6	1	19	10	4	0	5	30	10	0	6	1	33	0	170	
7:20 AM	8	25	3	0	16	12	5	0	7	56	14	0	7	2	58	0	213	
7:25 AM	5	41	5	0	9	20	6	0	13	37	14	0	8	1	40	0	199	
7:30 AM	8	41	6	0	20	13	6	0	3	38	19	0	5	2	38	0	199	
7:35 AM	10	41	10	0	12	13	6	0	11	38	16	0	6	0	41	0	204	
7:40 AM	7	29	9	0	21	14	5	0	10	41	21	0	5	3	53	0	218	
7:45 AM	6	29	7	0	15	28	10	0	14	65	16	0	4	0	54	1	249	
7:50 AM	3	37	6	0	31	26	7	0	19	69	25	0	1	2	49	0	275	
7:55 AM	4	33	7	0	18	23	6	0	20	48	24	0	6	2	26	0	217	2431
8:00 AM	5	37	3	0	25	20	6	0	12	86	20	0	4	0	38	0	256	2539
8:05 AM	11	22	3	0	28	24	9	0	11	34	25	0	7	1	38	0	213	2590
8:10 AM	9	37	4	0	19	26	9	0	12	46	29	0	6	3	30	0	230	2643
8:15 AM	9	44	3	0	12	36	5	0	9	48	17	0	3	1	29	0	216	2689
8:20 AM	5	40	5	0	15	22	6	0	9	37	25	0	4	4	28	0	200	2676
8:25 AM	3	31	7	0	16	22	9	0	11	41	14	0	7	4	27	0	192	2669
8:30 AM	7	26	2	0	20	19	8	0	8	51	22	0	2	4	17	0	186	2656
8:35 AM	6	44	4	0	15	19	9	0	15	35	28	0	3	1	32	0	211	2663
8:40 AM	10	14	5	1	22	23	10	0	12	24	16	0	1	3	38	0	179	2624
8:45 AM	4	33	4	0	10	31	8	0	15	41	33	0	4	0	33	0	216	2591
8:50 AM	10	26	7	0	31	24	3	0	11	31	24	0	4	2	41	0	214	2530
8:55 AM	6	47	3	0	13	28	3	0	14	41	30	0	6	4	36	0	231	2544

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	48	428	64	0	296	276	76	0	204	812	276	0	44	16	452	0	2992
Heavy Trucks	8	16	4		0	8	8		0	12	16		8	4	28		112
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

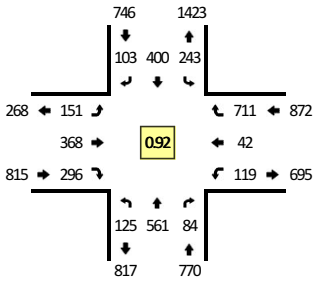
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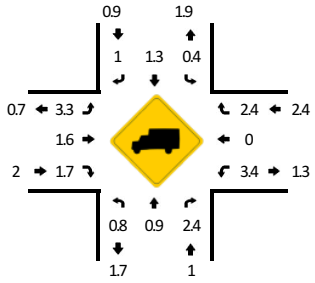
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

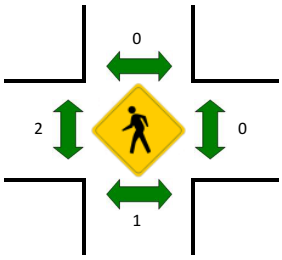
LOCATION: 6. N Liberty Lake Rd -- E Appleway Ave | **QC JOB #:** 16908512
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

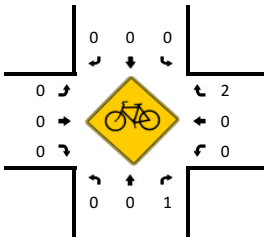
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

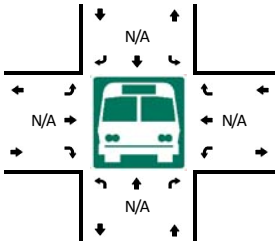


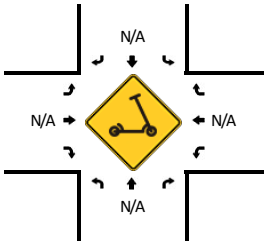


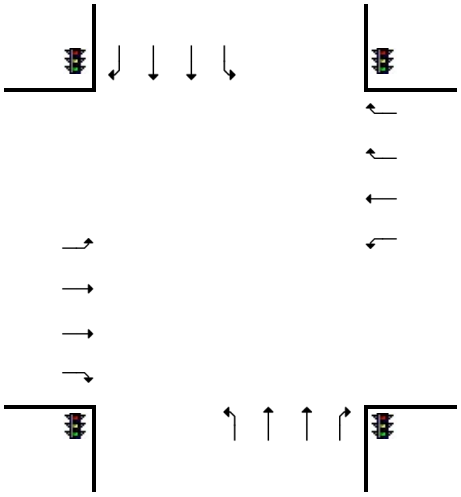
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	6. N Liberty Lake Rd (Northbound)				6. N Liberty Lake Rd (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	39	10	0	27	32	9	0	18	33	23	0	9	3	74	0	288	
4:05 PM	11	35	8	0	28	35	2	0	14	25	29	0	13	3	84	0	287	
4:10 PM	7	60	4	0	17	26	9	0	14	24	23	0	13	8	56	0	261	
4:15 PM	5	36	11	0	8	28	7	0	8	25	35	0	15	4	74	0	256	
4:20 PM	11	49	6	0	18	38	4	0	12	33	17	0	9	3	50	0	250	
4:25 PM	9	44	7	0	17	13	5	0	10	26	30	0	17	4	51	0	233	
4:30 PM	5	33	8	0	19	25	10	0	14	24	25	0	9	7	61	1	241	
4:35 PM	20	41	5	0	22	36	4	0	15	32	28	0	6	4	67	0	280	
4:40 PM	12	71	12	0	19	43	12	0	9	23	19	0	16	4	65	0	305	
4:45 PM	7	37	4	0	10	30	7	0	10	36	26	0	11	6	58	0	242	
4:50 PM	10	63	9	0	24	28	3	0	9	19	22	0	12	5	45	0	249	
4:55 PM	12	36	10	0	19	24	9	0	21	32	27	0	11	2	48	0	251	3143
5:00 PM	8	47	9	1	19	25	7	0	16	35	23	0	7	2	73	0	272	3127
5:05 PM	16	41	5	0	27	36	11	0	9	24	27	0	7	5	89	0	297	3137
5:10 PM	7	56	6	1	16	50	14	0	19	35	27	0	8	2	60	0	301	3177
5:15 PM	2	40	6	0	23	36	7	0	11	38	27	0	12	4	56	0	262	3183
5:20 PM	14	47	5	0	29	37	14	0	8	25	27	0	8	0	50	0	264	3197
5:25 PM	9	48	6	0	22	29	5	0	12	30	21	0	9	1	45	0	237	3201
5:30 PM	6	34	7	0	13	26	10	0	12	39	22	0	12	7	55	0	243	3203
5:35 PM	13	51	13	0	22	33	8	0	17	20	25	0	9	3	49	0	263	3186
5:40 PM	4	29	10	0	18	19	6	0	26	27	30	0	12	2	34	0	217	3098
5:45 PM	10	37	6	0	15	22	7	0	16	38	29	0	3	8	38	0	229	3085
5:50 PM	6	43	3	0	26	31	9	0	6	19	19	0	5	2	25	0	194	3030
5:55 PM	8	36	6	0	11	18	4	0	19	33	31	0	9	0	44	0	219	2998

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	124	576	80	8	248	444	128	0	176	376	308	0	88	36	888	0	3480
Heavy Trucks	0	8	0		0	8	0		8	4	0		0	0	12		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

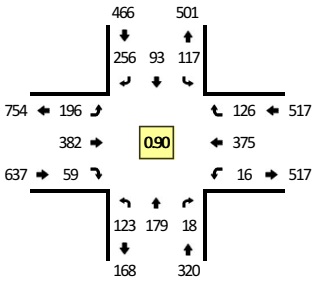
Type of peak hour being reported: Intersection Peak

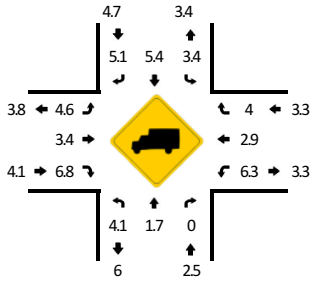
Method for determining peak hour: Total Entering Volume

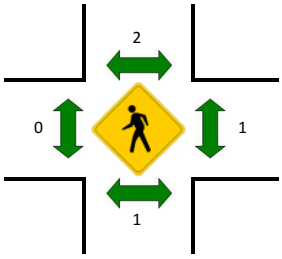
LOCATION: 7. N Liberty Lake Rd -- E Country Vista Dr
CITY/STATE: Liberty Lake, WA

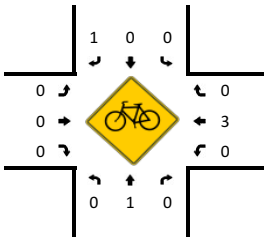
QC JOB #: 16908513
DATE: Wed, Apr 30 2025

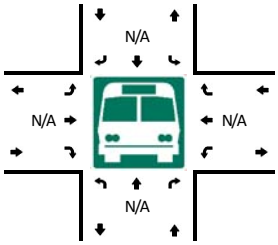
Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

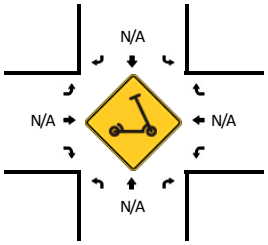












5-Min Count Period Beginning At	7. N Liberty Lake Rd (Northbound)				7. N Liberty Lake Rd (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	11	0	0	9	6	19	0	5	7	2	0	1	24	7	0	98	
7:05 AM	10	22	0	0	9	5	11	0	7	16	4	0	0	20	10	0	114	
7:10 AM	8	9	3	0	8	4	15	0	18	18	2	0	1	38	8	0	132	
7:15 AM	11	19	1	0	1	2	16	0	18	19	0	0	1	28	5	0	121	
7:20 AM	10	17	1	0	4	6	22	0	9	15	2	0	0	33	7	0	126	
7:25 AM	12	15	3	0	6	6	23	0	21	22	5	0	3	55	12	0	183	
7:30 AM	17	18	0	0	8	5	17	0	19	15	4	0	1	48	9	0	161	
7:35 AM	16	16	1	0	5	10	17	0	18	33	3	0	0	61	13	0	193	
7:40 AM	14	16	1	0	3	4	15	0	22	24	8	0	1	31	11	0	150	
7:45 AM	6	11	1	0	7	5	18	0	14	30	3	0	0	28	9	0	132	
7:50 AM	14	16	4	0	13	13	25	0	15	41	4	0	1	25	9	0	180	
7:55 AM	10	21	1	0	11	6	26	0	14	30	6	0	2	20	10	0	157	1747
8:00 AM	5	10	2	0	13	3	23	0	17	50	7	0	2	27	9	0	168	1817
8:05 AM	9	10	3	0	11	11	25	0	14	32	4	0	1	17	12	0	149	1852
8:10 AM	9	16	0	0	17	12	18	0	14	42	8	0	2	21	7	0	166	1886
8:15 AM	3	15	0	0	11	5	32	0	17	40	2	0	1	29	16	0	171	1936
8:20 AM	8	15	2	0	12	13	17	0	11	23	5	0	2	13	9	0	130	1940
8:25 AM	6	14	1	0	7	7	18	0	12	33	4	0	0	42	6	0	150	1907
8:30 AM	12	12	1	0	5	7	22	0	19	23	2	0	2	30	7	0	142	1888
8:35 AM	9	14	0	0	8	8	26	0	19	31	4	0	4	38	5	0	166	1861
8:40 AM	5	6	2	0	9	8	27	0	14	38	4	0	1	36	4	0	154	1865
8:45 AM	10	15	1	0	12	13	31	0	15	36	4	0	3	25	10	0	175	1908
8:50 AM	5	14	1	0	12	9	26	0	21	34	3	0	2	43	12	0	182	1910
8:55 AM	6	13	1	0	11	10	23	0	18	32	6	0	2	42	14	0	178	1931

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	180	196	16	0	76	84	228	0	232	280	48	0	16	656	136	0	2148
Heavy Trucks	4	0	0		0	0	8		12	20	0		0	20	4		68
Buses																	
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

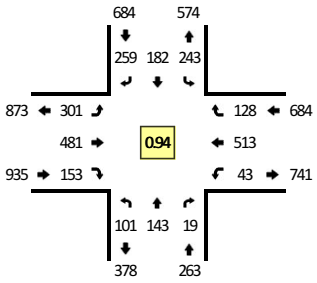
Type of peak hour being reported: Intersection Peak

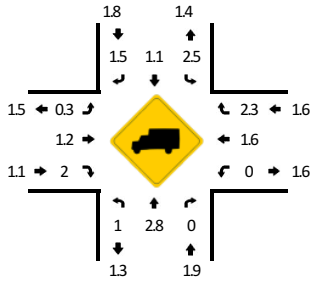
Method for determining peak hour: Total Entering Volume

LOCATION: 7. N Liberty Lake Rd -- E Country Vista Dr
CITY/STATE: Liberty Lake, WA

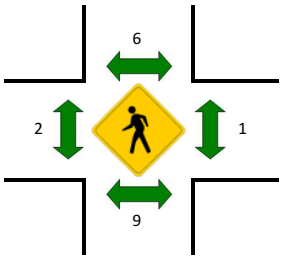
QC JOB #: 16908514
DATE: Wed, Apr 30 2025

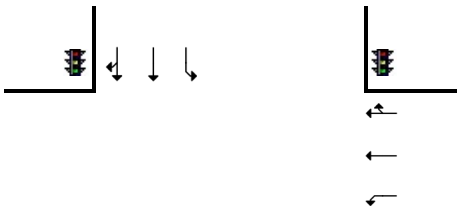
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

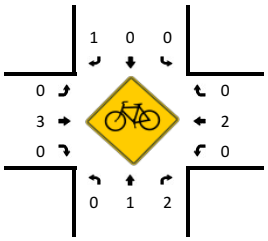


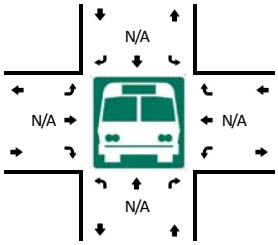


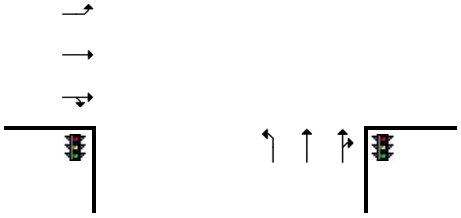
TRUE DATA TO IMPROVE MOBILITY

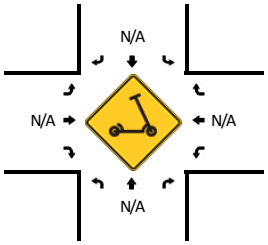












5-Min Count Period Beginning At	7. N Liberty Lake Rd (Northbound)				7. N Liberty Lake Rd (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	10	2	0	14	18	36	0	29	42	12	0	1	36	5	0	216	
4:05 PM	13	11	0	0	19	13	22	0	23	46	8	0	3	42	12	0	212	
4:10 PM	9	12	2	0	15	17	22	0	26	33	9	0	3	37	12	0	197	
4:15 PM	12	11	2	0	22	18	36	0	18	37	12	0	3	44	7	0	222	
4:20 PM	7	11	1	0	9	7	27	0	36	44	9	0	1	36	8	0	196	
4:25 PM	7	7	2	0	20	12	18	1	23	47	14	0	4	38	12	0	205	
4:30 PM	8	13	4	0	27	14	19	0	27	32	14	0	1	33	4	0	196	
4:35 PM	9	12	1	0	15	27	16	0	19	39	12	0	5	63	13	0	231	
4:40 PM	7	14	2	0	6	18	28	0	26	39	10	0	5	46	16	0	217	
4:45 PM	15	9	2	0	23	13	27	0	27	30	12	0	2	33	7	0	200	
4:50 PM	11	14	2	0	25	15	18	0	26	31	12	0	3	46	9	0	212	
4:55 PM	5	12	0	0	16	17	18	0	33	49	16	0	4	30	6	0	206	2510
5:00 PM	4	16	1	0	21	12	26	0	22	33	19	0	3	32	21	0	210	2504
5:05 PM	5	13	2	0	17	14	20	0	31	42	15	0	5	38	5	0	207	2499
5:10 PM	6	11	2	0	21	8	26	1	28	51	13	0	5	50	10	0	232	2534
5:15 PM	18	16	0	0	30	22	24	0	18	30	6	0	2	48	11	0	225	2537
5:20 PM	6	6	1	0	20	10	19	0	21	58	10	0	4	56	14	0	225	2566
5:25 PM	9	18	4	0	12	21	25	0	20	37	9	0	4	35	10	0	204	2565
5:30 PM	4	18	2	0	12	25	25	0	26	32	7	0	0	30	14	0	195	2564
5:35 PM	6	11	1	0	21	15	21	0	22	32	7	0	3	45	10	0	194	2527
5:40 PM	14	8	1	0	12	15	11	0	22	38	9	0	2	51	9	0	192	2502
5:45 PM	7	13	3	0	15	16	25	0	21	26	10	0	1	33	11	0	181	2483
5:50 PM	13	15	4	0	10	8	21	0	15	32	14	0	2	30	4	0	168	2439
5:55 PM	5	14	1	0	17	14	9	0	26	31	20	0	5	39	10	0	191	2424

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	120	132	12	0	284	160	276	4	268	556	116	0	44	616	140	0	2728
Heavy Trucks	0	0	0		8	4	4		0	0	0		0	4	0		20
Buses																	
Pedestrians		12				8				0				4			24
Bicycles	0	0	8		0	0	0		0	0	0		0	0	0		8
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

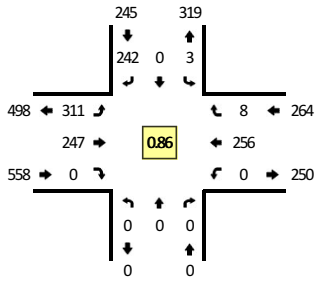
Method for determining peak hour: Total Entering Volume

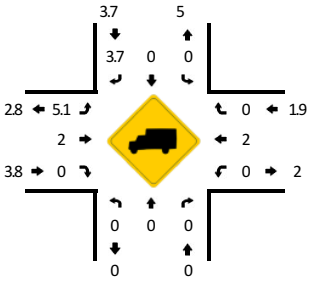
LOCATION: 8. E Mission Ave -- E Country Vista Dr
CITY/STATE: Liberty Lake, WA

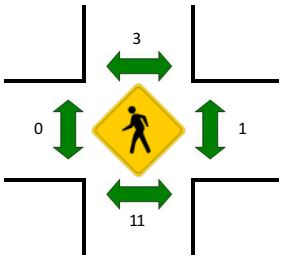
QC JOB #: 16908515
DATE: Wed, Apr 30 2025

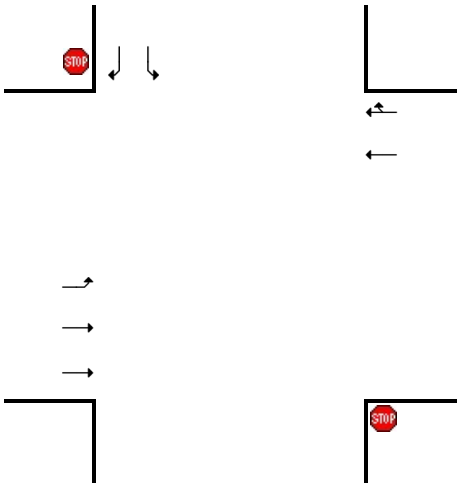
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

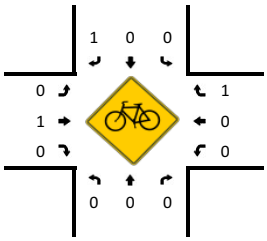
TRUE DATA TO IMPROVE MOBILITY

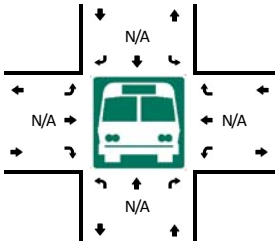


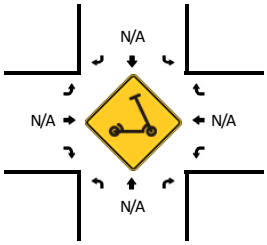












5-Min Count Period Beginning At	8. E Mission Ave (Northbound)				8. E Mission Ave (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	15	0	9	9	0	0	0	17	0	0	50	
7:05 AM	0	0	0	0	0	0	11	0	12	9	0	0	0	24	1	0	57	
7:10 AM	0	0	0	0	1	0	18	0	18	8	0	0	0	31	1	0	77	
7:15 AM	0	0	0	0	0	0	12	0	13	7	0	0	0	21	2	0	55	
7:20 AM	0	0	0	0	0	0	23	0	14	7	0	0	0	25	0	0	69	
7:25 AM	0	0	0	0	0	0	42	0	15	14	0	0	0	27	1	0	99	
7:30 AM	0	0	0	0	0	0	34	0	17	5	0	0	0	32	0	0	88	
7:35 AM	0	0	0	0	2	0	22	0	23	12	0	0	0	37	1	0	97	
7:40 AM	0	0	0	0	0	0	21	0	25	6	0	0	0	25	0	0	77	
7:45 AM	0	0	0	0	0	0	9	0	24	11	0	0	0	22	0	0	66	
7:50 AM	0	0	0	0	0	0	15	0	43	19	0	0	0	22	1	0	100	
7:55 AM	0	0	0	0	0	0	25	0	21	21	0	0	0	16	1	0	84	919
8:00 AM	0	0	0	0	0	0	15	0	32	27	0	0	0	16	0	0	90	959
8:05 AM	0	0	0	0	1	0	18	0	21	31	0	0	0	16	1	0	88	990
8:10 AM	0	0	0	0	0	0	13	0	29	28	0	0	0	21	1	0	92	1005
8:15 AM	0	0	0	0	0	0	19	0	24	24	0	0	0	26	0	0	93	1043
8:20 AM	0	0	0	0	0	0	10	0	24	18	0	0	0	12	0	0	64	1038
8:25 AM	0	0	0	0	0	0	25	0	19	24	0	0	0	23	0	0	91	1030
8:30 AM	0	0	0	0	1	0	15	0	16	8	0	0	0	30	2	0	72	1014
8:35 AM	0	0	0	0	0	0	26	0	27	12	0	0	0	17	1	0	83	1000
8:40 AM	0	0	0	0	0	0	18	0	29	22	0	0	0	15	0	0	84	1007
8:45 AM	0	0	0	0	1	0	35	0	30	20	0	0	0	20	1	0	107	1048
8:50 AM	0	0	0	0	0	0	20	0	32	17	0	0	0	31	1	0	101	1049
8:55 AM	0	0	0	0	0	0	28	0	28	16	0	0	0	29	1	0	102	1067

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	332	0	360	212	0	0	0	320	12	0	1240
Heavy Trucks	0	0	0		0	0	16		16	0	0		0	8	0		40
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	4	0		0	0	4		8
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

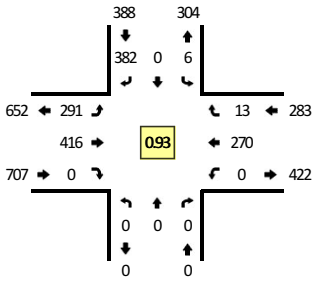
Type of peak hour being reported: Intersection Peak

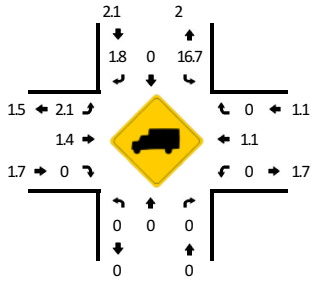
Method for determining peak hour: Total Entering Volume

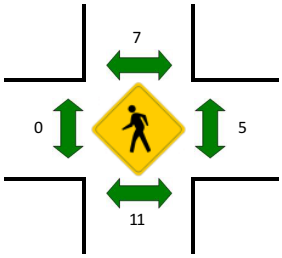
LOCATION: 8. E Mission Ave -- E Country Vista Dr
CITY/STATE: Liberty Lake, WA

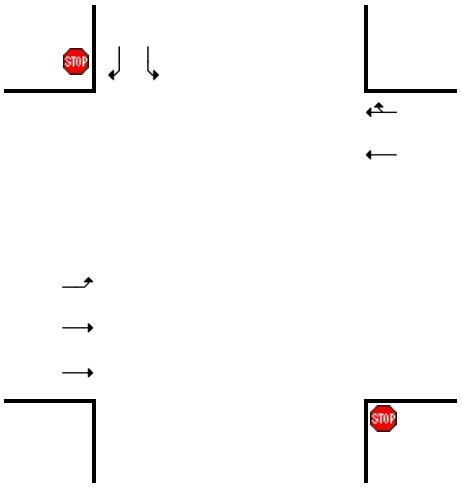
QC JOB #: 16908516
DATE: Wed, Apr 30 2025

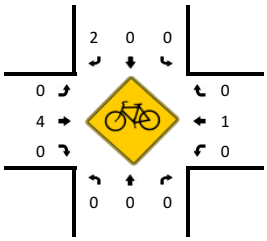
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

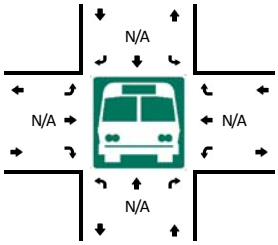


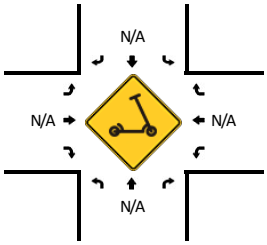












5-Min Count Period Beginning At	8. E Mission Ave (Northbound)				8. E Mission Ave (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	24	0	17	33	0	0	0	23	0	0	98	
4:05 PM	0	0	0	0	0	0	21	0	32	32	0	0	0	26	0	0	111	
4:10 PM	0	0	0	0	0	0	31	0	23	22	0	0	0	18	0	0	94	
4:15 PM	0	0	0	0	0	0	20	0	38	31	0	0	0	13	1	0	103	
4:20 PM	0	0	0	0	0	0	22	0	22	30	0	0	0	16	0	0	90	
4:25 PM	0	0	0	0	0	0	24	0	31	34	0	0	0	29	1	0	119	
4:30 PM	0	0	0	0	2	0	39	0	23	34	0	0	0	24	1	0	123	
4:35 PM	0	0	0	0	0	0	43	0	26	31	0	0	0	26	0	0	126	
4:40 PM	0	0	0	0	0	0	33	0	20	29	0	0	0	15	1	0	98	
4:45 PM	0	0	0	0	2	0	28	0	14	39	0	0	0	23	1	0	107	
4:50 PM	0	0	0	0	0	0	25	0	25	36	0	0	0	22	1	0	109	
4:55 PM	0	0	0	0	0	0	31	0	26	32	0	0	0	16	3	0	108	1286
5:00 PM	0	0	0	0	0	0	31	0	20	35	0	0	0	26	0	0	112	1300
5:05 PM	0	0	0	0	0	0	36	0	23	37	0	0	0	9	1	0	106	1295
5:10 PM	0	0	0	0	2	0	37	0	28	35	0	0	0	23	0	0	125	1326
5:15 PM	0	0	0	0	0	0	24	0	24	41	0	0	0	24	3	0	116	1339
5:20 PM	0	0	0	0	0	0	31	0	31	33	0	0	0	33	1	0	129	1378
5:25 PM	0	0	0	0	1	0	27	0	17	38	0	0	0	20	1	0	104	1363
5:30 PM	0	0	0	0	0	0	18	0	21	27	0	0	0	16	0	0	82	1322
5:35 PM	0	0	0	0	0	0	28	0	24	34	0	0	0	24	0	0	110	1306
5:40 PM	0	0	0	0	0	0	24	0	22	35	0	0	0	35	0	0	116	1324
5:45 PM	0	0	0	0	0	0	17	0	15	34	0	0	0	24	0	0	90	1307
5:50 PM	0	0	0	0	0	0	20	0	20	18	0	0	0	12	0	0	70	1268
5:55 PM	0	0	0	0	1	0	19	0	19	31	0	0	0	25	1	0	96	1256

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	8	0	368	0	332	436	0	0	0	320	16	0	1480
Heavy Trucks	0	0	0		0	0	0		8	0	0		0	4	0		12
Buses																	
Pedestrians		16				8				0				8			32
Bicycles	0	0	0		0	0	0		0	4	0		0	4	0		8
Scooters																	

Comments:

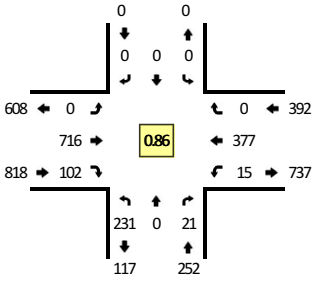
Report generated on 5/12/2025 11:41 AM

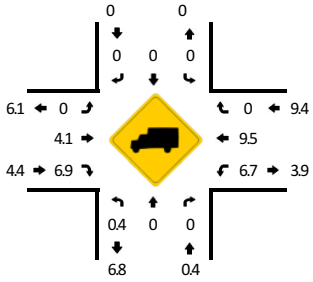
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

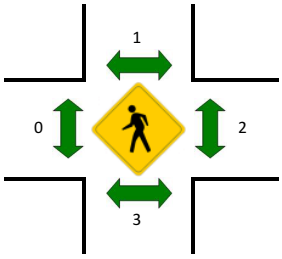
LOCATION: 9. N Signal Dr -- E Appleway Ave | **QC JOB #:** 16908517
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

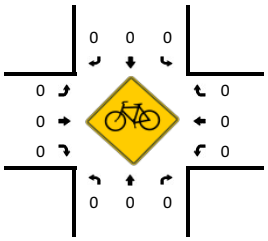


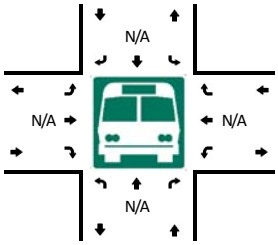


TRUE DATA TO IMPROVE MOBILITY

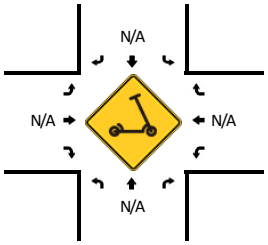












5-Min Count Period Beginning At	9. N Signal Dr (Northbound)				9. N Signal Dr (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	13	0	2	0	0	0	0	0	0	37	3	0	1	21	0	0	77	
7:05 AM	14	0	1	0	0	0	0	0	0	32	4	0	2	18	0	0	71	
7:10 AM	19	0	2	0	0	0	0	0	0	40	6	0	3	30	0	0	100	
7:15 AM	20	0	0	0	0	0	0	0	0	62	6	0	2	33	0	0	123	
7:20 AM	24	0	0	0	0	0	0	0	0	38	6	0	1	38	0	0	107	
7:25 AM	15	0	2	0	0	0	0	0	0	59	5	0	2	37	0	0	120	
7:30 AM	17	0	4	0	0	0	0	0	0	62	4	0	2	26	0	0	115	
7:35 AM	27	0	2	0	0	0	0	0	0	48	8	0	1	20	0	0	106	
7:40 AM	31	0	0	0	0	0	0	0	0	41	8	0	0	30	0	0	110	
7:45 AM	24	0	4	0	0	0	0	0	0	73	15	0	0	41	0	0	157	
7:50 AM	23	0	1	0	0	0	0	0	0	87	11	0	0	23	0	0	145	
7:55 AM	8	0	2	0	0	0	0	0	0	72	11	0	2	26	0	0	121	1352
8:00 AM	16	0	3	0	0	0	0	0	0	74	13	0	1	30	0	0	137	1412
8:05 AM	7	0	1	0	0	0	0	0	0	60	9	0	1	43	0	0	121	1462
8:10 AM	11	0	2	0	0	0	0	0	0	46	12	0	0	27	0	0	98	1460
8:15 AM	15	0	6	0	0	0	0	0	0	51	6	0	0	24	0	0	102	1439
8:20 AM	13	0	4	0	0	0	0	0	0	39	10	0	1	23	0	0	90	1422
8:25 AM	10	0	4	0	0	0	0	0	0	56	8	0	1	33	0	0	112	1414
8:30 AM	6	0	2	0	0	0	0	0	0	47	9	0	1	23	0	0	88	1387
8:35 AM	15	0	5	0	0	0	0	0	0	45	11	0	3	16	0	0	95	1376
8:40 AM	13	0	2	0	0	0	0	0	0	48	7	0	0	25	0	0	95	1361
8:45 AM	11	0	4	0	0	0	0	0	0	45	7	0	0	29	0	0	96	1300
8:50 AM	18	0	4	0	0	0	0	0	0	50	9	0	0	32	0	0	113	1268
8:55 AM	13	0	2	0	0	0	0	0	0	40	11	0	1	31	0	0	98	1245

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	220	0	28	0	0	0	0	0	0	928	148	0	8	360	0	0	1692
Heavy Trucks	0	0	0		0	0	0		0	24	0		4	56	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

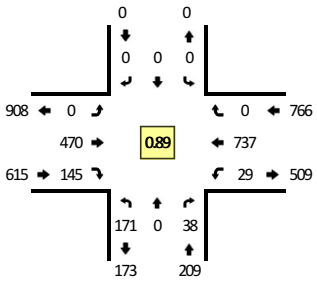
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 9. N Signal Dr -- E Appleway Ave
CITY/STATE: Liberty Lake, WA

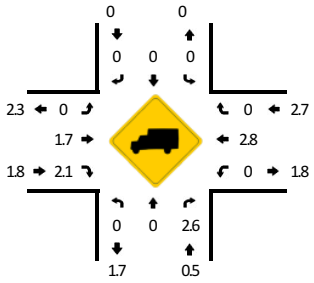
QC JOB #: 16908518
DATE: Wed, Apr 30 2025

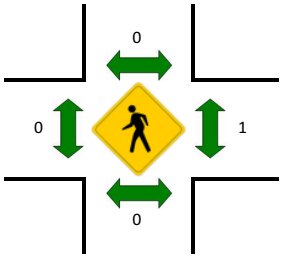
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM



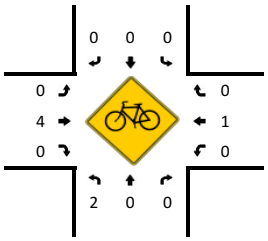


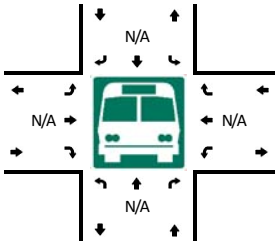
TRUE DATA TO IMPROVE MOBILITY



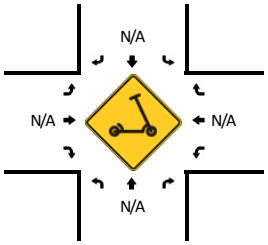












5-Min Count Period Beginning At	9. N Signal Dr (Northbound)				9. N Signal Dr (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	0	0	0	0	0	0	0	0	62	14	0	0	68	0	1	166	
4:05 PM	7	0	6	0	0	0	0	0	0	42	10	0	1	81	0	0	147	
4:10 PM	8	0	3	0	0	0	0	0	0	36	11	0	3	72	0	0	133	
4:15 PM	14	0	3	0	0	0	0	0	0	29	9	0	0	68	0	0	123	
4:20 PM	9	0	3	0	0	0	0	0	0	39	10	0	2	60	0	0	123	
4:25 PM	14	0	2	0	0	0	0	0	0	37	13	0	2	56	0	0	124	
4:30 PM	11	0	1	0	0	0	0	0	0	31	10	0	7	56	0	0	116	
4:35 PM	17	0	0	0	0	0	0	0	0	43	16	0	2	67	0	0	145	
4:40 PM	21	0	5	0	0	0	0	0	0	38	18	0	1	67	0	0	150	
4:45 PM	17	0	4	0	0	0	0	0	0	29	16	0	5	44	0	0	115	
4:50 PM	13	0	2	0	0	0	0	0	0	39	11	0	2	50	0	0	117	
4:55 PM	19	0	9	0	0	0	0	0	0	45	7	0	3	48	0	0	131	1590
5:00 PM	12	0	3	0	0	0	0	0	0	34	14	0	3	71	0	0	137	1561
5:05 PM	19	0	3	0	0	0	0	0	0	39	18	0	5	73	0	0	157	1571
5:10 PM	10	0	2	0	0	0	0	0	0	43	18	0	3	59	0	0	135	1573
5:15 PM	13	0	2	0	0	0	0	0	0	43	15	0	3	52	0	0	128	1578
5:20 PM	13	0	3	0	0	0	0	0	0	34	17	0	0	52	0	0	119	1574
5:25 PM	13	0	3	0	0	0	0	0	0	38	19	0	4	48	0	0	125	1575
5:30 PM	12	0	3	0	0	0	0	0	0	38	15	0	1	46	0	0	115	1574
5:35 PM	13	0	4	0	0	0	0	0	0	43	15	0	0	50	0	0	125	1554
5:40 PM	16	0	5	0	0	0	0	0	0	47	13	0	1	40	0	0	122	1526
5:45 PM	7	0	2	0	0	0	0	0	0	41	22	0	2	22	0	0	96	1507
5:50 PM	12	0	2	0	0	0	0	0	0	30	20	0	3	22	0	0	89	1479
5:55 PM	8	0	1	0	0	0	0	0	0	30	15	0	2	38	0	0	94	1442

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	144	0	36	0	0	0	0	0	0	560	140	0	16	884	0	4	1784
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	12	0		24
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	8	0	0		0	0	0		0	0	0		0	0	0		8
Scooters																	

Comments:

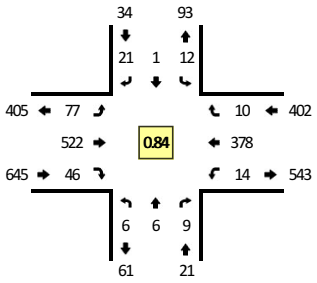
Report generated on 5/12/2025 11:41 AM

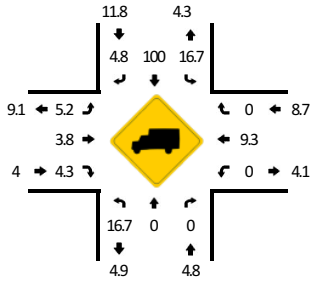
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

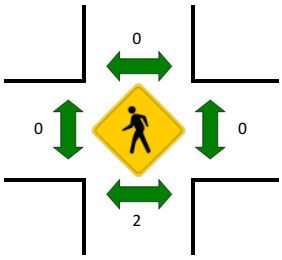
LOCATION: 10. N Madson St -- E Appleway Ave | **QC JOB #:** 16908519
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

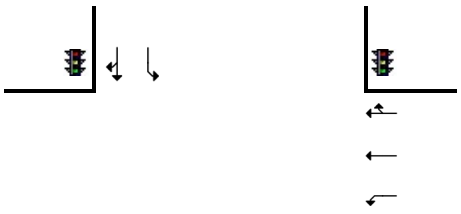
Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

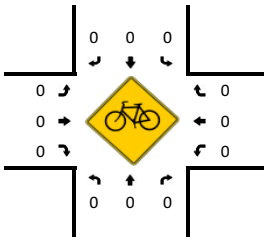


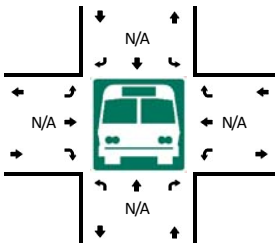


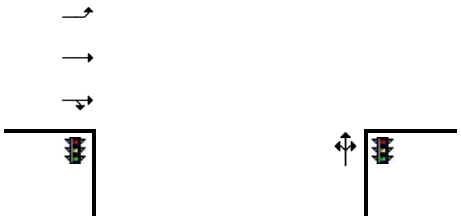
TRUE DATA TO IMPROVE MOBILITY

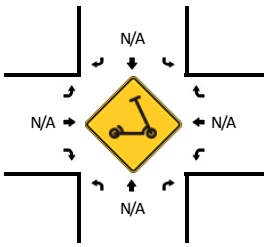












5-Min Count Period Beginning At	10. N Madson St (Northbound)				10. N Madson St (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	1	3	0	3	24	8	0	2	18	0	0	59	
7:05 AM	0	0	1	0	0	0	1	0	0	29	3	0	1	19	2	0	56	
7:10 AM	0	0	0	0	0	1	3	0	3	31	4	0	0	43	1	0	86	
7:15 AM	0	1	0	0	0	0	1	0	5	47	2	0	1	30	0	0	87	
7:20 AM	0	0	0	0	0	0	1	0	2	31	2	0	2	43	1	0	82	
7:25 AM	0	0	2	0	0	0	3	0	5	49	3	0	1	28	2	0	93	
7:30 AM	0	0	1	0	0	0	1	0	4	28	1	0	2	31	0	0	68	
7:35 AM	0	0	0	0	0	0	2	0	7	51	1	0	0	19	0	0	80	
7:40 AM	1	0	0	0	2	0	1	0	4	27	5	0	1	28	0	0	69	
7:45 AM	0	1	1	0	2	0	0	0	14	50	10	0	1	39	1	0	119	
7:50 AM	1	0	1	0	1	0	1	0	4	54	1	0	1	27	0	0	91	
7:55 AM	0	2	1	0	2	0	4	0	13	62	5	0	3	24	1	0	117	1007
8:00 AM	3	0	2	0	3	0	2	0	12	49	8	0	1	23	2	0	105	1053
8:05 AM	1	2	1	0	2	0	2	0	4	43	4	0	1	43	2	0	105	1102
8:10 AM	0	0	3	0	3	0	2	0	6	34	4	0	0	23	1	0	76	1092
8:15 AM	0	1	0	0	0	0	0	0	1	36	3	0	1	29	2	0	73	1078
8:20 AM	0	0	1	0	0	0	2	0	5	25	1	0	4	25	2	2	67	1063
8:25 AM	0	0	1	0	0	1	2	0	3	34	8	0	1	22	1	0	73	1043
8:30 AM	2	0	0	0	0	0	2	0	4	34	8	0	2	24	0	0	76	1051
8:35 AM	1	0	0	0	0	1	1	0	4	34	6	0	3	14	2	0	66	1037
8:40 AM	0	0	1	0	3	0	3	0	6	29	5	0	0	22	1	0	70	1038
8:45 AM	0	3	0	0	0	0	4	0	6	41	5	0	0	30	0	0	89	1008
8:50 AM	1	1	1	0	1	0	5	0	8	27	4	0	1	24	2	0	75	992
8:55 AM	1	1	0	0	0	0	2	0	9	30	3	0	1	31	3	0	81	956

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	12	12	0	20	0	20	0	124	664	64	0	20	360	8	0	1308
Heavy Trucks	0	0	0		4	0	0		0	16	4		0	60	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

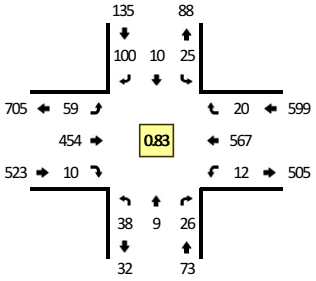
Type of peak hour being reported: Intersection Peak

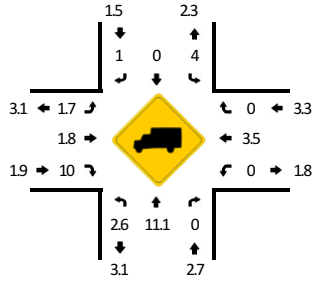
Method for determining peak hour: Total Entering Volume

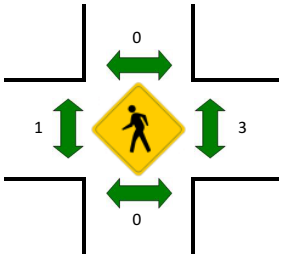
LOCATION: 10. N Madson St -- E Appleway Ave
CITY/STATE: Liberty Lake, WA

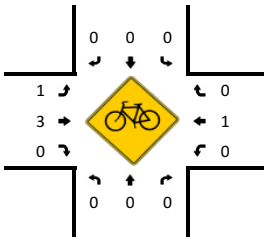
QC JOB #: 16908520
DATE: Wed, Apr 30 2025

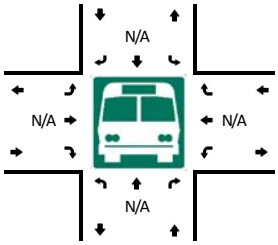
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

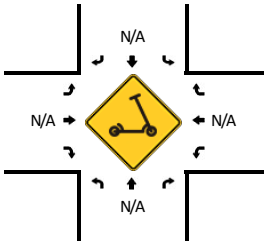












5-Min Count Period Beginning At	10. N Madson St (Northbound)				10. N Madson St (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	3	0	0	2	1	12	0	9	55	3	0	0	57	1	0	148	
4:05 PM	8	1	2	0	3	0	10	0	5	44	2	0	1	57	4	0	137	
4:10 PM	3	1	2	0	2	1	4	0	5	44	0	0	1	53	2	0	118	
4:15 PM	3	1	4	0	1	0	6	0	0	30	0	0	1	49	1	0	96	
4:20 PM	5	0	3	0	4	1	9	0	4	31	0	0	0	41	2	0	100	
4:25 PM	0	0	1	0	3	1	8	0	3	40	1	0	2	49	0	0	108	
4:30 PM	1	1	3	0	2	1	11	0	7	37	0	0	1	42	1	0	107	
4:35 PM	4	0	5	0	1	0	8	0	3	32	1	0	0	50	3	0	107	
4:40 PM	4	0	2	0	0	3	9	0	7	43	1	0	0	44	3	0	116	
4:45 PM	1	1	1	0	1	1	4	0	3	31	1	0	1	43	1	0	89	
4:50 PM	1	0	0	0	2	1	10	0	4	28	0	0	4	41	1	0	92	
4:55 PM	3	1	3	0	4	0	9	0	9	39	1	0	1	41	1	0	112	1330
5:00 PM	7	1	5	0	1	1	7	0	9	31	5	0	0	42	0	0	109	1291
5:05 PM	7	0	1	0	3	3	12	0	5	42	1	0	0	57	2	0	133	1287
5:10 PM	3	0	3	0	2	1	7	0	9	34	0	0	0	37	2	0	98	1267
5:15 PM	2	0	1	0	2	1	3	0	5	42	0	0	1	46	2	0	105	1276
5:20 PM	2	0	0	0	2	1	4	0	7	31	1	0	0	39	1	0	88	1264
5:25 PM	2	0	0	0	1	0	3	0	3	25	1	0	1	45	1	0	82	1238
5:30 PM	0	1	1	0	1	0	9	0	5	46	1	0	1	42	5	0	112	1243
5:35 PM	3	0	0	0	2	1	2	0	0	37	1	0	0	31	1	0	78	1214
5:40 PM	2	0	1	0	1	0	5	0	4	49	2	0	0	26	1	0	91	1189
5:45 PM	0	0	0	0	1	0	3	0	6	38	0	1	0	23	0	0	72	1172
5:50 PM	0	0	1	0	3	1	5	0	6	27	3	0	1	14	0	0	61	1141
5:55 PM	2	0	1	0	0	0	9	0	4	25	0	0	0	30	2	0	73	1102

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	20	16	0	28	8	104	0	76	572	20	0	8	668	28	0	1612
Heavy Trucks	0	4	0		4	0	0		4	8	4		0	16	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

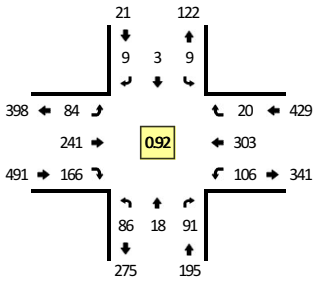
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

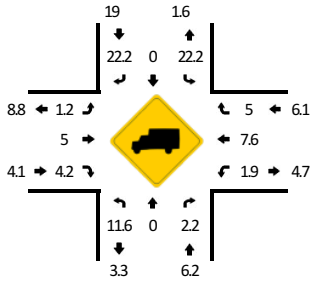
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 11. N Molter Rd -- E Appleway Ave
CITY/STATE: Liberty Lake, WA

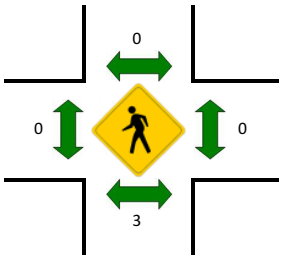
QC JOB #: 16908521
DATE: Wed, Apr 30 2025

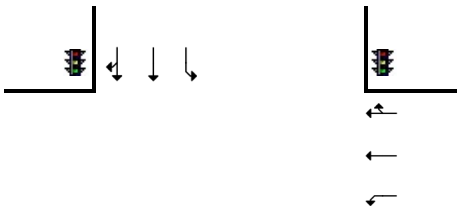
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

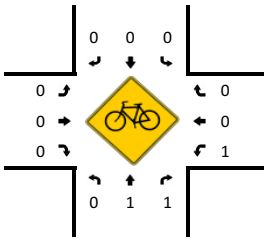


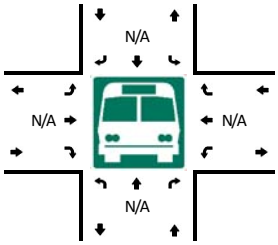


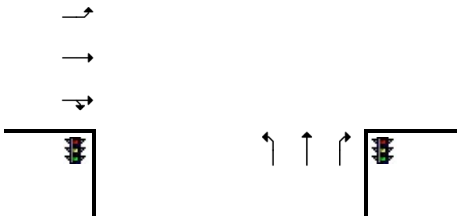
TRUE DATA TO IMPROVE MOBILITY

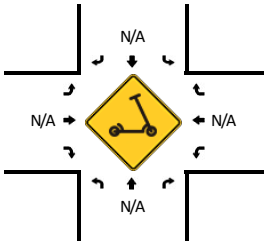












5-Min Count Period Beginning At	11. N Molter Rd (Northbound)				11. N Molter Rd (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	1	6	0	1	1	1	0	1	14	5	0	6	16	0	0	54	
7:05 AM	4	0	3	0	0	2	1	0	2	23	5	0	6	17	1	0	64	
7:10 AM	5	0	1	0	0	0	1	0	0	24	1	1	4	36	0	0	73	
7:15 AM	10	1	5	0	1	0	0	0	4	19	8	0	1	29	2	0	80	
7:20 AM	4	0	12	0	0	0	2	0	6	19	10	0	4	36	1	0	94	
7:25 AM	4	0	6	0	0	0	2	0	6	31	10	0	8	23	2	0	92	
7:30 AM	7	2	10	0	1	0	0	0	2	20	3	0	6	33	0	0	84	
7:35 AM	4	1	10	0	1	0	2	0	4	24	20	0	8	20	4	0	98	
7:40 AM	6	1	6	0	0	0	1	0	5	16	9	0	13	22	2	0	81	
7:45 AM	7	1	6	0	1	1	0	0	6	14	16	0	12	35	1	0	100	
7:50 AM	8	0	8	0	0	0	0	0	13	18	27	0	7	19	3	0	103	
7:55 AM	6	3	3	0	1	1	0	0	12	24	10	0	7	25	3	0	95	1018
8:00 AM	4	6	6	0	0	0	1	0	13	25	20	0	6	23	2	0	106	1070
8:05 AM	19	0	8	0	1	0	1	0	7	22	12	0	13	25	0	0	108	1114
8:10 AM	10	2	7	0	1	1	0	0	4	11	16	0	9	16	1	0	78	1119
8:15 AM	7	2	9	0	3	0	0	0	6	17	13	0	13	26	1	0	97	1136
8:20 AM	6	2	7	0	0	0	1	0	2	16	6	0	9	25	3	0	77	1119
8:25 AM	7	0	10	0	1	0	1	0	7	17	6	0	13	13	0	0	75	1102
8:30 AM	7	2	9	0	0	0	0	0	1	23	13	0	7	21	1	0	84	1102
8:35 AM	4	3	5	0	2	0	0	0	7	12	12	0	11	14	1	0	71	1075
8:40 AM	9	0	8	0	1	0	0	0	2	16	13	0	5	19	1	1	75	1069
8:45 AM	13	2	5	0	1	0	0	0	4	16	19	0	8	11	1	0	80	1049
8:50 AM	15	4	9	0	1	1	1	0	3	16	5	0	9	14	2	0	80	1026
8:55 AM	8	4	13	0	1	2	4	0	2	17	11	0	4	22	1	0	89	1020

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	116	36	68	0	8	4	8	0	128	284	168	0	104	292	20	0	1236
Heavy Trucks	8	0	0		0	0	0		4	8	0		0	8	0		28
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		4	0	0		4
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

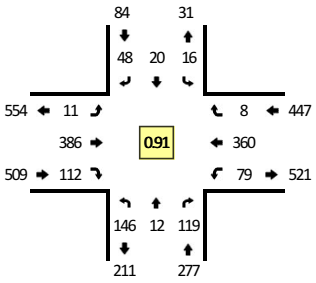
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

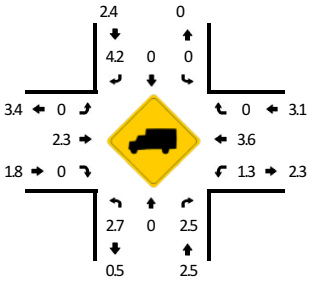
LOCATION: 11. N Molter Rd -- E Appleway Ave
CITY/STATE: Liberty Lake, WA

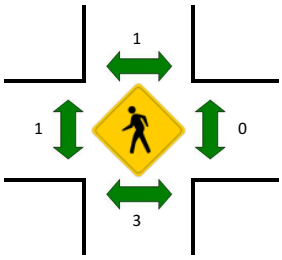
QC JOB #: 16908522
DATE: Wed, Apr 30 2025

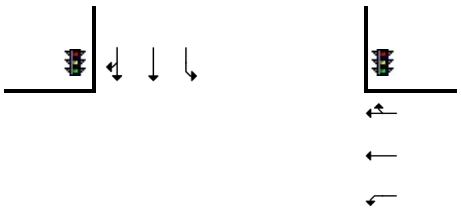
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

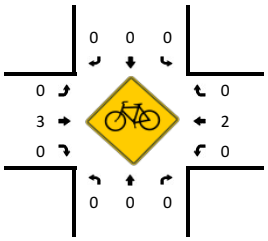


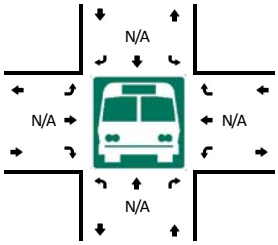


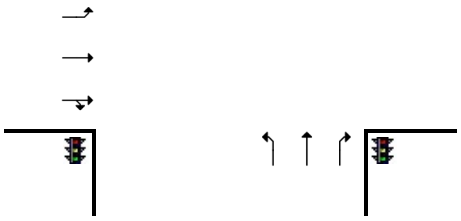


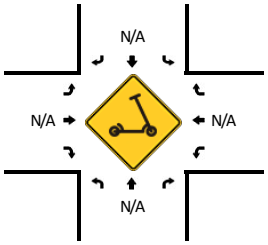












5-Min Count Period Beginning At	11. N Molter Rd (Northbound)				11. N Molter Rd (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	12	2	10	0	1	0	8	0	2	43	13	0	5	31	1	0	128	
4:05 PM	13	0	12	0	1	2	6	0	0	34	13	0	7	38	1	0	127	
4:10 PM	9	1	12	0	0	1	5	0	2	29	9	0	8	31	1	0	108	
4:15 PM	15	0	8	0	0	0	2	0	1	35	12	0	8	36	0	0	117	
4:20 PM	10	2	6	0	2	0	5	0	1	30	6	0	5	27	2	0	96	
4:25 PM	11	0	5	0	1	1	4	0	1	29	15	0	3	28	1	0	99	
4:30 PM	16	0	14	0	5	2	2	0	1	32	5	0	6	21	0	0	104	
4:35 PM	22	1	13	0	1	1	2	0	0	35	11	0	6	34	1	0	127	
4:40 PM	14	1	9	0	2	0	3	0	0	38	7	0	7	29	0	0	110	
4:45 PM	9	2	7	0	0	2	2	0	1	27	10	0	11	24	0	0	95	
4:50 PM	7	1	7	0	1	2	3	0	1	22	4	0	7	34	1	0	90	
4:55 PM	8	2	16	0	2	9	6	0	1	32	7	0	6	27	0	0	116	1317
5:00 PM	6	0	13	0	8	0	10	0	2	31	11	0	10	23	0	0	114	1303
5:05 PM	16	0	14	0	5	1	2	0	0	33	11	0	5	34	1	0	122	1298
5:10 PM	6	1	9	0	1	3	2	0	1	29	7	0	9	24	2	0	94	1284
5:15 PM	13	2	8	0	2	2	6	0	0	30	13	0	6	25	0	0	107	1274
5:20 PM	9	0	10	0	2	1	2	0	0	35	4	0	5	31	1	0	100	1278
5:25 PM	10	2	9	0	0	0	2	0	1	22	6	0	9	36	1	0	98	1277
5:30 PM	10	0	9	0	3	0	0	0	0	27	5	0	9	29	0	0	92	1265
5:35 PM	9	0	7	0	0	0	1	0	2	42	10	0	9	18	0	0	98	1236
5:40 PM	10	1	13	0	0	1	3	0	0	33	15	0	9	17	0	0	102	1228
5:45 PM	4	1	6	0	0	0	1	0	0	22	17	0	9	12	2	0	74	1207
5:50 PM	4	0	11	0	2	2	1	0	1	23	3	0	6	12	0	0	65	1182
5:55 PM	8	0	12	0	0	1	2	0	1	20	10	0	7	19	1	0	81	1147

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	12	136	0	8	12	76	0	16	424	140	0	80	400	12	0	1452
Heavy Trucks	0	0	4		0	0	4		0	8	0		4	8	0		28
Buses																	
Pedestrians		4				4				4				0			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

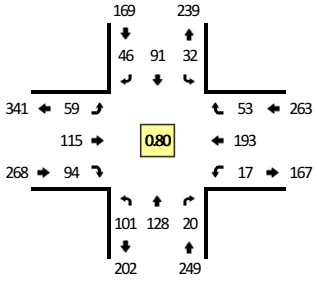
Type of peak hour being reported: Intersection Peak

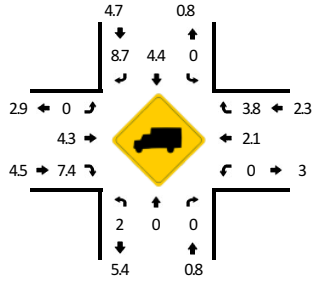
Method for determining peak hour: Total Entering Volume

LOCATION: 12. N Molter Rd -- E Mission Ave
CITY/STATE: Liberty Lake, WA

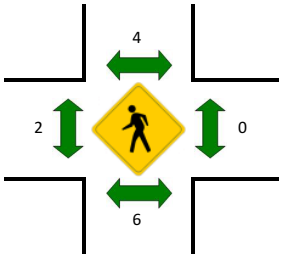
QC JOB #: 16908523
DATE: Wed, Apr 30 2025

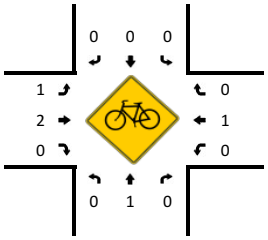
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

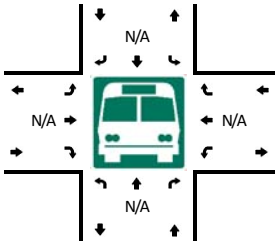


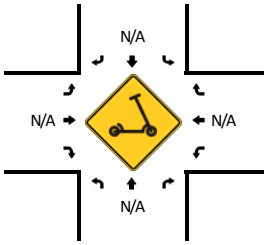


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	12. N Molter Rd (Northbound)				12. N Molter Rd (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	7	0	0	2	1	2	0	2	8	0	0	0	11	0	0	36	
7:05 AM	2	2	0	0	3	2	1	0	1	9	1	0	1	24	0	0	46	
7:10 AM	5	4	0	0	1	3	1	0	0	9	0	0	0	21	4	0	48	
7:15 AM	6	4	0	0	1	3	4	0	4	5	4	0	1	18	2	0	52	
7:20 AM	4	13	0	0	4	3	0	0	4	12	2	0	0	33	2	0	77	
7:25 AM	5	5	0	0	2	2	3	0	2	10	0	0	0	39	4	0	72	
7:30 AM	1	9	0	0	0	3	0	0	0	6	6	0	1	29	2	0	57	
7:35 AM	3	7	1	0	5	6	3	0	6	20	2	0	1	37	5	0	96	
7:40 AM	5	3	0	0	0	5	6	0	3	11	1	0	0	21	5	0	60	
7:45 AM	3	7	0	0	8	3	2	0	1	25	1	0	1	18	3	0	72	
7:50 AM	3	10	0	0	8	7	2	0	8	16	1	0	1	19	7	0	82	
7:55 AM	5	7	0	0	3	4	1	0	5	16	4	0	2	13	3	0	63	761
8:00 AM	11	11	5	0	4	4	0	0	6	13	6	0	1	21	3	0	85	810
8:05 AM	8	10	3	0	2	8	2	0	5	8	8	0	2	12	13	0	81	845
8:10 AM	13	9	0	0	2	8	4	0	7	10	3	0	0	8	5	0	69	866
8:15 AM	3	7	2	0	3	6	3	0	8	11	3	1	1	11	2	0	61	875
8:20 AM	5	5	2	0	4	3	6	0	7	8	2	0	0	14	4	0	60	858
8:25 AM	1	7	0	0	1	7	5	0	4	9	3	0	0	21	3	0	61	847
8:30 AM	1	11	1	0	4	7	5	0	3	10	4	0	1	13	3	0	63	853
8:35 AM	4	5	1	0	4	13	9	0	4	9	9	0	2	16	4	0	80	837
8:40 AM	9	15	1	0	2	10	5	0	2	10	17	0	1	17	3	0	92	869
8:45 AM	18	13	3	0	2	15	4	0	1	9	16	0	3	22	6	0	112	909
8:50 AM	12	18	2	0	1	4	2	0	3	8	14	0	2	16	4	0	86	913
8:55 AM	16	17	0	0	3	6	1	0	8	10	9	0	4	22	3	0	99	949

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	184	192	20	0	24	100	28	0	48	108	156	0	36	240	52	0	1188
Heavy Trucks	4	0	0		0	0	8		0	4	16		0	8	0		40
Buses																	
Pedestrians		8				8				4				0			20
Bicycles	0	4	0		0	0	0		0	4	0		0	0	0		8
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

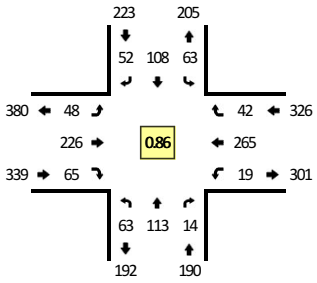
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

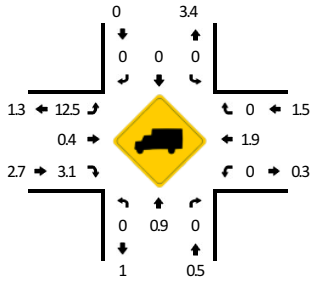
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

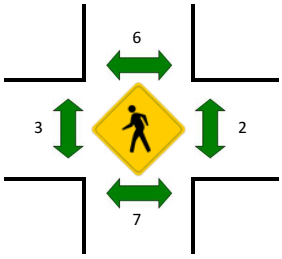
LOCATION: 12. N Molter Rd -- E Mission Ave
CITY/STATE: Liberty Lake, WA

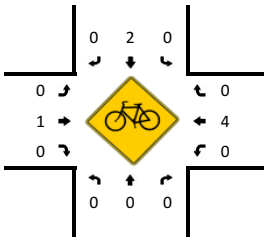
QC JOB #: 16908524
DATE: Wed, Apr 30 2025

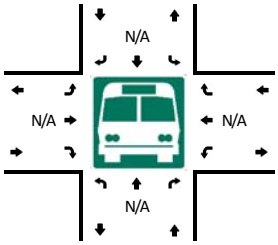
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

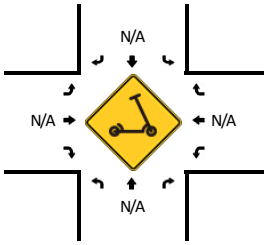












5-Min Count Period Beginning At	12. N Molter Rd (Northbound)				12. N Molter Rd (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	6	1	0	2	18	3	0	4	18	5	0	1	18	7	0	86	
4:05 PM	2	7	0	0	10	11	6	0	2	12	4	0	2	13	0	0	69	
4:10 PM	8	7	2	0	3	15	5	2	5	21	3	0	4	22	4	0	101	
4:15 PM	4	8	3	0	8	8	4	0	5	15	6	0	3	16	2	0	82	
4:20 PM	2	7	1	0	7	7	2	0	4	15	11	0	2	10	5	0	73	
4:25 PM	11	11	1	0	7	8	0	0	2	17	5	0	1	23	4	0	90	
4:30 PM	10	15	2	0	5	10	2	0	7	23	7	0	2	25	4	0	112	
4:35 PM	4	8	5	0	3	7	8	0	3	21	3	0	2	29	8	0	101	
4:40 PM	5	17	0	0	0	8	4	0	2	18	10	0	0	33	2	0	99	
4:45 PM	4	8	0	0	6	13	8	0	2	17	6	0	1	14	5	0	84	
4:50 PM	2	6	0	0	5	6	3	0	6	20	3	0	3	22	0	0	76	
4:55 PM	5	16	0	0	7	7	8	0	6	16	5	0	1	20	0	0	91	1064
5:00 PM	3	8	0	0	5	10	2	0	4	20	3	0	0	18	3	0	76	1054
5:05 PM	5	2	0	0	5	9	6	0	2	23	3	0	0	33	5	0	93	1078
5:10 PM	2	2	1	0	7	11	6	0	6	20	3	0	1	17	1	0	77	1054
5:15 PM	0	6	0	0	3	16	2	0	6	21	5	0	2	20	3	0	84	1056
5:20 PM	3	5	1	0	2	8	6	0	5	22	7	0	1	24	5	0	89	1072
5:25 PM	6	10	2	0	3	9	1	0	4	18	7	0	1	18	5	0	84	1066
5:30 PM	4	6	2	0	3	6	4	1	0	18	5	0	0	15	2	0	66	1020
5:35 PM	4	7	1	0	3	7	8	0	3	15	6	0	0	18	3	0	75	994
5:40 PM	6	6	3	0	5	13	3	2	10	11	3	0	1	11	4	0	78	973
5:45 PM	2	5	0	0	10	9	2	0	2	14	8	0	0	15	0	0	67	956
5:50 PM	4	8	0	0	2	9	3	0	5	19	5	0	0	8	3	0	66	946
5:55 PM	2	11	2	0	2	11	2	0	3	24	10	0	1	13	3	0	84	939

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	76	160	28	0	32	100	56	0	48	248	80	0	16	348	56	0	1248
Heavy Trucks	0	0	0		0	0	0		4	0	0		0	0	0		4
Buses																	
Pedestrians		4				8				4				0			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

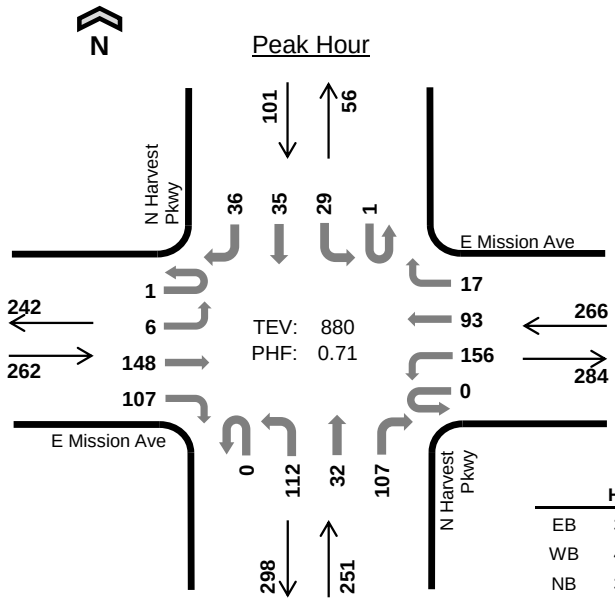
Comments:

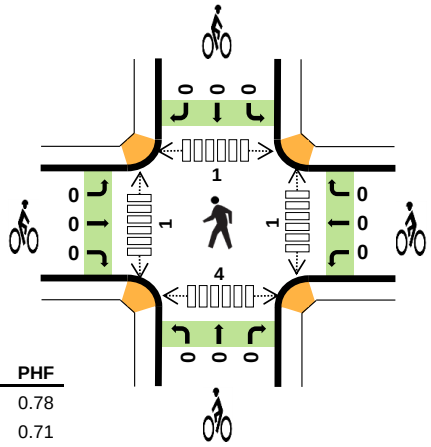
Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

N Harvest Pkwy
E Mission Ave

Date: 05/08/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	3.1%	0.78
WB	4.5%	0.71
NB	3.2%	0.60
SB	0.0%	0.87
TOTAL	3.2%	0.71

Two-Hour Count Summaries

Interval Start		E Mission Ave Eastbound				E Mission Ave Westbound				N Harvest Pkwy Northbound				N Harvest Pkwy Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	40	5	0	2	18	1	0	1	0	0	0	10	0	8	86	0
7:15 AM		**0**	**0**	**34**	**14**	**0**	**19**	**19**	**3**	**0**	**5**	**0**	**7**	**0**	**13**	**1**	**15**	**130**	0
7:30 AM		**0**	**3**	**45**	**27**	**0**	**42**	**34**	**7**	**0**	**26**	**6**	**14**	**1**	**11**	**4**	**6**	**226**	0
7:45 AM		**1**	**1**	**37**	**45**	**0**	**69**	**20**	**5**	**0**	**46**	**13**	**45**	**0**	**1**	**18**	**9**	**310**	752
8:00 AM		**0**	**2**	**32**	**21**	**0**	**26**	**20**	**2**	**0**	**35**	**13**	**41**	**0**	**4**	**12**	**6**	**214**	**880**
8:15 AM		0	6	22	1	1	2	26	2	0	3	0	2	0	1	0	6	72	822
8:30 AM		0	8	36	4	2	5	30	2	0	4	0	7	0	7	0	7	112	708
8:45 AM		0	8	32	1	0	0	30	10	0	1	0	0	1	3	0	8	94	492
Count Total		1	29	278	118	3	165	197	32	0	121	32	116	2	50	35	65	1,244	0
Peak Hour	**All**	**1**	**6**	**148**	**107**	**0**	**156**	**93**	**17**	**0**	**112**	**32**	**107**	**1**	**29**	**35**	**36**	**880**	**0**
	HV	**0**	**0**	**5**	**3**	**0**	**7**	**5**	**0**	**0**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**28**	**0**
	HV%	**0%**	**0%**	**3%**	**3%**	**-**	**4%**	**5%**	**0%**	**-**	**4%**	**0%**	**4%**	**0%**	**0%**	**0%**	**0%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	2	0	2	*5*	0	0	0	0	*0*	0	1	0	0	*1*
7:15 AM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**3**	**4**	**2**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	*2*
7:45 AM	**3**	**6**	**1**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**3**	*4*
8:00 AM	**1**	**1**	**5**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
8:15 AM	3	3	1	0	*7*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	2	2	3	1	*8*	0	0	0	0	*0*	0	0	0	1	*1*
8:45 AM	1	2	0	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	15	21	12	4	*52*	0	0	0	0	*0*	1	2	1	5	*9*
Peak Hour	**8**	**12**	**8**	**0**	***28***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**4**	***7***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Mission Ave				E Mission Ave				N Harvest Pkwy				N Harvest Pkwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	2	0	0	5	0
7:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
7:30 AM	**0**	**0**	**2**	**1**	**0**	**2**	**2**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	0
7:45 AM	**0**	**0**	**1**	**2**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**10**	26
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	**28**
8:15 AM	0	0	3	0	0	0	3	0	0	0	0	1	0	0	0	0	7	33
8:30 AM	0	0	2	0	0	2	0	0	0	2	0	1	0	1	0	0	8	32
8:45 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	1	4	26
Count Total	0	0	12	3	0	9	12	0	0	6	0	6	0	3	0	1	52	0
Peak Hour	**0**	**0**	**5**	**3**	**0**	**7**	**5**	**0**	**0**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**28**	**0**

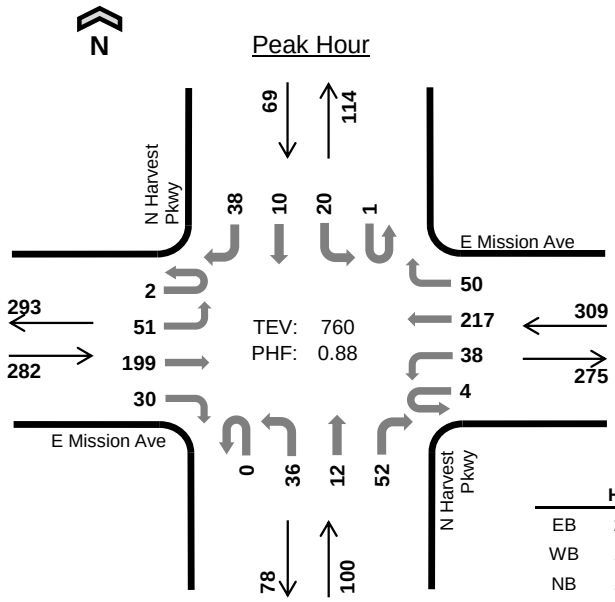
Two-Hour Count Summaries - Bikes

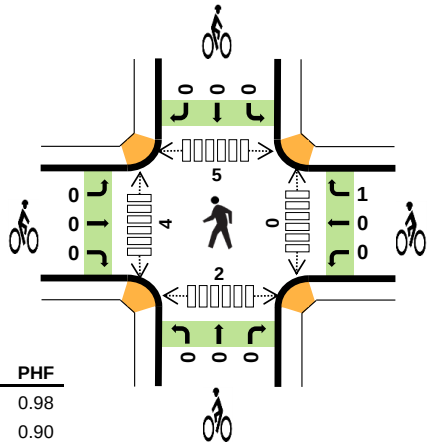
Interval Start	E Mission Ave			E Mission Ave			N Harvest Pkwy			N Harvest Pkwy			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Harvest Pkwy
E Mission Ave

Date: 05/08/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	2.5%	0.98
WB	1.9%	0.90
NB	1.0%	0.44
SB	0.0%	0.75
TOTAL	1.8%	0.88

Two-Hour Count Summaries

Interval Start		E Mission Ave Eastbound				E Mission Ave Westbound				N Harvest Pkwy Northbound				N Harvest Pkwy Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	16	61	4	1	4	53	10	0	4	1	2	1	4	0	10	171	0
4:15 PM		**0**	**6**	**58**	**7**	**2**	**9**	**53**	**16**	**0**	**0**	**1**	**1**	**0**	**7**	**1**	**8**	**169**	0
4:30 PM		**1**	**18**	**41**	**9**	**1**	**15**	**59**	**11**	**0**	**13**	**2**	**14**	**0**	**3**	**5**	**8**	**200**	0
4:45 PM		**0**	**12**	**46**	**12**	**1**	**12**	**52**	**10**	**0**	**18**	**9**	**30**	**0**	**3**	**4**	**7**	**216**	756
5:00 PM		**1**	**15**	**54**	**2**	**0**	**2**	**53**	**13**	**0**	**5**	**0**	**7**	**1**	**7**	**0**	**15**	**175**	**760**
5:15 PM		0	14	46	1	2	0	56	11	0	4	0	1	0	10	0	12	157	748
5:30 PM		1	12	49	5	0	2	43	10	0	10	3	12	0	4	0	12	163	711
5:45 PM		0	15	46	5	0	4	36	8	0	18	1	13	0	10	0	10	166	661
Count Total		3	108	401	45	7	48	405	89	0	72	17	80	2	48	10	82	1,417	0
Peak Hour	**All**	**2**	**51**	**199**	**30**	**4**	**38**	**217**	**50**	**0**	**36**	**12**	**52**	**1**	**20**	**10**	**38**	**760**	**0**
	HV	**0**	**0**	**7**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**
	HV%	**0%**	**0%**	**4%**	**0%**	**0%**	**0%**	**3%**	**0%**	**-**	**3%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	4	0	1	*6*	0	0	0	0	*0*	0	0	2	1	*3*
4:15 PM	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**2**	*3*
4:30 PM	**2**	**1**	**0**	**0**	***3***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**2**	**0**	*2*
4:45 PM	**1**	**2**	**1**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
5:00 PM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**2**	**0**	***4***
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	3	2	2	0	*7*	0	2	0	0	*2*	0	0	1	0	*1*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	1	*2*
Count Total	11	12	3	1	*27*	0	3	0	0	*3*	0	5	8	4	*17*
Peak Hour	**7**	**6**	**1**	**0**	***14***	**0**	**1**	**0**	**0**	***1***	**0**	**4**	**5**	**2**	***11***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Mission Ave				E Mission Ave				N Harvest Pkwy				N Harvest Pkwy				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	4	0	0	0	0	0	1	0	0	0	6	0
4:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	18
5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**14**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	0	1	2	0	0	2	0	0	1	0	1	0	0	0	0	7	13
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Count Total	0	1	8	2	0	0	12	0	0	2	0	1	1	0	0	0	27	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**

Two-Hour Count Summaries - Bikes

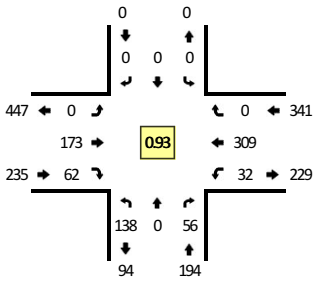
Interval Start	E Mission Ave			E Mission Ave			N Harvest Pkwy			N Harvest Pkwy			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	3	0	0	0	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

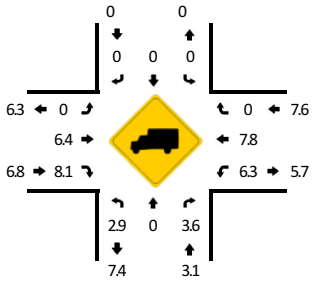
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

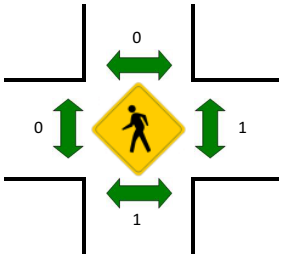
LOCATION: 14. N Country Vista Blvd -- E Appleway Ave | **QC JOB #:** 16908527
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

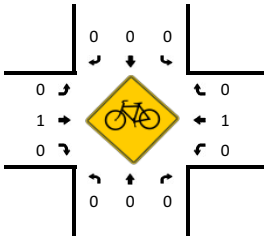


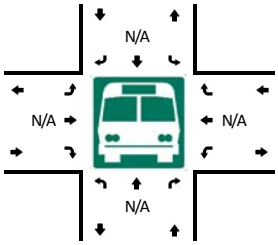
TRUE DATA TO IMPROVE MOBILITY



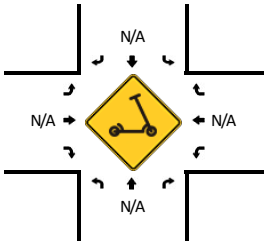












5-Min Count Period Beginning At	14. N Country Vista Blvd (Northbound)				14. N Country Vista Blvd (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	4	0	0	0	0	0	0	10	6	0	2	18	0	0	46	
7:05 AM	6	0	6	0	0	0	0	0	0	17	7	0	0	19	0	0	55	
7:10 AM	14	0	4	0	0	0	0	0	0	9	3	0	2	30	0	0	62	
7:15 AM	10	0	4	0	0	0	0	0	0	12	9	0	4	19	0	0	58	
7:20 AM	15	0	6	0	0	0	0	0	0	18	5	0	3	35	0	0	82	
7:25 AM	12	0	4	0	0	0	0	0	0	14	5	0	1	18	0	0	54	
7:30 AM	12	0	6	0	0	0	0	0	0	22	5	0	1	24	0	0	70	
7:35 AM	9	0	9	0	0	0	0	0	0	17	7	0	2	23	0	0	67	
7:40 AM	12	0	4	0	0	0	0	0	0	12	3	0	5	28	0	0	64	
7:45 AM	15	0	1	0	0	0	0	0	0	11	2	0	1	23	0	0	53	
7:50 AM	8	0	6	0	0	0	0	0	0	16	7	0	2	26	0	0	65	
7:55 AM	12	0	2	0	0	0	0	0	0	15	8	0	4	34	0	0	75	751
8:00 AM	10	0	4	0	0	0	0	0	0	17	3	0	4	25	0	0	63	768
8:05 AM	9	0	6	0	0	0	0	0	0	10	5	0	3	24	0	0	57	770
8:10 AM	5	0	7	0	0	0	0	0	0	16	2	0	4	25	0	0	59	767
8:15 AM	11	0	2	0	0	0	0	0	0	16	7	0	0	23	0	0	59	768
8:20 AM	4	0	3	0	0	0	0	0	0	13	2	0	7	29	0	0	58	744
8:25 AM	6	0	3	0	0	0	0	0	0	22	6	0	3	22	0	0	62	752
8:30 AM	8	0	4	0	0	0	0	0	0	18	7	0	3	15	0	0	55	737
8:35 AM	2	0	4	0	0	0	0	0	0	11	4	0	0	20	0	0	41	711
8:40 AM	10	0	5	0	0	0	0	0	0	21	3	0	4	17	0	0	60	707
8:45 AM	2	0	7	0	0	0	0	0	0	18	1	0	3	18	0	0	49	703
8:50 AM	7	0	10	0	0	0	0	0	0	13	5	0	1	22	0	0	58	696
8:55 AM	8	0	6	0	0	0	0	0	0	20	1	0	2	22	0	0	59	680

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	156	0	64	0	0	0	0	0	0	216	60	0	20	308	0	0	824
Heavy Trucks	4	0	0		0	0	0		0	20	8		0	28	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

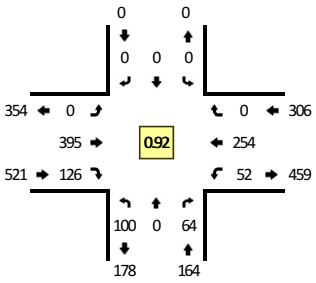
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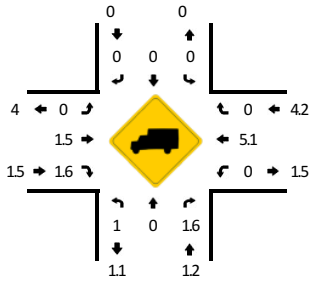
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

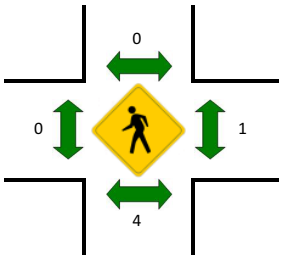
LOCATION: 14. N Country Vista Blvd -- E Appleway Ave | **QC JOB #:** 16908528
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

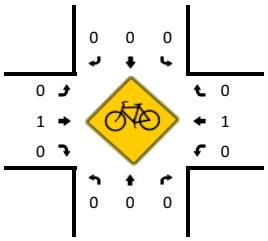


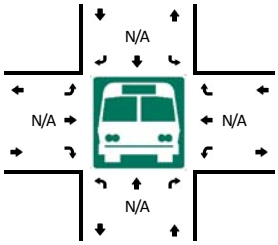


TRUE DATA TO IMPROVE MOBILITY

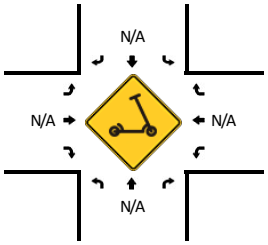












5-Min Count Period Beginning At	14. N Country Vista Blvd (Northbound)				14. N Country Vista Blvd (Southbound)				E Appleway Ave (Eastbound)				E Appleway Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	0	5	0	0	0	0	0	0	32	13	0	4	16	0	0	78	
4:05 PM	7	0	9	0	0	0	0	0	0	40	9	0	5	15	0	0	85	
4:10 PM	7	0	2	0	0	0	0	0	0	33	9	0	4	29	0	0	84	
4:15 PM	6	0	6	0	0	0	0	0	0	31	9	0	14	23	0	0	89	
4:20 PM	9	0	5	0	0	0	0	0	0	39	5	0	8	17	0	0	83	
4:25 PM	10	0	6	0	0	0	0	0	0	21	6	0	7	17	0	0	67	
4:30 PM	2	0	5	0	0	0	0	0	0	36	11	0	2	17	0	0	73	
4:35 PM	12	0	2	0	0	0	0	0	0	36	13	0	4	20	0	0	87	
4:40 PM	7	0	5	0	0	0	0	0	0	36	11	0	5	15	0	0	79	
4:45 PM	6	0	4	0	0	0	0	0	0	20	12	0	8	23	0	0	73	
4:50 PM	10	0	9	0	0	0	0	0	0	25	7	0	1	18	0	0	70	
4:55 PM	5	0	5	0	0	0	0	0	0	30	10	0	2	24	0	0	76	944
5:00 PM	8	0	3	0	0	0	0	0	0	45	11	0	7	17	0	0	91	957
5:05 PM	11	0	8	0	0	0	0	0	0	46	7	0	4	17	0	0	93	965
5:10 PM	5	0	8	0	0	0	0	0	0	31	11	0	2	27	0	0	84	965
5:15 PM	10	0	5	0	0	0	0	0	0	34	9	0	6	23	0	0	87	963
5:20 PM	7	0	5	0	0	0	0	0	0	32	17	0	6	21	0	0	88	968
5:25 PM	10	0	4	0	0	0	0	0	0	22	7	0	3	28	0	0	74	975
5:30 PM	9	0	6	0	0	0	0	0	0	38	11	0	4	21	0	0	89	991
5:35 PM	4	0	4	0	0	0	0	0	0	35	11	0	5	22	0	0	81	985
5:40 PM	3	0	2	0	0	0	0	0	0	29	14	0	4	14	0	0	66	972
5:45 PM	2	0	2	0	0	0	0	0	0	26	7	0	4	18	0	0	59	958
5:50 PM	3	0	9	0	0	0	0	0	0	28	6	0	4	14	0	0	64	952
5:55 PM	7	0	4	0	0	0	0	0	0	33	8	0	6	14	0	0	72	948

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	96	0	76	0	0	0	0	0	0	488	116	0	52	244	0	0	1072
Heavy Trucks	0	0	4		0	0	0		0	0	0		0	12	0		16
Buses																	
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

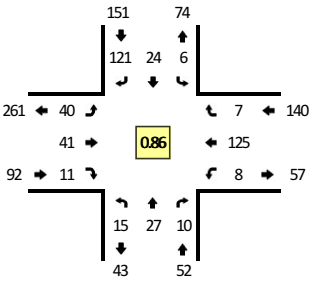
Comments:

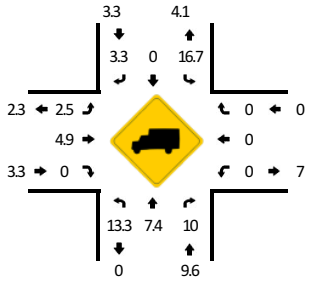
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

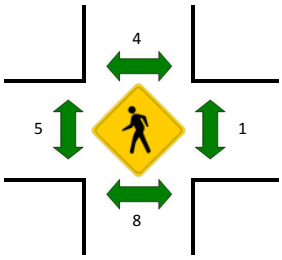
LOCATION: 15. N Country Vista Dr -- E Mission Ave | **QC JOB #:** 16908529
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

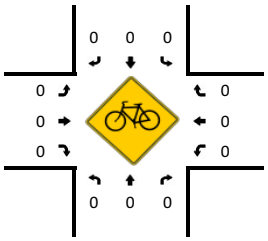


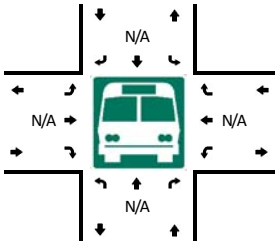


TRUE DATA TO IMPROVE MOBILITY

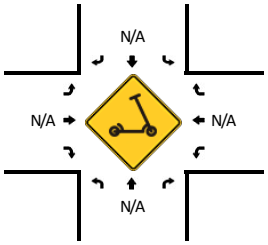












5-Min Count Period Beginning At	15. N Country Vista Dr (Northbound)				15. N Country Vista Dr (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	2	1	8	0	2	3	1	0	0	2	0	0	20	
7:05 AM	1	0	0	0	0	1	14	0	1	1	0	0	0	7	1	0	26	
7:10 AM	2	1	0	0	0	1	11	0	5	1	2	0	1	7	0	0	31	
7:15 AM	0	1	0	0	1	0	8	0	3	2	0	0	0	11	0	0	26	
7:20 AM	2	2	0	0	0	0	18	0	4	1	3	0	0	17	1	0	48	
7:25 AM	1	1	2	0	0	2	16	0	2	0	0	0	0	18	2	0	44	
7:30 AM	0	2	0	0	1	0	10	0	3	2	0	0	1	16	0	0	35	
7:35 AM	3	1	1	0	1	2	10	0	2	7	0	0	0	15	1	0	43	
7:40 AM	1	1	0	0	0	2	8	0	3	5	1	0	0	6	1	0	28	
7:45 AM	1	1	2	0	0	1	9	0	4	8	0	0	0	11	0	0	37	
7:50 AM	1	1	0	0	0	0	10	0	3	3	3	0	0	7	0	0	28	
7:55 AM	1	0	0	0	0	5	11	0	3	4	0	0	2	3	2	0	31	397
8:00 AM	1	7	2	0	0	10	6	0	4	4	0	0	2	5	0	0	41	418
8:05 AM	2	9	3	0	3	1	4	0	4	4	2	0	2	9	0	0	43	435
8:10 AM	0	1	0	0	0	2	3	0	3	5	0	0	1	9	1	0	25	429
8:15 AM	3	0	1	0	0	1	1	0	6	1	1	0	2	1	0	0	17	420
8:20 AM	0	2	1	0	0	2	6	0	4	6	3	0	1	8	0	0	33	405
8:25 AM	5	1	1	0	1	2	4	0	0	3	1	0	2	6	1	0	27	388
8:30 AM	3	2	0	0	0	3	5	0	3	3	1	0	4	7	1	0	32	385
8:35 AM	1	1	0	0	0	2	9	0	4	4	2	0	2	5	0	0	30	372
8:40 AM	4	6	3	0	0	8	9	0	3	1	0	0	8	9	1	0	52	396
8:45 AM	4	7	2	0	0	16	7	0	2	1	3	0	4	3	0	0	49	408
8:50 AM	4	10	3	0	1	8	5	0	1	2	0	0	3	3	2	0	42	422
8:55 AM	1	15	2	0	1	2	7	0	0	7	1	0	2	4	0	0	42	433

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	20	8	0	4	8	176	0	36	12	12	0	4	204	12	0	508
Heavy Trucks	0	0	4		4	0	4		0	0	0		0	0	0		12
Buses																	
Pedestrians		8				4				4				0			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

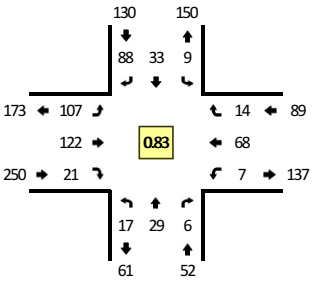
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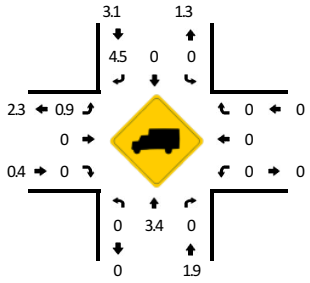
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

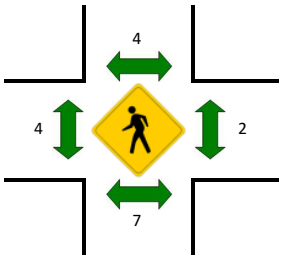
LOCATION: 15. N Country Vista Dr -- E Mission Ave | **QC JOB #:** 16908530
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:25 PM -- 4:40 PM

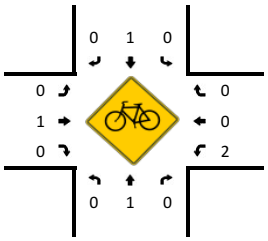


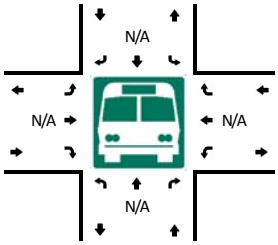


TRUE DATA TO IMPROVE MOBILITY

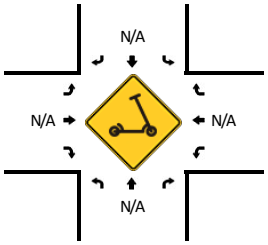












5-Min Count Period Beginning At	15. N Country Vista Dr (Northbound)				15. N Country Vista Dr (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	5	3	0	1	2	4	0	12	5	2	0	2	10	0	0	47	
4:05 PM	3	1	1	0	1	2	8	0	9	6	1	0	1	3	0	0	36	
4:10 PM	4	1	1	0	1	1	7	0	10	8	2	0	0	5	0	0	40	
4:15 PM	0	0	0	0	2	7	10	0	16	8	3	0	1	7	0	0	54	
4:20 PM	1	3	0	0	0	3	6	0	9	10	2	0	0	2	2	0	38	
4:25 PM	1	4	1	0	1	3	9	0	6	11	1	0	0	5	1	0	43	
4:30 PM	3	5	0	0	2	4	6	0	8	16	2	0	0	10	2	0	58	
4:35 PM	3	3	1	0	0	2	9	0	10	13	2	0	2	8	2	0	55	
4:40 PM	1	2	0	0	2	2	9	0	8	10	0	0	0	5	1	0	40	
4:45 PM	2	3	0	0	0	4	7	0	8	11	2	0	0	5	1	0	43	
4:50 PM	0	2	1	0	0	2	9	0	8	3	1	0	1	6	2	0	35	
4:55 PM	0	1	1	0	0	0	5	0	8	7	2	0	0	5	1	0	30	519
5:00 PM	0	4	1	0	0	1	6	0	8	10	1	0	2	2	1	0	36	508
5:05 PM	2	1	0	0	1	4	5	0	8	15	3	0	1	8	1	0	49	521
5:10 PM	0	1	0	0	2	0	6	0	7	8	1	0	1	2	1	0	29	510
5:15 PM	2	3	1	0	1	1	5	0	6	17	1	0	0	7	1	0	45	501
5:20 PM	0	3	2	0	0	4	5	0	4	9	2	0	2	15	1	0	47	510
5:25 PM	1	6	3	0	0	1	8	0	7	11	0	0	2	6	0	0	45	512
5:30 PM	0	2	1	0	1	1	5	0	9	10	1	0	0	9	1	0	40	494
5:35 PM	0	1	2	0	0	5	8	0	7	12	0	0	1	10	1	0	47	486
5:40 PM	0	0	2	0	3	2	0	0	6	2	1	0	0	7	0	0	23	469
5:45 PM	0	2	0	0	2	0	1	0	6	9	2	0	1	8	0	0	31	457
5:50 PM	1	1	2	0	1	2	4	0	6	4	2	0	0	4	1	0	28	450
5:55 PM	0	4	1	0	2	1	6	0	7	14	2	0	0	8	2	0	47	467

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	48	8	0	12	36	96	0	96	160	20	0	8	92	20	0	624
Heavy Trucks	0	0	0		0	0	8		0	0	0		0	0	0		8
Buses																	
Pedestrians		4				8				4				0			16
Bicycles	0	0	0		0	4	0		0	4	0		0	0	0		8
Scooters																	

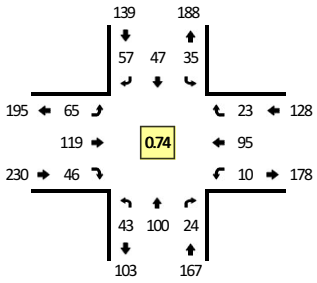
Comments:

Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

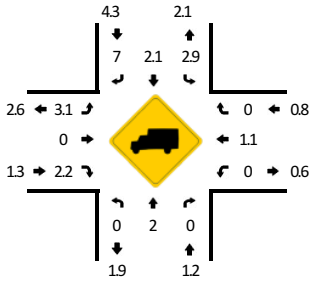
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

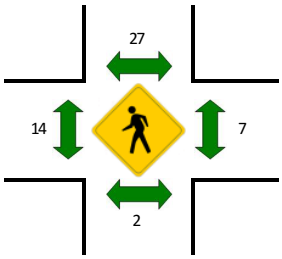
LOCATION: 16. N Molter Rd -- E Country Vista Dr | **QC JOB #:** 16908531
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

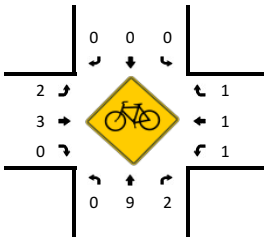


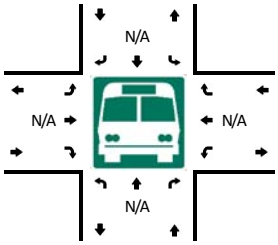
TRUE DATA TO IMPROVE MOBILITY



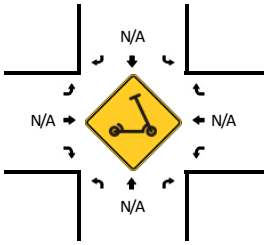












5-Min Count Period Beginning At	16. N Molter Rd (Northbound)				16. N Molter Rd (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	2	0	0	1	0	2	0	1	2	4	0	1	1	0	0	20	
7:05 AM	4	0	2	0	0	1	3	0	1	1	4	0	3	2	0	0	21	
7:10 AM	3	6	0	0	0	2	6	0	1	1	2	0	0	10	0	0	31	
7:15 AM	4	3	0	0	1	0	5	0	1	1	5	0	0	1	0	0	21	
7:20 AM	2	5	1	0	0	2	6	0	1	3	2	0	0	2	0	0	24	
7:25 AM	4	8	0	0	0	3	4	0	4	3	3	0	1	5	1	0	36	
7:30 AM	2	4	0	0	1	3	5	0	4	2	3	0	0	9	0	0	33	
7:35 AM	8	5	0	0	2	6	3	0	2	4	6	0	0	4	1	0	41	
7:40 AM	4	3	0	0	1	2	7	0	1	3	1	0	0	1	0	0	23	
7:45 AM	5	7	2	0	1	1	1	0	4	4	2	0	1	9	0	0	37	
7:50 AM	6	7	0	0	1	2	1	0	4	6	7	0	2	5	0	0	41	
7:55 AM	1	9	0	0	0	4	2	0	8	3	4	0	0	6	0	0	37	365
8:00 AM	2	8	0	0	0	4	3	0	9	6	5	0	1	1	2	0	41	386
8:05 AM	3	6	1	0	2	4	7	0	12	14	7	0	0	5	1	0	62	427
8:10 AM	2	7	0	0	2	6	8	0	7	11	5	0	1	3	1	0	53	449
8:15 AM	2	7	3	0	2	4	5	0	5	10	4	0	0	7	0	0	49	477
8:20 AM	4	7	1	0	2	1	1	0	2	12	2	0	2	7	1	0	42	495
8:25 AM	3	7	1	0	0	5	3	0	6	9	5	0	1	11	3	0	54	513
8:30 AM	3	9	1	0	0	1	6	0	3	4	3	0	0	11	1	0	42	522
8:35 AM	4	5	2	0	7	2	2	0	7	3	2	0	1	3	2	0	40	521
8:40 AM	6	11	2	0	3	3	3	0	7	11	2	0	2	5	1	0	56	554
8:45 AM	4	12	1	0	4	3	3	0	1	13	5	0	1	10	3	0	60	577
8:50 AM	5	10	6	0	11	6	6	0	1	16	3	0	0	17	1	0	82	618
8:55 AM	5	11	6	0	2	8	10	0	5	10	3	0	1	15	7	0	83	664

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	132	52	0	68	68	76	0	28	156	44	0	8	168	44	0	900
Heavy Trucks	0	8	0		0	0	8		0	0	0		0	0	0		16
Buses																	
Pedestrians		4				48				8				8			68
Bicycles	0	20	0		0	0	0		4	12	0		4	4	4		48
Scooters																	

Comments:

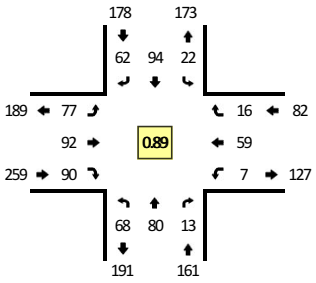
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

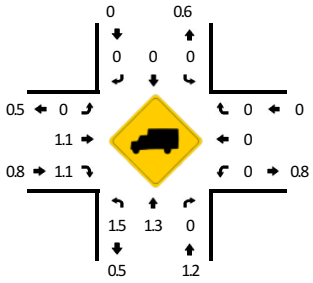
LOCATION: 16. N Molter Rd -- E Country Vista Dr
CITY/STATE: Liberty Lake, WA

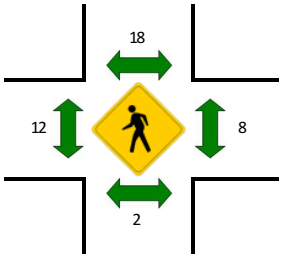
QC JOB #: 16908532
DATE: Wed, Apr 30 2025

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:20 PM -- 4:35 PM

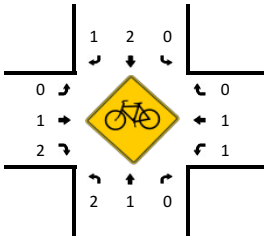


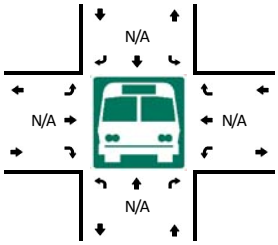




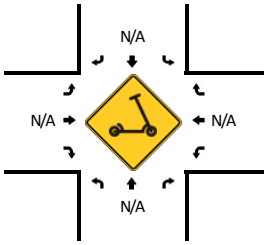












5-Min Count Period Beginning At	16. N Molter Rd (Northbound)				16. N Molter Rd (Southbound)				E Country Vista Dr (Eastbound)				E Country Vista Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	3	0	0	4	14	3	0	4	4	8	0	0	2	1	0	50	
4:05 PM	6	6	1	0	2	5	3	0	7	9	7	0	1	9	2	0	58	
4:10 PM	6	5	1	0	2	10	4	0	9	5	7	0	0	4	1	0	54	
4:15 PM	5	10	2	0	0	6	5	0	6	9	7	0	0	5	3	0	58	
4:20 PM	7	8	0	0	2	8	5	0	7	8	8	0	1	6	0	0	60	
4:25 PM	3	8	1	0	2	10	9	0	10	5	5	0	0	5	2	0	60	
4:30 PM	4	10	2	0	3	11	12	0	5	14	6	0	1	3	1	0	72	
4:35 PM	7	6	0	0	2	7	6	0	6	8	4	0	2	2	2	0	52	
4:40 PM	4	10	2	0	0	2	3	0	4	9	6	0	2	3	0	0	45	
4:45 PM	8	4	2	0	1	5	5	0	5	9	11	0	0	10	3	0	63	
4:50 PM	5	7	2	0	3	7	1	0	6	6	10	0	0	6	1	0	54	
4:55 PM	6	3	0	0	1	9	6	0	8	6	11	0	0	4	0	0	54	680
5:00 PM	9	2	0	0	1	7	2	0	6	11	8	0	1	1	1	0	49	679
5:05 PM	2	3	0	0	1	7	5	0	5	4	12	0	1	3	1	0	44	665
5:10 PM	8	3	0	0	1	4	4	0	7	9	14	0	2	1	1	0	54	665
5:15 PM	7	6	1	0	3	8	8	0	5	6	11	0	2	3	0	0	60	667
5:20 PM	14	4	0	0	2	4	5	0	9	7	14	0	2	5	1	0	67	674
5:25 PM	7	4	3	0	2	5	4	0	8	10	9	0	2	1	3	0	58	672
5:30 PM	8	11	1	0	3	5	1	0	9	4	4	0	1	4	0	0	51	651
5:35 PM	10	6	1	0	2	6	5	0	7	4	10	0	2	2	1	0	56	655
5:40 PM	6	7	0	0	3	6	9	0	9	8	11	0	0	6	1	0	66	676
5:45 PM	6	3	0	0	3	8	3	0	9	6	12	0	0	3	1	0	54	667
5:50 PM	7	7	1	0	2	4	4	0	6	3	10	0	0	1	2	0	47	660
5:55 PM	10	15	2	0	1	12	5	0	8	2	7	0	2	3	1	0	68	674

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	104	12	0	28	116	104	0	88	108	76	0	8	56	12	0	768
Heavy Trucks	4	0	0		0	0	0		0	0	4		0	0	0		8
Buses																	
Pedestrians		8				16				12				8			44
Bicycles	0	0	0		0	8	0		0	0	0		0	0	0		8
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

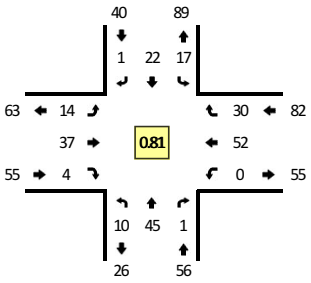
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

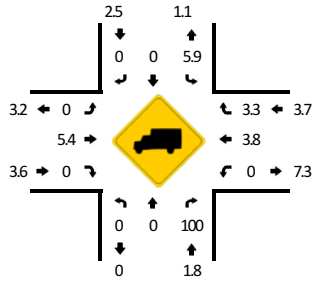
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 17. N Molter Rd -- E Sprague Ave
CITY/STATE: Spokane, WA

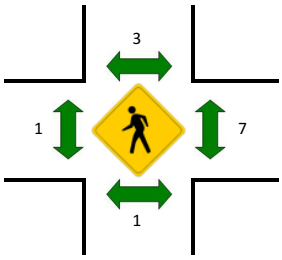
QC JOB #: 16908533
DATE: Wed, Apr 30 2025

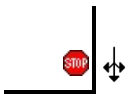
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:40 AM -- 8:55 AM

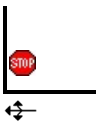


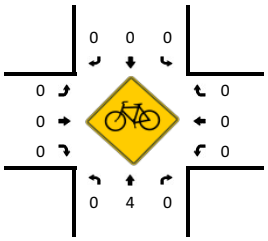


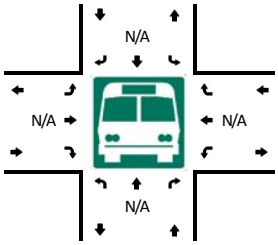
TRUE DATA TO IMPROVE MOBILITY

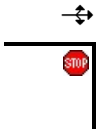


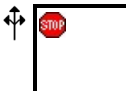


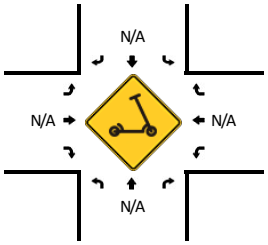












5-Min Count Period Beginning At	17. N Molter Rd (Northbound)				17. N Molter Rd (Southbound)				E Sprague Ave (Eastbound)				E Sprague Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	2	0	0	4	
7:05 AM	0	1	0	0	1	1	0	0	1	1	0	0	0	4	0	0	9	
7:10 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	2	0	0	5	
7:15 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	6	0	0	9	
7:20 AM	0	4	0	0	0	0	0	0	1	0	0	0	0	5	1	0	11	
7:25 AM	2	3	0	0	2	0	0	0	2	4	0	0	0	5	1	0	19	
7:30 AM	4	3	0	0	2	1	1	0	1	4	0	0	0	4	2	0	22	
7:35 AM	1	2	0	0	1	2	1	0	0	2	0	0	0	5	1	0	15	
7:40 AM	1	1	0	0	1	1	0	0	1	4	0	0	0	7	0	0	16	
7:45 AM	1	2	0	0	1	0	0	0	0	5	0	0	0	5	2	0	16	
7:50 AM	1	3	0	0	3	1	0	0	0	0	0	0	0	3	0	0	11	
7:55 AM	2	4	0	0	1	2	0	0	3	1	0	0	0	6	3	0	22	159
8:00 AM	0	1	0	0	2	1	0	0	1	2	0	0	0	3	1	0	11	166
8:05 AM	0	4	0	0	3	3	0	0	3	0	0	0	0	3	1	0	17	174
8:10 AM	0	1	0	0	2	2	0	0	1	4	0	0	0	4	4	0	18	187
8:15 AM	0	3	0	0	2	3	0	0	2	5	1	0	0	5	1	0	22	200
8:20 AM	1	6	0	0	1	2	0	0	1	3	0	0	0	4	1	0	19	208
8:25 AM	0	4	0	0	2	2	1	0	0	4	0	0	0	3	4	0	20	209
8:30 AM	1	5	0	0	0	0	0	0	1	2	1	0	0	6	1	0	17	204
8:35 AM	0	2	1	0	0	2	0	0	0	6	1	0	0	2	1	0	15	204
8:40 AM	1	3	0	0	0	2	0	0	0	1	0	0	0	7	5	0	19	207
8:45 AM	3	4	0	0	3	0	0	0	0	9	0	0	0	6	2	0	27	218
8:50 AM	2	8	0	0	1	3	0	0	2	0	1	0	0	3	6	0	26	233
8:55 AM	1	3	0	0	1	3	2	0	0	5	0	0	1	1	4	0	21	232

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	60	0	0	16	20	0	0	8	40	4	0	0	64	52	0	288
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	8	4		16
Buses																	
Pedestrians		4				0				4				8			16
Bicycles	0	8	0		0	0	0		0	0	0		0	0	0		8
Scooters																	

Comments:

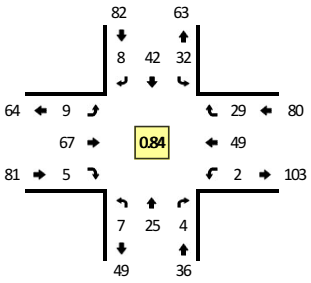
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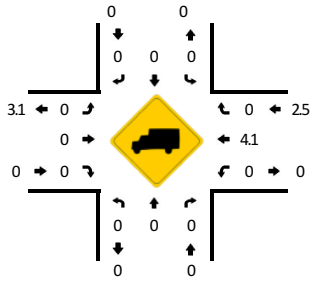
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

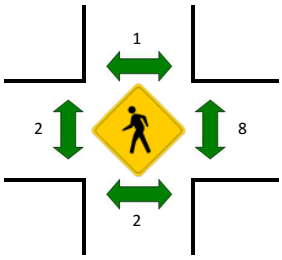
LOCATION: 17. N Molter Rd -- E Sprague Ave | **QC JOB #:** 16908534
CITY/STATE: Spokane, WA | **DATE:** Wed, Apr 30 2025

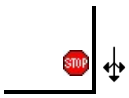
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

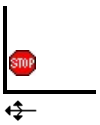


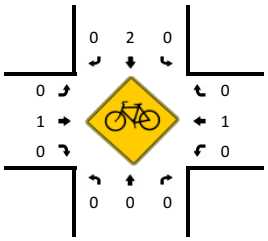


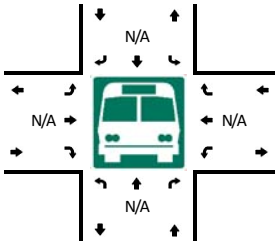
TRUE DATA TO IMPROVE MOBILITY

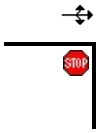


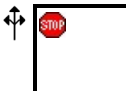


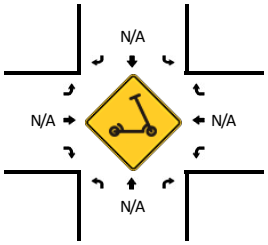












5-Min Count Period Beginning At	17. N Molter Rd (Northbound)				17. N Molter Rd (Southbound)				E Sprague Ave (Eastbound)				E Sprague Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	1	0	0	6	5	1	0	2	6	0	0	0	7	4	0	33	
4:05 PM	0	1	0	0	2	2	2	0	0	4	0	0	0	9	2	0	22	
4:10 PM	1	1	1	0	5	6	0	0	1	5	1	0	0	4	3	0	28	
4:15 PM	0	3	0	0	3	3	1	0	0	9	0	0	0	6	4	0	29	
4:20 PM	0	1	1	0	2	3	0	0	1	4	0	0	0	3	1	0	16	
4:25 PM	1	4	1	0	3	3	1	0	0	5	1	0	0	2	1	0	22	
4:30 PM	1	4	0	0	3	4	0	0	1	4	0	0	0	5	3	0	25	
4:35 PM	0	2	1	0	2	4	0	0	1	5	0	0	0	1	1	0	17	
4:40 PM	1	2	0	0	1	2	1	0	1	5	0	0	0	2	4	0	19	
4:45 PM	1	4	0	0	2	3	1	0	1	4	0	0	0	4	1	0	21	
4:50 PM	1	1	0	0	2	4	1	0	1	11	1	0	1	4	5	0	32	
4:55 PM	0	1	0	0	1	3	0	0	0	5	2	0	1	2	0	0	15	279
5:00 PM	0	1	1	0	0	1	0	0	0	8	0	0	0	4	0	0	15	261
5:05 PM	0	0	0	0	4	3	0	0	0	2	0	0	0	4	1	0	14	253
5:10 PM	0	3	0	0	1	3	0	0	0	8	1	0	0	6	3	0	25	250
5:15 PM	2	0	0	0	2	2	0	0	1	5	0	0	2	6	2	0	22	243
5:20 PM	1	1	0	0	7	3	1	0	0	2	1	0	0	3	1	0	20	247
5:25 PM	0	2	0	0	4	3	1	0	2	3	0	0	0	5	4	0	24	249
5:30 PM	0	5	0	0	5	1	0	0	1	4	0	0	0	3	1	0	20	244
5:35 PM	0	4	0	0	4	2	1	0	0	3	1	0	0	9	3	0	27	254
5:40 PM	0	3	1	0	1	2	0	0	0	3	2	0	1	2	0	0	15	250
5:45 PM	1	1	0	0	3	1	0	0	1	6	0	0	0	1	1	0	15	244
5:50 PM	3	2	0	0	2	3	0	0	1	4	2	0	0	2	2	0	21	233
5:55 PM	2	3	1	0	1	7	2	0	0	10	3	0	0	7	2	0	38	256

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	12	4	0	52	52	12	0	12	60	4	0	0	80	36	0	332
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	8	0		8
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

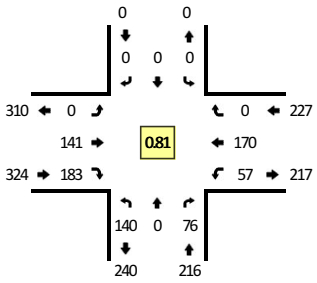
Type of peak hour being reported: Intersection Peak

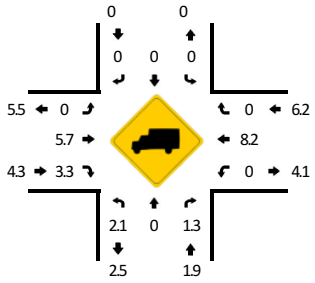
Method for determining peak hour: Total Entering Volume

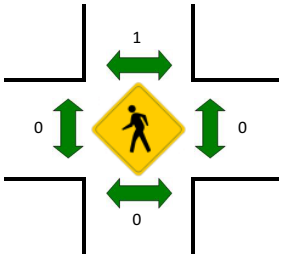
LOCATION: 18. N Kramer Pkwy -- E Mission Ave
CITY/STATE: Liberty Lake, WA

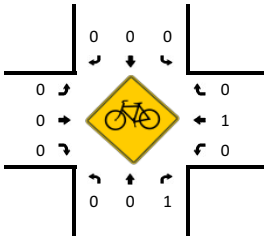
QC JOB #: 16908535
DATE: Wed, Apr 30 2025

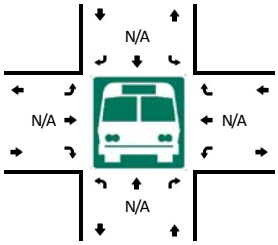
Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

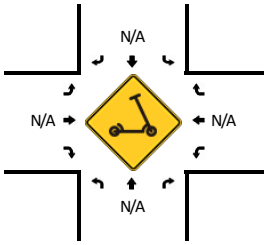












5-Min Count Period Beginning At	18. N Kramer Pkwy (Northbound)				18. N Kramer Pkwy (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	3	0	0	0	0	0	0	8	2	0	7	12	0	0	38	
7:05 AM	5	0	5	0	0	0	0	0	0	5	8	0	7	5	0	0	35	
7:10 AM	8	0	7	0	0	0	0	0	0	6	10	0	4	10	0	0	45	
7:15 AM	7	0	4	0	0	0	0	0	0	12	17	0	4	9	0	0	53	
7:20 AM	10	0	0	0	0	0	0	0	0	4	14	0	5	11	0	0	44	
7:25 AM	13	0	3	0	0	0	0	0	0	7	15	0	10	9	0	0	57	
7:30 AM	12	0	4	0	0	0	0	0	0	8	17	0	6	12	0	0	59	
7:35 AM	17	0	5	0	0	0	0	0	0	6	21	0	7	8	0	0	64	
7:40 AM	13	0	9	0	0	0	0	0	0	14	17	0	2	20	0	0	75	
7:45 AM	13	0	7	0	0	0	0	0	0	10	13	0	3	22	0	0	68	
7:50 AM	10	0	8	0	0	0	0	0	0	17	13	0	4	20	0	0	72	
7:55 AM	16	0	8	0	0	0	0	0	0	22	19	0	3	18	0	0	86	696
8:00 AM	17	0	10	0	0	0	0	0	0	14	16	0	6	16	0	0	79	737
8:05 AM	4	0	11	0	0	0	0	0	0	21	11	0	3	15	0	0	65	767
8:10 AM	1	0	2	0	0	0	0	0	0	5	7	0	2	1	0	0	18	740
8:15 AM	4	0	4	0	0	0	0	0	0	10	5	0	1	7	0	0	31	718
8:20 AM	4	0	4	0	0	0	0	0	0	7	6	0	4	16	0	0	41	715
8:25 AM	7	0	11	0	0	0	0	0	0	7	4	0	5	12	0	0	46	704
8:30 AM	9	0	3	0	0	0	0	0	0	11	5	1	3	6	0	0	38	683
8:35 AM	1	0	8	0	0	0	0	0	0	18	9	0	4	13	0	0	53	672
8:40 AM	5	0	6	0	0	0	0	0	0	18	5	0	6	10	0	0	50	647
8:45 AM	4	0	8	0	0	0	0	0	0	13	10	0	7	6	0	0	48	627
8:50 AM	10	0	3	0	0	0	0	0	0	15	4	0	3	13	0	0	48	603
8:55 AM	5	0	4	0	0	0	0	0	0	9	9	0	6	12	0	0	45	562

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	172	0	104	0	0	0	0	0	0	212	192	0	52	216	0	0	948
Heavy Trucks	0	0	4		0	0	0		0	4	16		0	24	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

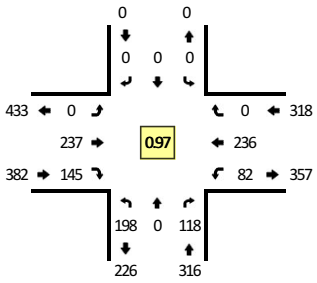
Type of peak hour being reported: Intersection Peak

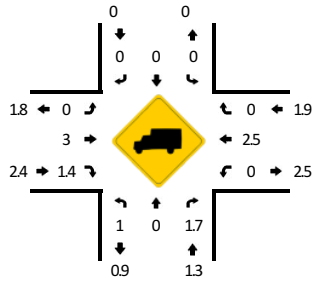
Method for determining peak hour: Total Entering Volume

LOCATION: 18. N Kramer Pkwy -- E Mission Ave
CITY/STATE: Liberty Lake, WA

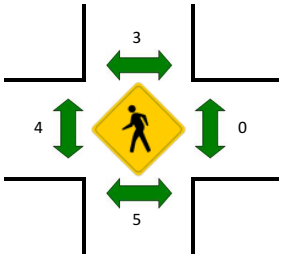
QC JOB #: 16908536
DATE: Wed, Apr 30 2025

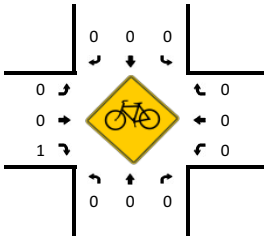
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

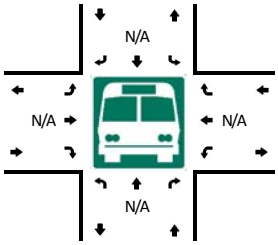


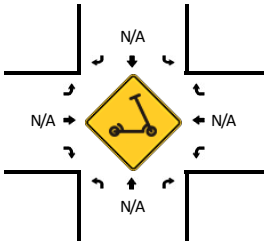


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	18. N Kramer Pkwy (Northbound)				18. N Kramer Pkwy (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	10	0	7	0	0	0	0	0	0	15	8	0	11	15	0	2	68	
4:05 PM	12	0	4	0	0	0	0	0	0	21	3	0	12	15	0	0	67	
4:10 PM	4	0	8	0	0	0	0	0	0	16	16	0	12	14	0	0	70	
4:15 PM	9	0	4	0	0	0	0	0	0	17	17	0	4	20	0	0	71	
4:20 PM	26	0	10	0	0	0	0	0	0	12	16	0	8	17	0	0	89	
4:25 PM	16	0	15	0	0	0	0	0	0	15	12	0	5	16	0	0	79	
4:30 PM	20	0	11	0	0	0	0	0	0	18	16	0	6	20	0	0	91	
4:35 PM	14	0	13	0	0	0	0	0	0	19	7	0	4	24	0	0	81	
4:40 PM	18	0	12	0	0	0	0	0	0	11	11	0	6	18	0	0	76	
4:45 PM	19	0	10	0	0	0	0	0	0	12	9	0	8	30	0	1	89	
4:50 PM	15	0	7	0	0	0	0	0	0	16	11	0	11	18	0	0	78	
4:55 PM	16	0	6	1	0	0	0	0	0	26	13	0	6	22	0	0	90	949
5:00 PM	9	0	7	0	0	0	0	0	0	28	16	0	4	21	0	0	85	966
5:05 PM	14	0	10	0	0	0	0	0	0	22	15	0	8	19	0	0	88	987
5:10 PM	16	0	9	0	0	0	0	0	0	26	12	0	4	13	0	0	80	997
5:15 PM	14	0	8	0	0	0	0	0	0	32	7	0	10	18	0	1	90	1016
5:20 PM	18	0	10	0	0	0	0	0	0	18	11	0	7	18	0	0	82	1009
5:25 PM	8	0	16	0	0	0	0	0	0	19	8	0	9	5	0	0	65	995
5:30 PM	12	0	11	0	0	0	0	0	0	15	16	0	5	17	0	0	76	980
5:35 PM	12	0	4	0	0	0	0	0	0	9	9	0	7	9	0	0	50	949
5:40 PM	7	0	11	0	0	0	0	0	0	15	12	0	7	22	0	0	74	947
5:45 PM	6	0	8	0	0	0	0	0	0	22	12	0	5	18	0	0	71	929
5:50 PM	9	0	4	0	0	0	0	0	0	18	16	0	3	21	0	0	71	922
5:55 PM	9	0	9	0	0	0	0	0	0	19	9	0	4	10	0	0	60	892

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	156	0	92	4	0	0	0	0	0	304	176	0	72	248	0	0	1052
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	16	0		24
Buses																	
Pedestrians		4				4				0				0			8
Bicycles	0	0	0		0	0	0		0	0	4		0	0	0		4
Scooters																	

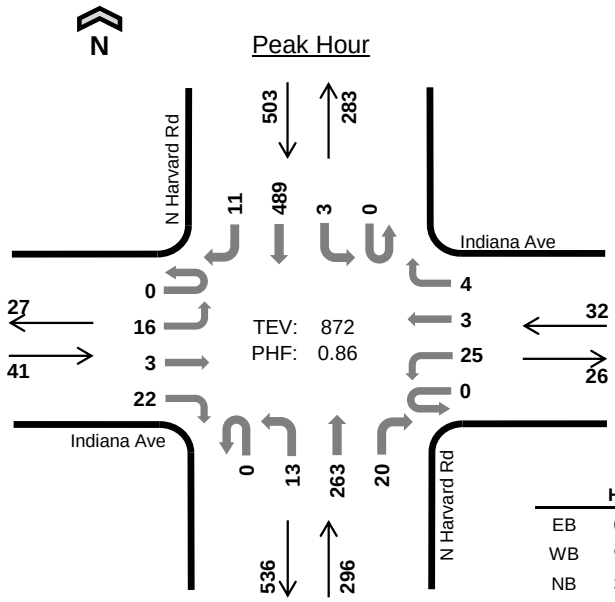
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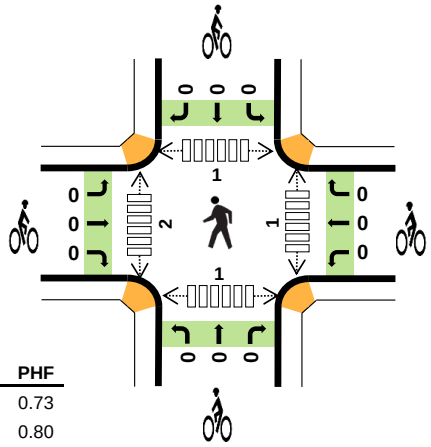
Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

N Harvard Rd
Indiana Ave

Date: 05/08/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	0.0%	0.73
WB	9.4%	0.80
NB	3.0%	0.86
SB	4.6%	0.87
TOTAL	4.0%	0.86

Two-Hour Count Summaries

Interval Start		Indiana Ave Eastbound				Indiana Ave Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	0	2	0	5	0	0	0	1	44	5	0	4	105	2	170	0
7:15 AM		0	2	0	13	0	5	0	0	0	2	47	5	0	1	94	3	172	0
7:30 AM		**0**	**6**	**0**	**5**	**0**	**5**	**0**	**2**	**0**	**4**	**53**	**4**	**0**	**3**	**140**	**0**	**222**	0
7:45 AM		**0**	**4**	**2**	**8**	**0**	**9**	**0**	**1**	**0**	**2**	**75**	**9**	**0**	**0**	**140**	**4**	**254**	818
8:00 AM		**0**	**4**	**0**	**3**	**0**	**6**	**3**	**0**	**0**	**1**	**63**	**3**	**0**	**0**	**95**	**3**	**181**	829
8:15 AM		**0**	**2**	**1**	**6**	**0**	**5**	**0**	**1**	**0**	**6**	**72**	**4**	**0**	**0**	**114**	**4**	**215**	**872**
8:30 AM		0	2	2	1	0	11	1	0	0	5	61	0	0	1	107	2	193	843
8:45 AM		0	1	1	5	0	9	2	0	0	10	77	3	0	0	114	7	229	818
Count Total		0	23	6	43	0	55	6	4	0	31	492	33	0	9	909	25	1,636	0
Peak Hour	**All**	**0**	**16**	**3**	**22**	**0**	**25**	**3**	**4**	**0**	**13**	**263**	**20**	**0**	**3**	**489**	**11**	**872**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**8**	**1**	**0**	**0**	**22**	**1**	**35**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**-**	**8%**	**33%**	**0%**	**-**	**0%**	**3%**	**5%**	**-**	**0%**	**4%**	**9%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	1	4	*6*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	0	5	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**0**	**1**	**0**	**6**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:45 AM	**0**	**0**	**2**	**8**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:00 AM	**0**	**2**	**4**	**4**	***10***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**1**	*3*
8:15 AM	**0**	**0**	**3**	**5**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	0	3	2	*5*	0	0	1	1	*2*	0	1	1	0	*2*
8:45 AM	1	0	5	2	*8*	0	0	0	1	*1*	0	1	2	0	*3*
Count Total	2	4	23	31	*60*	0	0	1	2	*3*	1	4	4	1	*10*
Peak Hour	**0**	**3**	**9**	**23**	***35***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**1**	**1**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Indiana Ave Eastbound				Indiana Ave Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	1	2	1	6	0
7:15 AM	0	0	0	1	0	0	0	0	0	0	4	1	0	0	0	0	6	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**7**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**8**	**0**	**10**	29
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**10**	33
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**1**	**8**	**35**
8:30 AM	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	0	5	33
8:45 AM	0	0	1	0	0	0	0	0	0	0	5	0	0	0	2	0	8	31
Count Total	0	0	1	1	0	3	1	0	0	1	19	3	0	2	27	2	60	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**8**	**1**	**0**	**0**	**22**	**1**	**35**	**0**

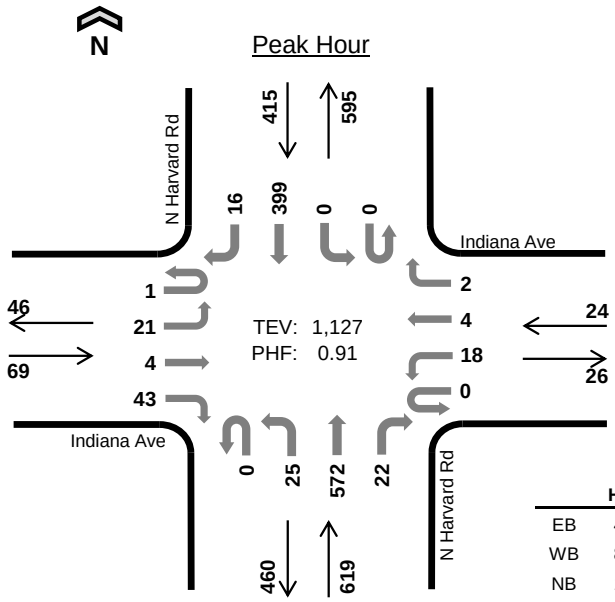
Two-Hour Count Summaries - Bikes

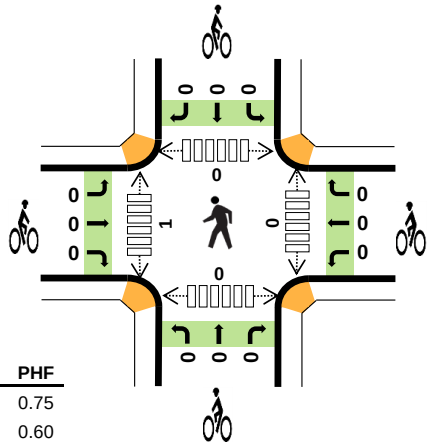
Interval Start	Indiana Ave Eastbound			Indiana Ave Westbound			N Harvard Rd Northbound			N Harvard Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Count Total	0	0	0	0	0	0	0	1	0	0	1	1	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Harvard Rd
Indiana Ave

Date: 05/07/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	4.3%	0.75
WB	8.3%	0.60
NB	1.8%	0.93
SB	2.2%	0.85
TOTAL	2.2%	0.91

Two-Hour Count Summaries

Interval Start		Indiana Ave Eastbound				Indiana Ave Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	1	0	7	0	8	0	1	0	6	141	6	0	1	105	5	281	0
4:15 PM		**0**	**4**	**0**	**10**	**0**	**5**	**2**	**1**	**0**	**4**	**137**	**4**	**0**	**0**	**88**	**2**	**257**	0
4:30 PM		**1**	**4**	**4**	**8**	**0**	**9**	**0**	**1**	**0**	**8**	**149**	**5**	**0**	**0**	**117**	**5**	**311**	0
4:45 PM		**0**	**4**	**0**	**11**	**0**	**2**	**1**	**0**	**0**	**8**	**133**	**5**	**0**	**0**	**101**	**5**	**270**	1,119
5:00 PM		**0**	**9**	**0**	**14**	**0**	**2**	**1**	**0**	**0**	**5**	**153**	**8**	**0**	**0**	**93**	**4**	**289**	**1,127**
5:15 PM		0	7	0	8	0	5	0	0	0	10	134	4	0	0	83	5	256	1,126
5:30 PM		0	6	1	9	0	3	1	0	0	4	103	8	0	0	100	2	237	1,052
5:45 PM		0	2	0	12	0	6	0	0	0	4	113	4	0	0	83	3	227	1,009
Count Total		1	37	5	79	0	40	5	3	0	49	1,063	44	0	1	770	31	2,128	0
Peak Hour	**All**	**1**	**21**	**4**	**43**	**0**	**18**	**4**	**2**	**0**	**25**	**572**	**22**	**0**	**0**	**399**	**16**	**1,127**	**0**
	HV	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**1**	**0**	**0**	**11**	**0**	**0**	**0**	**9**	**0**	**25**	**0**
	HV%	**0%**	**0%**	**25%**	**5%**	**-**	**6%**	**0%**	**50%**	**-**	**0%**	**2%**	**0%**	**-**	**-**	**2%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	2	2	*6*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	**2**	**0**	**3**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**1**	**2**	**3**	**2**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:00 PM	**0**	**0**	**3**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	1	1	*2*	0	0	0	0	*0*	1	0	0	1	*2*
5:30 PM	0	1	2	1	*4*	0	0	0	0	*0*	0	2	0	0	*2*
5:45 PM	0	0	3	1	*4*	0	0	0	0	*0*	0	2	0	0	*2*
Count Total	5	3	19	14	*41*	0	0	0	0	*0*	1	6	0	1	*8*
Peak Hour	**3**	**2**	**11**	**9**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Indiana Ave Eastbound				Indiana Ave Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	2	0	0	0	0	0	0	2	0	0	0	2	0	6	0
4:15 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**7**	0
4:30 PM	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**8**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	26
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**25**
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	20
5:30 PM	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	4	16
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	15
Count Total	0	0	1	4	0	1	1	1	0	0	19	0	0	0	14	0	41	0
Peak Hour	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**1**	**0**	**0**	**11**	**0**	**0**	**0**	**9**	**0**	**25**	**0**

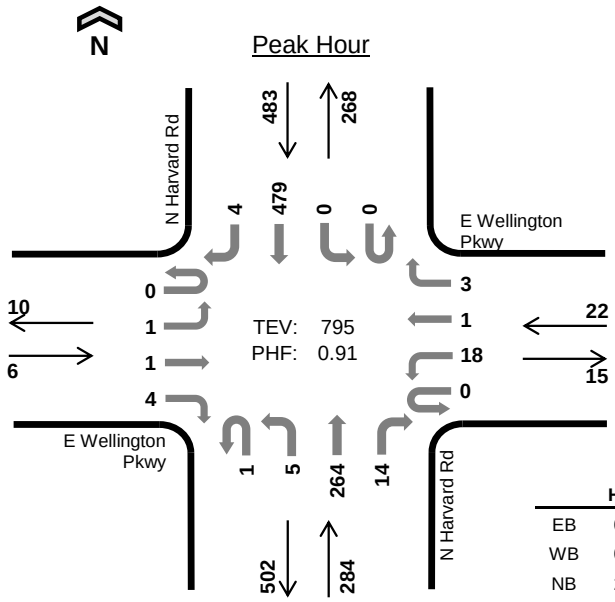
Two-Hour Count Summaries - Bikes

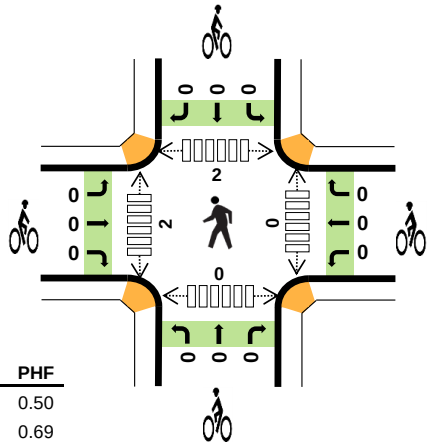
Interval Start	Indiana Ave Eastbound			Indiana Ave Westbound			N Harvard Rd Northbound			N Harvard Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Harvard Rd
E Wellington Pkwy

Date: 05/08/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	0.0%	0.50
WB	0.0%	0.69
NB	2.8%	0.91
SB	4.3%	0.86
TOTAL	3.6%	0.91

Two-Hour Count Summaries

Interval Start		E Wellington Pkwy Eastbound				E Wellington Pkwy Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	0	1	0	0	0	0	0	0	44	0	0	0	106	1	154	0
7:15 AM		0	0	0	0	0	2	0	1	0	1	47	1	0	0	100	0	152	0
7:30 AM		**0**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**1**	**1**	**57**	**1**	**0**	**0**	**140**	**1**	**209**	0
7:45 AM		**0**	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**0**	**2**	**72**	**4**	**0**	**0**	**136**	**1**	**219**	734
8:00 AM		**0**	**1**	**1**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**65**	**3**	**0**	**0**	**93**	**2**	**170**	750
8:15 AM		**0**	**0**	**0**	**3**	**0**	**5**	**0**	**1**	**0**	**2**	**70**	**6**	**0**	**0**	**110**	**0**	**197**	**795**
8:30 AM		0	0	0	1	0	3	0	1	0	0	63	0	0	0	106	0	174	760
8:45 AM		0	0	0	1	0	3	0	1	0	3	73	3	0	0	116	0	200	741
Count Total		0	3	1	7	0	26	1	6	1	9	491	18	0	0	907	5	1,475	0
Peak Hour	**All**	**0**	**1**	**1**	**4**	**0**	**18**	**1**	**3**	**1**	**5**	**264**	**14**	**0**	**0**	**479**	**4**	**795**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**21**	**0**	**29**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**3%**	**0%**	**-**	**-**	**4%**	**0%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	4	*4*	0	0	0	0	*0*	3	0	0	0	*3*
7:15 AM	0	0	4	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**0**	**0**	**0**	**7**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
7:45 AM	**0**	**0**	**1**	**7**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
8:00 AM	**0**	**0**	**4**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**0**	**3**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	0	2	2	*4*	0	1	1	0	*2*	0	1	0	0	*1*
8:45 AM	0	0	5	3	*8*	1	0	0	0	*1*	1	0	0	0	*1*
Count Total	0	0	19	31	*50*	1	1	1	0	*3*	4	3	2	0	*9*
Peak Hour	**0**	**0**	**8**	**21**	***29***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**2**	**0**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Wellington Pkwy Eastbound				E Wellington Pkwy Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**7**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	**0**	**8**	24
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**3**	**0**	**7**	27
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**7**	**29**
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	26
8:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	3	0	8	26
Count Total	0	0	0	0	0	0	0	0	0	0	19	0	0	0	31	0	50	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**21**	**0**	**29**	**0**

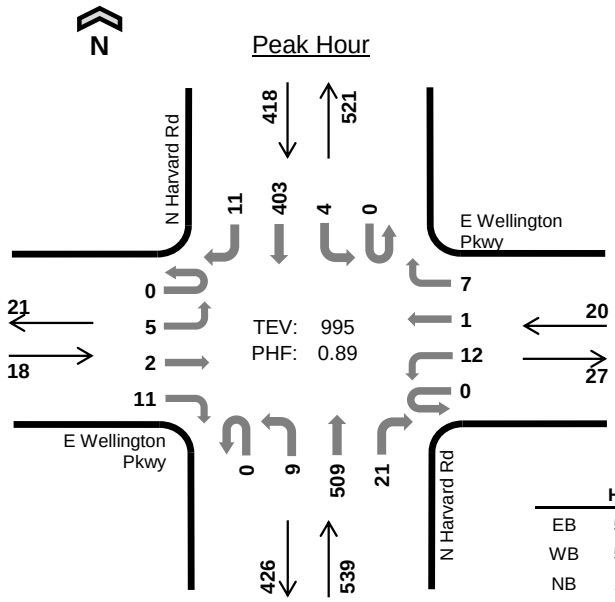
Two-Hour Count Summaries - Bikes

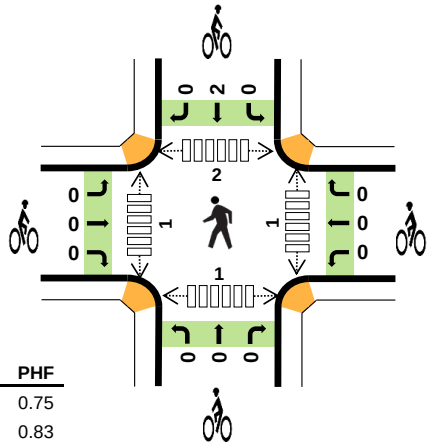
Interval Start	E Wellington Pkwy Eastbound			E Wellington Pkwy Westbound			N Harvard Rd Northbound			N Harvard Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	1	0	0	0	0	1	0	0	0	2	2
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	0	1	1	0	0	0	0	1	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N Harvard Rd
E Wellington Pkwy

Date: 05/08/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	5.6%	0.75
WB	5.0%	0.83
NB	1.7%	0.89
SB	2.2%	0.88
TOTAL	2.0%	0.89

Two-Hour Count Summaries

Interval Start	E Wellington Pkwy Eastbound				E Wellington Pkwy Westbound				N Harvard Rd Northbound				N Harvard Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**2**	**2**	**0**	**1**	**1**	**4**	**0**	**1**	**143**	**8**	**0**	**0**	**114**	**5**	**281**	0
4:15 PM	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**1**	**0**	**1**	**118**	**2**	**0**	**0**	**91**	**2**	**224**	0
4:30 PM	**0**	**0**	**0**	**4**	**0**	**5**	**0**	**0**	**0**	**4**	**125**	**7**	**0**	**2**	**101**	**2**	**250**	0
4:45 PM	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**2**	**0**	**3**	**123**	**4**	**0**	**2**	**97**	**2**	**240**	**995**
5:00 PM	0	0	0	2	0	4	0	1	0	1	150	2	0	2	107	3	272	986
5:15 PM	0	1	0	2	0	2	0	0	0	1	121	3	0	0	87	1	218	980
5:30 PM	0	1	0	1	0	4	0	1	0	5	137	2	0	1	82	2	236	966
5:45 PM	0	1	0	5	0	0	0	0	0	3	132	3	0	0	77	1	222	948
Count Total	0	8	2	21	0	22	1	9	0	19	1,049	31	0	7	756	18	1,943	0
Peak Hour All	**0**	**5**	**2**	**11**	**0**	**12**	**1**	**7**	**0**	**9**	**509**	**21**	**0**	**4**	**403**	**11**	**995**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**8**	**1**	**20**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**9%**	**-**	**8%**	**0%**	**0%**	**-**	**0%**	**2%**	**0%**	**-**	**0%**	**2%**	**9%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
4:15 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**2**	***2***	**1**	**1**	**0**	**0**	*2*
4:30 PM	**1**	**0**	**3**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**1**	**3**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	***2***
5:00 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	0	2	1	*3*	1	0	0	0	*1*	0	2	0	0	*2*
5:30 PM	0	0	6	1	*7*	0	0	3	0	*3*	0	0	1	2	*3*
5:45 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	1	1	20	13	*35*	1	0	3	2	*6*	1	3	3	3	*10*
Peak Hour	**1**	**1**	**9**	**9**	***20***	**0**	**0**	**0**	**2**	***2***	**1**	**1**	**2**	**1**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Wellington Pkwy				E Wellington Pkwy				N Harvard Rd				N Harvard Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	0
4:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**7**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**5**	**20**
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	17
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	17
5:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	7	17
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	15
Count Total	0	0	0	1	0	1	0	0	0	0	20	0	0	0	12	1	35	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**8**	**1**	**20**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Wellington Pkwy			E Wellington Pkwy			N Harvard Rd			N Harvard Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	1	0	0	0	0	0	3	0	0	2	0	6	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**

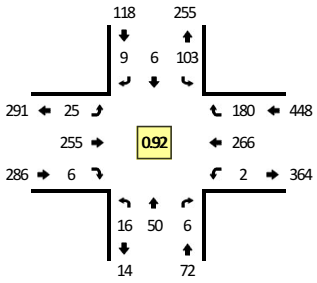
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

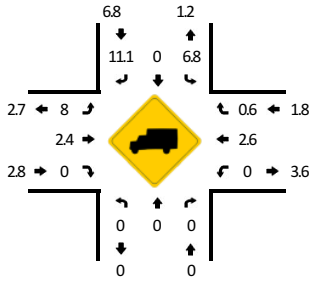
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 21. N Signal Dr -- E Mission Ave
CITY/STATE: Liberty Lake, WA

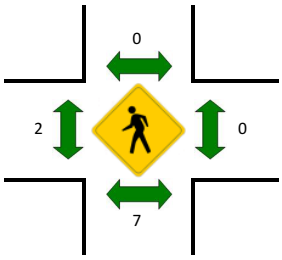
QC JOB #: 16908541
DATE: Wed, Apr 30 2025

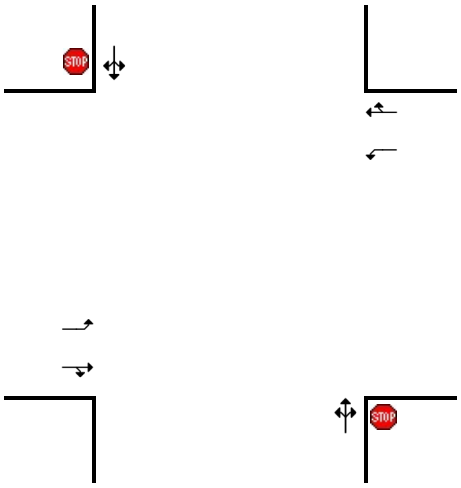
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

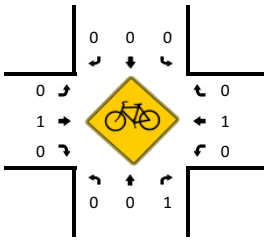


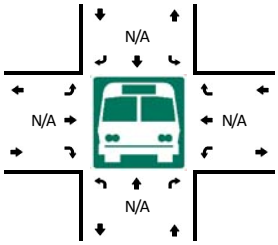


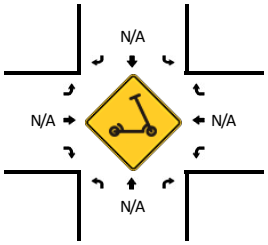
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	21. N Signal Dr (Northbound)				21. N Signal Dr (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	5	0	0	4	0	1	0	1	8	0	0	0	13	12	0	44	
7:05 AM	0	1	0	0	3	1	1	0	2	10	0	0	0	16	12	0	46	
7:10 AM	0	4	0	0	7	0	3	0	0	12	0	0	0	17	17	0	60	
7:15 AM	0	5	0	0	5	1	2	0	0	17	0	0	0	16	12	0	58	
7:20 AM	2	5	0	0	4	0	1	0	0	16	0	0	0	26	21	0	75	
7:25 AM	1	6	0	0	7	0	1	0	2	10	0	0	0	36	10	0	73	
7:30 AM	4	7	1	0	3	0	2	0	2	15	0	0	0	32	11	0	77	
7:35 AM	4	4	0	0	7	0	1	0	1	23	0	0	0	23	26	0	89	
7:40 AM	1	8	1	0	7	1	0	0	0	21	0	0	0	21	22	0	82	
7:45 AM	0	5	0	0	16	1	0	0	4	20	3	0	0	10	21	0	80	
7:50 AM	0	6	1	0	9	1	0	0	1	33	1	0	0	18	15	0	85	
7:55 AM	2	3	1	0	12	0	2	0	1	26	0	0	1	24	6	0	78	847
8:00 AM	1	1	1	0	11	2	1	0	3	22	1	0	0	19	17	0	79	882
8:05 AM	0	0	0	0	5	1	0	0	1	25	0	0	1	19	5	0	57	893
8:10 AM	1	2	1	0	14	0	1	0	2	28	0	0	0	24	13	0	86	919
8:15 AM	0	3	0	0	8	0	0	0	8	16	1	0	0	14	13	0	63	924
8:20 AM	1	3	1	0	7	1	1	0	2	20	0	0	0	14	8	0	58	907
8:25 AM	1	1	0	0	7	2	2	0	3	18	0	0	0	20	10	0	64	898
8:30 AM	1	1	0	0	3	3	1	0	2	12	0	0	0	22	4	0	49	870
8:35 AM	0	5	1	0	10	2	5	0	5	23	2	0	0	26	10	0	89	870
8:40 AM	0	1	0	0	6	1	0	0	2	27	1	0	0	24	11	0	73	861
8:45 AM	2	3	1	0	6	1	0	0	4	24	2	0	1	35	11	0	90	871
8:50 AM	1	1	0	0	7	0	0	0	6	23	1	0	1	21	16	0	77	863
8:55 AM	1	2	3	0	11	1	1	0	1	27	0	0	0	29	13	0	89	874

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	68	4	0	120	8	4	0	20	256	12	0	0	216	276	0	1004
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	8	4		16
Buses																	
Pedestrians		8				0				0				0			8
Bicycles	0	0	4		0	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

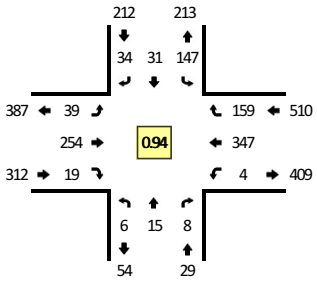
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

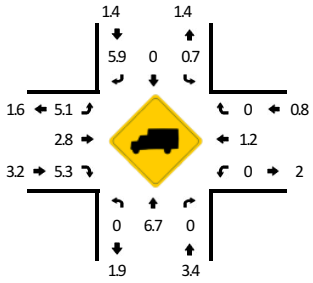
LOCATION: 21. N Signal Dr -- E Mission Ave
CITY/STATE: Liberty Lake, WA

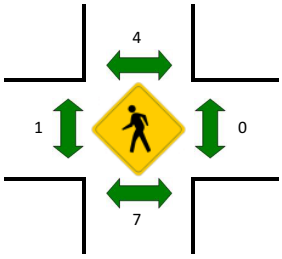
QC JOB #: 16908542
DATE: Wed, Apr 30 2025

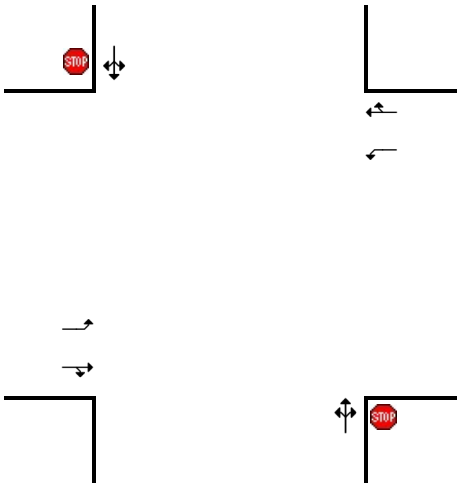
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

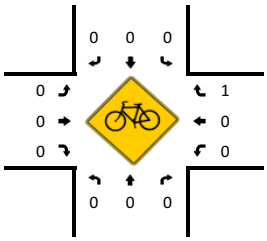


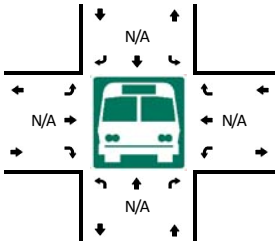


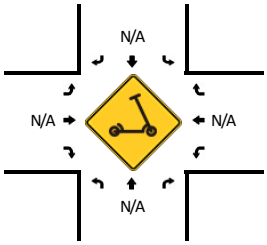












5-Min Count Period Beginning At	21. N Signal Dr (Northbound)				21. N Signal Dr (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	2	1	0	8	5	0	0	0	16	1	0	0	16	20	0	70	
4:05 PM	0	1	0	0	6	1	2	0	6	22	0	0	1	25	4	0	68	
4:10 PM	2	1	0	0	10	1	3	0	1	30	1	0	0	32	18	0	99	
4:15 PM	0	0	0	0	10	0	1	0	6	30	1	0	2	17	12	0	79	
4:20 PM	1	0	0	0	10	1	3	0	2	29	0	0	0	21	8	0	75	
4:25 PM	1	2	0	0	10	4	0	0	1	25	2	0	0	24	12	0	81	
4:30 PM	0	0	0	0	9	0	7	0	1	28	2	0	0	36	12	0	95	
4:35 PM	0	1	0	0	14	2	1	0	2	27	2	0	0	35	16	0	100	
4:40 PM	1	1	0	0	14	1	0	0	4	11	0	0	1	34	21	0	88	
4:45 PM	0	2	0	0	19	3	4	0	3	17	2	0	0	24	12	0	86	
4:50 PM	0	0	2	0	8	1	3	0	2	27	1	0	0	28	15	0	87	
4:55 PM	1	2	0	0	7	1	2	0	10	20	0	0	0	24	14	0	81	1009
5:00 PM	2	2	1	0	12	2	3	0	3	19	2	0	0	25	11	0	82	1021
5:05 PM	0	2	0	0	10	7	4	0	4	16	2	0	1	31	15	0	92	1045
5:10 PM	0	2	2	0	15	4	4	0	2	23	1	0	1	31	9	0	94	1040
5:15 PM	1	0	1	0	11	3	4	0	4	21	3	0	0	24	12	0	84	1045
5:20 PM	0	1	0	0	11	2	0	0	2	30	2	0	1	30	12	0	91	1061
5:25 PM	1	2	2	0	17	5	2	0	2	15	2	0	0	25	10	0	83	1063
5:30 PM	1	2	1	0	7	5	2	0	3	16	2	0	0	18	13	0	70	1038
5:35 PM	1	3	1	0	12	2	1	0	2	19	1	0	0	31	10	0	83	1021
5:40 PM	1	5	0	0	12	4	0	0	5	18	3	0	0	20	11	0	79	1012
5:45 PM	1	0	0	0	15	2	4	0	4	14	0	0	0	14	5	0	59	985
5:50 PM	2	4	0	0	17	4	2	0	2	21	1	0	0	15	7	0	75	973
5:55 PM	0	1	0	0	12	7	2	0	3	16	1	0	0	18	7	0	67	959

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	8	0	0	148	12	32	0	28	264	16	0	4	420	196	0	1132
Heavy Trucks	0	0	0		4	0	0		4	4	0		0	8	0		20
Buses																	
Pedestrians		12				0				0				0			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

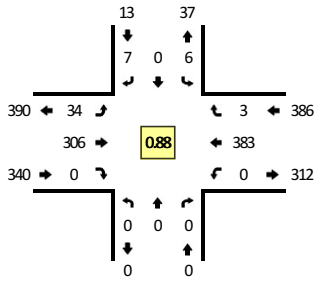
Report generated on 5/12/2025 11:41 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

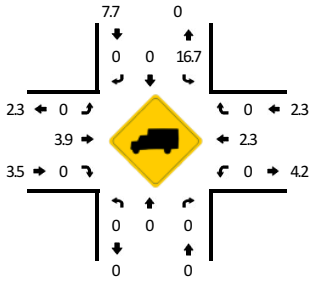
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

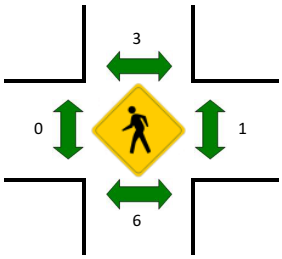
LOCATION: 22. N Madson St -- E Mission Ave | **QC JOB #:** 16908543
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

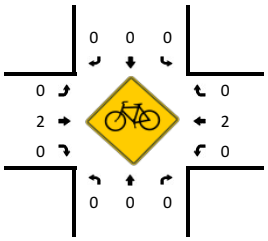


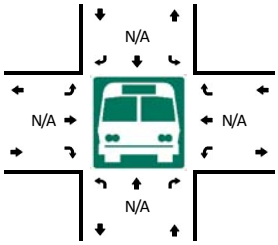




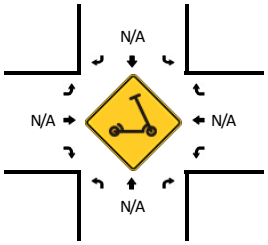












5-Min Count Period Beginning At	22. N Madson St (Northbound)				22. N Madson St (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	2	0	2	5	0	0	0	19	0	0	29	
7:05 AM	0	0	0	0	1	0	0	0	1	15	0	0	0	26	0	0	43	
7:10 AM	0	0	0	0	0	0	0	0	1	15	0	0	0	28	0	0	44	
7:15 AM	0	0	0	0	1	0	0	0	4	18	0	0	0	28	0	0	51	
7:20 AM	0	0	0	0	1	0	1	0	1	20	0	0	0	37	0	0	60	
7:25 AM	0	0	0	0	0	0	1	0	2	16	0	0	0	43	0	0	62	
7:30 AM	0	0	0	0	0	0	0	0	2	18	0	0	0	39	0	0	59	
7:35 AM	0	0	0	0	0	0	0	0	0	26	0	0	0	39	0	0	65	
7:40 AM	0	0	0	0	0	0	0	0	2	24	0	0	0	36	0	0	62	
7:45 AM	0	0	0	0	3	0	0	0	2	33	0	0	0	22	0	0	60	
7:50 AM	0	0	0	0	0	0	0	0	6	33	0	0	0	30	2	0	71	
7:55 AM	0	0	0	0	0	0	3	0	6	37	0	0	0	25	0	0	71	677
8:00 AM	0	0	0	0	1	0	1	0	0	31	0	0	0	33	1	0	67	715
8:05 AM	0	0	0	0	0	0	0	0	7	21	0	0	0	20	0	0	48	720
8:10 AM	0	0	0	0	0	0	1	0	2	29	0	0	0	31	0	0	63	739
8:15 AM	0	0	0	0	1	0	0	0	2	26	0	0	0	19	0	0	48	736
8:20 AM	0	0	0	0	0	0	1	0	4	21	0	0	0	20	0	0	46	722
8:25 AM	0	0	0	0	2	0	0	0	1	24	0	0	0	27	1	0	55	715
8:30 AM	0	0	0	0	2	0	1	0	2	14	0	0	0	22	0	0	41	697
8:35 AM	0	0	0	0	2	0	4	0	0	28	0	0	0	27	1	0	62	694
8:40 AM	0	0	0	0	1	0	2	0	2	31	0	0	0	37	0	0	73	705
8:45 AM	0	0	0	0	0	0	0	0	3	28	0	0	0	43	0	0	74	719
8:50 AM	0	0	0	0	2	0	1	0	1	29	0	0	0	30	1	0	64	712
8:55 AM	0	0	0	0	1	0	1	0	3	35	0	0	0	41	1	0	82	723

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	16	0	48	404	0	0	0	352	12	0	836
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	4	0		12
Buses																	
Pedestrians		12				0				0				0			12
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

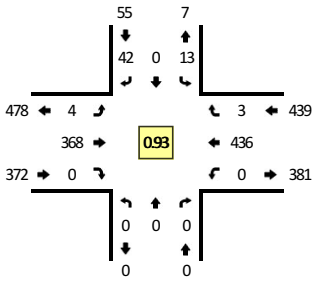
Comments:

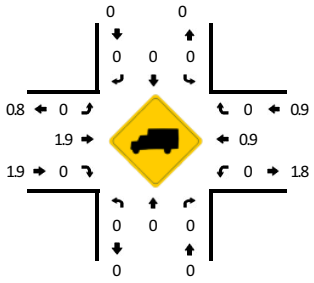
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

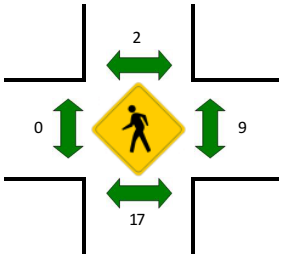
LOCATION: 22. N Madson St -- E Mission Ave | **QC JOB #:** 16908544
CITY/STATE: Liberty Lake, WA | **DATE:** Wed, Apr 30 2025

Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 4:25 PM -- 4:40 PM

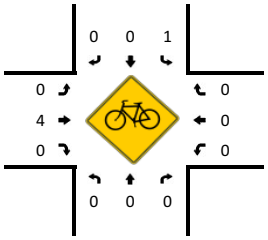


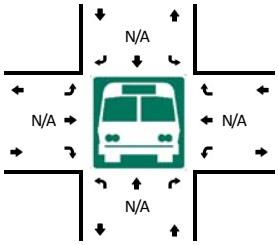


TRUE DATA TO IMPROVE MOBILITY

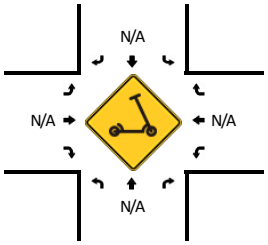












5-Min Count Period Beginning At	22. N Madson St (Northbound)				22. N Madson St (Southbound)				E Mission Ave (Eastbound)				E Mission Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	1	0	3	29	0	0	0	32	1	0	67	
4:05 PM	0	0	0	0	2	0	1	0	2	16	0	0	0	22	0	0	43	
4:10 PM	0	0	0	0	0	0	6	0	1	38	0	0	0	37	1	0	83	
4:15 PM	0	0	0	0	0	0	3	0	1	32	0	0	0	31	2	0	69	
4:20 PM	0	0	0	0	2	0	2	0	0	32	0	0	0	20	1	0	57	
4:25 PM	0	0	0	0	1	0	3	0	2	36	0	0	0	37	0	0	79	
4:30 PM	0	0	0	0	0	0	3	0	1	33	0	0	0	39	0	0	76	
4:35 PM	0	0	0	0	0	0	2	0	0	33	0	0	0	42	0	0	77	
4:40 PM	0	0	0	0	2	0	4	0	0	23	0	0	0	46	0	0	75	
4:45 PM	0	0	0	0	2	0	2	0	1	29	0	0	0	33	0	0	67	
4:50 PM	0	0	0	0	0	0	4	0	0	31	0	0	0	34	0	0	69	
4:55 PM	0	0	0	0	0	0	3	0	0	25	0	0	0	33	1	0	62	824
5:00 PM	0	0	0	0	2	0	6	0	0	26	0	0	0	35	1	0	70	827
5:05 PM	0	0	0	0	3	0	3	0	0	25	0	0	0	43	0	0	74	858
5:10 PM	0	0	0	0	1	0	3	0	0	37	0	0	0	35	0	0	76	851
5:15 PM	0	0	0	0	1	0	3	0	0	27	0	0	0	28	0	0	59	841
5:20 PM	0	0	0	0	1	0	6	0	0	43	0	0	0	31	1	0	82	866
5:25 PM	0	0	0	0	0	0	0	0	0	27	0	0	0	28	1	0	56	843
5:30 PM	0	0	0	0	0	0	3	0	1	23	0	0	0	25	0	0	52	819
5:35 PM	0	0	0	0	0	0	3	0	1	24	0	0	0	33	0	0	61	803
5:40 PM	0	0	0	0	0	0	1	0	1	27	0	0	0	27	1	0	57	785
5:45 PM	0	0	0	0	0	0	1	0	0	23	0	0	0	18	0	0	42	760
5:50 PM	0	0	0	0	3	0	3	0	2	27	0	0	0	16	0	0	51	742
5:55 PM	0	0	0	0	0	0	0	0	0	33	0	0	0	20	1	0	54	734

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	32	0	12	408	0	0	0	472	0	0	928
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	8	0		8
Buses																	
Pedestrians		20				0				0				0			20
Bicycles	0	0	0		4	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

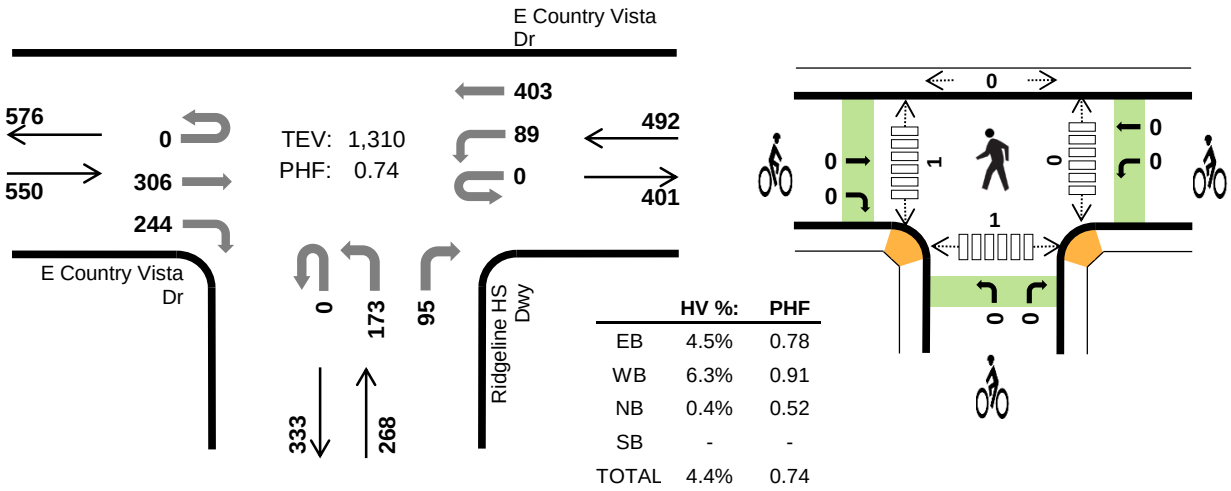
Report generated on 5/12/2025 11:41 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Ridgeline HS Dwy
E Country Vista Dr

N

Peak Hour

Date: 05/08/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	4.5%	0.78
WB	6.3%	0.91
NB	0.4%	0.52
SB	-	-
TOTAL	4.4%	0.74

Two-Hour Count Summaries

Interval Start	E Country Vista Dr Eastbound				E Country Vista Dr Westbound				Ridgeline HS Dwy Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**76**	**37**	**0**	**18**	**78**	**0**	**0**	**18**	**0**	**5**	**0**	**0**	**0**	**0**	**232**	0
7:15 AM	**0**	**0**	**72**	**66**	**0**	**29**	**101**	**0**	**0**	**35**	**0**	**21**	**0**	**0**	**0**	**0**	**324**	0
7:30 AM	**0**	**0**	**70**	**107**	**0**	**34**	**101**	**0**	**0**	**84**	**0**	**46**	**0**	**0**	**0**	**0**	**442**	0
7:45 AM	**0**	**0**	**88**	**34**	**0**	**8**	**123**	**0**	**0**	**36**	**0**	**23**	**0**	**0**	**0**	**0**	**312**	**1,310**
8:00 AM	0	0	103	13	0	3	79	0	0	11	0	4	0	0	0	0	213	1,291
8:15 AM	0	0	79	3	0	5	87	0	0	3	0	5	0	0	0	0	182	1,149
8:30 AM	0	0	100	16	0	3	98	0	0	4	0	3	0	0	0	0	224	931
8:45 AM	0	0	78	7	0	2	105	0	0	10	0	6	0	0	0	0	208	827
Count Total	0	0	666	283	0	102	772	0	0	201	0	113	0	0	0	0	2,137	0
Peak Hour All	**0**	**0**	**306**	**244**	**0**	**89**	**403**	**0**	**0**	**173**	**0**	**95**	**0**	**0**	**0**	**0**	**1,310**	**0**
Peak Hour HV	**0**	**0**	**25**	**0**	**0**	**0**	**31**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**57**	**0**
Peak Hour HV%	**-**	**-**	**8%**	**0%**	**-**	**0%**	**8%**	**-**	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**-**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**8**	**4**	**1**	**0**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:15 AM	**4**	**10**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**7**	**9**	**0**	**0**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:45 AM	**6**	**8**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	5	4	1	0	*10*	0	0	0	0	*0*	0	1	0	0	*1*
8:15 AM	5	6	0	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	4	2	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	6	4	1	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	45	47	3	0	*95*	0	0	0	0	*0*	0	2	0	1	*3*
Peak Hr	**25**	**31**	**1**	**0**	***57***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Country Vista Dr				E Country Vista Dr				Ridgeline HS Dwy				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**8**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	0
7:15 AM	**0**	**0**	**4**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	0
7:30 AM	**0**	**0**	**7**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	0
7:45 AM	**0**	**0**	**6**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**57**
8:00 AM	0	0	5	0	0	0	4	0	0	0	0	1	0	0	0	0	10	54
8:15 AM	0	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	11	51
8:30 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	41
8:45 AM	0	0	6	0	0	1	3	0	0	1	0	0	0	0	0	0	11	38
Count Total	0	0	45	0	0	1	46	0	0	2	0	1	0	0	0	0	95	0
Peak Hour	**0**	**0**	**25**	**0**	**0**	**0**	**31**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**57**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Country Vista Dr			E Country Vista Dr			Ridgeline HS Dwy			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

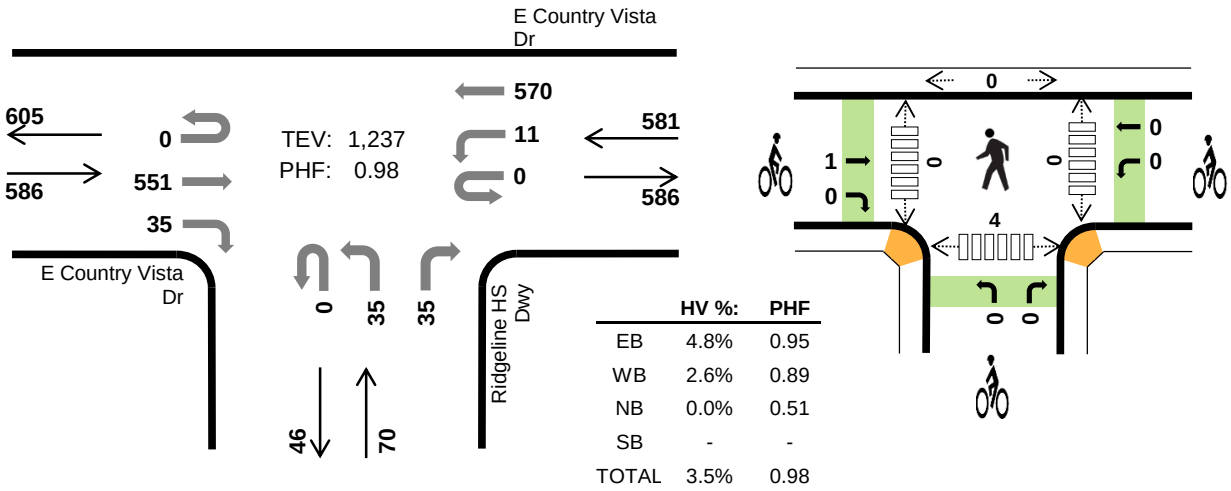
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Ridgeline HS Dwy
E Country Vista Dr

N

Peak Hour

Date: 05/08/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	4.8%	0.95
WB	2.6%	0.89
NB	0.0%	0.51
SB	-	-
TOTAL	3.5%	0.98

Two-Hour Count Summaries

Interval Start		E Country Vista Dr Eastbound				E Country Vista Dr Westbound				Ridgeline HS Dwy Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**0**	**141**	**13**	**0**	**4**	**125**	**0**	**0**	**17**	**0**	**17**	**0**	**0**	**0**	**0**	**317**	0
4:15 PM		**0**	**0**	**121**	**12**	**0**	**5**	**136**	**0**	**0**	**8**	**0**	**7**	**0**	**0**	**0**	**0**	**289**	0
4:30 PM		**0**	**0**	**139**	**5**	**0**	**2**	**161**	**0**	**0**	**6**	**0**	**4**	**0**	**0**	**0**	**0**	**317**	0
4:45 PM		**0**	**0**	**150**	**5**	**0**	**0**	**148**	**0**	**0**	**4**	**0**	**7**	**0**	**0**	**0**	**0**	**314**	**1,237**
5:00 PM		0	0	126	2	0	4	142	0	0	10	0	6	0	0	0	0	290	1,210
5:15 PM		0	0	140	4	0	1	115	0	0	5	0	4	0	0	0	0	269	1,190
5:30 PM		0	0	157	1	0	1	140	0	0	12	0	1	0	0	0	0	312	1,185
5:45 PM		0	0	117	1	0	1	111	0	0	15	0	4	0	0	0	0	249	1,120
Count Total		0	0	1,091	43	0	18	1,078	0	0	77	0	50	0	0	0	0	2,357	0
Peak Hour	**All**	**0**	**0**	**551**	**35**	**0**	**11**	**570**	**0**	**0**	**35**	**0**	**35**	**0**	**0**	**0**	**0**	**1,237**	**0**
	HV	**0**	**0**	**28**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**43**	**0**
	HV%	**-**	**-**	**5%**	**0%**	**-**	**0%**	**3%**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**18**	**2**	**0**	**0**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
4:15 PM	**5**	**5**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
4:30 PM	**3**	**5**	**0**	**0**	***8***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	*1*
4:45 PM	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
5:00 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	0	1	0	*3*	0	0	0	0	*0*	0	0	0	2	*2*
5:45 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	2	*2*
Count Total	35	18	1	0	*54*	1	0	0	0	*1*	0	0	0	8	*8*
Peak Hr	**28**	**15**	**0**	**0**	***43***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**4**	***4***

Two-Hour Count Summaries - Heavy Vehicles

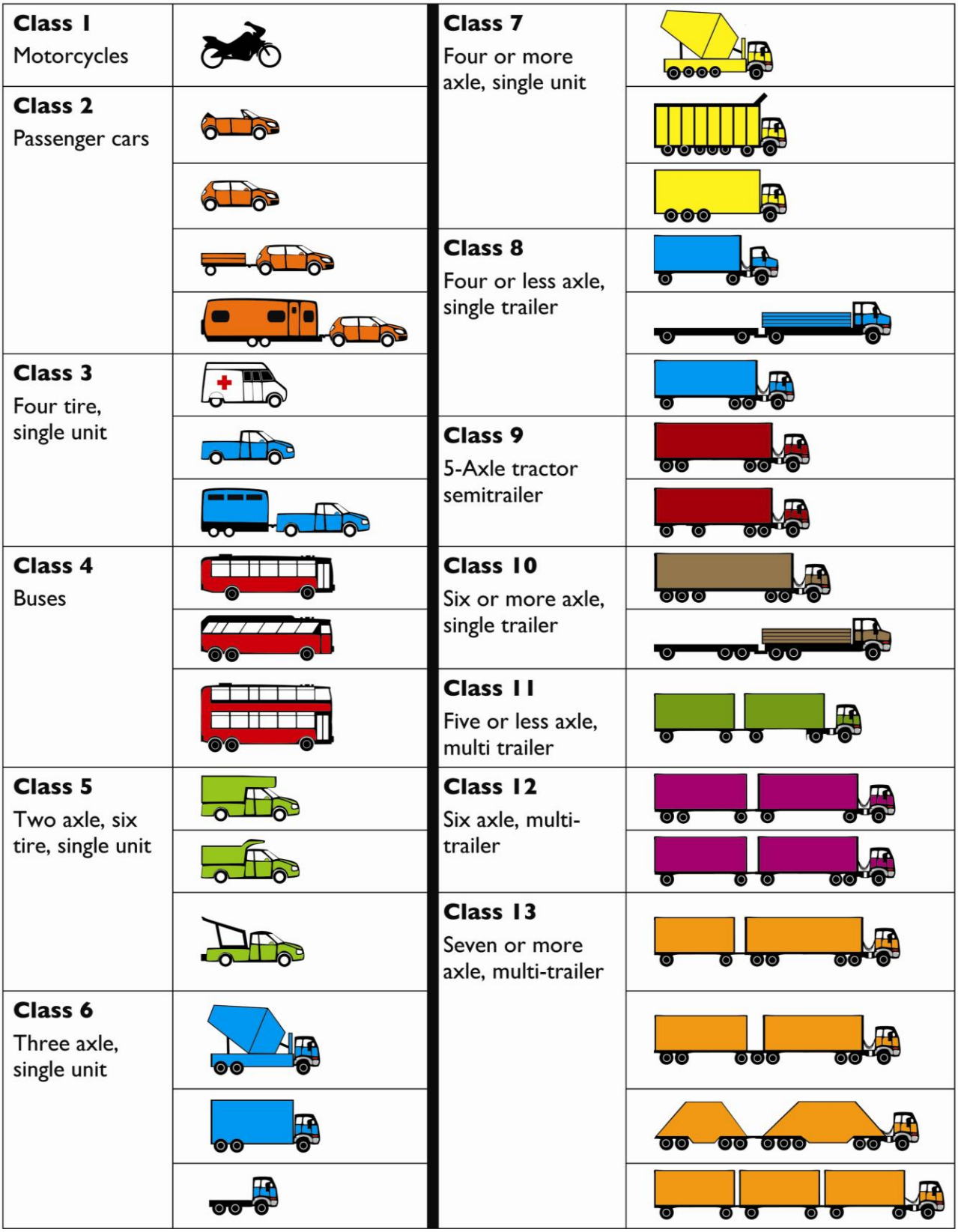
Interval Start	E Country Vista Dr				E Country Vista Dr				Ridgeline HS Dwy				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**18**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	0
4:15 PM	**0**	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	0
4:30 PM	**0**	**0**	**3**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**43**
5:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	26
5:15 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	3	19
5:30 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3	14
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	11
Count Total	0	0	34	1	0	0	18	0	0	1	0	0	0	0	0	0	54	0
Peak Hour	**0**	**0**	**28**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**43**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Country Vista Dr			E Country Vista Dr			Ridgeline HS Dwy			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

FHWA's 13 Vehicle Category Classification



Source: Federal Highway Administration

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	10	1	0	0	0	0	11
01:00 AM	0	8	0	0	0	0	0	8
02:00 AM	0	6	0	0	0	0	0	6
03:00 AM	0	9	0	1	0	1	0	11
04:00 AM	0	28	0	0	0	0	0	28
05:00 AM	0	71	3	2	0	2	0	78
06:00 AM	**1**	143	12	5	0	1	1	163
07:00 AM	1	**394**	**18**	12	1	0	0	**426**
08:00 AM	0	349	5	10	2	1	0	367
09:00 AM	0	319	4	14	**7**	1	0	345
10:00 AM	0	328	4	**17**	4	**4**	0	357
11:00 AM	0	385	2	12	2	3	**2**	406
12:00 PM	1	444	4	**12**	**5**	1	0	467
01:00 PM	0	442	4	9	3	**2**	0	460
02:00 PM	0	**692**	**20**	11	0	1	0	**724**
03:00 PM	0	502	7	10	0	0	0	519
04:00 PM	0	603	4	9	0	1	0	617
05:00 PM	1	600	3	6	1	0	0	611
06:00 PM	**2**	405	2	10	1	0	0	420
07:00 PM	0	148	2	2	0	0	0	152
08:00 PM	0	212	0	10	0	2	0	224
09:00 PM	0	141	1	3	0	0	0	145
10:00 PM	0	34	1	1	0	1	0	37
11:00 PM	0	24	1	0	0	0	0	25
Day Total	6	6297	98	156	26	21	3	6607
Percent	0.1%	95.3%	1.5%	2.4%	0.4%	0.3%	0%	
ADT 6607								
AM Peak	6:00 AM	7:00 AM	7:00 AM	10:00 AM	9:00 AM	10:00 AM	11:00 AM	7:00 AM
Volume	1	394	18	17	7	4	2	426
PM Peak	6:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	1:00 PM	12:00 PM	2:00 PM
Volume	2	692	20	12	5	2	0	724

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	9	1	0	0	0	0	10
01:00 AM	0	6	0	0	0	0	0	6
02:00 AM	0	9	0	0	0	1	0	10
03:00 AM	0	8	0	1	0	0	0	9
04:00 AM	0	24	0	0	0	0	0	24
05:00 AM	0	91	1	1	1	0	0	94
06:00 AM	**2**	129	12	6	1	0	0	150
07:00 AM	1	365	**18**	10	0	0	0	394
08:00 AM	2	334	5	17	3	**6**	0	367
09:00 AM	1	326	3	**19**	**5**	2	0	356
10:00 AM	1	357	4	15	3	0	0	380
11:00 AM	0	**418**	1	12	1	4	0	**436**
12:00 PM	3	455	5	9	2	0	0	474
01:00 PM	4	461	4	11	**5**	0	0	485
02:00 PM	0	**744**	**18**	12	2	**3**	0	**779**
03:00 PM	7	544	7	7	0	2	0	567
04:00 PM	**9**	688	4	11	1	0	0	713
05:00 PM	4	675	2	9	1	0	0	691
06:00 PM	0	432	3	1	0	0	0	436
07:00 PM	0	272	1	4	0	1	0	278
08:00 PM	0	252	1	**13**	0	1	**1**	268
09:00 PM	0	110	1	6	0	0	0	117
10:00 PM	0	85	1	1	0	0	0	87
11:00 PM	0	26	1	0	0	1	0	28
Day Total	34	6820	93	165	25	21	1	7159
Percent	0.5%	95.3%	1.3%	2.3%	0.3%	0.3%	0%	
ADT 7159								
AM Peak	6:00 AM	11:00 AM	7:00 AM	9:00 AM	9:00 AM	8:00 AM	12:00 AM	11:00 AM
Volume	2	418	18	19	5	6	0	436
PM Peak	4:00 PM	2:00 PM	2:00 PM	8:00 PM	1:00 PM	2:00 PM	8:00 PM	2:00 PM
Volume	9	744	18	13	5	3	1	779

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	14	1	0	0	0	0	15
01:00 AM	0	6	0	0	0	1	0	7
02:00 AM	0	5	0	0	0	0	0	5
03:00 AM	0	8	0	2	0	1	0	11
04:00 AM	0	25	0	0	0	0	0	25
05:00 AM	1	86	1	3	0	1	0	92
06:00 AM	1	133	6	6	0	0	0	146
07:00 AM	1	299	**14**	21	**2**	0	0	337
08:00 AM	0	433	11	11	0	**3**	0	**458**
09:00 AM	0	376	8	**24**	2	0	0	410
10:00 AM	**4**	351	3	13	0	1	0	372
11:00 AM	2	**435**	4	12	1	1	0	455
12:00 PM	2	446	5	**19**	**3**	2	0	477
01:00 PM	6	466	5	7	3	0	0	487
02:00 PM	3	**739**	**19**	11	1	0	0	**773**
03:00 PM	2	552	7	9	0	0	0	570
04:00 PM	4	605	3	11	0	1	0	624
05:00 PM	**16**	645	2	4	0	0	0	667
06:00 PM	13	553	2	2	1	1	0	572
07:00 PM	0	376	2	6	0	1	0	385
08:00 PM	0	216	1	16	0	**3**	0	236
09:00 PM	0	175	1	5	0	0	0	181
10:00 PM	0	93	1	2	0	1	0	97
11:00 PM	0	24	1	0	0	0	0	25
Day Total	55	7061	97	184	13	17	0	7427
Percent	0.7%	95.1%	1.3%	2.5%	0.2%	0.2%	0%	
ADT 7427								
AM Peak	10:00 AM	11:00 AM	7:00 AM	9:00 AM	7:00 AM	8:00 AM	12:00 AM	8:00 AM
Volume	4	435	14	24	2	3	0	458
PM Peak	5:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	8:00 PM	12:00 PM	2:00 PM
Volume	16	739	19	19	3	3	0	773

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	95	20178	288	505	64	59	4	21193
Percent	0.4%	95.2%	1.4%	2.4%	0.3%	0.3%	0%	

ADT
7064



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits **QC JOB #:** 16908547

SPECIFIC LOCATION: **DIRECTION:** EB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		11	10	15		12			12	
01:00 AM		8	6	7		7			7	
02:00 AM		6	10	5		7			7	
03:00 AM		11	9	11		10			10	
04:00 AM		28	24	25		26			26	
05:00 AM		78	94	92		88			88	
06:00 AM		163	150	146		153			153	
07:00 AM		**426**	394	337		386			386	
08:00 AM		367	367	**458**		397			397	
09:00 AM		345	356	410		370			370	
10:00 AM		357	380	372		370			370	
11:00 AM		406	**436**	455		**432**			**432**	
12:00 PM		467	474	477		473			473	
01:00 PM		460	485	487		477			477	
02:00 PM		**724**	**779**	**773**		**759**			**759**	
03:00 PM		519	567	570		552			552	
04:00 PM		617	713	624		651			651	
05:00 PM		611	691	667		656			656	
06:00 PM		420	436	572		476			476	
07:00 PM		152	278	385		272			272	
08:00 PM		224	268	236		243			243	
09:00 PM		145	117	181		148			148	
10:00 PM		37	87	97		74			74	
11:00 PM		25	28	25		26			26	
Day Total		6607	7159	7427		7065			7065	
% Weekday Average		93.5%	101.3%	105.1%						
% Week Average		93.5%	101.3%	105.1%		100%				
AM Peak Volume		7:00 AM 426	11:00 AM 436	8:00 AM 458		11:00 AM 432			11:00 AM 432	
PM Peak Volume		2:00 PM 724	2:00 PM 779	2:00 PM 773		2:00 PM 759			2:00 PM 759	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	18	1	0	0	0	0	19
01:00 AM	0	19	0	0	0	0	0	19
02:00 AM	0	11	0	0	0	0	0	11
03:00 AM	0	22	0	1	0	3	0	26
04:00 AM	0	56	0	0	0	0	0	56
05:00 AM	0	148	5	3	0	2	0	158
06:00 AM	**1**	389	16	15	1	1	1	424
07:00 AM	1	**1200**	**37**	26	4	3	0	**1271**
08:00 AM	0	756	10	23	4	3	0	796
09:00 AM	0	700	19	27	**11**	3	0	760
10:00 AM	0	696	6	25	7	**9**	0	743
11:00 AM	1	803	4	**30**	8	4	**2**	852
12:00 PM	1	913	7	20	**8**	4	0	953
01:00 PM	0	877	6	**26**	5	**5**	0	919
02:00 PM	2	1196	**25**	23	5	1	0	**1252**
03:00 PM	1	1057	21	22	1	1	0	1103
04:00 PM	0	**1208**	16	14	0	2	0	1240
05:00 PM	**3**	1127	4	11	1	1	0	1147
06:00 PM	3	794	4	14	1	1	0	817
07:00 PM	0	213	2	2	0	0	0	217
08:00 PM	0	340	0	10	0	4	0	354
09:00 PM	0	229	2	4	0	0	0	235
10:00 PM	0	77	1	1	0	2	0	81
11:00 PM	0	45	1	0	0	0	**1**	47
Day Total	13	12894	187	297	56	49	4	13500
Percent	0.1%	95.5%	1.4%	2.2%	0.4%	0.4%	0%	
ADT 13500								
AM Peak	6:00 AM	7:00 AM	7:00 AM	11:00 AM	9:00 AM	10:00 AM	11:00 AM	7:00 AM
Volume	1	1200	37	30	11	9	2	1271
PM Peak	5:00 PM	4:00 PM	2:00 PM	1:00 PM	12:00 PM	1:00 PM	11:00 PM	2:00 PM
Volume	3	1208	25	26	8	5	1	1252

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	24	1	0	0	0	0	25
01:00 AM	0	10	0	0	0	0	0	10
02:00 AM	0	12	0	0	0	1	0	13
03:00 AM	0	19	0	1	0	0	0	20
04:00 AM	0	56	0	0	0	0	0	56
05:00 AM	0	181	3	5	1	0	0	190
06:00 AM	2	371	17	14	3	0	0	407
07:00 AM	2	**1139**	**37**	16	3	1	0	**1198**
08:00 AM	**3**	773	12	27	4	**8**	0	827
09:00 AM	3	780	20	**29**	5	5	0	842
10:00 AM	3	753	6	23	**7**	1	0	793
11:00 AM	0	893	6	19	4	5	0	927
12:00 PM	8	926	11	24	6	2	0	977
01:00 PM	9	934	5	19	**9**	0	0	976
02:00 PM	7	**1318**	22	**25**	6	**5**	0	**1383**
03:00 PM	**13**	1110	**24**	20	0	3	0	1170
04:00 PM	11	1271	11	20	1	3	0	1317
05:00 PM	11	1245	6	16	1	0	0	1279
06:00 PM	1	820	7	9	0	1	0	838
07:00 PM	0	437	1	4	0	1	0	443
08:00 PM	0	432	1	16	0	2	**1**	452
09:00 PM	0	226	1	6	0	1	0	234
10:00 PM	0	143	1	1	0	0	0	145
11:00 PM	0	51	1	1	0	1	0	54
Day Total	73	13924	193	295	50	40	1	14576
Percent	0.5%	95.5%	1.3%	2%	0.3%	0.3%	0%	
ADT 14576								
AM Peak	8:00 AM	7:00 AM	7:00 AM	9:00 AM	10:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	3	1139	37	29	7	8	0	1198
PM Peak	3:00 PM	2:00 PM	3:00 PM	2:00 PM	1:00 PM	2:00 PM	8:00 PM	2:00 PM
Volume	13	1318	24	25	9	5	1	1383

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	29	1	0	0	0	0	30
01:00 AM	0	10	0	0	0	1	0	11
02:00 AM	0	12	0	0	0	0	0	12
03:00 AM	0	18	0	2	0	1	0	21
04:00 AM	0	66	0	0	0	0	0	66
05:00 AM	2	162	3	8	0	1	0	176
06:00 AM	1	345	9	15	0	1	0	371
07:00 AM	4	856	**26**	24	4	1	0	915
08:00 AM	0	**1038**	22	19	2	**5**	0	**1086**
09:00 AM	2	824	12	**41**	**5**	0	0	884
10:00 AM	**6**	811	19	27	2	2	0	867
11:00 AM	5	843	7	28	2	4	0	889
12:00 PM	6	947	10	**38**	**6**	6	0	1013
01:00 PM	7	963	8	19	6	2	0	1005
02:00 PM	11	**1350**	**27**	21	3	2	0	**1414**
03:00 PM	8	1267	24	26	1	2	**1**	1329
04:00 PM	7	1233	10	21	0	1	0	1272
05:00 PM	**18**	1154	4	9	1	0	0	1186
06:00 PM	13	946	4	5	1	2	0	971
07:00 PM	0	559	2	8	0	1	0	570
08:00 PM	0	408	2	21	0	**7**	1	439
09:00 PM	0	296	3	6	0	0	0	305
10:00 PM	0	150	2	2	0	1	0	155
11:00 PM	0	51	1	0	0	0	0	52
Day Total	90	14338	196	340	33	40	2	15039
Percent	0.6%	95.3%	1.3%	2.3%	0.2%	0.3%	0%	
ADT 15039								
AM Peak	10:00 AM	8:00 AM	7:00 AM	9:00 AM	9:00 AM	8:00 AM	12:00 AM	8:00 AM
Volume	6	1038	26	41	5	5	0	1086
PM Peak	5:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	8:00 PM	3:00 PM	2:00 PM
Volume	18	1350	27	38	6	7	1	1414

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908547
DIRECTION: EB, WB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	176	41156	576	932	139	129	7	43115
Percent	0.4%	95.5%	1.3%	2.2%	0.3%	0.3%	0%	

ADT
14371



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits **QC JOB #:** 16908547

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		19	25	30		25			25	
01:00 AM		19	10	11		13			13	
02:00 AM		11	13	12		12			12	
03:00 AM		26	20	21		22			22	
04:00 AM		56	56	66		59			59	
05:00 AM		158	190	176		175			175	
06:00 AM		424	407	371		401			401	
07:00 AM		**1271**	**1198**	915		**1128**			**1128**	
08:00 AM		796	827	**1086**		903			903	
09:00 AM		760	842	884		829			829	
10:00 AM		743	793	867		801			801	
11:00 AM		852	927	889		889			889	
12:00 PM		953	977	1013		981			981	
01:00 PM		919	976	1005		967			967	
02:00 PM		**1252**	**1383**	**1414**		**1350**			**1350**	
03:00 PM		1103	1170	1329		1201			1201	
04:00 PM		1240	1317	1272		1276			1276	
05:00 PM		1147	1279	1186		1204			1204	
06:00 PM		817	838	971		875			875	
07:00 PM		217	443	570		410			410	
08:00 PM		354	452	439		415			415	
09:00 PM		235	234	305		258			258	
10:00 PM		81	145	155		127			127	
11:00 PM		47	54	52		51			51	
Day Total		13500	14576	15039		14372			14372	
% Weekday Average		93.9%	101.4%	104.6%						
% Week Average		93.9%	101.4%	104.6%		100%				
AM Peak Volume		7:00 AM 1271	7:00 AM 1198	8:00 AM 1086		7:00 AM 1128			7:00 AM 1128	
PM Peak Volume		2:00 PM 1252	2:00 PM 1383	2:00 PM 1414		2:00 PM 1350			2:00 PM 1350	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	8	0	0	0	0	0	8
01:00 AM	0	11	0	0	0	0	0	11
02:00 AM	0	5	0	0	0	0	0	5
03:00 AM	0	13	0	0	0	2	0	15
04:00 AM	0	28	0	0	0	0	0	28
05:00 AM	0	77	2	1	0	0	0	80
06:00 AM	0	246	4	10	1	0	0	261
07:00 AM	0	**806**	**19**	14	3	3	0	**845**
08:00 AM	0	407	5	13	2	2	0	429
09:00 AM	0	381	15	13	4	2	0	415
10:00 AM	0	368	2	8	3	**5**	0	386
11:00 AM	**1**	418	2	**18**	**6**	1	0	446
12:00 PM	0	469	3	8	3	**3**	0	486
01:00 PM	0	435	2	**17**	2	3	0	459
02:00 PM	**2**	504	5	12	**5**	0	0	528
03:00 PM	1	555	**14**	12	1	1	0	584
04:00 PM	0	**605**	12	5	0	1	0	**623**
05:00 PM	2	527	1	5	0	1	0	536
06:00 PM	1	389	2	4	0	1	0	397
07:00 PM	0	65	0	0	0	0	0	65
08:00 PM	0	128	0	0	0	2	0	130
09:00 PM	0	88	1	1	0	0	0	90
10:00 PM	0	43	0	0	0	1	0	44
11:00 PM	0	21	0	0	0	0	**1**	22
Day Total	7	6597	89	141	30	28	1	6893
Percent	0.1%	95.7%	1.3%	2%	0.4%	0.4%	0%	
ADT 6893								
AM Peak	11:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	10:00 AM	12:00 AM	7:00 AM
Volume	1	806	19	18	6	5	0	845
PM Peak	2:00 PM	4:00 PM	3:00 PM	1:00 PM	2:00 PM	12:00 PM	11:00 PM	4:00 PM
Volume	2	605	14	17	5	3	1	623

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	15	0	0	0	0	0	15
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	3	0	0	0	0	0	3
03:00 AM	0	11	0	0	0	0	0	11
04:00 AM	0	32	0	0	0	0	0	32
05:00 AM	0	90	2	4	0	0	0	96
06:00 AM	0	242	5	8	2	0	0	257
07:00 AM	1	**774**	**19**	6	3	1	0	**804**
08:00 AM	1	439	7	**10**	1	2	0	460
09:00 AM	**2**	454	17	10	0	**3**	0	486
10:00 AM	2	396	2	8	**4**	1	0	413
11:00 AM	0	475	5	7	3	1	0	491
12:00 PM	5	471	6	**15**	**4**	2	0	503
01:00 PM	5	473	1	8	4	0	0	491
02:00 PM	**7**	574	4	13	4	2	0	**604**
03:00 PM	6	566	**17**	13	0	1	0	603
04:00 PM	2	**583**	7	9	0	**3**	0	604
05:00 PM	7	570	4	7	0	0	0	588
06:00 PM	1	388	4	8	0	1	0	402
07:00 PM	0	165	0	0	0	0	0	165
08:00 PM	0	180	0	3	0	1	0	184
09:00 PM	0	116	0	0	0	1	0	117
10:00 PM	0	58	0	0	0	0	0	58
11:00 PM	0	25	0	1	0	0	0	26
Day Total	39	7104	100	130	25	19	0	7417
Percent	0.5%	95.8%	1.3%	1.8%	0.3%	0.3%	0%	
ADT 7417								
AM Peak	9:00 AM	7:00 AM	7:00 AM	8:00 AM	10:00 AM	9:00 AM	12:00 AM	7:00 AM
Volume	2	774	19	10	4	3	0	804
PM Peak	2:00 PM	4:00 PM	3:00 PM	12:00 PM	12:00 PM	4:00 PM	12:00 PM	2:00 PM
Volume	7	583	17	15	4	3	0	604

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	15	0	0	0	0	0	15
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	7	0	0	0	0	0	7
03:00 AM	0	10	0	0	0	0	0	10
04:00 AM	0	41	0	0	0	0	0	41
05:00 AM	1	76	2	5	0	0	0	84
06:00 AM	0	212	3	9	0	1	0	225
07:00 AM	**3**	557	12	3	2	1	0	578
08:00 AM	0	**605**	11	8	2	2	0	**628**
09:00 AM	2	448	4	**17**	**3**	0	0	474
10:00 AM	2	460	**16**	14	2	1	0	495
11:00 AM	3	408	3	16	1	**3**	0	434
12:00 PM	4	501	5	**19**	**3**	**4**	0	536
01:00 PM	1	497	3	12	3	2	0	518
02:00 PM	**8**	611	8	10	2	2	0	641
03:00 PM	6	**715**	**17**	17	1	2	**1**	**759**
04:00 PM	3	628	7	10	0	0	0	648
05:00 PM	2	509	2	5	1	0	0	519
06:00 PM	0	393	2	3	0	1	0	399
07:00 PM	0	183	0	2	0	0	0	185
08:00 PM	0	192	1	5	0	4	1	203
09:00 PM	0	121	2	1	0	0	0	124
10:00 PM	0	57	1	0	0	0	0	58
11:00 PM	0	27	0	0	0	0	0	27
Day Total	35	7277	99	156	20	23	2	7612
Percent	0.5%	95.6%	1.3%	2%	0.3%	0.3%	0%	
ADT 7612								
AM Peak	7:00 AM	8:00 AM	10:00 AM	9:00 AM	9:00 AM	11:00 AM	12:00 AM	8:00 AM
Volume	3	605	16	17	3	3	0	628
PM Peak	2:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM	3:00 PM
Volume	8	715	17	19	3	4	1	759

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits
QC JOB #: 16908547
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	81	20978	288	427	75	70	3	21922
Percent	0.4%	95.7%	1.3%	1.9%	0.3%	0.3%	0%	

ADT
7307



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 1. E Country Vista Dr btwn Kramer Pkwy and City Limits **QC JOB #:** 16908547

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		8	15	15		13			13	
01:00 AM		11	4	4		6			6	
02:00 AM		5	3	7		5			5	
03:00 AM		15	11	10		12			12	
04:00 AM		28	32	41		34			34	
05:00 AM		80	96	84		87			87	
06:00 AM		261	257	225		248			248	
07:00 AM		**845**	**804**	578		**742**			**742**	
08:00 AM		429	460	**628**		506			506	
09:00 AM		415	486	474		458			458	
10:00 AM		386	413	495		431			431	
11:00 AM		446	491	434		457			457	
12:00 PM		486	503	536		508			508	
01:00 PM		459	491	518		489			489	
02:00 PM		528	**604**	641		591			591	
03:00 PM		584	603	**759**		**649**			**649**	
04:00 PM		**623**	604	648		625			625	
05:00 PM		536	588	519		548			548	
06:00 PM		397	402	399		399			399	
07:00 PM		65	165	185		138			138	
08:00 PM		130	184	203		172			172	
09:00 PM		90	117	124		110			110	
10:00 PM		44	58	58		53			53	
11:00 PM		22	26	27		25			25	
Day Total		6893	7417	7612		7306			7306	
% Weekday Average		94.3%	101.5%	104.2%						
% Week Average		94.3%	101.5%	104.2%		100%				
AM Peak Volume		7:00 AM 845	7:00 AM 804	8:00 AM 628		7:00 AM 742			7:00 AM 742	
PM Peak Volume		4:00 PM 623	2:00 PM 604	3:00 PM 759		3:00 PM 649			3:00 PM 649	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	3	0	0	0	0	0	3
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	16	0	1	0	0	0	17
05:00 AM	0	32	2	1	1	0	0	36
06:00 AM	0	82	2	2	0	0	0	86
07:00 AM	0	**280**	**11**	3	**3**	0	0	**297**
08:00 AM	0	225	2	**6**	1	0	0	234
09:00 AM	0	122	8	2	0	0	0	132
10:00 AM	1	147	2	5	0	1	0	156
11:00 AM	**2**	157	2	6	0	**4**	0	171
12:00 PM	0	161	3	**5**	0	0	0	169
01:00 PM	2	160	4	4	0	1	0	171
02:00 PM	3	242	**7**	3	0	1	0	256
03:00 PM	**4**	256	6	4	0	0	0	270
04:00 PM	0	**329**	2	3	0	**2**	0	**336**
05:00 PM	2	267	2	1	0	0	0	272
06:00 PM	0	171	2	2	0	0	0	175
07:00 PM	1	115	1	2	0	2	0	121
08:00 PM	0	56	1	1	0	0	0	58
09:00 PM	0	31	1	0	0	0	0	32
10:00 PM	0	14	0	1	0	0	0	15
11:00 PM	0	5	0	0	0	0	0	5
Day Total	15	2875	58	52	5	11	0	3016
Percent	0.5%	95.3%	1.9%	1.7%	0.2%	0.4%	0%	
ADT 3016								
AM Peak	11:00 AM	7:00 AM	7:00 AM	8:00 AM	7:00 AM	11:00 AM	12:00 AM	7:00 AM
Volume	2	280	11	6	3	4	0	297
PM Peak	3:00 PM	4:00 PM	2:00 PM	12:00 PM	12:00 PM	4:00 PM	12:00 PM	4:00 PM
Volume	4	329	7	5	0	2	0	336

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	0	1	0	0	0	6
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	16	0	1	0	0	0	17
05:00 AM	1	47	1	1	1	0	0	51
06:00 AM	0	86	2	2	0	0	0	90
07:00 AM	1	**269**	**10**	5	0	0	0	**285**
08:00 AM	0	230	4	3	1	**2**	0	240
09:00 AM	0	142	10	6	**2**	2	0	162
10:00 AM	1	125	3	3	0	0	0	132
11:00 AM	**2**	183	5	**8**	1	1	0	200
12:00 PM	3	183	4	**8**	0	1	0	199
01:00 PM	2	169	3	3	**1**	2	0	180
02:00 PM	5	242	**8**	5	0	1	0	261
03:00 PM	**6**	273	7	5	0	1	0	292
04:00 PM	1	328	3	5	0	**3**	0	340
05:00 PM	4	**369**	2	4	0	0	0	**379**
06:00 PM	3	221	4	0	0	0	0	228
07:00 PM	4	107	1	1	0	0	0	113
08:00 PM	0	68	1	0	0	0	0	69
09:00 PM	0	26	1	1	0	0	0	28
10:00 PM	0	15	0	1	0	0	0	16
11:00 PM	0	7	0	1	0	0	0	8
Day Total	33	3112	69	64	6	13	0	3297
Percent	1%	94.4%	2.1%	1.9%	0.2%	0.4%	0%	
ADT 3297								
AM Peak	11:00 AM	7:00 AM	7:00 AM	11:00 AM	9:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	2	269	10	8	2	2	0	285
PM Peak	3:00 PM	5:00 PM	2:00 PM	12:00 PM	1:00 PM	4:00 PM	12:00 PM	5:00 PM
Volume	6	369	8	8	1	3	0	379

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	4	0	0	0	0	0	4
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	12	0	2	0	0	0	14
05:00 AM	0	43	1	0	0	0	0	44
06:00 AM	0	70	2	4	0	0	0	76
07:00 AM	1	206	5	3	1	2	0	218
08:00 AM	0	**249**	**9**	3	0	2	0	**263**
09:00 AM	**3**	203	2	5	0	0	0	213
10:00 AM	1	168	9	3	**2**	**4**	0	187
11:00 AM	3	173	2	**8**	0	0	**1**	187
12:00 PM	3	195	3	**12**	0	1	0	214
01:00 PM	1	187	2	2	0	0	0	192
02:00 PM	3	238	**8**	4	0	**2**	0	255
03:00 PM	1	261	7	3	**1**	2	0	275
04:00 PM	4	**302**	3	1	0	0	0	**310**
05:00 PM	4	259	2	1	0	0	0	266
06:00 PM	**30**	164	2	3	0	0	0	199
07:00 PM	2	128	1	0	0	0	0	131
08:00 PM	0	73	2	2	0	0	0	77
09:00 PM	0	36	1	3	0	0	0	40
10:00 PM	0	11	0	0	0	0	0	11
11:00 PM	0	2	0	0	0	0	0	2
Day Total	56	2990	61	59	4	13	1	3184
Percent	1.8%	93.9%	1.9%	1.9%	0.1%	0.4%	0%	
ADT 3184								
AM Peak	9:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	10:00 AM	11:00 AM	8:00 AM
Volume	3	249	9	8	2	4	1	263
PM Peak	6:00 PM	4:00 PM	2:00 PM	12:00 PM	3:00 PM	2:00 PM	12:00 PM	4:00 PM
Volume	30	302	8	12	1	2	0	310

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	104	8977	188	175	15	37	1	9497
Percent	1.1%	94.5%	2%	1.8%	0.2%	0.4%	0%	

ADT
3165



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2	6	2		3			3	
01:00 AM		2	0	3		2			2	
02:00 AM		3	1	4		3			3	
03:00 AM		0	0	1		0			0	
04:00 AM		17	17	14		16			16	
05:00 AM		36	51	44		44			44	
06:00 AM		86	90	76		84			84	
07:00 AM		**297**	**285**	218		**267**			**267**	
08:00 AM		234	240	**263**		246			246	
09:00 AM		132	162	213		169			169	
10:00 AM		156	132	187		158			158	
11:00 AM		171	200	187		186			186	
12:00 PM		169	199	214		194			194	
01:00 PM		171	180	192		181			181	
02:00 PM		256	261	255		257			257	
03:00 PM		270	292	275		279			279	
04:00 PM		**336**	340	**310**		**329**			**329**	
05:00 PM		272	**379**	266		306			306	
06:00 PM		175	228	199		201			201	
07:00 PM		121	113	131		122			122	
08:00 PM		58	69	77		68			68	
09:00 PM		32	28	40		33			33	
10:00 PM		15	16	11		14			14	
11:00 PM		5	8	2		5			5	
Day Total		3016	3297	3184		3167			3167	
% Weekday Average		95.2%	104.1%	100.5%						
% Week Average		95.2%	104.1%	100.5%		100%				
AM Peak Volume		7:00 AM 297	7:00 AM 285	8:00 AM 263		7:00 AM 267			7:00 AM 267	
PM Peak Volume		4:00 PM 336	5:00 PM 379	4:00 PM 310		4:00 PM 329			4:00 PM 329	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	5	0	0	0	0	0	5
02:00 AM	0	7	0	0	0	0	0	7
03:00 AM	0	3	0	0	0	0	0	3
04:00 AM	0	22	0	1	0	0	0	23
05:00 AM	1	55	4	1	1	0	0	62
06:00 AM	0	145	5	6	0	1	0	157
07:00 AM	0	**560**	**24**	11	**4**	2	0	**601**
08:00 AM	0	412	4	12	1	0	0	429
09:00 AM	0	239	11	9	2	1	0	262
10:00 AM	**2**	282	5	13	0	1	0	303
11:00 AM	2	335	4	**15**	0	**5**	0	361
12:00 PM	0	343	5	14	**2**	1	0	365
01:00 PM	4	326	10	10	1	**2**	0	353
02:00 PM	4	517	**18**	12	0	1	0	552
03:00 PM	**6**	507	11	7	0	1	0	532
04:00 PM	0	**682**	4	**20**	1	2	0	**709**
05:00 PM	5	571	4	8	0	0	0	588
06:00 PM	1	350	4	8	0	0	0	363
07:00 PM	1	257	4	6	0	2	0	270
08:00 PM	0	172	2	3	0	0	0	177
09:00 PM	0	78	2	0	0	0	0	80
10:00 PM	0	38	0	1	0	0	0	39
11:00 PM	0	12	0	0	0	0	0	12
Day Total	26	5922	121	157	12	19	0	6257
Percent	0.4%	94.6%	1.9%	2.5%	0.2%	0.3%	0%	
ADT 6257								
AM Peak	10:00 AM	7:00 AM	7:00 AM	11:00 AM	7:00 AM	11:00 AM	12:00 AM	7:00 AM
Volume	2	560	24	15	4	5	0	601
PM Peak	3:00 PM	4:00 PM	2:00 PM	4:00 PM	12:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	6	682	18	20	2	2	0	709

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	10	0	1	1	0	0	12
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	3	0	0	0	0	0	3
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	20	0	1	0	0	0	21
05:00 AM	1	69	3	1	3	0	0	77
06:00 AM	0	151	4	6	0	0	0	161
07:00 AM	2	**534**	**22**	8	1	2	0	**569**
08:00 AM	0	411	7	11	3	**6**	0	438
09:00 AM	1	288	18	11	4	4	0	326
10:00 AM	2	264	9	6	**5**	0	0	286
11:00 AM	**5**	364	8	**20**	2	2	0	401
12:00 PM	5	391	7	17	1	1	0	422
01:00 PM	4	363	10	9	**4**	2	0	392
02:00 PM	6	525	**18**	**21**	0	**4**	0	574
03:00 PM	8	553	16	12	0	3	0	592
04:00 PM	4	**718**	5	17	0	4	0	**748**
05:00 PM	8	676	3	15	1	1	0	704
06:00 PM	4	445	7	5	1	0	0	462
07:00 PM	**9**	271	4	7	0	0	0	291
08:00 PM	1	184	2	3	0	0	0	190
09:00 PM	1	74	2	1	0	0	0	78
10:00 PM	0	40	0	1	0	0	0	41
11:00 PM	0	22	0	1	0	0	0	23
Day Total	61	6380	145	174	26	29	0	6815
Percent	0.9%	93.6%	2.1%	2.6%	0.4%	0.4%	0%	
ADT 6815								
AM Peak	11:00 AM	7:00 AM	7:00 AM	11:00 AM	10:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	5	534	22	20	5	6	0	569
PM Peak	7:00 PM	4:00 PM	2:00 PM	2:00 PM	1:00 PM	2:00 PM	12:00 PM	4:00 PM
Volume	9	718	18	21	4	4	0	748

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	6	0	0	0	0	0	6
01:00 AM	0	5	0	0	0	0	0	5
02:00 AM	0	5	0	0	0	0	0	5
03:00 AM	0	4	0	1	0	0	0	5
04:00 AM	0	18	0	2	0	0	0	20
05:00 AM	0	65	3	1	0	0	0	69
06:00 AM	0	134	4	8	**4**	0	0	150
07:00 AM	1	361	9	6	2	5	0	384
08:00 AM	0	**472**	**19**	9	2	4	0	**506**
09:00 AM	5	373	6	10	1	1	0	396
10:00 AM	1	364	15	8	3	**6**	0	397
11:00 AM	**6**	369	4	**19**	0	1	**1**	400
12:00 PM	6	394	7	**21**	1	1	0	430
01:00 PM	2	404	6	6	**2**	**2**	0	422
02:00 PM	4	527	**19**	13	2	2	0	567
03:00 PM	4	526	15	9	1	2	0	557
04:00 PM	8	**614**	10	11	1	0	0	**644**
05:00 PM	10	517	3	15	0	1	0	546
06:00 PM	**32**	321	5	11	0	0	0	369
07:00 PM	3	309	2	6	0	0	0	320
08:00 PM	5	204	3	6	0	0	0	218
09:00 PM	0	95	2	3	0	0	0	100
10:00 PM	0	46	0	0	0	0	0	46
11:00 PM	0	13	0	0	0	0	0	13
Day Total	87	6146	132	165	19	25	1	6575
Percent	1.3%	93.5%	2%	2.5%	0.3%	0.4%	0%	
ADT 6575								
AM Peak	11:00 AM	8:00 AM	8:00 AM	11:00 AM	6:00 AM	10:00 AM	11:00 AM	8:00 AM
Volume	6	472	19	19	4	6	1	506
PM Peak	6:00 PM	4:00 PM	2:00 PM	12:00 PM	1:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	32	614	19	21	2	2	0	644

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908548
DIRECTION: EB, WB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	174	18448	398	496	57	73	1	19647
Percent	0.9%	93.9%	2%	2.5%	0.3%	0.4%	0%	

ADT
6549



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548

SPECIFIC LOCATION:
DIRECTION: EB, WB

CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	12	6		7			7	
01:00 AM		5	3	5		4			4	
02:00 AM		7	3	5		5			5	
03:00 AM		3	1	5		3			3	
04:00 AM		23	21	20		21			21	
05:00 AM		62	77	69		69			69	
06:00 AM		157	161	150		156			156	
07:00 AM		**601**	**569**	384		**518**			**518**	
08:00 AM		429	438	**506**		458			458	
09:00 AM		262	326	396		328			328	
10:00 AM		303	286	397		329			329	
11:00 AM		361	401	400		387			387	
12:00 PM		365	422	430		406			406	
01:00 PM		353	392	422		389			389	
02:00 PM		552	574	567		564			564	
03:00 PM		532	592	557		560			560	
04:00 PM		**709**	**748**	**644**		**700**			**700**	
05:00 PM		588	704	546		613			613	
06:00 PM		363	462	369		398			398	
07:00 PM		270	291	320		294			294	
08:00 PM		177	190	218		195			195	
09:00 PM		80	78	100		86			86	
10:00 PM		39	41	46		42			42	
11:00 PM		12	23	13		16			16	
Day Total		6257	6815	6575		6548			6548	
% Weekday Average		95.6%	104.1%	100.4%						
% Week Average		95.6%	104.1%	100.4%		100%				
AM Peak Volume		7:00 AM 601	7:00 AM 569	8:00 AM 506		7:00 AM 518			7:00 AM 518	
PM Peak Volume		4:00 PM 709	4:00 PM 748	4:00 PM 644		4:00 PM 700			4:00 PM 700	

Comments:

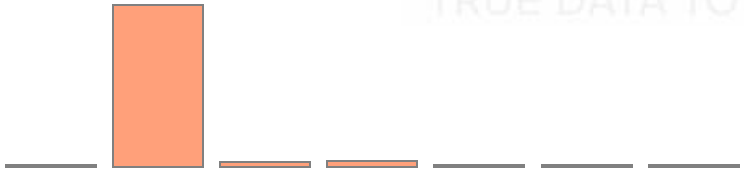
Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	4	0	0	0	0	0	4
03:00 AM	0	3	0	0	0	0	0	3
04:00 AM	0	6	0	0	0	0	0	6
05:00 AM	**1**	23	2	0	0	0	0	26
06:00 AM	0	63	3	4	0	1	0	71
07:00 AM	0	**280**	**13**	8	1	**2**	0	**304**
08:00 AM	0	187	2	6	0	0	0	195
09:00 AM	0	117	3	7	**2**	1	0	130
10:00 AM	1	135	3	8	0	0	0	147
11:00 AM	0	178	2	**9**	0	1	0	190
12:00 PM	0	182	2	9	**2**	**1**	0	196
01:00 PM	2	166	6	6	1	1	0	182
02:00 PM	1	275	**11**	9	0	0	0	296
03:00 PM	2	251	5	3	0	1	0	262
04:00 PM	0	**353**	2	**17**	1	0	0	**373**
05:00 PM	**3**	304	2	7	0	0	0	316
06:00 PM	1	179	2	6	0	0	0	188
07:00 PM	0	142	3	4	0	0	0	149
08:00 PM	0	116	1	2	0	0	0	119
09:00 PM	0	47	1	0	0	0	0	48
10:00 PM	0	24	0	0	0	0	0	24
11:00 PM	0	7	0	0	0	0	0	7
Day Total	11	3047	63	105	7	8	0	3241
Percent	0.3%	94%	1.9%	3.2%	0.2%	0.2%	0%	
ADT 3241								
AM Peak	5:00 AM	7:00 AM	7:00 AM	11:00 AM	9:00 AM	7:00 AM	12:00 AM	7:00 AM
Volume	1	280	13	9	2	2	0	304
PM Peak	5:00 PM	4:00 PM	2:00 PM	4:00 PM	12:00 PM	12:00 PM	12:00 PM	4:00 PM
Volume	3	353	11	17	2	1	0	373

Comments:

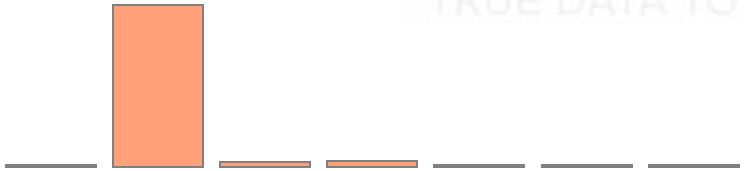
Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	0	0	1	0	0	6
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	4	0	0	0	0	0	4
05:00 AM	0	22	2	0	2	0	0	26
06:00 AM	0	65	2	4	0	0	0	71
07:00 AM	1	**265**	**12**	3	1	2	0	**284**
08:00 AM	0	181	3	8	2	**4**	0	198
09:00 AM	1	146	8	5	2	2	0	164
10:00 AM	1	139	6	3	**5**	0	0	154
11:00 AM	**3**	181	3	**12**	1	1	0	201
12:00 PM	2	208	3	9	1	0	0	223
01:00 PM	2	194	7	6	**3**	0	0	212
02:00 PM	1	283	**10**	**16**	0	**3**	0	313
03:00 PM	2	280	9	7	0	2	0	300
04:00 PM	3	**390**	2	12	0	1	0	**408**
05:00 PM	4	307	1	11	1	1	0	325
06:00 PM	1	224	3	5	1	0	0	234
07:00 PM	**5**	164	3	6	0	0	0	178
08:00 PM	1	116	1	3	0	0	0	121
09:00 PM	1	48	1	0	0	0	0	50
10:00 PM	0	25	0	0	0	0	0	25
11:00 PM	0	15	0	0	0	0	0	15
Day Total	28	3268	76	110	20	16	0	3518
Percent	0.8%	92.9%	2.2%	3.1%	0.6%	0.5%	0%	
ADT 3518								
AM Peak	11:00 AM	7:00 AM	7:00 AM	11:00 AM	10:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	3	265	12	12	5	4	0	284
PM Peak	7:00 PM	4:00 PM	2:00 PM	2:00 PM	1:00 PM	2:00 PM	12:00 PM	4:00 PM
Volume	5	390	10	16	3	3	0	408

Comments:

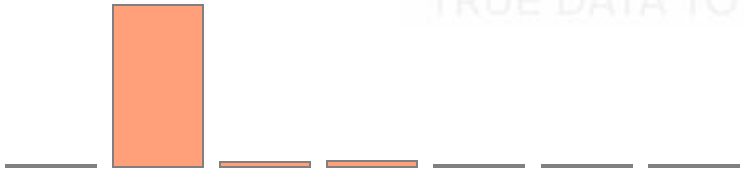
Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
QC JOB #: 16908548
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	3	0	1	0	0	0	4
04:00 AM	0	6	0	0	0	0	0	6
05:00 AM	0	22	2	1	0	0	0	25
06:00 AM	0	64	2	4	**4**	0	0	74
07:00 AM	0	155	4	3	1	**3**	0	166
08:00 AM	0	**223**	**10**	6	2	2	0	**243**
09:00 AM	2	170	4	5	1	1	0	183
10:00 AM	0	196	6	5	1	2	0	210
11:00 AM	**3**	196	2	**11**	0	1	0	213
12:00 PM	3	199	4	9	1	0	0	216
01:00 PM	1	217	4	4	**2**	**2**	0	230
02:00 PM	1	289	**11**	9	2	0	0	312
03:00 PM	3	265	8	6	0	0	0	282
04:00 PM	4	**312**	7	10	1	0	0	**334**
05:00 PM	**6**	258	1	**14**	0	1	0	280
06:00 PM	2	157	3	8	0	0	0	170
07:00 PM	1	181	1	6	0	0	0	189
08:00 PM	5	131	1	4	0	0	0	141
09:00 PM	0	59	1	0	0	0	0	60
10:00 PM	0	35	0	0	0	0	0	35
11:00 PM	0	11	0	0	0	0	0	11
Day Total	31	3156	71	106	15	12	0	3391
Percent	0.9%	93.1%	2.1%	3.1%	0.4%	0.4%	0%	
ADT 3391								
AM Peak	11:00 AM	8:00 AM	8:00 AM	11:00 AM	6:00 AM	7:00 AM	12:00 AM	8:00 AM
Volume	3	223	10	11	4	3	0	243
PM Peak	5:00 PM	4:00 PM	2:00 PM	5:00 PM	1:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	6	312	11	14	2	2	0	334

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908548
DIRECTION: WB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	70	9471	210	321	42	36	0	10150
Percent	0.7%	93.3%	2.1%	3.2%	0.4%	0.4%	0%	

ADT
3383



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 2. E Mission Ave btwn N Harvard Rd and City Limits **QC JOB #:** 16908548

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2	6	4		4			4	
01:00 AM		3	3	2		3			3	
02:00 AM		4	2	1		2			2	
03:00 AM		3	1	4		3			3	
04:00 AM		6	4	6		5			5	
05:00 AM		26	26	25		26			26	
06:00 AM		71	71	74		72			72	
07:00 AM		**304**	**284**	166		**251**			**251**	
08:00 AM		195	198	**243**		212			212	
09:00 AM		130	164	183		159			159	
10:00 AM		147	154	210		170			170	
11:00 AM		190	201	213		201			201	
12:00 PM		196	223	216		212			212	
01:00 PM		182	212	230		208			208	
02:00 PM		296	313	312		307			307	
03:00 PM		262	300	282		281			281	
04:00 PM		**373**	**408**	**334**		**372**			**372**	
05:00 PM		316	325	280		307			307	
06:00 PM		188	234	170		197			197	
07:00 PM		149	178	189		172			172	
08:00 PM		119	121	141		127			127	
09:00 PM		48	50	60		53			53	
10:00 PM		24	25	35		28			28	
11:00 PM		7	15	11		11			11	
Day Total		3241	3518	3391		3383			3383	
% Weekday Average		95.8%	104%	100.2%						
% Week Average		95.8%	104%	100.2%		100%				
AM Peak Volume		7:00 AM 304	7:00 AM 284	8:00 AM 243		7:00 AM 251			7:00 AM 251	
PM Peak Volume		4:00 PM 373	4:00 PM 408	4:00 PM 334		4:00 PM 372			4:00 PM 372	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	1	13	0	0	0	0	0	14
01:00 AM	0	11	0	0	0	0	0	11
02:00 AM	0	8	0	1	0	0	0	9
03:00 AM	0	8	0	0	0	1	1	10
04:00 AM	0	17	0	1	0	0	5	23
05:00 AM	0	67	0	10	0	2	2	81
06:00 AM	0	187	0	4	1	2	0	194
07:00 AM	0	267	0	11	1	3	0	282
08:00 AM	0	303	1	15	1	0	0	320
09:00 AM	0	276	1	10	2	0	0	289
10:00 AM	0	320	0	7	1	1	0	329
11:00 AM	2	342	1	12	1	1	0	359
12:00 PM	0	429	0	10	1	1	0	441
01:00 PM	1	390	1	7	2	0	0	401
02:00 PM	1	485	0	21	0	3	0	510
03:00 PM	0	598	2	18	0	0	0	618
04:00 PM	2	663	4	7	2	0	0	678
05:00 PM	0	598	1	6	1	0	0	606
06:00 PM	1	418	0	4	0	0	0	423
07:00 PM	1	264	1	0	0	0	0	266
08:00 PM	0	181	0	4	0	0	0	185
09:00 PM	0	94	0	5	0	0	0	99
10:00 PM	0	54	0	0	0	0	0	54
11:00 PM	1	32	0	0	0	1	0	34
Day Total	10	6025	12	153	13	15	8	6236
Percent	0.2%	96.6%	0.2%	2.5%	0.2%	0.2%	0.1%	
ADT 6236								
AM Peak	11:00 AM	11:00 AM	8:00 AM	8:00 AM	9:00 AM	7:00 AM	4:00 AM	11:00 AM
Volume	2	342	1	15	2	3	5	359
PM Peak	4:00 PM	4:00 PM	4:00 PM	2:00 PM	1:00 PM	2:00 PM	12:00 PM	4:00 PM
Volume	2	663	4	21	2	3	0	678

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	13	0	0	0	0	0	13
01:00 AM	0	10	0	0	0	0	0	10
02:00 AM	0	10	0	0	0	0	0	10
03:00 AM	0	7	0	0	0	0	0	7
04:00 AM	0	23	0	0	0	0	0	23
05:00 AM	1	73	0	0	0	1	0	75
06:00 AM	0	207	0	7	1	2	0	217
07:00 AM	0	262	0	8	**2**	3	0	275
08:00 AM	0	326	**2**	**10**	1	2	0	341
09:00 AM	1	291	0	8	0	**4**	0	304
10:00 AM	**2**	319	1	9	2	1	0	334
11:00 AM	1	**373**	1	9	2	1	0	**387**
12:00 PM	1	407	0	10	2	1	0	421
01:00 PM	3	389	0	14	2	1	0	409
02:00 PM	5	529	0	17	1	1	0	553
03:00 PM	**6**	**653**	2	**20**	**3**	**3**	0	**687**
04:00 PM	3	625	**4**	6	0	0	0	638
05:00 PM	4	645	1	10	0	0	0	660
06:00 PM	3	479	0	6	0	0	0	488
07:00 PM	5	318	1	0	0	0	0	324
08:00 PM	4	239	0	4	1	0	0	248
09:00 PM	0	131	0	2	0	0	0	133
10:00 PM	1	59	1	1	0	0	0	62
11:00 PM	0	32	0	0	0	0	0	32
Day Total	40	6420	13	141	17	20	0	6651
Percent	0.6%	96.5%	0.2%	2.1%	0.3%	0.3%	0%	
ADT 6651								
AM Peak	10:00 AM	11:00 AM	8:00 AM	8:00 AM	7:00 AM	9:00 AM	12:00 AM	11:00 AM
Volume	2	373	2	10	2	4	0	387
PM Peak	3:00 PM	3:00 PM	4:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	3:00 PM
Volume	6	653	4	20	3	3	0	687

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	26	0	1	0	0	0	27
01:00 AM	0	13	0	0	0	0	0	13
02:00 AM	0	8	0	0	0	0	0	8
03:00 AM	0	8	0	1	0	0	0	9
04:00 AM	0	18	0	0	0	**2**	0	20
05:00 AM	**3**	81	0	2	0	1	**1**	88
06:00 AM	1	198	0	7	0	1	0	207
07:00 AM	0	269	0	12	1	2	0	284
08:00 AM	2	314	**2**	**14**	1	0	0	333
09:00 AM	1	316	1	11	1	0	0	330
10:00 AM	1	322	0	8	**5**	0	0	336
11:00 AM	2	**377**	2	10	4	1	0	**396**
12:00 PM	1	451	1	7	2	**2**	0	464
01:00 PM	0	487	0	7	**6**	0	0	500
02:00 PM	4	498	2	14	3	0	0	521
03:00 PM	2	630	2	**17**	2	1	0	654
04:00 PM	3	**685**	**6**	16	0	0	0	**710**
05:00 PM	3	622	1	9	1	1	0	637
06:00 PM	**11**	425	1	4	1	0	0	442
07:00 PM	1	338	0	3	0	0	0	342
08:00 PM	1	211	0	1	0	1	0	214
09:00 PM	3	139	1	2	0	0	0	145
10:00 PM	1	61	0	2	0	0	0	64
11:00 PM	0	30	0	0	0	0	0	30
Day Total	40	6527	19	148	27	12	1	6774
Percent	0.6%	96.4%	0.3%	2.2%	0.4%	0.2%	0%	
ADT 6774								
AM Peak	5:00 AM	11:00 AM	8:00 AM	8:00 AM	10:00 AM	4:00 AM	5:00 AM	11:00 AM
Volume	3	377	2	14	5	2	1	396
PM Peak	6:00 PM	4:00 PM	4:00 PM	3:00 PM	1:00 PM	12:00 PM	12:00 PM	4:00 PM
Volume	11	685	6	17	6	2	0	710

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	90	18972	44	442	57	47	9	19661
Percent	0.5%	96.5%	0.2%	2.2%	0.3%	0.2%	0%	

ADT
6553



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave **QC JOB #:** 16908549

SPECIFIC LOCATION: **DIRECTION:** NB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		14	13	27		18			18	
01:00 AM		11	10	13		11			11	
02:00 AM		9	10	8		9			9	
03:00 AM		10	7	9		9			9	
04:00 AM		23	23	20		22			22	
05:00 AM		81	75	88		81			81	
06:00 AM		194	217	207		206			206	
07:00 AM		282	275	284		280			280	
08:00 AM		320	341	333		331			331	
09:00 AM		289	304	330		308			308	
10:00 AM		329	334	336		333			333	
11:00 AM		**359**	**387**	**396**		**381**			**381**	
12:00 PM		441	421	464		442			442	
01:00 PM		401	409	500		437			437	
02:00 PM		510	553	521		528			528	
03:00 PM		618	**687**	654		653			653	
04:00 PM		**678**	638	**710**		**675**			**675**	
05:00 PM		606	660	637		634			634	
06:00 PM		423	488	442		451			451	
07:00 PM		266	324	342		311			311	
08:00 PM		185	248	214		216			216	
09:00 PM		99	133	145		126			126	
10:00 PM		54	62	64		60			60	
11:00 PM		34	32	30		32			32	
Day Total		6236	6651	6774		6554			6554	
% Weekday Average		95.1%	101.5%	103.4%						
% Week Average		95.1%	101.5%	103.4%		100%				
AM Peak Volume		11:00 AM 359	11:00 AM 387	11:00 AM 396		11:00 AM 381			11:00 AM 381	
PM Peak Volume		4:00 PM 678	3:00 PM 687	4:00 PM 710		4:00 PM 675			4:00 PM 675	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	1	17	0	0	0	0	0	18
01:00 AM	0	17	0	0	0	0	0	17
02:00 AM	0	18	0	3	0	0	0	21
03:00 AM	0	21	0	0	0	1	1	23
04:00 AM	0	75	0	5	0	0	**5**	85
05:00 AM	0	213	1	14	0	5	2	235
06:00 AM	0	488	**6**	13	3	3	0	513
07:00 AM	0	**762**	4	**31**	3	**7**	0	**807**
08:00 AM	0	756	3	29	3	0	0	791
09:00 AM	0	698	4	20	**4**	2	0	728
10:00 AM	0	712	0	22	3	4	0	741
11:00 AM	**2**	749	3	25	3	2	0	784
12:00 PM	0	868	1	23	2	3	0	897
01:00 PM	1	813	3	14	**4**	2	0	837
02:00 PM	1	921	0	31	0	**7**	0	960
03:00 PM	1	1085	3	**36**	0	2	0	1127
04:00 PM	**4**	**1159**	**4**	9	2	0	0	**1178**
05:00 PM	0	1029	1	14	1	0	0	1045
06:00 PM	2	712	0	7	0	1	0	722
07:00 PM	2	461	1	1	0	0	0	465
08:00 PM	0	331	1	5	0	1	0	338
09:00 PM	0	158	1	9	0	0	0	168
10:00 PM	0	99	0	0	0	0	0	99
11:00 PM	1	54	0	0	0	1	0	56
Day Total	15	12216	36	311	28	41	8	12655
Percent	0.1%	96.5%	0.3%	2.5%	0.2%	0.3%	0.1%	
ADT 12655								
AM Peak	11:00 AM	7:00 AM	6:00 AM	7:00 AM	9:00 AM	7:00 AM	4:00 AM	7:00 AM
Volume	2	762	6	31	4	7	5	807
PM Peak	4:00 PM	4:00 PM	4:00 PM	3:00 PM	1:00 PM	2:00 PM	12:00 PM	4:00 PM
Volume	4	1159	4	36	4	7	0	1178

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	20	0	0	0	0	0	20
01:00 AM	0	15	0	0	0	0	0	15
02:00 AM	0	17	0	0	0	0	0	17
03:00 AM	0	24	0	0	0	0	0	24
04:00 AM	1	83	0	4	0	0	0	88
05:00 AM	2	216	0	2	0	1	0	221
06:00 AM	**4**	534	**7**	25	**5**	**8**	**1**	584
07:00 AM	3	780	2	17	4	4	0	810
08:00 AM	0	**822**	2	**27**	4	6	0	**861**
09:00 AM	2	703	1	19	0	5	0	730
10:00 AM	3	720	1	22	5	6	0	757
11:00 AM	3	817	4	17	3	2	0	846
12:00 PM	6	853	1	18	3	4	0	885
01:00 PM	5	804	0	22	**5**	5	0	841
02:00 PM	**9**	980	0	31	1	2	0	1023
03:00 PM	7	**1158**	3	**33**	3	**6**	0	**1210**
04:00 PM	7	1131	**5**	10	0	1	0	1154
05:00 PM	7	1153	2	14	0	2	0	1178
06:00 PM	7	829	1	9	1	0	0	847
07:00 PM	8	615	1	0	0	1	0	625
08:00 PM	5	452	0	6	1	2	0	466
09:00 PM	0	237	0	5	0	0	**1**	243
10:00 PM	1	86	2	2	0	0	0	91
11:00 PM	0	56	0	0	0	0	0	56
Day Total	80	13105	32	283	35	55	2	13592
Percent	0.6%	96.4%	0.2%	2.1%	0.3%	0.4%	0%	
ADT 13592								
AM Peak	6:00 AM	8:00 AM	6:00 AM	8:00 AM	6:00 AM	6:00 AM	6:00 AM	8:00 AM
Volume	4	822	7	27	5	8	1	861
PM Peak	2:00 PM	3:00 PM	4:00 PM	3:00 PM	1:00 PM	3:00 PM	9:00 PM	3:00 PM
Volume	9	1158	5	33	5	6	1	1210

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	38	0	1	0	0	0	39
01:00 AM	0	20	0	0	0	0	0	20
02:00 AM	0	16	0	0	0	0	0	16
03:00 AM	0	26	0	1	0	0	0	27
04:00 AM	0	75	0	2	0	2	0	79
05:00 AM	**7**	228	0	8	1	3	**1**	248
06:00 AM	3	512	**5**	16	4	**5**	0	545
07:00 AM	5	748	2	23	2	2	0	782
08:00 AM	3	810	5	**31**	3	0	0	852
09:00 AM	1	749	3	29	6	3	0	791
10:00 AM	1	740	0	18	**8**	4	0	771
11:00 AM	4	**862**	2	24	8	1	0	**901**
12:00 PM	4	892	1	20	6	3	0	926
01:00 PM	4	930	0	18	**7**	3	0	962
02:00 PM	6	976	2	**29**	7	1	0	1021
03:00 PM	4	1172	**6**	24	4	**4**	0	1214
04:00 PM	5	**1237**	6	27	2	0	0	**1277**
05:00 PM	6	1088	1	17	1	3	0	1116
06:00 PM	**14**	720	1	5	1	0	0	741
07:00 PM	3	630	0	6	0	1	0	640
08:00 PM	3	397	1	9	0	2	0	412
09:00 PM	3	222	1	2	0	0	0	228
10:00 PM	1	93	0	4	0	0	0	98
11:00 PM	0	45	0	0	0	0	0	45
Day Total	77	13226	36	314	60	37	1	13751
Percent	0.6%	96.2%	0.3%	2.3%	0.4%	0.3%	0%	
ADT 13751								
AM Peak	5:00 AM	11:00 AM	6:00 AM	8:00 AM	10:00 AM	6:00 AM	5:00 AM	11:00 AM
Volume	7	862	5	31	8	5	1	901
PM Peak	6:00 PM	4:00 PM	3:00 PM	2:00 PM	1:00 PM	3:00 PM	12:00 PM	4:00 PM
Volume	14	1237	6	29	7	4	0	1277

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908549
DIRECTION: NB, SB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	172	38547	104	908	123	133	11	39998
Percent	0.4%	96.4%	0.3%	2.3%	0.3%	0.3%	0%	

ADT
13332



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		18	20	39		26			26	
01:00 AM		17	15	20		17			17	
02:00 AM		21	17	16		18			18	
03:00 AM		23	24	27		25			25	
04:00 AM		85	88	79		84			84	
05:00 AM		235	221	248		235			235	
06:00 AM		513	584	545		547			547	
07:00 AM		**807**	810	782		800			800	
08:00 AM		791	**861**	852		835			835	
09:00 AM		728	730	791		750			750	
10:00 AM		741	757	771		756			756	
11:00 AM		784	846	**901**		**844**			**844**	
12:00 PM		897	885	926		903			903	
01:00 PM		837	841	962		880			880	
02:00 PM		960	1023	1021		1001			1001	
03:00 PM		1127	**1210**	1214		1184			1184	
04:00 PM		**1178**	1154	**1277**		**1203**			**1203**	
05:00 PM		1045	1178	1116		1113			1113	
06:00 PM		722	847	741		770			770	
07:00 PM		465	625	640		577			577	
08:00 PM		338	466	412		405			405	
09:00 PM		168	243	228		213			213	
10:00 PM		99	91	98		96			96	
11:00 PM		56	56	45		52			52	
Day Total		12655	13592	13751		13334			13334	
% Weekday Average		94.9%	101.9%	103.1%						
% Week Average		94.9%	101.9%	103.1%		100%				
AM Peak Volume		7:00 AM 807	8:00 AM 861	11:00 AM 901		11:00 AM 844			11:00 AM 844	
PM Peak Volume		4:00 PM 1178	3:00 PM 1210	4:00 PM 1277		4:00 PM 1203			4:00 PM 1203	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	6	0	0	0	0	0	6
02:00 AM	0	10	0	2	0	0	0	12
03:00 AM	0	13	0	0	0	0	0	13
04:00 AM	0	58	0	4	0	0	0	62
05:00 AM	0	146	1	4	0	3	0	154
06:00 AM	0	301	**6**	9	**2**	1	0	319
07:00 AM	0	**495**	4	**20**	2	**4**	0	**525**
08:00 AM	0	453	2	14	2	0	0	471
09:00 AM	0	422	3	10	2	2	0	439
10:00 AM	0	392	0	15	2	3	0	412
11:00 AM	0	407	2	13	2	1	0	425
12:00 PM	0	439	1	13	1	2	0	456
01:00 PM	0	423	**2**	7	**2**	2	0	436
02:00 PM	0	436	0	10	0	**4**	0	450
03:00 PM	1	487	1	**18**	0	2	0	**509**
04:00 PM	**2**	**496**	0	2	0	0	0	500
05:00 PM	0	431	0	8	0	0	0	439
06:00 PM	1	294	0	3	0	1	0	299
07:00 PM	1	197	0	1	0	0	0	199
08:00 PM	0	150	1	1	0	1	0	153
09:00 PM	0	64	1	4	0	0	0	69
10:00 PM	0	45	0	0	0	0	0	45
11:00 PM	0	22	0	0	0	0	0	22
Day Total	5	6191	24	158	15	26	0	6419
Percent	0.1%	96.4%	0.4%	2.5%	0.2%	0.4%	0%	
ADT 6419								
AM Peak	12:00 AM	7:00 AM	6:00 AM	7:00 AM	6:00 AM	7:00 AM	12:00 AM	7:00 AM
Volume	0	495	6	20	2	4	0	525
PM Peak	4:00 PM	4:00 PM	1:00 PM	3:00 PM	1:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	2	496	2	18	2	4	0	509

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	7	0	0	0	0	0	7
01:00 AM	0	5	0	0	0	0	0	5
02:00 AM	0	7	0	0	0	0	0	7
03:00 AM	0	17	0	0	0	0	0	17
04:00 AM	1	60	0	4	0	0	0	65
05:00 AM	1	143	0	2	0	0	0	146
06:00 AM	**4**	327	**7**	**18**	**4**	**6**	**1**	367
07:00 AM	3	**518**	2	9	2	1	0	**535**
08:00 AM	0	496	0	17	3	4	0	520
09:00 AM	1	412	1	11	0	1	0	426
10:00 AM	1	401	0	13	3	5	0	423
11:00 AM	2	444	3	8	1	1	0	459
12:00 PM	**5**	446	**1**	8	1	3	0	464
01:00 PM	2	415	0	8	**3**	**4**	0	432
02:00 PM	4	451	0	**14**	0	1	0	470
03:00 PM	1	505	1	13	0	3	0	**523**
04:00 PM	4	506	1	4	0	1	0	516
05:00 PM	3	**508**	1	4	0	2	0	518
06:00 PM	4	350	1	3	1	0	0	359
07:00 PM	3	297	0	0	0	1	0	301
08:00 PM	1	213	0	2	0	2	0	218
09:00 PM	0	106	0	3	0	0	**1**	110
10:00 PM	0	27	1	1	0	0	0	29
11:00 PM	0	24	0	0	0	0	0	24
Day Total	40	6685	19	142	18	35	2	6941
Percent	0.6%	96.3%	0.3%	2%	0.3%	0.5%	0%	
ADT 6941								
AM Peak	6:00 AM	7:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	7:00 AM
Volume	4	518	7	18	4	6	1	535
PM Peak	12:00 PM	5:00 PM	12:00 PM	2:00 PM	1:00 PM	1:00 PM	9:00 PM	3:00 PM
Volume	5	508	1	14	3	4	1	523

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	12	0	0	0	0	0	12
01:00 AM	0	7	0	0	0	0	0	7
02:00 AM	0	8	0	0	0	0	0	8
03:00 AM	0	18	0	0	0	0	0	18
04:00 AM	0	57	0	2	0	0	0	59
05:00 AM	4	147	0	6	1	2	0	160
06:00 AM	2	314	**5**	9	4	**4**	0	338
07:00 AM	**5**	479	2	11	1	0	0	498
08:00 AM	1	**496**	3	17	2	0	0	**519**
09:00 AM	0	433	2	**18**	**5**	3	0	461
10:00 AM	0	418	0	10	3	4	0	435
11:00 AM	2	485	0	14	4	0	0	505
12:00 PM	3	441	0	13	**4**	1	0	462
01:00 PM	**4**	443	0	11	1	**3**	0	462
02:00 PM	2	478	0	**15**	4	1	0	500
03:00 PM	2	542	**4**	7	2	3	0	560
04:00 PM	2	**552**	0	11	2	0	0	**567**
05:00 PM	3	466	0	8	0	2	0	479
06:00 PM	3	295	0	1	0	0	0	299
07:00 PM	2	292	0	3	0	1	0	298
08:00 PM	2	186	1	8	0	1	0	198
09:00 PM	0	83	0	0	0	0	0	83
10:00 PM	0	32	0	2	0	0	0	34
11:00 PM	0	15	0	0	0	0	0	15
Day Total	37	6699	17	166	33	25	0	6977
Percent	0.5%	96%	0.2%	2.4%	0.5%	0.4%	0%	
ADT 6977								
AM Peak	7:00 AM	8:00 AM	6:00 AM	9:00 AM	9:00 AM	6:00 AM	12:00 AM	8:00 AM
Volume	5	496	5	18	5	4	0	519
PM Peak	1:00 PM	4:00 PM	3:00 PM	2:00 PM	12:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	4	552	4	15	4	3	0	567

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave
QC JOB #: 16908549
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	82	19575	60	466	66	86	2	20337
Percent	0.4%	96.3%	0.3%	2.3%	0.3%	0.4%	0%	

ADT
6779



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 3. N Havard Rd btwn City Limits and E Mission Ave **QC JOB #:** 16908549

SPECIFIC LOCATION: **DIRECTION:** SB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	7	12		8			8	
01:00 AM		6	5	7		6			6	
02:00 AM		12	7	8		9			9	
03:00 AM		13	17	18		16			16	
04:00 AM		62	65	59		62			62	
05:00 AM		154	146	160		153			153	
06:00 AM		319	367	338		341			341	
07:00 AM		**525**	**535**	498		**519**			**519**	
08:00 AM		471	520	**519**		503			503	
09:00 AM		439	426	461		442			442	
10:00 AM		412	423	435		423			423	
11:00 AM		425	459	505		463			463	
12:00 PM		456	464	462		461			461	
01:00 PM		436	432	462		443			443	
02:00 PM		450	470	500		473			473	
03:00 PM		**509**	**523**	560		**531**			**531**	
04:00 PM		500	516	**567**		528			528	
05:00 PM		439	518	479		479			479	
06:00 PM		299	359	299		319			319	
07:00 PM		199	301	298		266			266	
08:00 PM		153	218	198		190			190	
09:00 PM		69	110	83		87			87	
10:00 PM		45	29	34		36			36	
11:00 PM		22	24	15		20			20	
Day Total		6419	6941	6977		6778			6778	
% Weekday Average		94.7%	102.4%	102.9%						
% Week Average		94.7%	102.4%	102.9%		100%				
AM Peak Volume		7:00 AM 525	7:00 AM 535	8:00 AM 519		7:00 AM 519			7:00 AM 519	
PM Peak Volume		3:00 PM 509	3:00 PM 523	4:00 PM 567		3:00 PM 531			3:00 PM 531	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	1	0	0	0	0	6
01:00 AM	0	6	0	2	0	0	0	8
02:00 AM	0	5	1	0	0	0	0	6
03:00 AM	0	10	0	0	0	0	0	10
04:00 AM	0	30	1	0	0	0	0	31
05:00 AM	0	119	2	4	0	2	0	127
06:00 AM	**1**	256	8	6	2	0	0	273
07:00 AM	1	491	**16**	**12**	2	4	0	526
08:00 AM	0	**633**	9	11	2	1	**1**	**657**
09:00 AM	0	498	6	11	3	4	0	522
10:00 AM	0	483	2	9	**6**	**5**	1	506
11:00 AM	0	599	3	11	3	5	1	622
12:00 PM	1	682	2	**19**	3	3	0	710
01:00 PM	0	667	3	12	**5**	**4**	0	691
02:00 PM	0	857	**15**	8	0	3	0	**883**
03:00 PM	0	780	11	8	2	4	0	805
04:00 PM	0	**865**	4	6	2	2	0	879
05:00 PM	1	802	2	3	0	0	0	808
06:00 PM	**2**	547	2	6	0	1	0	558
07:00 PM	1	346	1	1	0	0	0	349
08:00 PM	0	290	1	2	0	2	0	295
09:00 PM	0	146	1	1	0	0	0	148
10:00 PM	0	44	1	1	0	0	0	46
11:00 PM	0	19	1	0	0	0	0	20
Day Total	7	9180	93	133	30	40	3	9486
Percent	0.1%	96.8%	1%	1.4%	0.3%	0.4%	0%	
ADT 9486								
AM Peak	6:00 AM	8:00 AM	7:00 AM	7:00 AM	10:00 AM	10:00 AM	8:00 AM	8:00 AM
Volume	1	633	16	12	6	5	1	657
PM Peak	6:00 PM	4:00 PM	2:00 PM	12:00 PM	1:00 PM	1:00 PM	12:00 PM	2:00 PM
Volume	2	865	15	19	5	4	0	883

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	13	1	0	0	0	0	14
01:00 AM	0	9	0	0	0	0	0	9
02:00 AM	0	13	0	0	0	0	0	13
03:00 AM	0	14	0	0	0	0	0	14
04:00 AM	0	43	0	1	0	0	0	44
05:00 AM	0	135	1	0	0	2	0	138
06:00 AM	1	235	9	5	0	1	0	251
07:00 AM	**2**	483	**14**	13	0	4	0	516
08:00 AM	1	648	11	15	3	**5**	0	**683**
09:00 AM	0	526	4	**20**	**4**	3	**1**	558
10:00 AM	0	590	4	14	3	1	0	612
11:00 AM	1	**655**	5	9	4	4	0	678
12:00 PM	4	752	4	**16**	3	1	0	780
01:00 PM	4	703	2	10	**5**	**4**	0	728
02:00 PM	3	911	**13**	6	0	2	0	935
03:00 PM	6	792	12	10	2	2	0	824
04:00 PM	6	**941**	3	9	1	2	0	**962**
05:00 PM	**8**	901	3	4	0	0	0	916
06:00 PM	3	644	3	4	0	0	0	654
07:00 PM	6	426	1	2	0	0	0	435
08:00 PM	0	351	1	1	0	0	0	353
09:00 PM	0	155	1	0	0	0	0	156
10:00 PM	0	81	1	1	0	0	0	83
11:00 PM	0	33	1	0	0	0	0	34
Day Total	45	10054	94	140	25	31	1	10390
Percent	0.4%	96.8%	0.9%	1.3%	0.2%	0.3%	0%	
ADT 10390								
AM Peak	7:00 AM	11:00 AM	7:00 AM	9:00 AM	9:00 AM	8:00 AM	9:00 AM	8:00 AM
Volume	2	655	14	20	4	5	1	683
PM Peak	5:00 PM	4:00 PM	2:00 PM	12:00 PM	1:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	8	941	13	16	5	4	0	962

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	16	1	0	0	0	0	17
01:00 AM	0	7	0	0	0	0	0	7
02:00 AM	0	9	0	0	0	0	0	9
03:00 AM	0	13	0	0	0	0	0	13
04:00 AM	0	37	0	1	0	0	0	38
05:00 AM	1	123	1	1	0	2	0	128
06:00 AM	1	246	5	8	0	1	0	261
07:00 AM	2	432	**11**	15	**4**	5	0	469
08:00 AM	0	618	11	16	1	3	0	649
09:00 AM	0	**709**	11	**21**	2	4	0	**747**
10:00 AM	3	565	4	19	3	**7**	0	601
11:00 AM	**4**	699	5	13	1	3	0	725
12:00 PM	4	723	5	**17**	3	**5**	0	757
01:00 PM	5	680	4	17	**4**	3	0	713
02:00 PM	7	**933**	**15**	5	1	0	0	**961**
03:00 PM	3	803	11	9	2	2	0	830
04:00 PM	6	844	3	6	1	1	0	861
05:00 PM	**23**	814	2	6	0	0	0	845
06:00 PM	19	686	2	2	0	1	0	710
07:00 PM	7	501	2	2	0	1	0	513
08:00 PM	2	326	1	3	0	2	0	334
09:00 PM	0	189	1	1	1	0	0	192
10:00 PM	0	101	1	0	0	1	0	103
11:00 PM	0	29	1	1	0	0	0	31
Day Total	87	10103	97	163	23	41	0	10514
Percent	0.8%	96.1%	0.9%	1.6%	0.2%	0.4%	0%	
ADT 10514								
AM Peak	11:00 AM	9:00 AM	7:00 AM	9:00 AM	7:00 AM	10:00 AM	12:00 AM	9:00 AM
Volume	4	709	11	21	4	7	0	747
PM Peak	5:00 PM	2:00 PM	2:00 PM	12:00 PM	1:00 PM	12:00 PM	12:00 PM	2:00 PM
Volume	23	933	15	17	4	5	0	961

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	139	29337	284	436	78	112	4	30390
Percent	0.5%	96.5%	0.9%	1.4%	0.3%	0.4%	0%	

ADT
10130



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd **QC JOB #:** 16908550

SPECIFIC LOCATION: **DIRECTION:** EB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		6	14	17		12			12	
01:00 AM		8	9	7		8			8	
02:00 AM		6	13	9		9			9	
03:00 AM		10	14	13		12			12	
04:00 AM		31	44	38		38			38	
05:00 AM		127	138	128		131			131	
06:00 AM		273	251	261		262			262	
07:00 AM		526	516	469		504			504	
08:00 AM		**657**	**683**	649		663			663	
09:00 AM		522	558	**747**		609			609	
10:00 AM		506	612	601		573			573	
11:00 AM		622	678	725		**675**			**675**	
12:00 PM		710	780	757		749			749	
01:00 PM		691	728	713		711			711	
02:00 PM		**883**	935	**961**		**926**			**926**	
03:00 PM		805	824	830		820			820	
04:00 PM		879	**962**	861		901			901	
05:00 PM		808	916	845		856			856	
06:00 PM		558	654	710		641			641	
07:00 PM		349	435	513		432			432	
08:00 PM		295	353	334		327			327	
09:00 PM		148	156	192		165			165	
10:00 PM		46	83	103		77			77	
11:00 PM		20	34	31		28			28	
Day Total		9486	10390	10514		10129			10129	
% Weekday Average		93.7%	102.6%	103.8%						
% Week Average		93.7%	102.6%	103.8%		100%				
AM Peak Volume		8:00 AM 657	8:00 AM 683	9:00 AM 747		11:00 AM 675			11:00 AM 675	
PM Peak Volume		2:00 PM 883	4:00 PM 962	2:00 PM 961		2:00 PM 926			2:00 PM 926	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	23	1	0	0	1	0	25
01:00 AM	0	13	0	3	0	0	0	16
02:00 AM	0	10	1	0	1	0	0	12
03:00 AM	0	12	0	0	0	3	0	15
04:00 AM	0	50	1	0	0	1	0	52
05:00 AM	**1**	204	5	6	0	2	0	218
06:00 AM	1	548	14	12	4	1	**1**	581
07:00 AM	1	**1262**	**30**	19	5	**12**	0	**1329**
08:00 AM	0	1254	17	25	4	3	1	1304
09:00 AM	0	1054	14	25	7	9	0	1109
10:00 AM	0	1031	6	18	10	12	1	1078
11:00 AM	0	1260	5	**35**	**11**	8	1	1320
12:00 PM	1	1426	4	**34**	**8**	6	0	1479
01:00 PM	0	1351	5	26	8	**12**	0	1402
02:00 PM	2	1613	22	18	3	5	0	1663
03:00 PM	1	1701	**26**	22	6	6	0	1762
04:00 PM	2	**1754**	12	15	2	2	0	**1787**
05:00 PM	**3**	1592	5	11	0	2	0	1613
06:00 PM	2	1097	4	11	0	2	0	1116
07:00 PM	2	689	2	2	0	1	0	696
08:00 PM	0	528	2	3	0	4	0	537
09:00 PM	0	270	2	5	1	0	0	278
10:00 PM	1	94	2	2	0	0	0	99
11:00 PM	0	49	1	0	0	0	0	50
Day Total	17	18885	181	292	70	92	4	19541
Percent	0.1%	96.6%	0.9%	1.5%	0.4%	0.5%	0%	
ADT 19541								
AM Peak	5:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	7:00 AM	6:00 AM	7:00 AM
Volume	1	1262	30	35	11	12	1	1329
PM Peak	5:00 PM	4:00 PM	3:00 PM	12:00 PM	12:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	3	1754	26	34	8	12	0	1787

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	29	1	0	0	0	0	30
01:00 AM	0	17	0	0	0	1	0	18
02:00 AM	0	21	0	0	0	0	0	21
03:00 AM	0	18	0	0	0	0	0	18
04:00 AM	0	72	0	3	0	0	0	75
05:00 AM	0	238	3	2	0	3	0	246
06:00 AM	**2**	515	16	10	4	6	0	553
07:00 AM	2	1222	**29**	17	5	**15**	0	1290
08:00 AM	1	1356	18	34	5	10	0	**1424**
09:00 AM	0	1202	9	**36**	5	11	**1**	1264
10:00 AM	2	1197	8	27	**8**	5	0	1247
11:00 AM	2	**1362**	10	20	8	8	0	1410
12:00 PM	7	1552	9	**38**	**8**	6	0	1620
01:00 PM	8	1450	3	20	8	**10**	0	1499
02:00 PM	9	1676	18	21	5	7	0	1736
03:00 PM	11	1718	**28**	26	3	4	0	1790
04:00 PM	9	**1834**	8	22	1	6	0	**1880**
05:00 PM	**17**	1752	8	11	0	0	0	1788
06:00 PM	6	1284	5	9	0	1	0	1305
07:00 PM	9	918	2	3	0	0	0	932
08:00 PM	1	671	2	3	0	1	0	678
09:00 PM	3	313	2	1	0	2	0	321
10:00 PM	0	151	2	4	0	0	**1**	158
11:00 PM	0	65	1	1	0	0	0	67
Day Total	89	20633	182	308	60	96	2	21370
Percent	0.4%	96.6%	0.9%	1.4%	0.3%	0.4%	0%	
ADT 21370								
AM Peak	6:00 AM	11:00 AM	7:00 AM	9:00 AM	10:00 AM	7:00 AM	9:00 AM	8:00 AM
Volume	2	1362	29	36	8	15	1	1424
PM Peak	5:00 PM	4:00 PM	3:00 PM	12:00 PM	12:00 PM	1:00 PM	10:00 PM	4:00 PM
Volume	17	1834	28	38	8	10	1	1880

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	35	1	0	0	0	0	36
01:00 AM	0	21	0	0	0	1	0	22
02:00 AM	0	14	0	0	0	0	0	14
03:00 AM	0	18	0	0	0	0	0	18
04:00 AM	0	80	0	1	0	0	0	81
05:00 AM	2	213	3	7	0	2	0	227
06:00 AM	1	516	8	10	2	6	0	543
07:00 AM	4	1053	**23**	22	**11**	11	0	1124
08:00 AM	2	1375	20	32	1	9	0	1439
09:00 AM	2	1377	16	**44**	3	11	0	1453
10:00 AM	6	1223	14	36	8	**12**	0	1299
11:00 AM	**7**	**1430**	11	34	4	8	0	**1494**
12:00 PM	10	1526	12	**40**	**10**	**11**	0	1609
01:00 PM	10	1440	7	35	7	7	0	1506
02:00 PM	18	1779	23	21	1	6	0	1848
03:00 PM	12	**1813**	**26**	25	2	5	0	**1883**
04:00 PM	12	1691	10	17	3	1	0	1734
05:00 PM	**33**	1569	5	12	0	1	0	1620
06:00 PM	27	1310	4	3	0	2	0	1346
07:00 PM	14	1036	3	2	0	1	0	1056
08:00 PM	7	628	2	11	0	3	0	651
09:00 PM	3	336	2	2	2	0	0	345
10:00 PM	0	180	2	0	0	1	0	183
11:00 PM	0	69	1	2	0	0	0	72
Day Total	170	20732	193	356	54	98	0	21603
Percent	0.8%	96%	0.9%	1.6%	0.2%	0.5%	0%	
ADT 21603								
AM Peak	11:00 AM	11:00 AM	7:00 AM	9:00 AM	7:00 AM	10:00 AM	12:00 AM	11:00 AM
Volume	7	1430	23	44	11	12	0	1494
PM Peak	5:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	33	1813	26	40	10	11	0	1883

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	276	60250	556	956	184	286	6	62514
Percent	0.4%	96.4%	0.9%	1.5%	0.3%	0.5%	0%	

ADT
20838



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd **QC JOB #:** 16908550

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		25	30	36		30			30	
01:00 AM		16	18	22		19			19	
02:00 AM		12	21	14		16			16	
03:00 AM		15	18	18		17			17	
04:00 AM		52	75	81		69			69	
05:00 AM		218	246	227		230			230	
06:00 AM		581	553	543		559			559	
07:00 AM		**1329**	1290	1124		1248			1248	
08:00 AM		1304	**1424**	1439		1389			1389	
09:00 AM		1109	1264	1453		1275			1275	
10:00 AM		1078	1247	1299		1208			1208	
11:00 AM		1320	1410	**1494**		**1408**			**1408**	
12:00 PM		1479	1620	1609		1569			1569	
01:00 PM		1402	1499	1506		1469			1469	
02:00 PM		1663	1736	1848		1749			1749	
03:00 PM		1762	1790	**1883**		**1812**			**1812**	
04:00 PM		**1787**	**1880**	1734		1800			1800	
05:00 PM		1613	1788	1620		1674			1674	
06:00 PM		1116	1305	1346		1256			1256	
07:00 PM		696	932	1056		895			895	
08:00 PM		537	678	651		622			622	
09:00 PM		278	321	345		315			315	
10:00 PM		99	158	183		147			147	
11:00 PM		50	67	72		63			63	
Day Total		19541	21370	21603		20839			20839	
% Weekday Average		93.8%	102.5%	103.7%						
% Week Average		93.8%	102.5%	103.7%		100%				
AM Peak Volume		7:00 AM 1329	8:00 AM 1424	11:00 AM 1494		11:00 AM 1408			11:00 AM 1408	
PM Peak Volume		4:00 PM 1787	4:00 PM 1880	3:00 PM 1883		3:00 PM 1812			3:00 PM 1812	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	18	0	0	0	1	0	19
01:00 AM	0	7	0	1	0	0	0	8
02:00 AM	0	5	0	0	1	0	0	6
03:00 AM	0	2	0	0	0	3	0	5
04:00 AM	0	20	0	0	0	1	0	21
05:00 AM	**1**	85	3	2	0	0	0	91
06:00 AM	0	292	6	6	2	1	**1**	308
07:00 AM	0	**771**	**14**	7	3	**8**	0	**803**
08:00 AM	0	621	8	14	2	2	0	647
09:00 AM	0	556	8	14	4	5	0	587
10:00 AM	0	548	4	9	4	7	0	572
11:00 AM	0	661	2	**24**	**8**	3	0	698
12:00 PM	0	744	2	**15**	**5**	3	0	769
01:00 PM	0	684	2	14	3	**8**	0	711
02:00 PM	**2**	756	7	10	3	2	0	780
03:00 PM	1	**921**	**15**	14	4	2	0	**957**
04:00 PM	2	889	8	9	0	0	0	908
05:00 PM	2	790	3	8	0	2	0	805
06:00 PM	0	550	2	5	0	1	0	558
07:00 PM	1	343	1	1	0	1	0	347
08:00 PM	0	238	1	1	0	2	0	242
09:00 PM	0	124	1	4	1	0	0	130
10:00 PM	1	50	1	1	0	0	0	53
11:00 PM	0	30	0	0	0	0	0	30
Day Total	10	9705	88	159	40	52	1	10055
Percent	0.1%	96.5%	0.9%	1.6%	0.4%	0.5%	0%	
ADT 10055								
AM Peak	5:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	7:00 AM	6:00 AM	7:00 AM
Volume	1	771	14	24	8	8	1	803
PM Peak	2:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	1:00 PM	12:00 PM	3:00 PM
Volume	2	921	15	15	5	8	0	957

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	16	0	0	0	0	0	16
01:00 AM	0	8	0	0	0	1	0	9
02:00 AM	0	8	0	0	0	0	0	8
03:00 AM	0	4	0	0	0	0	0	4
04:00 AM	0	29	0	2	0	0	0	31
05:00 AM	0	103	2	2	0	1	0	108
06:00 AM	1	280	7	5	4	5	0	302
07:00 AM	0	**739**	**15**	4	**5**	**11**	0	**774**
08:00 AM	0	708	7	**19**	2	5	0	741
09:00 AM	0	676	5	16	1	8	0	706
10:00 AM	**2**	607	4	13	5	4	0	635
11:00 AM	1	707	5	11	4	4	0	732
12:00 PM	3	800	5	**22**	**5**	5	0	840
01:00 PM	4	747	1	10	3	**6**	0	771
02:00 PM	6	765	5	15	5	5	0	801
03:00 PM	5	**926**	**16**	16	1	2	0	**966**
04:00 PM	3	893	5	13	0	4	0	918
05:00 PM	**9**	851	5	7	0	0	0	872
06:00 PM	3	640	2	5	0	1	0	651
07:00 PM	3	492	1	1	0	0	0	497
08:00 PM	1	320	1	2	0	1	0	325
09:00 PM	3	158	1	1	0	2	0	165
10:00 PM	0	70	1	3	0	0	**1**	75
11:00 PM	0	32	0	1	0	0	0	33
Day Total	44	10579	88	168	35	65	1	10980
Percent	0.4%	96.3%	0.8%	1.5%	0.3%	0.6%	0%	
ADT 10980								
AM Peak	10:00 AM	7:00 AM	7:00 AM	8:00 AM	7:00 AM	7:00 AM	12:00 AM	7:00 AM
Volume	2	739	15	19	5	11	0	774
PM Peak	5:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	1:00 PM	10:00 PM	3:00 PM
Volume	9	926	16	22	5	6	1	966

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	19	0	0	0	0	0	19
01:00 AM	0	14	0	0	0	1	0	15
02:00 AM	0	5	0	0	0	0	0	5
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	43	0	0	0	0	0	43
05:00 AM	1	90	2	6	0	0	0	99
06:00 AM	0	270	3	2	2	5	0	282
07:00 AM	2	621	**12**	7	**7**	6	0	655
08:00 AM	2	**757**	9	16	0	6	0	**790**
09:00 AM	2	668	5	**23**	1	**7**	0	706
10:00 AM	**3**	658	10	17	5	5	0	698
11:00 AM	3	731	6	21	3	5	0	769
12:00 PM	6	803	7	**23**	**7**	**6**	0	852
01:00 PM	5	760	3	18	3	4	0	793
02:00 PM	**11**	846	8	16	0	6	0	887
03:00 PM	9	**1010**	**15**	16	0	3	0	**1053**
04:00 PM	6	847	7	11	2	0	0	873
05:00 PM	10	755	3	6	0	1	0	775
06:00 PM	8	624	2	1	0	1	0	636
07:00 PM	7	535	1	0	0	0	0	543
08:00 PM	5	302	1	8	0	1	0	317
09:00 PM	3	147	1	1	1	0	0	153
10:00 PM	0	79	1	0	0	0	0	80
11:00 PM	0	40	0	1	0	0	0	41
Day Total	83	10629	96	193	31	57	0	11089
Percent	0.7%	95.9%	0.9%	1.7%	0.3%	0.5%	0%	
ADT 11089								
AM Peak	10:00 AM	8:00 AM	7:00 AM	9:00 AM	7:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	3	757	12	23	7	7	0	790
PM Peak	2:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	11	1010	15	23	7	6	0	1053

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd
QC JOB #: 16908550
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	137	30913	272	520	106	174	2	32124
Percent	0.4%	96.2%	0.8%	1.6%	0.3%	0.5%	0%	

ADT
10708



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 4. E County Vista Dr btwn N Legacy Ridge Dr and N Liberty Lake Rd **QC JOB #:** 16908550

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		19	16	19		18			18	
01:00 AM		8	9	15		11			11	
02:00 AM		6	8	5		6			6	
03:00 AM		5	4	5		5			5	
04:00 AM		21	31	43		32			32	
05:00 AM		91	108	99		99			99	
06:00 AM		308	302	282		297			297	
07:00 AM		**803**	**774**	655		**744**			**744**	
08:00 AM		647	741	**790**		726			726	
09:00 AM		587	706	706		666			666	
10:00 AM		572	635	698		635			635	
11:00 AM		698	732	769		733			733	
12:00 PM		769	840	852		820			820	
01:00 PM		711	771	793		758			758	
02:00 PM		780	801	887		823			823	
03:00 PM		**957**	**966**	**1053**		**992**			**992**	
04:00 PM		908	918	873		900			900	
05:00 PM		805	872	775		817			817	
06:00 PM		558	651	636		615			615	
07:00 PM		347	497	543		462			462	
08:00 PM		242	325	317		295			295	
09:00 PM		130	165	153		149			149	
10:00 PM		53	75	80		69			69	
11:00 PM		30	33	41		35			35	
Day Total		10055	10980	11089		10707			10707	
% Weekday Average		93.9%	102.5%	103.6%						
% Week Average		93.9%	102.5%	103.6%		100%				
AM Peak Volume		7:00 AM 803	7:00 AM 774	8:00 AM 790		7:00 AM 744			7:00 AM 744	
PM Peak Volume		3:00 PM 957	3:00 PM 966	3:00 PM 1053		3:00 PM 992			3:00 PM 992	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	0	0	0	0	0	5
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	6	0	0	0	0	0	6
03:00 AM	0	6	1	0	0	0	0	7
04:00 AM	0	13	0	1	0	0	0	14
05:00 AM	0	74	0	2	0	0	0	76
06:00 AM	0	178	2	3	0	0	0	183
07:00 AM	0	**332**	**4**	2	0	1	0	**339**
08:00 AM	0	242	0	1	0	0	0	243
09:00 AM	0	204	0	**4**	**1**	**2**	0	211
10:00 AM	0	173	0	3	0	0	0	176
11:00 AM	0	173	0	4	0	1	0	178
12:00 PM	0	188	0	**6**	2	1	0	197
01:00 PM	0	168	0	4	0	**6**	0	178
02:00 PM	0	**228**	0	2	**3**	4	0	**237**
03:00 PM	**1**	200	0	2	2	3	0	208
04:00 PM	0	227	**1**	3	1	0	0	232
05:00 PM	0	194	0	3	0	0	0	197
06:00 PM	0	164	0	1	0	1	0	166
07:00 PM	0	137	0	0	0	1	0	138
08:00 PM	0	86	0	1	0	0	0	87
09:00 PM	0	45	0	0	0	0	0	45
10:00 PM	0	21	0	1	0	0	0	22
11:00 PM	0	6	0	0	0	0	0	6
Day Total	1	3073	8	43	9	20	0	3154
Percent	0%	97.4%	0.3%	1.4%	0.3%	0.6%	0%	
ADT 3154								
AM Peak	12:00 AM	7:00 AM	7:00 AM	9:00 AM	9:00 AM	9:00 AM	12:00 AM	7:00 AM
Volume	0	332	4	4	1	2	0	339
PM Peak	3:00 PM	2:00 PM	4:00 PM	12:00 PM	2:00 PM	1:00 PM	12:00 PM	2:00 PM
Volume	1	228	1	6	3	6	0	237

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	7	0	0	0	0	0	7
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	18	0	1	0	0	0	19
05:00 AM	1	65	0	1	0	0	0	67
06:00 AM	1	191	2	0	0	0	0	194
07:00 AM	0	**327**	**4**	3	0	**2**	0	**336**
08:00 AM	0	244	1	**8**	1	0	0	254
09:00 AM	0	206	1	4	0	2	0	213
10:00 AM	1	162	0	4	0	0	0	167
11:00 AM	**2**	179	0	3	**2**	2	0	188
12:00 PM	**2**	186	1	**8**	2	3	0	202
01:00 PM	2	172	0	3	2	1	0	180
02:00 PM	1	212	0	3	1	1	0	218
03:00 PM	1	243	**2**	5	**3**	3	0	257
04:00 PM	1	240	1	6	3	**6**	0	257
05:00 PM	1	**250**	0	5	0	3	0	**259**
06:00 PM	1	173	0	1	0	1	0	176
07:00 PM	0	133	0	2	0	0	0	135
08:00 PM	0	119	0	1	0	0	0	120
09:00 PM	0	58	0	1	0	0	0	59
10:00 PM	0	19	0	0	0	0	0	19
11:00 PM	0	6	0	1	0	0	0	7
Day Total	14	3218	12	60	14	24	0	3342
Percent	0.4%	96.3%	0.4%	1.8%	0.4%	0.7%	0%	
ADT 3342								
AM Peak	11:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	7:00 AM	12:00 AM	7:00 AM
Volume	2	327	4	8	2	2	0	336
PM Peak	12:00 PM	5:00 PM	3:00 PM	12:00 PM	3:00 PM	4:00 PM	12:00 PM	5:00 PM
Volume	2	250	2	8	3	6	0	259

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	7	0	0	0	0	0	7
03:00 AM	0	4	0	0	0	0	0	4
04:00 AM	0	20	0	0	0	0	0	20
05:00 AM	0	77	0	1	0	0	0	78
06:00 AM	0	161	0	0	0	1	0	162
07:00 AM	1	**286**	**3**	4	0	0	0	**294**
08:00 AM	0	275	3	2	0	**4**	0	284
09:00 AM	0	222	0	7	**1**	3	0	233
10:00 AM	**2**	190	0	4	0	1	0	197
11:00 AM	0	192	0	**9**	0	1	0	202
12:00 PM	2	201	0	7	1	**5**	0	216
01:00 PM	3	175	0	4	1	4	0	187
02:00 PM	1	228	0	8	**2**	3	0	242
03:00 PM	1	**250**	**1**	**9**	2	5	0	**268**
04:00 PM	2	249	1	6	0	2	0	260
05:00 PM	**5**	196	0	4	0	1	0	206
06:00 PM	2	176	0	3	0	2	0	183
07:00 PM	2	134	0	0	1	2	0	139
08:00 PM	1	108	0	0	0	0	0	109
09:00 PM	0	49	0	1	0	0	0	50
10:00 PM	0	23	0	0	0	0	0	23
11:00 PM	0	14	0	1	0	0	0	15
Day Total	22	3245	8	70	8	34	0	3387
Percent	0.6%	95.8%	0.2%	2.1%	0.2%	1%	0%	
ADT 3387								
AM Peak	10:00 AM	7:00 AM	7:00 AM	11:00 AM	9:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	2	286	3	9	1	4	0	294
PM Peak	5:00 PM	3:00 PM	3:00 PM	3:00 PM	2:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	5	250	1	9	2	5	0	268

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908551
DIRECTION: NB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	37	9536	28	173	31	78	0	9883
Percent	0.4%	96.5%	0.3%	1.8%	0.3%	0.8%	0%	
ADT 3294								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		5	7	4		5			5	
01:00 AM		3	1	4		3			3	
02:00 AM		6	2	7		5			5	
03:00 AM		7	5	4		5			5	
04:00 AM		14	19	20		18			18	
05:00 AM		76	67	78		74			74	
06:00 AM		183	194	162		180			180	
07:00 AM		**339**	**336**	**294**		**323**			**323**	
08:00 AM		243	254	284		260			260	
09:00 AM		211	213	233		219			219	
10:00 AM		176	167	197		180			180	
11:00 AM		178	188	202		189			189	
12:00 PM		197	202	216		205			205	
01:00 PM		178	180	187		182			182	
02:00 PM		**237**	218	242		232			232	
03:00 PM		208	257	**268**		244			244	
04:00 PM		232	257	260		**250**			**250**	
05:00 PM		197	**259**	206		221			221	
06:00 PM		166	176	183		175			175	
07:00 PM		138	135	139		137			137	
08:00 PM		87	120	109		105			105	
09:00 PM		45	59	50		51			51	
10:00 PM		22	19	23		21			21	
11:00 PM		6	7	15		9			9	
Day Total		3154	3342	3387		3293			3293	
% Weekday Average		95.8%	101.5%	102.9%						
% Week Average		95.8%	101.5%	102.9%		100%				
AM Peak Volume		7:00 AM 339	7:00 AM 336	7:00 AM 294		7:00 AM 323			7:00 AM 323	
PM Peak Volume		2:00 PM 237	5:00 PM 259	3:00 PM 268		4:00 PM 250			4:00 PM 250	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	11	1	1	0	0	0	13
01:00 AM	0	7	0	0	0	0	0	7
02:00 AM	0	11	1	0	0	0	0	12
03:00 AM	0	10	1	0	0	0	0	11
04:00 AM	0	17	0	1	0	0	0	18
05:00 AM	0	86	0	2	0	0	0	88
06:00 AM	0	225	2	4	0	0	0	231
07:00 AM	0	**420**	**7**	4	0	1	0	**432**
08:00 AM	0	384	0	6	**1**	0	0	391
09:00 AM	0	330	0	**12**	1	**4**	0	347
10:00 AM	0	308	0	9	0	1	0	318
11:00 AM	0	343	0	7	0	1	0	351
12:00 PM	0	396	0	**12**	2	2	0	412
01:00 PM	0	379	0	9	2	**6**	0	396
02:00 PM	**1**	493	**3**	6	**4**	4	0	511
03:00 PM	1	469	3	6	4	3	0	486
04:00 PM	0	**551**	1	6	2	1	0	**561**
05:00 PM	1	508	0	6	0	0	0	515
06:00 PM	1	424	0	3	0	1	0	429
07:00 PM	1	303	0	1	0	1	0	306
08:00 PM	0	237	0	4	0	0	0	241
09:00 PM	0	129	0	2	0	0	0	131
10:00 PM	0	51	0	3	0	0	0	54
11:00 PM	0	20	0	1	0	0	0	21
Day Total	5	6112	19	105	16	25	0	6282
Percent	0.1%	97.3%	0.3%	1.7%	0.3%	0.4%	0%	
ADT 6282								
AM Peak	12:00 AM	7:00 AM	7:00 AM	9:00 AM	8:00 AM	9:00 AM	12:00 AM	7:00 AM
Volume	0	420	7	12	1	4	0	432
PM Peak	2:00 PM	4:00 PM	2:00 PM	12:00 PM	2:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	1	551	3	12	4	6	0	561

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	17	0	0	0	0	0	17
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	8	0	0	0	0	0	8
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	23	0	2	0	0	0	25
05:00 AM	1	74	0	1	0	0	0	76
06:00 AM	1	233	2	1	0	1	0	238
07:00 AM	0	**441**	**5**	7	1	2	0	**456**
08:00 AM	0	397	3	**16**	3	1	0	420
09:00 AM	0	368	2	7	1	**3**	0	381
10:00 AM	**2**	317	0	6	1	0	0	326
11:00 AM	2	346	0	9	**4**	2	0	363
12:00 PM	**4**	382	1	11	3	3	0	404
01:00 PM	2	367	0	10	5	1	0	385
02:00 PM	3	484	3	7	3	1	0	501
03:00 PM	2	527	**6**	6	**7**	3	0	551
04:00 PM	1	584	1	**12**	3	**7**	0	**608**
05:00 PM	2	**586**	0	10	0	4	0	602
06:00 PM	1	468	0	5	0	1	0	475
07:00 PM	0	322	0	3	0	0	0	325
08:00 PM	0	310	0	3	0	0	0	313
09:00 PM	0	155	0	1	0	0	0	156
10:00 PM	0	61	0	1	0	0	0	62
11:00 PM	0	26	0	3	0	0	0	29
Day Total	21	6503	23	121	31	29	0	6728
Percent	0.3%	96.7%	0.3%	1.8%	0.5%	0.4%	0%	
ADT 6728								
AM Peak	10:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	9:00 AM	12:00 AM	7:00 AM
Volume	2	441	5	16	4	3	0	456
PM Peak	12:00 PM	5:00 PM	3:00 PM	4:00 PM	3:00 PM	4:00 PM	12:00 PM	4:00 PM
Volume	4	586	6	12	7	7	0	608

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	14	0	0	0	0	0	14
01:00 AM	0	9	0	0	0	0	0	9
02:00 AM	0	9	0	0	0	0	0	9
03:00 AM	0	9	0	0	0	0	0	9
04:00 AM	0	22	0	0	0	0	0	22
05:00 AM	0	88	0	1	0	0	0	89
06:00 AM	0	223	0	0	0	1	0	224
07:00 AM	1	384	3	7	0	1	0	396
08:00 AM	0	**432**	**7**	11	**2**	**4**	0	**456**
09:00 AM	0	408	0	**16**	1	3	0	428
10:00 AM	**2**	357	0	6	1	2	0	368
11:00 AM	0	368	0	12	1	1	0	382
12:00 PM	4	411	1	11	2	**6**	0	435
01:00 PM	5	385	0	**15**	1	5	0	411
02:00 PM	1	503	2	15	**4**	3	0	528
03:00 PM	3	**545**	**4**	13	3	5	0	**573**
04:00 PM	2	541	1	15	0	4	0	563
05:00 PM	**7**	511	0	7	0	6	0	531
06:00 PM	2	441	0	8	0	4	0	455
07:00 PM	3	368	0	2	1	3	0	377
08:00 PM	1	270	0	1	0	0	0	272
09:00 PM	0	137	0	3	0	0	0	140
10:00 PM	0	67	0	0	0	0	0	67
11:00 PM	0	39	0	1	0	0	0	40
Day Total	31	6541	18	144	16	48	0	6798
Percent	0.5%	96.2%	0.3%	2.1%	0.2%	0.7%	0%	
ADT 6798								
AM Peak	10:00 AM	8:00 AM	8:00 AM	9:00 AM	8:00 AM	8:00 AM	12:00 AM	8:00 AM
Volume	2	432	7	16	2	4	0	456
PM Peak	5:00 PM	3:00 PM	3:00 PM	1:00 PM	2:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	7	545	4	15	4	6	0	573

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908551
DIRECTION: NB, SB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	57	19156	60	370	63	102	0	19808
Percent	0.3%	96.7%	0.3%	1.9%	0.3%	0.5%	0%	

ADT
6602



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		13	17	14		15			15	
01:00 AM		7	2	9		6			6	
02:00 AM		12	8	9		10			10	
03:00 AM		11	5	9		8			8	
04:00 AM		18	25	22		22			22	
05:00 AM		88	76	89		84			84	
06:00 AM		231	238	224		231			231	
07:00 AM		**432**	**456**	396		**428**			**428**	
08:00 AM		391	420	**456**		422			422	
09:00 AM		347	381	428		385			385	
10:00 AM		318	326	368		337			337	
11:00 AM		351	363	382		365			365	
12:00 PM		412	404	435		417			417	
01:00 PM		396	385	411		397			397	
02:00 PM		511	501	528		513			513	
03:00 PM		486	551	**573**		537			537	
04:00 PM		**561**	**608**	563		**577**			**577**	
05:00 PM		515	602	531		549			549	
06:00 PM		429	475	455		453			453	
07:00 PM		306	325	377		336			336	
08:00 PM		241	313	272		275			275	
09:00 PM		131	156	140		142			142	
10:00 PM		54	62	67		61			61	
11:00 PM		21	29	40		30			30	
Day Total		6282	6728	6798		6600			6600	
% Weekday Average		95.2%	101.9%	103%						
% Week Average		95.2%	101.9%	103%		100%				
AM Peak Volume		7:00 AM 432	7:00 AM 456	8:00 AM 456		7:00 AM 428			7:00 AM 428	
PM Peak Volume		4:00 PM 561	4:00 PM 608	3:00 PM 573		4:00 PM 577			4:00 PM 577	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	6	1	1	0	0	0	8
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	5	1	0	0	0	0	6
03:00 AM	0	4	0	0	0	0	0	4
04:00 AM	0	4	0	0	0	0	0	4
05:00 AM	0	12	0	0	0	0	0	12
06:00 AM	0	47	0	1	0	0	0	48
07:00 AM	0	88	**3**	2	0	0	0	93
08:00 AM	0	142	0	5	**1**	0	0	148
09:00 AM	0	126	0	**8**	0	**2**	0	136
10:00 AM	0	135	0	6	0	1	0	142
11:00 AM	0	**170**	0	3	0	0	0	**173**
12:00 PM	0	208	0	**6**	0	**1**	0	215
01:00 PM	0	211	0	5	**2**	0	0	218
02:00 PM	**1**	265	**3**	4	1	0	0	274
03:00 PM	0	269	3	4	2	0	0	278
04:00 PM	0	**324**	0	3	1	1	0	**329**
05:00 PM	1	314	0	3	0	0	0	318
06:00 PM	1	260	0	2	0	0	0	263
07:00 PM	1	166	0	1	0	0	0	168
08:00 PM	0	151	0	3	0	0	0	154
09:00 PM	0	84	0	2	0	0	0	86
10:00 PM	0	30	0	2	0	0	0	32
11:00 PM	0	14	0	1	0	0	0	15
Day Total	4	3039	11	62	7	5	0	3128
Percent	0.1%	97.2%	0.4%	2%	0.2%	0.2%	0%	
ADT 3128								
AM Peak	12:00 AM	11:00 AM	7:00 AM	9:00 AM	8:00 AM	9:00 AM	12:00 AM	11:00 AM
Volume	0	170	3	8	1	2	0	173
PM Peak	2:00 PM	4:00 PM	2:00 PM	12:00 PM	1:00 PM	12:00 PM	12:00 PM	4:00 PM
Volume	1	324	3	6	2	1	0	329

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	10	0	0	0	0	0	10
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	6	0	0	0	0	0	6
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	5	0	1	0	0	0	6
05:00 AM	0	9	0	0	0	0	0	9
06:00 AM	0	42	0	1	0	**1**	0	44
07:00 AM	0	114	1	4	1	0	0	120
08:00 AM	0	153	**2**	**8**	**2**	1	0	166
09:00 AM	0	162	1	3	1	1	0	168
10:00 AM	**1**	155	0	2	1	0	0	159
11:00 AM	0	**167**	0	6	2	0	0	**175**
12:00 PM	**2**	196	0	3	1	0	0	202
01:00 PM	0	195	0	**7**	3	0	0	205
02:00 PM	2	272	3	4	2	0	0	283
03:00 PM	1	284	**4**	1	**4**	0	0	294
04:00 PM	0	**344**	0	6	0	**1**	0	**351**
05:00 PM	1	336	0	5	0	1	0	343
06:00 PM	0	295	0	4	0	0	0	299
07:00 PM	0	189	0	1	0	0	0	190
08:00 PM	0	191	0	2	0	0	0	193
09:00 PM	0	97	0	0	0	0	0	97
10:00 PM	0	42	0	1	0	0	0	43
11:00 PM	0	20	0	2	0	0	0	22
Day Total	7	3285	11	61	17	5	0	3386
Percent	0.2%	97%	0.3%	1.8%	0.5%	0.1%	0%	
ADT 3386								
AM Peak	10:00 AM	11:00 AM	8:00 AM	8:00 AM	8:00 AM	6:00 AM	12:00 AM	11:00 AM
Volume	1	167	2	8	2	1	0	175
PM Peak	12:00 PM	4:00 PM	3:00 PM	1:00 PM	3:00 PM	4:00 PM	12:00 PM	4:00 PM
Volume	2	344	4	7	4	1	0	351

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	10	0	0	0	0	0	10
01:00 AM	0	5	0	0	0	0	0	5
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	2	0	0	0	0	0	2
05:00 AM	0	11	0	0	0	0	0	11
06:00 AM	0	62	0	0	0	0	0	62
07:00 AM	0	98	0	3	0	**1**	0	102
08:00 AM	0	157	**4**	**9**	**2**	0	0	172
09:00 AM	0	**186**	0	9	0	0	0	**195**
10:00 AM	0	167	0	2	1	1	0	171
11:00 AM	0	176	0	3	1	0	0	180
12:00 PM	**2**	210	1	4	1	1	0	219
01:00 PM	2	210	0	**11**	0	1	0	224
02:00 PM	0	275	2	7	**2**	0	0	286
03:00 PM	2	295	**3**	4	1	0	0	305
04:00 PM	0	292	0	9	0	2	0	303
05:00 PM	2	**315**	0	3	0	**5**	0	**325**
06:00 PM	0	265	0	5	0	2	0	272
07:00 PM	1	234	0	2	0	1	0	238
08:00 PM	0	162	0	1	0	0	0	163
09:00 PM	0	88	0	2	0	0	0	90
10:00 PM	0	44	0	0	0	0	0	44
11:00 PM	0	25	0	0	0	0	0	25
Day Total	9	3296	10	74	8	14	0	3411
Percent	0.3%	96.6%	0.3%	2.2%	0.2%	0.4%	0%	
ADT 3411								
AM Peak	12:00 AM	9:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	12:00 AM	9:00 AM
Volume	0	186	4	9	2	1	0	195
PM Peak	12:00 PM	5:00 PM	3:00 PM	1:00 PM	2:00 PM	5:00 PM	12:00 PM	5:00 PM
Volume	2	315	3	11	2	5	0	325

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr
QC JOB #: 16908551
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	20	9620	32	197	32	24	0	9925
Percent	0.2%	96.9%	0.3%	2%	0.3%	0.2%	0%	
ADT 3308								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 5. N Liberty Lakes Rd south of E Country Vista Dr **QC JOB #:** 16908551

SPECIFIC LOCATION: **DIRECTION:** SB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		8	10	10		9			9	
01:00 AM		4	1	5		3			3	
02:00 AM		6	6	2		5			5	
03:00 AM		4	0	5		3			3	
04:00 AM		4	6	2		4			4	
05:00 AM		12	9	11		11			11	
06:00 AM		48	44	62		51			51	
07:00 AM		93	120	102		105			105	
08:00 AM		148	166	172		162			162	
09:00 AM		136	168	**195**		166			166	
10:00 AM		142	159	171		157			157	
11:00 AM		**173**	**175**	180		**176**			**176**	
12:00 PM		215	202	219		212			212	
01:00 PM		218	205	224		216			216	
02:00 PM		274	283	286		281			281	
03:00 PM		278	294	305		292			292	
04:00 PM		**329**	**351**	303		328			328	
05:00 PM		318	343	**325**		**329**			**329**	
06:00 PM		263	299	272		278			278	
07:00 PM		168	190	238		199			199	
08:00 PM		154	193	163		170			170	
09:00 PM		86	97	90		91			91	
10:00 PM		32	43	44		40			40	
11:00 PM		15	22	25		21			21	
Day Total		3128	3386	3411		3309			3309	
% Weekday Average		94.5%	102.3%	103.1%						
% Week Average		94.5%	102.3%	103.1%		100%				
AM Peak Volume		11:00 AM 173	11:00 AM 175	9:00 AM 195		11:00 AM 176			11:00 AM 176	
PM Peak Volume		4:00 PM 329	4:00 PM 351	5:00 PM 325		5:00 PM 329			5:00 PM 329	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	16	0	0	0	0	0	16
01:00 AM	0	15	0	0	0	0	0	15
02:00 AM	0	13	0	0	0	1	0	14
03:00 AM	0	19	0	1	0	1	0	21
04:00 AM	0	121	0	1	0	0	0	122
05:00 AM	0	349	4	3	0	0	0	356
06:00 AM	**1**	378	**7**	13	1	2	0	402
07:00 AM	0	**577**	6	15	1	3	0	**602**
08:00 AM	0	542	7	**26**	**8**	**6**	0	589
09:00 AM	0	379	2	21	5	3	0	410
10:00 AM	0	351	2	18	6	6	**4**	387
11:00 AM	0	361	3	14	5	4	0	387
12:00 PM	0	**537**	0	**21**	4	3	0	**565**
01:00 PM	**1**	432	0	18	**5**	**4**	**1**	461
02:00 PM	1	497	**3**	14	3	1	0	519
03:00 PM	1	521	1	10	3	2	1	539
04:00 PM	0	459	0	12	2	2	0	475
05:00 PM	0	465	0	6	0	0	0	471
06:00 PM	1	295	0	6	0	2	1	305
07:00 PM	0	229	0	3	0	0	0	232
08:00 PM	0	148	0	0	0	1	0	149
09:00 PM	0	108	0	0	0	0	0	108
10:00 PM	0	46	0	0	0	0	0	46
11:00 PM	0	29	0	0	0	0	1	30
Day Total	5	6887	35	202	43	41	8	7221
Percent	0.1%	95.4%	0.5%	2.8%	0.6%	0.6%	0.1%	
ADT 7221								
AM Peak	6:00 AM	7:00 AM	6:00 AM	8:00 AM	8:00 AM	8:00 AM	10:00 AM	7:00 AM
Volume	1	577	7	26	8	6	4	602
PM Peak	1:00 PM	12:00 PM	2:00 PM	12:00 PM	1:00 PM	1:00 PM	1:00 PM	12:00 PM
Volume	1	537	3	21	5	4	1	565

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	15	0	0	0	0	0	15
01:00 AM	0	8	0	0	0	0	0	8
02:00 AM	0	11	0	0	0	1	0	12
03:00 AM	0	23	0	0	0	0	0	23
04:00 AM	0	147	0	1	0	0	0	148
05:00 AM	0	366	**3**	7	0	1	0	377
06:00 AM	0	365	3	10	0	0	0	378
07:00 AM	1	**575**	0	14	0	2	0	**592**
08:00 AM	**2**	532	1	**20**	3	4	0	562
09:00 AM	0	402	1	13	7	**8**	**1**	432
10:00 AM	2	366	1	12	**12**	2	1	396
11:00 AM	1	445	3	20	9	3	0	481
12:00 PM	1	482	**2**	15	8	**10**	**1**	**519**
01:00 PM	**5**	442	1	**19**	**9**	6	0	482
02:00 PM	1	476	1	9	4	3	1	495
03:00 PM	2	493	2	11	7	2	0	517
04:00 PM	1	**497**	0	7	4	1	0	510
05:00 PM	4	491	0	9	0	1	1	506
06:00 PM	3	322	0	2	0	2	0	329
07:00 PM	1	225	1	1	1	0	0	229
08:00 PM	0	190	0	2	0	0	1	193
09:00 PM	0	115	0	1	0	0	0	116
10:00 PM	0	50	0	2	0	0	0	52
11:00 PM	0	24	0	0	0	0	0	24
Day Total	24	7062	19	175	64	46	6	7396
Percent	0.3%	95.5%	0.3%	2.4%	0.9%	0.6%	0.1%	
ADT 7396								
AM Peak	8:00 AM	7:00 AM	5:00 AM	8:00 AM	10:00 AM	9:00 AM	9:00 AM	7:00 AM
Volume	2	575	3	20	12	8	1	592
PM Peak	1:00 PM	4:00 PM	12:00 PM	1:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	5	497	2	19	9	10	1	519

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	11	0	1	0	1	0	13
01:00 AM	0	6	0	0	0	0	0	6
02:00 AM	0	9	0	1	0	1	0	11
03:00 AM	0	24	0	0	0	0	0	24
04:00 AM	1	139	0	1	0	0	**1**	142
05:00 AM	0	347	**3**	4	0	1	0	355
06:00 AM	0	362	3	8	0	1	0	374
07:00 AM	2	**514**	0	12	0	2	0	**530**
08:00 AM	0	467	2	19	4	2	0	494
09:00 AM	0	397	1	**23**	4	3	1	429
10:00 AM	**3**	369	2	22	**7**	**5**	1	409
11:00 AM	3	446	3	17	6	3	0	478
12:00 PM	3	532	0	**18**	**8**	3	**1**	**565**
01:00 PM	2	418	0	15	5	1	0	441
02:00 PM	0	502	**3**	12	1	3	1	522
03:00 PM	3	532	1	9	1	2	1	549
04:00 PM	1	**540**	0	10	6	**5**	0	562
05:00 PM	7	480	0	5	1	0	1	494
06:00 PM	**17**	329	1	3	0	1	0	351
07:00 PM	0	242	0	1	1	0	0	244
08:00 PM	0	177	0	2	0	1	0	180
09:00 PM	0	106	0	0	0	0	0	106
10:00 PM	0	46	0	0	0	0	0	46
11:00 PM	0	33	0	0	0	0	0	33
Day Total	42	7028	19	183	44	35	7	7358
Percent	0.6%	95.5%	0.3%	2.5%	0.6%	0.5%	0.1%	
ADT 7358								
AM Peak	10:00 AM	7:00 AM	5:00 AM	9:00 AM	10:00 AM	10:00 AM	4:00 AM	7:00 AM
Volume	3	514	3	23	7	5	1	530
PM Peak	6:00 PM	4:00 PM	2:00 PM	12:00 PM	12:00 PM	4:00 PM	12:00 PM	12:00 PM
Volume	17	540	3	18	8	5	1	565

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	71	20977	73	560	151	122	21	21975
Percent	0.3%	95.5%	0.3%	2.5%	0.7%	0.6%	0.1%	

ADT
7325



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St **QC JOB #:** 16908552

SPECIFIC LOCATION: **DIRECTION:** EB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		16	15	13		15			15	
01:00 AM		15	8	6		10			10	
02:00 AM		14	12	11		12			12	
03:00 AM		21	23	24		23			23	
04:00 AM		122	148	142		137			137	
05:00 AM		356	377	355		363			363	
06:00 AM		402	378	374		385			385	
07:00 AM		**602**	**592**	**530**		**575**			**575**	
08:00 AM		589	562	494		548			548	
09:00 AM		410	432	429		424			424	
10:00 AM		387	396	409		397			397	
11:00 AM		387	481	478		449			449	
12:00 PM		**565**	**519**	**565**		**550**			**550**	
01:00 PM		461	482	441		461			461	
02:00 PM		519	495	522		512			512	
03:00 PM		539	517	549		535			535	
04:00 PM		475	510	562		516			516	
05:00 PM		471	506	494		490			490	
06:00 PM		305	329	351		328			328	
07:00 PM		232	229	244		235			235	
08:00 PM		149	193	180		174			174	
09:00 PM		108	116	106		110			110	
10:00 PM		46	52	46		48			48	
11:00 PM		30	24	33		29			29	
Day Total		7221	7396	7358		7326			7326	
% Weekday Average		98.6%	101%	100.4%						
% Week Average		98.6%	101%	100.4%		100%				
AM Peak Volume		7:00 AM 602	7:00 AM 592	7:00 AM 530		7:00 AM 575			7:00 AM 575	
PM Peak Volume		12:00 PM 565	12:00 PM 519	12:00 PM 565		12:00 PM 550			12:00 PM 550	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	30	0	0	0	0	0	30
01:00 AM	0	39	0	0	0	0	0	39
02:00 AM	0	22	0	0	0	1	0	23
03:00 AM	0	29	0	1	0	3	0	33
04:00 AM	0	145	0	4	0	2	0	151
05:00 AM	0	425	6	7	1	0	0	439
06:00 AM	**1**	583	8	24	4	6	0	626
07:00 AM	0	**899**	**11**	35	12	11	0	**968**
08:00 AM	0	859	10	**48**	16	**13**	0	946
09:00 AM	0	686	2	40	16	12	0	756
10:00 AM	0	671	4	31	15	12	**4**	737
11:00 AM	0	767	5	33	**17**	11	0	833
12:00 PM	0	1028	3	**44**	13	9	0	1097
01:00 PM	**2**	842	3	34	13	**10**	1	905
02:00 PM	2	1074	**9**	41	**16**	9	1	1152
03:00 PM	1	**1263**	6	35	6	6	**2**	**1319**
04:00 PM	2	1168	6	25	4	4	0	1209
05:00 PM	1	1010	5	9	2	0	0	1027
06:00 PM	2	586	2	14	0	2	2	608
07:00 PM	2	396	1	6	0	3	0	408
08:00 PM	0	250	1	2	0	2	0	255
09:00 PM	0	197	1	1	0	1	0	200
10:00 PM	0	88	0	1	0	0	0	89
11:00 PM	0	62	0	0	0	0	1	63
Day Total	13	13119	83	435	135	117	11	13913
Percent	0.1%	94.3%	0.6%	3.1%	1%	0.8%	0.1%	
ADT 13913								
AM Peak	6:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	8:00 AM	10:00 AM	7:00 AM
Volume	1	899	11	48	17	13	4	968
PM Peak	1:00 PM	3:00 PM	2:00 PM	12:00 PM	2:00 PM	1:00 PM	3:00 PM	3:00 PM
Volume	2	1263	9	44	16	10	2	1319

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	30	0	0	0	0	0	30
01:00 AM	0	32	0	0	0	0	0	32
02:00 AM	0	23	0	0	0	2	0	25
03:00 AM	0	36	0	0	0	0	0	36
04:00 AM	0	172	0	2	0	0	0	174
05:00 AM	1	461	3	12	1	1	0	479
06:00 AM	0	569	4	23	6	7	0	609
07:00 AM	1	902	5	31	12	11	0	962
08:00 AM	**5**	841	3	**41**	11	**20**	0	921
09:00 AM	1	712	**7**	34	15	15	**1**	785
10:00 AM	4	710	2	29	**22**	12	1	780
11:00 AM	2	**930**	5	37	22	8	1	**1005**
12:00 PM	2	922	6	39	18	14	1	1002
01:00 PM	10	853	3	**40**	**19**	**18**	0	943
02:00 PM	8	1061	**9**	33	12	11	**3**	1137
03:00 PM	**13**	**1295**	5	31	16	13	0	**1373**
04:00 PM	3	1210	5	21	6	5	1	1251
05:00 PM	8	1027	5	13	2	3	2	1060
06:00 PM	5	651	2	8	0	4	0	670
07:00 PM	7	436	2	2	1	3	0	451
08:00 PM	4	344	1	5	0	0	1	355
09:00 PM	0	198	1	6	0	0	0	205
10:00 PM	0	82	0	2	0	0	0	84
11:00 PM	0	58	0	0	0	0	0	58
Day Total	74	13555	68	409	163	147	11	14427
Percent	0.5%	94%	0.5%	2.8%	1.1%	1%	0.1%	
ADT 14427								
AM Peak	8:00 AM	11:00 AM	9:00 AM	8:00 AM	10:00 AM	8:00 AM	9:00 AM	11:00 AM
Volume	5	930	7	41	22	20	1	1005
PM Peak	3:00 PM	3:00 PM	2:00 PM	1:00 PM	1:00 PM	1:00 PM	2:00 PM	3:00 PM
Volume	13	1295	9	40	19	18	3	1373

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	1	28	0	1	0	1	0	31
01:00 AM	0	25	0	0	0	0	0	25
02:00 AM	0	16	0	1	0	2	0	19
03:00 AM	0	33	0	1	0	1	0	35
04:00 AM	1	168	0	5	0	3	**1**	178
05:00 AM	1	429	3	7	1	5	0	446
06:00 AM	0	559	5	24	5	6	1	600
07:00 AM	2	803	2	23	11	**15**	0	856
08:00 AM	3	839	**8**	40	13	11	0	914
09:00 AM	2	754	7	40	12	11	1	827
10:00 AM	5	728	3	**46**	**18**	12	1	813
11:00 AM	**6**	**882**	3	36	11	12	0	**950**
12:00 PM	5	1006	4	**41**	**17**	9	**1**	1083
01:00 PM	3	851	2	34	12	7	0	909
02:00 PM	15	1098	**14**	32	5	**11**	1	1176
03:00 PM	13	**1274**	7	20	3	7	1	**1325**
04:00 PM	7	1197	5	26	8	10	0	1253
05:00 PM	13	1025	4	16	1	3	1	1063
06:00 PM	**20**	598	3	5	0	1	0	627
07:00 PM	10	481	1	3	1	0	0	496
08:00 PM	1	322	1	4	0	2	0	330
09:00 PM	2	194	2	3	0	0	0	201
10:00 PM	3	82	0	1	0	0	0	86
11:00 PM	2	79	0	1	0	1	0	83
Day Total	115	13471	74	410	118	130	8	14326
Percent	0.8%	94%	0.5%	2.9%	0.8%	0.9%	0.1%	
ADT 14326								
AM Peak	11:00 AM	11:00 AM	8:00 AM	10:00 AM	10:00 AM	7:00 AM	4:00 AM	11:00 AM
Volume	6	882	8	46	18	15	1	950
PM Peak	6:00 PM	3:00 PM	2:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	20	1274	14	41	17	11	1	1325

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908552
DIRECTION: EB, WB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	202	40145	225	1254	416	394	30	42666
Percent	0.5%	94.1%	0.5%	2.9%	1%	0.9%	0.1%	

ADT
14222



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St **QC JOB #:** 16908552

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		30	30	31		30			30	
01:00 AM		39	32	25		32			32	
02:00 AM		23	25	19		22			22	
03:00 AM		33	36	35		35			35	
04:00 AM		151	174	178		168			168	
05:00 AM		439	479	446		455			455	
06:00 AM		626	609	600		612			612	
07:00 AM		**968**	962	856		**929**			**929**	
08:00 AM		946	921	914		927			927	
09:00 AM		756	785	827		789			789	
10:00 AM		737	780	813		777			777	
11:00 AM		833	**1005**	**950**		929			929	
12:00 PM		1097	1002	1083		1061			1061	
01:00 PM		905	943	909		919			919	
02:00 PM		1152	1137	1176		1155			1155	
03:00 PM		**1319**	**1373**	**1325**		**1339**			**1339**	
04:00 PM		1209	1251	1253		1238			1238	
05:00 PM		1027	1060	1063		1050			1050	
06:00 PM		608	670	627		635			635	
07:00 PM		408	451	496		452			452	
08:00 PM		255	355	330		313			313	
09:00 PM		200	205	201		202			202	
10:00 PM		89	84	86		86			86	
11:00 PM		63	58	83		68			68	
Day Total		13913	14427	14326		14223			14223	
% Weekday Average		97.8%	101.4%	100.7%						
% Week Average		97.8%	101.4%	100.7%		100%				
AM Peak Volume		7:00 AM 968	11:00 AM 1005	11:00 AM 950		7:00 AM 929			7:00 AM 929	
PM Peak Volume		3:00 PM 1319	3:00 PM 1373	3:00 PM 1325		3:00 PM 1339			3:00 PM 1339	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	14	0	0	0	0	0	14
01:00 AM	0	24	0	0	0	0	0	24
02:00 AM	0	9	0	0	0	0	0	9
03:00 AM	0	10	0	0	0	2	0	12
04:00 AM	0	24	0	3	0	2	0	29
05:00 AM	0	76	2	4	1	0	0	83
06:00 AM	0	205	1	11	3	4	0	224
07:00 AM	0	322	**5**	20	11	8	0	366
08:00 AM	0	317	3	**22**	8	7	0	357
09:00 AM	0	307	0	19	11	**9**	0	346
10:00 AM	0	320	2	13	9	6	0	350
11:00 AM	0	**406**	2	19	**12**	7	0	**446**
12:00 PM	0	491	3	23	9	6	0	532
01:00 PM	1	410	3	16	8	6	0	444
02:00 PM	1	577	**6**	**27**	**13**	**8**	**1**	633
03:00 PM	0	**742**	5	25	3	4	1	**780**
04:00 PM	**2**	709	6	13	2	2	0	734
05:00 PM	1	545	5	3	2	0	0	556
06:00 PM	1	291	2	8	0	0	1	303
07:00 PM	2	167	1	3	0	3	0	176
08:00 PM	0	102	1	2	0	1	0	106
09:00 PM	0	89	1	1	0	1	0	92
10:00 PM	0	42	0	1	0	0	0	43
11:00 PM	0	33	0	0	0	0	0	33
Day Total	8	6232	48	233	92	76	3	6692
Percent	0.1%	93.1%	0.7%	3.5%	1.4%	1.1%	0%	
ADT 6692								
AM Peak	12:00 AM	11:00 AM	7:00 AM	8:00 AM	11:00 AM	9:00 AM	12:00 AM	11:00 AM
Volume	0	406	5	22	12	9	0	446
PM Peak	4:00 PM	3:00 PM	2:00 PM	2:00 PM	2:00 PM	2:00 PM	2:00 PM	3:00 PM
Volume	2	742	6	27	13	8	1	780

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	15	0	0	0	0	0	15
01:00 AM	0	24	0	0	0	0	0	24
02:00 AM	0	12	0	0	0	1	0	13
03:00 AM	0	13	0	0	0	0	0	13
04:00 AM	0	25	0	1	0	0	0	26
05:00 AM	1	95	0	5	1	0	0	102
06:00 AM	0	204	1	13	6	7	0	231
07:00 AM	0	327	5	17	12	9	0	370
08:00 AM	**3**	309	2	**21**	8	**16**	0	359
09:00 AM	1	310	**6**	21	8	7	0	353
10:00 AM	2	344	1	17	10	10	0	384
11:00 AM	1	**485**	2	17	**13**	5	**1**	**524**
12:00 PM	1	440	4	**24**	**10**	4	0	483
01:00 PM	5	411	2	21	10	**12**	0	461
02:00 PM	7	585	**8**	24	8	8	**2**	642
03:00 PM	**11**	**802**	3	20	9	11	0	**856**
04:00 PM	2	713	5	14	2	4	1	741
05:00 PM	4	536	5	4	2	2	1	554
06:00 PM	2	329	2	6	0	2	0	341
07:00 PM	6	211	1	1	0	3	0	222
08:00 PM	4	154	1	3	0	0	0	162
09:00 PM	0	83	1	5	0	0	0	89
10:00 PM	0	32	0	0	0	0	0	32
11:00 PM	0	34	0	0	0	0	0	34
Day Total	50	6493	49	234	99	101	5	7031
Percent	0.7%	92.3%	0.7%	3.3%	1.4%	1.4%	0.1%	
ADT 7031								
AM Peak	8:00 AM	11:00 AM	9:00 AM	8:00 AM	11:00 AM	8:00 AM	11:00 AM	11:00 AM
Volume	3	485	6	21	13	16	1	524
PM Peak	3:00 PM	3:00 PM	2:00 PM	12:00 PM	12:00 PM	1:00 PM	2:00 PM	3:00 PM
Volume	11	802	8	24	10	12	2	856

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	1	17	0	0	0	0	0	18
01:00 AM	0	19	0	0	0	0	0	19
02:00 AM	0	7	0	0	0	1	0	8
03:00 AM	0	9	0	1	0	1	0	11
04:00 AM	0	29	0	4	0	3	0	36
05:00 AM	1	82	0	3	1	4	0	91
06:00 AM	0	197	2	16	5	5	**1**	226
07:00 AM	0	289	2	11	**11**	**13**	0	326
08:00 AM	**3**	372	**6**	21	9	9	0	420
09:00 AM	2	357	6	17	8	8	0	398
10:00 AM	2	359	1	**24**	11	7	0	404
11:00 AM	3	**436**	0	19	5	9	0	**472**
12:00 PM	2	474	4	**23**	**9**	6	0	518
01:00 PM	1	433	2	19	7	6	0	468
02:00 PM	**15**	596	**11**	20	4	**8**	0	654
03:00 PM	10	**742**	6	11	2	5	0	**776**
04:00 PM	6	657	5	16	2	5	0	691
05:00 PM	6	545	4	11	0	3	0	569
06:00 PM	3	269	2	2	0	0	0	276
07:00 PM	10	239	1	2	0	0	0	252
08:00 PM	1	145	1	2	0	1	0	150
09:00 PM	2	88	2	3	0	0	0	95
10:00 PM	3	36	0	1	0	0	0	40
11:00 PM	2	46	0	1	0	1	0	50
Day Total	73	6443	55	227	74	95	1	6968
Percent	1%	92.5%	0.8%	3.3%	1.1%	1.4%	0%	
ADT 6968								
AM Peak	8:00 AM	11:00 AM	8:00 AM	10:00 AM	7:00 AM	7:00 AM	6:00 AM	11:00 AM
Volume	3	436	6	24	11	13	1	472
PM Peak	2:00 PM	3:00 PM	2:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	15	742	11	23	9	8	0	776

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St
QC JOB #: 16908552
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	131	19168	152	694	265	272	9	20691
Percent	0.6%	92.6%	0.7%	3.4%	1.3%	1.3%	0%	

ADT
6897



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 6. E Appleway Ave btwn N Signal Dr and N Madson St **QC JOB #:** 16908552

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		14	15	18		16			16	
01:00 AM		24	24	19		22			22	
02:00 AM		9	13	8		10			10	
03:00 AM		12	13	11		12			12	
04:00 AM		29	26	36		30			30	
05:00 AM		83	102	91		92			92	
06:00 AM		224	231	226		227			227	
07:00 AM		366	370	326		354			354	
08:00 AM		357	359	420		379			379	
09:00 AM		346	353	398		366			366	
10:00 AM		350	384	404		379			379	
11:00 AM		**446**	**524**	**472**		**481**			**481**	
12:00 PM		532	483	518		511			511	
01:00 PM		444	461	468		458			458	
02:00 PM		633	642	654		643			643	
03:00 PM		**780**	**856**	**776**		**804**			**804**	
04:00 PM		734	741	691		722			722	
05:00 PM		556	554	569		560			560	
06:00 PM		303	341	276		307			307	
07:00 PM		176	222	252		217			217	
08:00 PM		106	162	150		139			139	
09:00 PM		92	89	95		92			92	
10:00 PM		43	32	40		38			38	
11:00 PM		33	34	50		39			39	
Day Total		6692	7031	6968		6898			6898	
% Weekday Average		97%	101.9%	101%						
% Week Average		97%	101.9%	101%		100%				
AM Peak Volume		11:00 AM 446	11:00 AM 524	11:00 AM 472		11:00 AM 481			11:00 AM 481	
PM Peak Volume		3:00 PM 780	3:00 PM 856	3:00 PM 776		3:00 PM 804			3:00 PM 804	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	12	0	0	0	0	0	12
01:00 AM	0	24	0	0	0	0	0	24
02:00 AM	0	6	0	0	0	1	0	7
03:00 AM	0	9	0	1	0	1	0	11
04:00 AM	0	21	0	2	0	0	0	23
05:00 AM	0	54	1	5	0	1	0	61
06:00 AM	1	122	**3**	**23**	0	**6**	0	155
07:00 AM	1	224	3	11	1	2	0	242
08:00 AM	0	284	2	9	0	6	**2**	303
09:00 AM	0	243	0	11	5	3	0	262
10:00 AM	1	301	2	10	6	5	1	326
11:00 AM	**2**	**328**	0	5	**7**	3	0	**345**
12:00 PM	1	411	0	6	5	**3**	0	426
01:00 PM	1	412	1	15	**7**	3	**1**	440
02:00 PM	1	478	**3**	**18**	4	0	0	504
03:00 PM	1	**534**	1	11	2	0	1	**550**
04:00 PM	0	456	2	13	3	1	0	475
05:00 PM	0	490	2	4	0	0	0	496
06:00 PM	**3**	274	0	3	0	1	1	282
07:00 PM	1	208	0	2	0	0	0	211
08:00 PM	0	162	0	0	0	1	0	163
09:00 PM	0	107	0	2	0	0	0	109
10:00 PM	0	38	0	0	0	0	0	38
11:00 PM	0	25	0	0	0	1	0	26
Day Total	13	5223	20	151	40	38	6	5491
Percent	0.2%	95.1%	0.4%	2.7%	0.7%	0.7%	0.1%	
ADT 5491								
AM Peak	11:00 AM	11:00 AM	6:00 AM	6:00 AM	11:00 AM	6:00 AM	8:00 AM	11:00 AM
Volume	2	328	3	23	7	6	2	345
PM Peak	6:00 PM	3:00 PM	2:00 PM	2:00 PM	1:00 PM	12:00 PM	1:00 PM	3:00 PM
Volume	3	534	3	18	7	3	1	550

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	18	0	0	0	0	0	18
01:00 AM	0	15	0	0	0	0	0	15
02:00 AM	0	5	0	0	0	0	0	5
03:00 AM	0	11	0	0	0	0	0	11
04:00 AM	0	33	0	0	0	0	0	33
05:00 AM	0	96	0	2	1	1	0	100
06:00 AM	**2**	214	**3**	15	1	0	0	235
07:00 AM	2	302	3	18	5	1	0	331
08:00 AM	2	287	2	19	3	4	0	317
09:00 AM	1	298	0	**21**	4	**5**	0	329
10:00 AM	1	311	0	8	3	5	0	328
11:00 AM	2	**396**	0	13	**10**	3	0	**424**
12:00 PM	3	370	0	**14**	7	**6**	0	400
01:00 PM	4	348	1	14	**9**	2	0	378
02:00 PM	**5**	489	1	8	3	5	0	511
03:00 PM	2	**526**	2	8	6	1	0	**545**
04:00 PM	2	504	**3**	5	4	1	0	519
05:00 PM	5	482	3	3	0	1	**1**	495
06:00 PM	4	324	0	4	0	1	0	333
07:00 PM	4	220	0	1	1	0	0	226
08:00 PM	1	178	0	2	0	1	1	183
09:00 PM	0	110	0	3	0	0	0	113
10:00 PM	0	40	0	1	0	0	0	41
11:00 PM	0	28	0	1	0	0	0	29
Day Total	40	5605	18	160	57	37	2	5919
Percent	0.7%	94.7%	0.3%	2.7%	1%	0.6%	0%	
ADT 5919								
AM Peak	6:00 AM	11:00 AM	6:00 AM	9:00 AM	11:00 AM	9:00 AM	12:00 AM	11:00 AM
Volume	2	396	3	21	10	5	0	424
PM Peak	2:00 PM	3:00 PM	4:00 PM	12:00 PM	1:00 PM	12:00 PM	5:00 PM	3:00 PM
Volume	5	526	3	14	9	6	1	545

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	6	0	0	0	1	0	7
01:00 AM	0	14	0	0	0	0	0	14
02:00 AM	0	5	0	1	0	0	1	7
03:00 AM	0	7	0	0	0	0	0	7
04:00 AM	0	35	0	0	0	1	0	36
05:00 AM	1	88	0	1	0	1	0	91
06:00 AM	2	210	2	13	1	3	0	231
07:00 AM	0	284	2	16	4	0	0	306
08:00 AM	0	299	4	11	2	3	0	319
09:00 AM	1	284	3	15	3	2	0	308
10:00 AM	2	332	2	8	3	6	0	353
11:00 AM	6	379	0	9	1	2	0	397
12:00 PM	6	443	0	17	7	2	1	476
01:00 PM	6	379	2	18	5	0	1	411
02:00 PM	6	499	2	5	2	2	1	517
03:00 PM	7	527	2	13	1	0	1	551
04:00 PM	3	498	2	11	3	2	0	519
05:00 PM	22	484	3	3	0	1	1	514
06:00 PM	20	315	1	5	0	0	0	341
07:00 PM	6	256	0	0	1	0	0	263
08:00 PM	1	183	0	2	0	0	0	186
09:00 PM	0	93	0	2	0	0	0	95
10:00 PM	0	35	0	3	0	0	0	38
11:00 PM	0	39	0	0	0	0	0	39
Day Total	89	5694	25	153	33	26	6	6026
Percent	1.5%	94.5%	0.4%	2.5%	0.5%	0.4%	0.1%	
ADT 6026								
AM Peak	11:00 AM	11:00 AM	8:00 AM	7:00 AM	7:00 AM	10:00 AM	2:00 AM	11:00 AM
Volume	6	379	4	16	4	6	1	397
PM Peak	5:00 PM	3:00 PM	5:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	22	527	3	18	7	2	1	551

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908553
DIRECTION: EB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	142	16522	63	464	130	101	14	17436
Percent	0.8%	94.8%	0.4%	2.7%	0.7%	0.6%	0.1%	

ADT
5812



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 7. E Appleway Ave east of N Molter Rd **QC JOB #:** 16908553

SPECIFIC LOCATION: **DIRECTION:** EB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		12	18	7		12			12	
01:00 AM		24	15	14		18			18	
02:00 AM		7	5	7		6			6	
03:00 AM		11	11	7		10			10	
04:00 AM		23	33	36		31			31	
05:00 AM		61	100	91		84			84	
06:00 AM		155	235	231		207			207	
07:00 AM		242	331	306		293			293	
08:00 AM		303	317	319		313			313	
09:00 AM		262	329	308		300			300	
10:00 AM		326	328	353		336			336	
11:00 AM		**345**	**424**	**397**		**389**			**389**	
12:00 PM		426	400	476		434			434	
01:00 PM		440	378	411		410			410	
02:00 PM		504	511	517		511			511	
03:00 PM		**550**	**545**	**551**		**549**			**549**	
04:00 PM		475	519	519		504			504	
05:00 PM		496	495	514		502			502	
06:00 PM		282	333	341		319			319	
07:00 PM		211	226	263		233			233	
08:00 PM		163	183	186		177			177	
09:00 PM		109	113	95		106			106	
10:00 PM		38	41	38		39			39	
11:00 PM		26	29	39		31			31	
Day Total		5491	5919	6026		5814			5814	
% Weekday Average		94.4%	101.8%	103.6%						
% Week Average		94.4%	101.8%	103.6%		100%				
AM Peak Volume		11:00 AM 345	11:00 AM 424	11:00 AM 397		11:00 AM 389			11:00 AM 389	
PM Peak Volume		3:00 PM 550	3:00 PM 545	3:00 PM 551		3:00 PM 549			3:00 PM 549	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908553
DIRECTION: EB, WB
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	16	0	0	0	0	0	16
01:00 AM	0	29	0	1	0	0	0	30
02:00 AM	0	15	0	0	0	1	0	16
03:00 AM	0	19	0	2	0	1	**2**	24
04:00 AM	0	74	0	4	0	1	1	80
05:00 AM	0	236	1	10	1	2	0	250
06:00 AM	1	371	4	**33**	3	10	0	422
07:00 AM	1	584	**6**	26	10	7	0	634
08:00 AM	0	**631**	5	26	4	8	2	**676**
09:00 AM	0	504	1	30	13	7	0	555
10:00 AM	1	549	4	19	13	**12**	1	599
11:00 AM	**5**	624	1	16	**20**	10	0	676
12:00 PM	1	782	1	28	13	7	0	832
01:00 PM	3	731	1	24	**19**	**8**	**1**	787
02:00 PM	1	789	**6**	**44**	15	4	0	859
03:00 PM	1	**910**	5	29	7	2	1	**955**
04:00 PM	2	875	2	28	4	3	0	914
05:00 PM	3	846	2	11	2	0	0	864
06:00 PM	**4**	478	0	11	0	2	1	496
07:00 PM	3	350	0	5	0	2	0	360
08:00 PM	0	256	0	2	1	1	0	260
09:00 PM	0	164	0	2	0	1	0	167
10:00 PM	0	73	0	1	0	0	0	74
11:00 PM	0	41	0	0	0	1	0	42
Day Total	26	9947	39	352	125	90	9	10588
Percent	0.2%	93.9%	0.4%	3.3%	1.2%	0.9%	0.1%	
ADT 10588								
AM Peak	11:00 AM	8:00 AM	7:00 AM	6:00 AM	11:00 AM	10:00 AM	3:00 AM	8:00 AM
Volume	5	631	6	33	20	12	2	676
PM Peak	6:00 PM	3:00 PM	2:00 PM	2:00 PM	1:00 PM	1:00 PM	1:00 PM	3:00 PM
Volume	4	910	6	44	19	8	1	955

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908553
DIRECTION: EB, WB
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	25	0	0	0	0	0	25
01:00 AM	0	20	0	0	0	0	0	20
02:00 AM	0	15	0	0	0	0	0	15
03:00 AM	0	25	0	0	0	0	0	25
04:00 AM	0	81	0	2	0	0	0	83
05:00 AM	1	286	0	8	2	1	0	298
06:00 AM	2	440	4	30	10	2	0	488
07:00 AM	2	684	**6**	39	11	3	**1**	746
08:00 AM	3	592	6	**41**	8	**13**	0	663
09:00 AM	3	593	0	35	8	11	0	650
10:00 AM	3	572	2	21	11	11	0	620
11:00 AM	**4**	**732**	1	29	**22**	5	0	**793**
12:00 PM	7	714	1	31	18	10	0	781
01:00 PM	8	650	3	28	**19**	8	0	716
02:00 PM	8	838	6	**32**	13	10	0	907
03:00 PM	4	**936**	**7**	29	12	**11**	0	**999**
04:00 PM	4	924	3	21	6	5	0	963
05:00 PM	**9**	846	5	7	1	4	**2**	874
06:00 PM	6	550	0	8	0	3	0	567
07:00 PM	8	390	0	2	1	2	0	403
08:00 PM	4	303	0	5	0	1	1	314
09:00 PM	0	179	0	6	0	0	0	185
10:00 PM	0	70	0	1	0	0	0	71
11:00 PM	0	45	0	1	0	0	0	46
Day Total	76	10510	44	376	142	100	4	11252
Percent	0.7%	93.4%	0.4%	3.3%	1.3%	0.9%	0%	
ADT 11252								
AM Peak	11:00 AM	11:00 AM	7:00 AM	8:00 AM	11:00 AM	8:00 AM	7:00 AM	11:00 AM
Volume	4	732	6	41	22	13	1	793
PM Peak	5:00 PM	3:00 PM	3:00 PM	2:00 PM	1:00 PM	3:00 PM	5:00 PM	3:00 PM
Volume	9	936	7	32	19	11	2	999

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	13	0	0	0	1	0	14
01:00 AM	0	20	0	0	0	0	0	20
02:00 AM	0	10	0	1	0	1	**1**	13
03:00 AM	0	16	0	1	0	1	0	18
04:00 AM	0	91	0	1	1	1	1	95
05:00 AM	1	269	0	4	0	3	0	277
06:00 AM	3	434	2	28	7	4	0	478
07:00 AM	0	617	4	**36**	11	2	0	670
08:00 AM	1	652	**8**	29	8	9	0	707
09:00 AM	3	572	8	31	**12**	7	0	633
10:00 AM	4	617	5	22	10	**10**	0	668
11:00 AM	**8**	**684**	0	19	7	5	0	**723**
12:00 PM	7	826	3	34	**15**	**7**	1	893
01:00 PM	6	706	4	**40**	11	3	1	771
02:00 PM	16	861	**8**	28	5	6	1	925
03:00 PM	15	**964**	7	21	4	2	**2**	**1015**
04:00 PM	9	929	2	21	4	4	0	969
05:00 PM	**26**	840	3	10	0	2	1	882
06:00 PM	24	520	1	10	0	1	0	556
07:00 PM	15	425	0	2	1	0	0	443
08:00 PM	2	290	0	3	1	0	0	296
09:00 PM	1	170	1	2	0	0	0	174
10:00 PM	2	68	0	4	0	0	0	74
11:00 PM	0	73	0	0	0	1	0	74
Day Total	143	10667	56	347	97	70	8	11388
Percent	1.3%	93.7%	0.5%	3%	0.9%	0.6%	0.1%	
ADT 11388								
AM Peak	11:00 AM	11:00 AM	8:00 AM	7:00 AM	9:00 AM	10:00 AM	2:00 AM	11:00 AM
Volume	8	684	8	36	12	10	1	723
PM Peak	5:00 PM	3:00 PM	2:00 PM	1:00 PM	12:00 PM	12:00 PM	3:00 PM	3:00 PM
Volume	26	964	8	40	15	7	2	1015

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908553
DIRECTION: EB, WB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	245	31124	139	1075	364	260	21	33228
Percent	0.7%	93.7%	0.4%	3.2%	1.1%	0.8%	0.1%	
ADT 11076								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		16	25	14		18			18	
01:00 AM		30	20	20		23			23	
02:00 AM		16	15	13		15			15	
03:00 AM		24	25	18		22			22	
04:00 AM		80	83	95		86			86	
05:00 AM		250	298	277		275			275	
06:00 AM		422	488	478		463			463	
07:00 AM		634	746	670		683			683	
08:00 AM		**676**	663	707		682			682	
09:00 AM		555	650	633		613			613	
10:00 AM		599	620	668		629			629	
11:00 AM		676	**793**	**723**		**731**			**731**	
12:00 PM		832	781	893		835			835	
01:00 PM		787	716	771		758			758	
02:00 PM		859	907	925		897			897	
03:00 PM		**955**	**999**	**1015**		**990**			**990**	
04:00 PM		914	963	969		949			949	
05:00 PM		864	874	882		873			873	
06:00 PM		496	567	556		540			540	
07:00 PM		360	403	443		402			402	
08:00 PM		260	314	296		290			290	
09:00 PM		167	185	174		175			175	
10:00 PM		74	71	74		73			73	
11:00 PM		42	46	74		54			54	
Day Total		10588	11252	11388		11076			11076	
% Weekday Average		95.6%	101.6%	102.8%						
% Week Average		95.6%	101.6%	102.8%		100%				
AM Peak Volume		8:00 AM 676	11:00 AM 793	11:00 AM 723		11:00 AM 731			11:00 AM 731	
PM Peak Volume		3:00 PM 955	3:00 PM 999	3:00 PM 1015		3:00 PM 990			3:00 PM 990	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	5	0	1	0	0	0	6
02:00 AM	0	9	0	0	0	0	0	9
03:00 AM	0	10	0	1	0	0	**2**	13
04:00 AM	0	53	0	2	0	1	1	57
05:00 AM	0	182	0	5	1	1	0	189
06:00 AM	0	249	1	10	3	4	0	267
07:00 AM	0	**360**	**3**	15	9	5	0	**392**
08:00 AM	0	347	3	17	4	2	0	373
09:00 AM	0	261	1	**19**	8	4	0	293
10:00 AM	0	248	2	9	7	**7**	0	273
11:00 AM	**3**	296	1	11	**13**	7	0	331
12:00 PM	0	371	1	22	8	4	0	406
01:00 PM	2	319	0	9	**12**	**5**	0	347
02:00 PM	0	311	3	**26**	11	4	0	355
03:00 PM	0	376	**4**	18	5	2	0	405
04:00 PM	2	**419**	0	15	1	2	0	**439**
05:00 PM	**3**	356	0	7	2	0	0	368
06:00 PM	1	204	0	8	0	1	0	214
07:00 PM	2	142	0	3	0	2	0	149
08:00 PM	0	94	0	2	1	0	0	97
09:00 PM	0	57	0	0	0	1	0	58
10:00 PM	0	35	0	1	0	0	0	36
11:00 PM	0	16	0	0	0	0	0	16
Day Total	13	4724	19	201	85	52	3	5097
Percent	0.3%	92.7%	0.4%	3.9%	1.7%	1%	0.1%	
ADT 5097								
AM Peak	11:00 AM	7:00 AM	7:00 AM	9:00 AM	11:00 AM	10:00 AM	3:00 AM	7:00 AM
Volume	3	360	3	19	13	7	2	392
PM Peak	5:00 PM	4:00 PM	3:00 PM	2:00 PM	1:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	3	419	4	26	12	5	0	439

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	7	0	0	0	0	0	7
01:00 AM	0	5	0	0	0	0	0	5
02:00 AM	0	10	0	0	0	0	0	10
03:00 AM	0	14	0	0	0	0	0	14
04:00 AM	0	48	0	2	0	0	0	50
05:00 AM	1	190	0	6	1	0	0	198
06:00 AM	0	226	1	15	9	2	0	253
07:00 AM	0	**382**	3	21	6	2	**1**	**415**
08:00 AM	1	305	**4**	**22**	5	**9**	0	346
09:00 AM	**2**	295	0	14	4	6	0	321
10:00 AM	2	261	2	13	8	6	0	292
11:00 AM	2	336	1	16	**12**	2	0	369
12:00 PM	**4**	344	1	17	**11**	4	0	381
01:00 PM	4	302	2	14	10	6	0	338
02:00 PM	3	349	**5**	**24**	10	5	0	396
03:00 PM	2	410	5	21	6	**10**	0	**454**
04:00 PM	2	**420**	0	16	2	4	0	444
05:00 PM	4	364	2	4	1	3	**1**	379
06:00 PM	2	226	0	4	0	2	0	234
07:00 PM	4	170	0	1	0	2	0	177
08:00 PM	3	125	0	3	0	0	0	131
09:00 PM	0	69	0	3	0	0	0	72
10:00 PM	0	30	0	0	0	0	0	30
11:00 PM	0	17	0	0	0	0	0	17
Day Total	36	4905	26	216	85	63	2	5333
Percent	0.7%	92%	0.5%	4.1%	1.6%	1.2%	0%	
ADT 5333								
AM Peak	9:00 AM	7:00 AM	8:00 AM	8:00 AM	11:00 AM	8:00 AM	7:00 AM	7:00 AM
Volume	2	382	4	22	12	9	1	415
PM Peak	12:00 PM	4:00 PM	2:00 PM	2:00 PM	12:00 PM	3:00 PM	5:00 PM	3:00 PM
Volume	4	420	5	24	11	10	1	454

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
QC JOB #: 16908553
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	7	0	0	0	0	0	7
01:00 AM	0	6	0	0	0	0	0	6
02:00 AM	0	5	0	0	0	1	0	6
03:00 AM	0	9	0	1	0	1	0	11
04:00 AM	0	56	0	1	1	0	**1**	59
05:00 AM	0	181	0	3	0	2	0	186
06:00 AM	1	224	0	15	6	1	0	247
07:00 AM	0	333	2	**20**	7	2	0	364
08:00 AM	1	**353**	4	18	6	**6**	0	**388**
09:00 AM	**2**	288	**5**	16	**9**	5	0	325
10:00 AM	2	285	3	14	7	4	0	315
11:00 AM	2	305	0	10	6	3	0	326
12:00 PM	1	383	3	17	**8**	**5**	0	417
01:00 PM	0	327	2	22	6	3	0	360
02:00 PM	**10**	362	**6**	**23**	3	4	0	408
03:00 PM	8	**437**	5	8	3	2	**1**	**464**
04:00 PM	6	431	0	10	1	2	0	450
05:00 PM	4	356	0	7	0	1	0	368
06:00 PM	4	205	0	5	0	1	0	215
07:00 PM	9	169	0	2	0	0	0	180
08:00 PM	1	107	0	1	1	0	0	110
09:00 PM	1	77	1	0	0	0	0	79
10:00 PM	2	33	0	1	0	0	0	36
11:00 PM	0	34	0	0	0	1	0	35
Day Total	54	4973	31	194	64	44	2	5362
Percent	1%	92.7%	0.6%	3.6%	1.2%	0.8%	0%	
ADT 5362								
AM Peak	9:00 AM	8:00 AM	9:00 AM	7:00 AM	9:00 AM	8:00 AM	4:00 AM	8:00 AM
Volume	2	353	5	20	9	6	1	388
PM Peak	2:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	3:00 PM	3:00 PM
Volume	10	437	6	23	8	5	1	464

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 7. E Appleway Ave east of N Molter Rd
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908553
DIRECTION: WB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	103	14602	76	611	234	159	7	15792
Percent	0.7%	92.5%	0.5%	3.9%	1.5%	1%	0%	

ADT
5264



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 7. E Appleway Ave east of N Molter Rd **QC JOB #:** 16908553

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	7	7		6			6	
01:00 AM		6	5	6		6			6	
02:00 AM		9	10	6		8			8	
03:00 AM		13	14	11		13			13	
04:00 AM		57	50	59		55			55	
05:00 AM		189	198	186		191			191	
06:00 AM		267	253	247		256			256	
07:00 AM		**392**	**415**	364		**390**			**390**	
08:00 AM		373	346	**388**		369			369	
09:00 AM		293	321	325		313			313	
10:00 AM		273	292	315		293			293	
11:00 AM		331	369	326		342			342	
12:00 PM		406	381	417		401			401	
01:00 PM		347	338	360		348			348	
02:00 PM		355	396	408		386			386	
03:00 PM		405	**454**	**464**		441			441	
04:00 PM		**439**	444	450		**444**			**444**	
05:00 PM		368	379	368		372			372	
06:00 PM		214	234	215		221			221	
07:00 PM		149	177	180		169			169	
08:00 PM		97	131	110		113			113	
09:00 PM		58	72	79		70			70	
10:00 PM		36	30	36		34			34	
11:00 PM		16	17	35		23			23	
Day Total		5097	5333	5362		5264			5264	
% Weekday Average		96.8%	101.3%	101.9%						
% Week Average		96.8%	101.3%	101.9%		100%				
AM Peak Volume		7:00 AM 392	7:00 AM 415	8:00 AM 388		7:00 AM 390			7:00 AM 390	
PM Peak Volume		4:00 PM 439	3:00 PM 454	3:00 PM 464		4:00 PM 444			4:00 PM 444	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	3	0	0	0	0	0	3
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	13	0	0	0	0	0	13
05:00 AM	0	44	0	**2**	0	0	0	46
06:00 AM	0	71	0	0	0	0	0	71
07:00 AM	0	118	2	0	0	0	0	120
08:00 AM	**1**	**186**	**3**	0	0	0	0	**190**
09:00 AM	0	131	0	1	**1**	**1**	0	134
10:00 AM	0	92	0	1	1	1	0	95
11:00 AM	0	96	0	1	1	0	0	98
12:00 PM	0	112	0	2	0	0	0	114
01:00 PM	0	138	0	2	**2**	0	0	142
02:00 PM	0	125	0	**3**	1	0	0	129
03:00 PM	0	**200**	**1**	1	0	0	0	**202**
04:00 PM	0	136	1	0	0	0	0	137
05:00 PM	0	112	0	2	0	0	0	114
06:00 PM	0	109	0	0	0	0	0	109
07:00 PM	0	80	0	0	0	0	0	80
08:00 PM	0	36	0	1	0	0	0	37
09:00 PM	0	18	0	1	0	0	0	19
10:00 PM	0	6	0	0	0	0	0	6
11:00 PM	0	1	0	0	0	0	0	1
Day Total	1	1831	7	17	6	2	0	1864
Percent	0.1%	98.2%	0.4%	0.9%	0.3%	0.1%	0%	
ADT 1864								
AM Peak	8:00 AM	8:00 AM	8:00 AM	5:00 AM	9:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	1	186	3	2	1	1	0	190
PM Peak	12:00 PM	3:00 PM	3:00 PM	2:00 PM	1:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	0	200	1	3	2	0	0	202

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	3	0	0	0	0	0	3
04:00 AM	0	12	0	2	0	0	0	14
05:00 AM	**1**	49	0	0	0	0	0	50
06:00 AM	0	62	0	0	0	0	0	62
07:00 AM	1	109	2	2	0	0	0	114
08:00 AM	1	**239**	0	**5**	0	0	0	**245**
09:00 AM	1	115	**3**	3	**2**	0	0	124
10:00 AM	0	99	0	0	1	0	0	100
11:00 AM	0	86	0	5	0	0	0	91
12:00 PM	**2**	128	0	3	1	0	0	134
01:00 PM	1	117	0	**6**	**2**	0	0	126
02:00 PM	2	123	0	3	0	**1**	0	129
03:00 PM	0	**197**	0	1	0	0	0	**198**
04:00 PM	0	174	1	0	0	0	0	175
05:00 PM	0	120	0	0	0	0	0	120
06:00 PM	0	142	**2**	0	0	0	0	144
07:00 PM	0	101	0	0	0	0	0	101
08:00 PM	1	44	1	0	0	0	0	46
09:00 PM	0	22	0	0	0	0	0	22
10:00 PM	0	6	0	0	0	0	0	6
11:00 PM	0	7	0	0	0	0	0	7
Day Total	10	1958	9	30	6	1	0	2014
Percent	0.5%	97.2%	0.4%	1.5%	0.3%	0%	0%	
ADT 2014								
AM Peak	5:00 AM	8:00 AM	9:00 AM	8:00 AM	9:00 AM	12:00 AM	12:00 AM	8:00 AM
Volume	1	239	3	5	2	0	0	245
PM Peak	12:00 PM	3:00 PM	6:00 PM	1:00 PM	1:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	2	197	2	6	2	1	0	198

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	3	0	0	0	0	0	3
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	12	0	1	0	0	0	13
05:00 AM	0	43	0	0	0	0	0	43
06:00 AM	0	74	0	0	0	0	0	74
07:00 AM	0	103	0	1	0	0	0	104
08:00 AM	**1**	105	**2**	**3**	**1**	0	0	112
09:00 AM	0	**171**	2	3	0	0	0	**176**
10:00 AM	0	124	1	2	0	0	0	127
11:00 AM	0	98	0	3	0	0	0	101
12:00 PM	0	115	0	1	0	**1**	0	117
01:00 PM	**2**	122	0	**3**	0	0	0	127
02:00 PM	2	130	0	3	1	0	0	136
03:00 PM	0	**187**	0	0	0	0	0	**187**
04:00 PM	1	144	0	1	**2**	0	0	148
05:00 PM	1	112	0	2	0	1	0	116
06:00 PM	0	117	0	0	0	0	0	117
07:00 PM	2	137	0	0	0	0	0	139
08:00 PM	0	61	0	0	0	0	0	61
09:00 PM	0	25	0	0	0	0	0	25
10:00 PM	0	8	0	1	0	0	0	9
11:00 PM	0	10	0	0	0	0	0	10
Day Total	9	1906	5	24	4	2	0	1950
Percent	0.5%	97.7%	0.3%	1.2%	0.2%	0.1%	0%	
ADT 1950								
AM Peak	8:00 AM	9:00 AM	8:00 AM	8:00 AM	8:00 AM	12:00 AM	12:00 AM	9:00 AM
Volume	1	171	2	3	1	0	0	176
PM Peak	1:00 PM	3:00 PM	12:00 PM	1:00 PM	4:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	2	187	0	3	2	1	0	187

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	20	5695	21	71	16	5	0	5828
Percent	0.3%	97.7%	0.4%	1.2%	0.3%	0.1%	0%	

ADT
1942



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		3	1	3		2			2	
01:00 AM		1	1	1		1			1	
02:00 AM		1	1	2		1			1	
03:00 AM		2	3	2		2			2	
04:00 AM		13	14	13		13			13	
05:00 AM		46	50	43		46			46	
06:00 AM		71	62	74		69			69	
07:00 AM		120	114	104		113			113	
08:00 AM		**190**	**245**	112		**182**			**182**	
09:00 AM		134	124	**176**		145			145	
10:00 AM		95	100	127		107			107	
11:00 AM		98	91	101		97			97	
12:00 PM		114	134	117		122			122	
01:00 PM		142	126	127		132			132	
02:00 PM		129	129	136		131			131	
03:00 PM		**202**	**198**	**187**		**196**			**196**	
04:00 PM		137	175	148		153			153	
05:00 PM		114	120	116		117			117	
06:00 PM		109	144	117		123			123	
07:00 PM		80	101	139		107			107	
08:00 PM		37	46	61		48			48	
09:00 PM		19	22	25		22			22	
10:00 PM		6	6	9		7			7	
11:00 PM		1	7	10		6			6	
Day Total		1864	2014	1950		1942			1942	
% Weekday Average		96%	103.7%	100.4%						
% Week Average		96%	103.7%	100.4%		100%				
AM Peak Volume		8:00 AM 190	8:00 AM 245	9:00 AM 176		8:00 AM 182			8:00 AM 182	
PM Peak Volume		3:00 PM 202	3:00 PM 198	3:00 PM 187		3:00 PM 196			3:00 PM 196	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	7	0	0	0	0	0	7
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	3	0	0	0	0	0	3
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	15	0	0	0	0	0	15
05:00 AM	0	59	0	**4**	0	0	0	63
06:00 AM	0	111	2	1	0	0	0	114
07:00 AM	0	188	5	0	0	0	0	193
08:00 AM	**1**	**380**	**11**	1	0	0	0	**393**
09:00 AM	0	192	1	3	1	**1**	0	198
10:00 AM	0	155	0	1	**3**	1	0	160
11:00 AM	0	206	0	2	2	0	0	210
12:00 PM	0	225	0	**5**	1	0	0	231
01:00 PM	0	236	1	4	**3**	0	0	244
02:00 PM	0	278	0	5	2	0	0	285
03:00 PM	0	**385**	**7**	3	0	**1**	0	**396**
04:00 PM	0	317	1	1	0	0	0	319
05:00 PM	0	270	0	2	0	0	0	272
06:00 PM	0	207	0	0	0	0	0	207
07:00 PM	0	161	0	0	0	0	0	161
08:00 PM	0	78	0	3	0	0	0	81
09:00 PM	0	58	0	2	0	0	0	60
10:00 PM	0	12	0	0	0	0	0	12
11:00 PM	0	7	0	0	0	0	0	7
Day Total	1	3555	28	37	12	3	0	3636
Percent	0%	97.8%	0.8%	1%	0.3%	0.1%	0%	
ADT 3636								
AM Peak	8:00 AM	8:00 AM	8:00 AM	5:00 AM	10:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	1	380	11	4	3	1	0	393
PM Peak	12:00 PM	3:00 PM	3:00 PM	12:00 PM	1:00 PM	3:00 PM	12:00 PM	3:00 PM
Volume	0	385	7	5	3	1	0	396

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	4	0	0	0	0	0	4
04:00 AM	0	15	0	2	0	0	0	17
05:00 AM	1	66	0	2	0	0	0	69
06:00 AM	0	88	2	0	1	0	0	91
07:00 AM	1	171	5	3	0	0	0	180
08:00 AM	1	**419**	**8**	**8**	0	0	0	**436**
09:00 AM	1	193	3	5	**2**	**1**	0	205
10:00 AM	**5**	184	0	1	2	0	0	192
11:00 AM	0	194	4	6	1	1	0	206
12:00 PM	**6**	258	0	4	1	0	0	269
01:00 PM	1	219	0	**8**	**2**	**1**	0	231
02:00 PM	2	284	1	5	0	1	0	293
03:00 PM	0	**392**	**7**	2	0	0	0	**401**
04:00 PM	2	359	2	1	0	0	0	364
05:00 PM	1	296	0	0	0	0	0	297
06:00 PM	0	246	3	0	0	0	0	249
07:00 PM	0	179	0	1	0	0	0	180
08:00 PM	1	125	1	0	0	0	0	127
09:00 PM	0	60	0	1	0	0	0	61
10:00 PM	0	22	0	0	0	0	0	22
11:00 PM	0	15	0	0	0	0	0	15
Day Total	22	3794	36	49	9	4	0	3914
Percent	0.6%	96.9%	0.9%	1.3%	0.2%	0.1%	0%	
ADT 3914								
AM Peak	10:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	5	419	8	8	2	1	0	436
PM Peak	12:00 PM	3:00 PM	3:00 PM	1:00 PM	1:00 PM	1:00 PM	12:00 PM	3:00 PM
Volume	6	392	7	8	2	1	0	401

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	0	0	0	0	0	5
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	6	0	0	0	0	0	6
03:00 AM	0	3	0	0	0	0	0	3
04:00 AM	0	15	0	1	0	0	0	16
05:00 AM	0	55	0	1	0	0	0	56
06:00 AM	0	101	1	0	0	0	0	102
07:00 AM	0	163	2	2	0	1	0	168
08:00 AM	**1**	168	4	**5**	**1**	0	0	179
09:00 AM	0	**332**	**11**	5	0	1	0	**349**
10:00 AM	0	206	2	3	0	**2**	0	213
11:00 AM	0	212	0	5	0	0	0	217
12:00 PM	0	223	1	3	0	**1**	0	228
01:00 PM	2	237	0	**5**	1	0	0	245
02:00 PM	**4**	285	**4**	3	1	0	0	297
03:00 PM	0	**387**	4	1	0	0	0	**392**
04:00 PM	2	290	0	3	**3**	0	0	298
05:00 PM	1	263	0	2	0	1	0	267
06:00 PM	3	254	0	0	0	0	0	257
07:00 PM	3	212	0	0	0	0	0	215
08:00 PM	0	133	0	3	0	0	0	136
09:00 PM	0	55	0	1	0	0	0	56
10:00 PM	0	24	0	1	0	0	0	25
11:00 PM	0	22	0	0	0	0	0	22
Day Total	16	3653	29	44	6	6	0	3754
Percent	0.4%	97.3%	0.8%	1.2%	0.2%	0.2%	0%	
ADT 3754								
AM Peak	8:00 AM	9:00 AM	9:00 AM	8:00 AM	8:00 AM	10:00 AM	12:00 AM	9:00 AM
Volume	1	332	11	5	1	2	0	349
PM Peak	2:00 PM	3:00 PM	2:00 PM	1:00 PM	4:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	4	387	4	5	3	1	0	392

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908554
DIRECTION: NB, SB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	39	11002	93	130	27	13	0	11304
Percent	0.3%	97.3%	0.8%	1.2%	0.2%	0.1%	0%	

ADT
3768



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		7	1	5		4			4	
01:00 AM		3	2	2		2			2	
02:00 AM		3	2	6		4			4	
03:00 AM		2	4	3		3			3	
04:00 AM		15	17	16		16			16	
05:00 AM		63	69	56		63			63	
06:00 AM		114	91	102		102			102	
07:00 AM		193	180	168		180			180	
08:00 AM		**393**	**436**	179		**336**			**336**	
09:00 AM		198	205	**349**		251			251	
10:00 AM		160	192	213		188			188	
11:00 AM		210	206	217		211			211	
12:00 PM		231	269	228		243			243	
01:00 PM		244	231	245		240			240	
02:00 PM		285	293	297		292			292	
03:00 PM		**396**	**401**	**392**		**396**			**396**	
04:00 PM		319	364	298		327			327	
05:00 PM		272	297	267		279			279	
06:00 PM		207	249	257		238			238	
07:00 PM		161	180	215		185			185	
08:00 PM		81	127	136		115			115	
09:00 PM		60	61	56		59			59	
10:00 PM		12	22	25		20			20	
11:00 PM		7	15	22		15			15	
Day Total		3636	3914	3754		3769			3769	
% Weekday Average		96.5%	103.8%	99.6%						
% Week Average		96.5%	103.8%	99.6%		100%				
AM Peak Volume		8:00 AM 393	8:00 AM 436	9:00 AM 349		8:00 AM 336			8:00 AM 336	
PM Peak Volume		3:00 PM 396	3:00 PM 401	3:00 PM 392		3:00 PM 396			3:00 PM 396	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	2	0	0	0	0	0	2
05:00 AM	0	15	0	**2**	0	0	0	17
06:00 AM	0	40	2	1	0	0	0	43
07:00 AM	0	70	3	0	0	0	0	73
08:00 AM	0	**194**	**8**	1	0	0	0	**203**
09:00 AM	0	61	1	2	0	0	0	64
10:00 AM	0	63	0	0	**2**	0	0	65
11:00 AM	0	110	0	1	1	0	0	112
12:00 PM	0	113	0	**3**	**1**	0	0	117
01:00 PM	0	98	1	2	1	0	0	102
02:00 PM	0	153	0	2	1	0	0	156
03:00 PM	0	**185**	**6**	2	0	**1**	0	**194**
04:00 PM	0	181	0	1	0	0	0	182
05:00 PM	0	158	0	0	0	0	0	158
06:00 PM	0	98	0	0	0	0	0	98
07:00 PM	0	81	0	0	0	0	0	81
08:00 PM	0	42	0	2	0	0	0	44
09:00 PM	0	40	0	1	0	0	0	41
10:00 PM	0	6	0	0	0	0	0	6
11:00 PM	0	6	0	0	0	0	0	6
Day Total	0	1724	21	20	6	1	0	1772
Percent	0%	97.3%	1.2%	1.1%	0.3%	0.1%	0%	
ADT 1772								
AM Peak	12:00 AM	8:00 AM	8:00 AM	5:00 AM	10:00 AM	12:00 AM	12:00 AM	8:00 AM
Volume	0	194	8	2	2	0	0	203
PM Peak	12:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	3:00 PM	12:00 PM	3:00 PM
Volume	0	185	6	3	1	1	0	194

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	0	0	0	0	0	0	0
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	3	0	0	0	0	0	3
05:00 AM	0	17	0	2	0	0	0	19
06:00 AM	0	26	2	0	1	0	0	29
07:00 AM	0	62	3	1	0	0	0	66
08:00 AM	0	180	8	3	0	0	0	191
09:00 AM	0	78	0	2	0	1	0	81
10:00 AM	5	85	0	1	1	0	0	92
11:00 AM	0	108	4	1	1	1	0	115
12:00 PM	4	130	0	1	0	0	0	135
01:00 PM	0	102	0	2	0	1	0	105
02:00 PM	0	161	1	2	0	0	0	164
03:00 PM	0	195	7	1	0	0	0	203
04:00 PM	2	185	1	1	0	0	0	189
05:00 PM	1	176	0	0	0	0	0	177
06:00 PM	0	104	1	0	0	0	0	105
07:00 PM	0	78	0	1	0	0	0	79
08:00 PM	0	81	0	0	0	0	0	81
09:00 PM	0	38	0	1	0	0	0	39
10:00 PM	0	16	0	0	0	0	0	16
11:00 PM	0	8	0	0	0	0	0	8
Day Total	12	1836	27	19	3	3	0	1900
Percent	0.6%	96.6%	1.4%	1%	0.2%	0.2%	0%	
ADT 1900								
AM Peak	10:00 AM	8:00 AM	8:00 AM	8:00 AM	6:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	5	180	8	3	1	1	0	191
PM Peak	12:00 PM	3:00 PM	3:00 PM	1:00 PM	12:00 PM	1:00 PM	12:00 PM	3:00 PM
Volume	4	195	7	2	0	1	0	203

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	4	0	0	0	0	0	4
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	3	0	0	0	0	0	3
05:00 AM	0	12	0	1	0	0	0	13
06:00 AM	0	27	1	0	0	0	0	28
07:00 AM	0	60	2	1	0	1	0	64
08:00 AM	0	63	2	**2**	0	0	0	67
09:00 AM	0	**161**	**9**	2	0	1	0	**173**
10:00 AM	0	82	1	1	0	**2**	0	86
11:00 AM	0	114	0	2	0	0	0	116
12:00 PM	0	108	1	2	0	0	0	111
01:00 PM	0	115	0	2	**1**	0	0	118
02:00 PM	2	155	**4**	0	0	0	0	161
03:00 PM	0	**200**	4	1	0	0	0	**205**
04:00 PM	1	146	0	2	1	0	0	150
05:00 PM	0	151	0	0	0	0	0	151
06:00 PM	**3**	137	0	0	0	0	0	140
07:00 PM	1	75	0	0	0	0	0	76
08:00 PM	0	72	0	**3**	0	0	0	75
09:00 PM	0	30	0	1	0	0	0	31
10:00 PM	0	16	0	0	0	0	0	16
11:00 PM	0	12	0	0	0	0	0	12
Day Total	7	1747	24	20	2	4	0	1804
Percent	0.4%	96.8%	1.3%	1.1%	0.1%	0.2%	0%	
ADT 1804								
AM Peak	12:00 AM	9:00 AM	9:00 AM	8:00 AM	12:00 AM	10:00 AM	12:00 AM	9:00 AM
Volume	0	161	9	2	0	2	0	173
PM Peak	6:00 PM	3:00 PM	2:00 PM	8:00 PM	1:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	3	200	4	3	1	0	0	205

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	19	5307	72	59	11	8	0	5476
Percent	0.3%	96.9%	1.3%	1.1%	0.2%	0.1%	0%	

ADT
1825



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 8. N Molter Rd b E Mission Ave and E Country Vista Dr
QC JOB #: 16908554
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	0	2		2			2	
01:00 AM		2	1	1		1			1	
02:00 AM		2	1	4		2			2	
03:00 AM		0	1	1		1			1	
04:00 AM		2	3	3		3			3	
05:00 AM		17	19	13		16			16	
06:00 AM		43	29	28		33			33	
07:00 AM		73	66	64		68			68	
08:00 AM		**203**	**191**	67		**154**			**154**	
09:00 AM		64	81	**173**		106			106	
10:00 AM		65	92	86		81			81	
11:00 AM		112	115	116		114			114	
12:00 PM		117	135	111		121			121	
01:00 PM		102	105	118		108			108	
02:00 PM		156	164	161		160			160	
03:00 PM		**194**	**203**	**205**		**201**			**201**	
04:00 PM		182	189	150		174			174	
05:00 PM		158	177	151		162			162	
06:00 PM		98	105	140		114			114	
07:00 PM		81	79	76		79			79	
08:00 PM		44	81	75		67			67	
09:00 PM		41	39	31		37			37	
10:00 PM		6	16	16		13			13	
11:00 PM		6	8	12		9			9	
Day Total		1772	1900	1804		1826			1826	
% Weekday Average		97%	104.1%	98.8%						
% Week Average		97%	104.1%	98.8%		100%				
AM Peak Volume		8:00 AM 203	8:00 AM 191	9:00 AM 173		8:00 AM 154			8:00 AM 154	
PM Peak Volume		3:00 PM 194	3:00 PM 203	3:00 PM 205		3:00 PM 201			3:00 PM 201	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	5	0	0	0	0	0	5
05:00 AM	0	15	0	0	0	0	0	15
06:00 AM	0	26	0	0	0	0	0	26
07:00 AM	0	41	0	**1**	0	0	0	42
08:00 AM	0	**76**	**1**	0	0	0	0	**77**
09:00 AM	0	40	0	1	0	**1**	0	42
10:00 AM	0	41	0	1	0	1	0	43
11:00 AM	0	48	0	0	0	1	0	49
12:00 PM	0	44	0	**2**	0	0	0	46
01:00 PM	0	40	0	0	0	0	0	40
02:00 PM	0	**64**	0	1	0	0	0	**65**
03:00 PM	0	60	**2**	0	0	0	0	62
04:00 PM	0	61	0	0	0	0	0	61
05:00 PM	0	47	0	1	0	0	0	48
06:00 PM	**1**	42	0	0	0	0	0	43
07:00 PM	0	24	0	0	0	0	0	24
08:00 PM	0	13	0	0	0	0	0	13
09:00 PM	0	5	0	1	0	0	0	6
10:00 PM	0	1	0	0	0	0	0	1
11:00 PM	0	0	0	0	0	0	0	0
Day Total	1	694	3	8	0	3	0	709
Percent	0.1%	97.9%	0.4%	1.1%	0%	0.4%	0%	
ADT 709								
AM Peak	12:00 AM	8:00 AM	8:00 AM	7:00 AM	12:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	0	76	1	1	0	1	0	77
PM Peak	6:00 PM	2:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	2:00 PM
Volume	1	64	2	2	0	0	0	65

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	5	0	0	0	0	0	5
05:00 AM	0	15	0	0	0	0	0	15
06:00 AM	0	21	0	1	0	0	0	22
07:00 AM	0	45	0	0	0	0	0	45
08:00 AM	1	84	1	0	0	0	0	86
09:00 AM	0	36	0	2	0	0	0	38
10:00 AM	0	44	0	0	0	0	0	44
11:00 AM	0	45	0	1	0	0	0	46
12:00 PM	0	59	0	2	0	0	0	61
01:00 PM	0	48	0	2	0	0	0	50
02:00 PM	0	65	0	0	0	1	0	66
03:00 PM	0	74	1	0	0	0	0	75
04:00 PM	0	63	0	0	0	0	0	63
05:00 PM	1	53	0	2	0	0	0	56
06:00 PM	0	51	0	0	0	0	0	51
07:00 PM	0	35	0	0	0	0	0	35
08:00 PM	0	26	0	0	0	0	0	26
09:00 PM	0	7	0	0	0	0	0	7
10:00 PM	0	3	0	0	0	0	0	3
11:00 PM	0	2	0	0	0	0	0	2
Day Total	2	781	2	10	0	1	0	796
Percent	0.3%	98.1%	0.3%	1.3%	0%	0.1%	0%	
ADT 796								
AM Peak	8:00 AM	8:00 AM	8:00 AM	9:00 AM	12:00 AM	12:00 AM	12:00 AM	8:00 AM
Volume	1	84	1	2	0	0	0	86
PM Peak	5:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	1	74	1	2	0	1	0	75

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	0	0	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	6	0	0	0	0	0	6
05:00 AM	0	20	0	**1**	0	0	0	21
06:00 AM	0	20	0	0	0	0	0	20
07:00 AM	0	31	0	0	0	1	0	32
08:00 AM	**1**	46	0	0	**1**	0	0	48
09:00 AM	0	**61**	**1**	1	0	0	0	**63**
10:00 AM	0	45	0	1	0	0	0	46
11:00 AM	0	42	0	1	0	**2**	0	45
12:00 PM	0	49	0	**3**	0	0	0	52
01:00 PM	0	53	0	0	0	0	0	53
02:00 PM	0	65	0	3	0	0	0	68
03:00 PM	**2**	**67**	**1**	0	0	0	0	**70**
04:00 PM	2	66	0	2	0	0	0	70
05:00 PM	0	45	0	0	0	0	0	45
06:00 PM	0	65	0	0	0	**1**	0	66
07:00 PM	0	43	0	0	0	0	0	43
08:00 PM	0	28	0	0	0	0	0	28
09:00 PM	0	8	0	0	0	0	0	8
10:00 PM	0	4	0	0	0	0	0	4
11:00 PM	0	3	0	0	0	0	0	3
Day Total	5	767	2	12	1	4	0	791
Percent	0.6%	97%	0.3%	1.5%	0.1%	0.5%	0%	
ADT 791								
AM Peak	8:00 AM	9:00 AM	9:00 AM	5:00 AM	8:00 AM	11:00 AM	12:00 AM	9:00 AM
Volume	1	61	1	1	1	2	0	63
PM Peak	3:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	6:00 PM	12:00 PM	3:00 PM
Volume	2	67	1	3	0	1	0	70

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	8	2242	7	30	1	8	0	2296
Percent	0.3%	97.6%	0.3%	1.3%	0%	0.3%	0%	

ADT
765



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave **QC JOB #:** 16908555

SPECIFIC LOCATION: **DIRECTION:** NB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1	0	0		0			0	
01:00 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
04:00 AM		5	5	6		5			5	
05:00 AM		15	15	21		17			17	
06:00 AM		26	22	20		23			23	
07:00 AM		42	45	32		40			40	
08:00 AM		**77**	**86**	48		**70**			**70**	
09:00 AM		42	38	**63**		48			48	
10:00 AM		43	44	46		44			44	
11:00 AM		49	46	45		47			47	
12:00 PM		46	61	52		53			53	
01:00 PM		40	50	53		48			48	
02:00 PM		**65**	66	68		66			66	
03:00 PM		62	**75**	**70**		**69**			**69**	
04:00 PM		61	63	70		65			65	
05:00 PM		48	56	45		50			50	
06:00 PM		43	51	66		53			53	
07:00 PM		24	35	43		34			34	
08:00 PM		13	26	28		22			22	
09:00 PM		6	7	8		7			7	
10:00 PM		1	3	4		3			3	
11:00 PM		0	2	3		2			2	
Day Total		709	796	791		766			766	
% Weekday Average		92.6%	103.9%	103.3%						
% Week Average		92.6%	103.9%	103.3%		100%				
AM Peak Volume		8:00 AM 77	8:00 AM 86	9:00 AM 63		8:00 AM 70			8:00 AM 70	
PM Peak Volume		2:00 PM 65	3:00 PM 75	3:00 PM 70		3:00 PM 69			3:00 PM 69	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	5	0	0	0	0	0	5
05:00 AM	0	18	0	0	0	0	0	18
06:00 AM	0	43	0	**1**	0	0	0	44
07:00 AM	0	65	**1**	1	0	0	0	67
08:00 AM	0	**117**	1	0	0	0	0	**118**
09:00 AM	0	81	0	1	0	**2**	0	84
10:00 AM	0	85	0	1	0	1	0	87
11:00 AM	0	100	0	1	0	1	0	102
12:00 PM	0	91	0	**2**	0	0	0	93
01:00 PM	0	89	0	0	0	0	0	89
02:00 PM	0	120	0	2	0	0	0	122
03:00 PM	0	144	**2**	1	0	0	0	**147**
04:00 PM	0	**145**	0	0	0	0	0	145
05:00 PM	0	129	0	1	0	0	0	130
06:00 PM	**1**	96	0	0	0	0	0	97
07:00 PM	0	65	0	0	0	0	0	65
08:00 PM	0	29	0	1	0	0	0	30
09:00 PM	0	21	0	1	0	0	0	22
10:00 PM	0	4	0	0	0	0	0	4
11:00 PM	0	5	0	0	0	0	0	5
Day Total	1	1456	4	13	0	4	0	1478
Percent	0.1%	98.5%	0.3%	0.9%	0%	0.3%	0%	
ADT 1478								
AM Peak	12:00 AM	8:00 AM	7:00 AM	6:00 AM	12:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	0	117	1	1	0	2	0	118
PM Peak	6:00 PM	4:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	1	145	2	2	0	0	0	147

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	5	0	0	0	0	0	5
05:00 AM	0	18	0	1	0	0	0	19
06:00 AM	0	34	0	2	0	0	0	36
07:00 AM	0	68	1	0	0	0	0	69
08:00 AM	1	127	1	1	0	0	0	130
09:00 AM	0	77	0	4	0	0	0	81
10:00 AM	0	85	0	1	0	0	0	86
11:00 AM	0	102	0	2	0	0	0	104
12:00 PM	1	115	0	3	0	0	0	119
01:00 PM	0	107	0	3	0	0	0	110
02:00 PM	0	136	0	0	0	1	0	137
03:00 PM	0	160	1	2	0	0	0	163
04:00 PM	1	146	0	0	0	0	0	147
05:00 PM	2	123	0	2	0	0	0	127
06:00 PM	0	108	0	0	0	0	0	108
07:00 PM	0	88	0	0	0	0	0	88
08:00 PM	0	69	0	0	0	0	0	69
09:00 PM	0	23	0	0	0	0	0	23
10:00 PM	0	10	0	1	0	0	0	11
11:00 PM	0	4	0	0	0	0	0	4
Day Total	5	1606	3	22	0	1	0	1637
Percent	0.3%	98.1%	0.2%	1.3%	0%	0.1%	0%	
ADT 1637								
AM Peak	8:00 AM	8:00 AM	7:00 AM	9:00 AM	12:00 AM	12:00 AM	12:00 AM	8:00 AM
Volume	1	127	1	4	0	0	0	130
PM Peak	5:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	2	160	1	3	0	1	0	163

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	6	0	0	0	0	0	6
05:00 AM	0	26	0	1	0	0	0	27
06:00 AM	0	28	0	0	0	0	0	28
07:00 AM	0	61	0	0	0	1	0	62
08:00 AM	**1**	71	0	0	**1**	1	0	74
09:00 AM	0	103	**1**	2	0	0	0	106
10:00 AM	0	82	0	1	0	0	0	83
11:00 AM	0	**105**	0	**3**	0	**2**	0	**110**
12:00 PM	0	100	0	**3**	0	0	0	103
01:00 PM	0	108	0	2	0	0	0	110
02:00 PM	0	149	0	3	0	0	0	152
03:00 PM	2	**158**	**4**	0	0	0	0	**164**
04:00 PM	**3**	144	0	2	0	0	0	149
05:00 PM	0	120	0	1	0	0	0	121
06:00 PM	1	123	0	0	0	**1**	0	125
07:00 PM	0	99	0	0	0	0	0	99
08:00 PM	0	67	0	0	0	0	0	67
09:00 PM	0	25	0	1	0	0	0	26
10:00 PM	0	6	0	0	0	0	0	6
11:00 PM	0	8	0	0	0	0	0	8
Day Total	7	1591	5	19	1	5	0	1628
Percent	0.4%	97.7%	0.3%	1.2%	0.1%	0.3%	0%	
ADT 1628								
AM Peak	8:00 AM	11:00 AM	9:00 AM	11:00 AM	8:00 AM	11:00 AM	12:00 AM	11:00 AM
Volume	1	105	1	3	1	2	0	110
PM Peak	4:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	6:00 PM	12:00 PM	3:00 PM
Volume	3	158	4	3	0	1	0	164

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	13	4653	12	54	1	10	0	4743
Percent	0.3%	98.1%	0.3%	1.1%	0%	0.2%	0%	
ADT 1581								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2	1	1		1			1	
01:00 AM		2	0	1		1			1	
02:00 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
04:00 AM		5	5	6		5			5	
05:00 AM		18	19	27		21			21	
06:00 AM		44	36	28		36			36	
07:00 AM		67	69	62		66			66	
08:00 AM		**118**	**130**	74		**107**			**107**	
09:00 AM		84	81	106		90			90	
10:00 AM		87	86	83		85			85	
11:00 AM		102	104	**110**		105			105	
12:00 PM		93	119	103		105			105	
01:00 PM		89	110	110		103			103	
02:00 PM		122	137	152		137			137	
03:00 PM		**147**	**163**	**164**		**158**			**158**	
04:00 PM		145	147	149		147			147	
05:00 PM		130	127	121		126			126	
06:00 PM		97	108	125		110			110	
07:00 PM		65	88	99		84			84	
08:00 PM		30	69	67		55			55	
09:00 PM		22	23	26		24			24	
10:00 PM		4	11	6		7			7	
11:00 PM		5	4	8		6			6	
Day Total		1478	1637	1628		1579			1579	
% Weekday Average		93.6%	103.7%	103.1%						
% Week Average		93.6%	103.7%	103.1%		100%				
AM Peak Volume		8:00 AM 118	8:00 AM 130	11:00 AM 110		8:00 AM 107			8:00 AM 107	
PM Peak Volume		3:00 PM 147	3:00 PM 163	3:00 PM 164		3:00 PM 158			3:00 PM 158	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0
05:00 AM	0	3	0	0	0	0	0	3
06:00 AM	0	17	0	**1**	0	0	0	18
07:00 AM	0	24	**1**	0	0	0	0	25
08:00 AM	0	41	0	0	0	0	0	41
09:00 AM	0	41	0	0	0	**1**	0	42
10:00 AM	0	44	0	0	0	0	0	44
11:00 AM	0	**52**	0	1	0	0	0	**53**
12:00 PM	0	47	0	0	0	0	0	47
01:00 PM	0	49	0	0	0	0	0	49
02:00 PM	0	56	0	**1**	0	0	0	57
03:00 PM	0	**84**	0	1	0	0	0	**85**
04:00 PM	0	84	0	0	0	0	0	84
05:00 PM	0	82	0	0	0	0	0	82
06:00 PM	0	54	0	0	0	0	0	54
07:00 PM	0	41	0	0	0	0	0	41
08:00 PM	0	16	0	1	0	0	0	17
09:00 PM	0	16	0	0	0	0	0	16
10:00 PM	0	3	0	0	0	0	0	3
11:00 PM	0	5	0	0	0	0	0	5
Day Total	0	762	1	5	0	1	0	769
Percent	0%	99.1%	0.1%	0.7%	0%	0.1%	0%	
ADT 769								
AM Peak	12:00 AM	11:00 AM	7:00 AM	6:00 AM	12:00 AM	9:00 AM	12:00 AM	11:00 AM
Volume	0	52	1	1	0	1	0	53
PM Peak	12:00 PM	3:00 PM	12:00 PM	2:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	0	84	0	1	0	0	0	85

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0
05:00 AM	0	3	0	1	0	0	0	4
06:00 AM	0	13	0	1	0	0	0	14
07:00 AM	0	23	**1**	0	0	0	0	24
08:00 AM	0	43	0	1	0	0	0	44
09:00 AM	0	41	0	**2**	0	0	0	43
10:00 AM	0	41	0	1	0	0	0	42
11:00 AM	0	**57**	0	1	0	0	0	**58**
12:00 PM	**1**	56	0	1	0	0	0	58
01:00 PM	0	59	0	1	0	0	0	60
02:00 PM	0	71	0	0	0	0	0	71
03:00 PM	0	**86**	0	**2**	0	0	0	**88**
04:00 PM	1	83	0	0	0	0	0	84
05:00 PM	1	70	0	0	0	0	0	71
06:00 PM	0	57	0	0	0	0	0	57
07:00 PM	0	53	0	0	0	0	0	53
08:00 PM	0	43	0	0	0	0	0	43
09:00 PM	0	16	0	0	0	0	0	16
10:00 PM	0	7	0	1	0	0	0	8
11:00 PM	0	2	0	0	0	0	0	2
Day Total	3	825	1	12	0	0	0	841
Percent	0.4%	98.1%	0.1%	1.4%	0%	0%	0%	
ADT 841								
AM Peak	12:00 AM	11:00 AM	7:00 AM	9:00 AM	12:00 AM	12:00 AM	12:00 AM	11:00 AM
Volume	0	57	1	2	0	0	0	58
PM Peak	12:00 PM	3:00 PM	12:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	1	86	0	2	0	0	0	88

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0
05:00 AM	0	6	0	0	0	0	0	6
06:00 AM	0	8	0	0	0	0	0	8
07:00 AM	0	30	0	0	0	0	0	30
08:00 AM	0	25	0	0	0	1	0	26
09:00 AM	0	42	0	1	0	0	0	43
10:00 AM	0	37	0	0	0	0	0	37
11:00 AM	0	63	0	2	0	0	0	65
12:00 PM	0	51	0	0	0	0	0	51
01:00 PM	0	55	0	2	0	0	0	57
02:00 PM	0	84	0	0	0	0	0	84
03:00 PM	0	91	3	0	0	0	0	94
04:00 PM	1	78	0	0	0	0	0	79
05:00 PM	0	75	0	1	0	0	0	76
06:00 PM	1	58	0	0	0	0	0	59
07:00 PM	0	56	0	0	0	0	0	56
08:00 PM	0	39	0	0	0	0	0	39
09:00 PM	0	17	0	1	0	0	0	18
10:00 PM	0	2	0	0	0	0	0	2
11:00 PM	0	5	0	0	0	0	0	5
Day Total	2	824	3	7	0	1	0	837
Percent	0.2%	98.4%	0.4%	0.8%	0%	0.1%	0%	
ADT 837								
AM Peak	12:00 AM	11:00 AM	12:00 AM	11:00 AM	12:00 AM	8:00 AM	12:00 AM	11:00 AM
Volume	0	63	0	2	0	1	0	65
PM Peak	4:00 PM	3:00 PM	3:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	1	91	3	2	0	0	0	94

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave
QC JOB #: 16908555
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	5	2411	5	24	0	2	0	2447
Percent	0.2%	98.5%	0.2%	1%	0%	0.1%	0%	
ADT 815								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 9. N Molter Rd btwn E Country Vista Dr and E Sprague Ave **QC JOB #:** 16908555

SPECIFIC LOCATION: **DIRECTION:** SB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		1	1	1		1			1	
01:00 AM		2	0	1		1			1	
02:00 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
05:00 AM		3	4	6		4			4	
06:00 AM		18	14	8		13			13	
07:00 AM		25	24	30		26			26	
08:00 AM		41	44	26		37			37	
09:00 AM		42	43	43		43			43	
10:00 AM		44	42	37		41			41	
11:00 AM		**53**	**58**	**65**		**59**			**59**	
12:00 PM		47	58	51		52			52	
01:00 PM		49	60	57		55			55	
02:00 PM		57	71	84		71			71	
03:00 PM		**85**	**88**	**94**		**89**			**89**	
04:00 PM		84	84	79		82			82	
05:00 PM		82	71	76		76			76	
06:00 PM		54	57	59		57			57	
07:00 PM		41	53	56		50			50	
08:00 PM		17	43	39		33			33	
09:00 PM		16	16	18		17			17	
10:00 PM		3	8	2		4			4	
11:00 PM		5	2	5		4			4	
Day Total		769	841	837		815			815	
% Weekday Average		94.4%	103.2%	102.7%						
% Week Average		94.4%	103.2%	102.7%		100%				
AM Peak Volume		11:00 AM 53	11:00 AM 58	11:00 AM 65		11:00 AM 59			11:00 AM 59	
PM Peak Volume		3:00 PM 85	3:00 PM 88	3:00 PM 94		3:00 PM 89			3:00 PM 89	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	10	0	1	0	0	0	11
05:00 AM	0	31	0	1	0	0	0	32
06:00 AM	0	44	0	0	0	0	0	44
07:00 AM	0	**94**	**2**	1	0	0	0	**97**
08:00 AM	0	88	1	**5**	0	0	0	94
09:00 AM	0	72	0	2	0	0	0	74
10:00 AM	0	45	0	4	**2**	0	0	51
11:00 AM	0	49	0	1	0	0	0	50
12:00 PM	**2**	60	0	**2**	0	0	0	64
01:00 PM	0	57	0	2	**1**	0	0	60
02:00 PM	0	89	1	2	0	0	0	92
03:00 PM	0	**113**	**4**	2	0	0	0	**119**
04:00 PM	0	95	0	1	0	0	0	96
05:00 PM	0	100	0	0	0	0	0	100
06:00 PM	1	67	0	0	0	0	0	68
07:00 PM	0	34	0	0	0	0	0	34
08:00 PM	0	34	0	2	0	0	0	36
09:00 PM	0	14	0	0	0	0	0	14
10:00 PM	0	4	0	0	0	0	0	4
11:00 PM	0	2	0	0	0	0	0	2
Day Total	3	1108	8	26	3	0	0	1148
Percent	0.3%	96.5%	0.7%	2.3%	0.3%	0%	0%	
ADT 1148								
AM Peak	12:00 AM	7:00 AM	7:00 AM	8:00 AM	10:00 AM	12:00 AM	12:00 AM	7:00 AM
Volume	0	94	2	5	2	0	0	97
PM Peak	12:00 PM	3:00 PM	3:00 PM	12:00 PM	1:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	2	113	4	2	1	0	0	119

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	1	0	0	0	0	0	1
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	4	0	0	0	0	0	4
04:00 AM	0	10	0	1	0	0	0	11
05:00 AM	0	30	0	0	0	0	0	30
06:00 AM	0	44	0	0	0	0	0	44
07:00 AM	0	87	**2**	**3**	**2**	0	0	94
08:00 AM	0	**98**	1	2	0	0	0	**101**
09:00 AM	0	70	0	1	0	0	0	71
10:00 AM	0	53	0	0	0	0	0	53
11:00 AM	**1**	85	0	3	0	0	0	89
12:00 PM	0	90	0	**3**	0	0	0	93
01:00 PM	0	47	0	3	0	0	0	50
02:00 PM	0	90	2	1	0	0	0	93
03:00 PM	0	**136**	**4**	2	0	0	0	**142**
04:00 PM	0	113	0	1	0	0	0	114
05:00 PM	0	90	0	2	0	0	0	92
06:00 PM	0	66	0	1	0	0	0	67
07:00 PM	0	46	0	0	0	0	0	46
08:00 PM	0	31	0	0	0	0	0	31
09:00 PM	0	26	0	0	0	0	0	26
10:00 PM	0	9	0	0	0	0	0	9
11:00 PM	0	2	0	0	0	0	0	2
Day Total	1	1231	9	23	2	0	0	1266
Percent	0.1%	97.2%	0.7%	1.8%	0.2%	0%	0%	
ADT 1266								
AM Peak	11:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	12:00 AM	12:00 AM	8:00 AM
Volume	1	98	2	3	2	0	0	101
PM Peak	12:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	0	136	4	3	0	0	0	142

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	0	0	0	0	0	0	0
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	13	0	1	0	0	0	14
05:00 AM	0	26	0	1	0	0	0	27
06:00 AM	0	44	0	1	0	0	0	45
07:00 AM	0	**89**	**1**	2	0	0	0	**92**
08:00 AM	0	84	1	2	0	**1**	0	88
09:00 AM	**1**	86	1	**3**	0	0	0	91
10:00 AM	1	59	0	0	0	0	0	60
11:00 AM	0	71	0	3	0	0	0	74
12:00 PM	0	82	1	1	0	0	0	84
01:00 PM	0	75	0	2	0	0	0	77
02:00 PM	1	91	2	0	0	0	0	94
03:00 PM	**3**	112	**3**	**3**	0	0	0	121
04:00 PM	0	**123**	0	2	0	0	0	**125**
05:00 PM	0	95	0	1	0	0	0	96
06:00 PM	0	73	0	2	0	0	0	75
07:00 PM	1	65	0	0	0	0	0	66
08:00 PM	0	40	0	1	0	0	0	41
09:00 PM	0	20	0	0	0	0	**1**	21
10:00 PM	0	8	0	0	0	0	0	8
11:00 PM	0	7	0	0	0	0	0	7
Day Total	7	1266	9	25	0	1	1	1309
Percent	0.5%	96.7%	0.7%	1.9%	0%	0.1%	0.1%	
ADT 1309								
AM Peak	9:00 AM	7:00 AM	7:00 AM	9:00 AM	12:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	1	89	1	3	0	1	0	92
PM Peak	3:00 PM	4:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	9:00 PM	4:00 PM
Volume	3	123	3	3	0	0	1	125

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	11	3605	26	74	5	1	1	3723
Percent	0.3%	96.8%	0.7%	2%	0.1%	0%	0%	
ADT 1241								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing **QC JOB #:** 16908556

SPECIFIC LOCATION: **DIRECTION:** NB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2	1	0		1			1	
01:00 AM		1	2	1		1			1	
02:00 AM		1	1	0		1			1	
03:00 AM		2	4	2		3			3	
04:00 AM		11	11	14		12			12	
05:00 AM		32	30	27		30			30	
06:00 AM		44	44	45		44			44	
07:00 AM		**97**	94	**92**		**94**			**94**	
08:00 AM		94	**101**	88		94			94	
09:00 AM		74	71	91		79			79	
10:00 AM		51	53	60		55			55	
11:00 AM		50	89	74		71			71	
12:00 PM		64	93	84		80			80	
01:00 PM		60	50	77		62			62	
02:00 PM		92	93	94		93			93	
03:00 PM		**119**	**142**	121		**127**			**127**	
04:00 PM		96	114	**125**		112			112	
05:00 PM		100	92	96		96			96	
06:00 PM		68	67	75		70			70	
07:00 PM		34	46	66		49			49	
08:00 PM		36	31	41		36			36	
09:00 PM		14	26	21		20			20	
10:00 PM		4	9	8		7			7	
11:00 PM		2	2	7		4			4	
Day Total		1148	1266	1309		1241			1241	
% Weekday Average		92.5%	102%	105.5%						
% Week Average		92.5%	102%	105.5%		100%				
AM Peak Volume		7:00 AM 97	8:00 AM 101	7:00 AM 92		7:00 AM 94			7:00 AM 94	
PM Peak Volume		3:00 PM 119	3:00 PM 142	4:00 PM 125		3:00 PM 127			3:00 PM 127	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	0	0	0	0	0	5
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	3	0	0	0	0	0	3
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	11	0	1	0	0	0	12
05:00 AM	0	42	0	1	0	0	0	43
06:00 AM	0	87	2	0	1	1	0	91
07:00 AM	0	153	**3**	3	0	**2**	0	161
08:00 AM	0	**160**	1	**8**	0	0	0	**169**
09:00 AM	0	127	0	2	1	1	0	131
10:00 AM	0	87	0	5	**2**	0	0	94
11:00 AM	0	107	0	4	1	0	0	112
12:00 PM	**3**	131	0	3	0	0	0	137
01:00 PM	0	113	0	4	**3**	0	0	120
02:00 PM	0	192	1	**6**	0	0	0	199
03:00 PM	1	**216**	**5**	2	0	0	0	**224**
04:00 PM	0	197	1	2	0	**1**	0	201
05:00 PM	0	216	2	2	0	0	0	220
06:00 PM	1	148	1	1	0	0	0	151
07:00 PM	0	111	0	0	0	0	0	111
08:00 PM	0	98	0	3	0	0	0	101
09:00 PM	0	40	0	1	0	0	0	41
10:00 PM	0	14	0	0	0	0	0	14
11:00 PM	0	9	0	0	0	0	0	9
Day Total	5	2273	16	48	8	5	0	2355
Percent	0.2%	96.5%	0.7%	2%	0.3%	0.2%	0%	
ADT 2355								
AM Peak	12:00 AM	8:00 AM	7:00 AM	8:00 AM	10:00 AM	7:00 AM	12:00 AM	8:00 AM
Volume	0	160	3	8	2	2	0	169
PM Peak	12:00 PM	3:00 PM	3:00 PM	2:00 PM	1:00 PM	4:00 PM	12:00 PM	3:00 PM
Volume	3	216	5	6	3	1	0	224

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	3	0	0	0	0	0	3
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	13	0	1	0	0	0	14
05:00 AM	0	44	0	1	0	0	0	45
06:00 AM	0	82	2	0	**2**	0	0	86
07:00 AM	0	146	**3**	**7**	2	0	0	158
08:00 AM	0	**170**	2	7	0	**2**	0	**181**
09:00 AM	0	121	0	7	0	0	0	128
10:00 AM	**1**	101	2	0	0	0	0	104
11:00 AM	1	155	1	6	0	0	0	163
12:00 PM	1	156	0	**8**	0	0	0	165
01:00 PM	1	114	0	3	0	0	0	118
02:00 PM	**2**	187	2	3	0	**1**	0	195
03:00 PM	0	230	**5**	4	0	1	0	**240**
04:00 PM	0	**231**	1	3	0	0	0	235
05:00 PM	0	202	1	4	0	0	0	207
06:00 PM	1	134	1	2	0	0	0	138
07:00 PM	0	119	0	0	0	0	0	119
08:00 PM	0	107	0	0	0	0	0	107
09:00 PM	0	71	0	1	0	0	0	72
10:00 PM	0	23	0	1	0	0	0	24
11:00 PM	0	10	0	0	0	0	0	10
Day Total	7	2431	20	58	4	4	0	2524
Percent	0.3%	96.3%	0.8%	2.3%	0.2%	0.2%	0%	
ADT 2524								
AM Peak	10:00 AM	8:00 AM	7:00 AM	7:00 AM	6:00 AM	8:00 AM	12:00 AM	8:00 AM
Volume	1	170	3	7	2	2	0	181
PM Peak	2:00 PM	4:00 PM	3:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	2	231	5	8	0	1	0	240

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	0	0	0	0	0	0	0
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	17	0	1	0	0	0	18
05:00 AM	0	38	0	1	0	0	0	39
06:00 AM	**1**	80	**2**	1	0	**1**	0	85
07:00 AM	0	141	2	3	0	0	0	146
08:00 AM	0	140	1	5	0	1	0	147
09:00 AM	1	**163**	1	**6**	0	0	0	**171**
10:00 AM	1	102	0	2	0	0	0	105
11:00 AM	0	129	0	6	**1**	1	0	137
12:00 PM	0	158	1	2	0	0	0	161
01:00 PM	0	143	0	**6**	0	**1**	0	150
02:00 PM	1	197	2	4	0	1	0	205
03:00 PM	**3**	210	**4**	5	0	0	0	222
04:00 PM	0	**247**	3	3	0	0	0	**253**
05:00 PM	0	205	1	2	0	0	0	208
06:00 PM	1	163	1	3	0	0	0	168
07:00 PM	1	156	0	1	0	0	0	158
08:00 PM	0	113	0	2	0	0	0	115
09:00 PM	0	66	0	0	0	0	**1**	67
10:00 PM	0	23	0	0	0	0	0	23
11:00 PM	0	12	0	0	0	0	0	12
Day Total	9	2510	18	53	1	5	1	2597
Percent	0.3%	96.6%	0.7%	2%	0%	0.2%	0%	
ADT 2597								
AM Peak	6:00 AM	9:00 AM	6:00 AM	9:00 AM	11:00 AM	6:00 AM	12:00 AM	9:00 AM
Volume	1	163	2	6	1	1	0	171
PM Peak	3:00 PM	4:00 PM	3:00 PM	1:00 PM	12:00 PM	1:00 PM	9:00 PM	4:00 PM
Volume	3	247	4	6	0	1	1	253

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
SPECIFIC LOCATION:
CITY/STATE: Liberty Lake, WA

QC JOB #: 16908556
DIRECTION: NB, SB
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	21	7214	54	159	13	14	1	7476
Percent	0.3%	96.5%	0.7%	2.1%	0.2%	0.2%	0%	
ADT 2492								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing **QC JOB #:** 16908556

SPECIFIC LOCATION: **DIRECTION:** NB, SB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		5	4	0		3			3	
01:00 AM		4	3	3		3			3	
02:00 AM		3	3	2		3			3	
03:00 AM		2	5	2		3			3	
04:00 AM		12	14	18		15			15	
05:00 AM		43	45	39		42			42	
06:00 AM		91	86	85		87			87	
07:00 AM		161	158	146		155			155	
08:00 AM		**169**	**181**	147		**166**			**166**	
09:00 AM		131	128	**171**		143			143	
10:00 AM		94	104	105		101			101	
11:00 AM		112	163	137		137			137	
12:00 PM		137	165	161		154			154	
01:00 PM		120	118	150		129			129	
02:00 PM		199	195	205		200			200	
03:00 PM		**224**	**240**	222		229			229	
04:00 PM		201	235	**253**		**230**			**230**	
05:00 PM		220	207	208		212			212	
06:00 PM		151	138	168		152			152	
07:00 PM		111	119	158		129			129	
08:00 PM		101	107	115		108			108	
09:00 PM		41	72	67		60			60	
10:00 PM		14	24	23		20			20	
11:00 PM		9	10	12		10			10	
Day Total		2355	2524	2597		2491			2491	
% Weekday Average		94.5%	101.3%	104.3%						
% Week Average		94.5%	101.3%	104.3%		100%				
AM Peak Volume		8:00 AM 169	8:00 AM 181	9:00 AM 171		8:00 AM 166			8:00 AM 166	
PM Peak Volume		3:00 PM 224	3:00 PM 240	4:00 PM 253		4:00 PM 230			4:00 PM 230	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	3	0	0	0	0	0	3
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	1	0	0	0	0	0	1
05:00 AM	0	11	0	0	0	0	0	11
06:00 AM	0	43	**2**	0	**1**	1	0	47
07:00 AM	0	59	1	2	0	**2**	0	64
08:00 AM	0	**72**	0	**3**	0	0	0	**75**
09:00 AM	0	55	0	0	1	1	0	57
10:00 AM	0	42	0	1	0	0	0	43
11:00 AM	0	58	0	3	1	0	0	62
12:00 PM	**1**	71	0	1	0	0	0	73
01:00 PM	0	56	0	2	**2**	0	0	60
02:00 PM	0	103	0	**4**	0	0	0	107
03:00 PM	1	103	1	0	0	0	0	105
04:00 PM	0	102	1	1	0	**1**	0	105
05:00 PM	0	**116**	**2**	2	0	0	0	**120**
06:00 PM	0	81	1	1	0	0	0	83
07:00 PM	0	77	0	0	0	0	0	77
08:00 PM	0	64	0	1	0	0	0	65
09:00 PM	0	26	0	1	0	0	0	27
10:00 PM	0	10	0	0	0	0	0	10
11:00 PM	0	7	0	0	0	0	0	7
Day Total	2	1165	8	22	5	5	0	1207
Percent	0.2%	96.5%	0.7%	1.8%	0.4%	0.4%	0%	
ADT 1207								
AM Peak	12:00 AM	8:00 AM	6:00 AM	8:00 AM	6:00 AM	7:00 AM	12:00 AM	8:00 AM
Volume	0	72	2	3	1	2	0	75
PM Peak	12:00 PM	5:00 PM	5:00 PM	2:00 PM	1:00 PM	4:00 PM	12:00 PM	5:00 PM
Volume	1	116	2	4	2	1	0	120

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	3	0	0	0	0	0	3
01:00 AM	0	1	0	0	0	0	0	1
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	3	0	0	0	0	0	3
05:00 AM	0	14	0	1	0	0	0	15
06:00 AM	0	38	**2**	0	**2**	0	0	42
07:00 AM	0	59	1	4	0	0	0	64
08:00 AM	0	**72**	1	5	0	**2**	0	**80**
09:00 AM	0	51	0	**6**	0	0	0	57
10:00 AM	**1**	48	2	0	0	0	0	51
11:00 AM	0	70	1	3	0	0	0	74
12:00 PM	1	66	0	**5**	0	0	0	72
01:00 PM	1	67	0	0	0	0	0	68
02:00 PM	**2**	97	0	2	0	**1**	0	102
03:00 PM	0	94	**1**	2	0	1	0	98
04:00 PM	0	**118**	1	2	0	0	0	**121**
05:00 PM	0	112	1	2	0	0	0	115
06:00 PM	1	68	1	1	0	0	0	71
07:00 PM	0	73	0	0	0	0	0	73
08:00 PM	0	76	0	0	0	0	0	76
09:00 PM	0	45	0	1	0	0	0	46
10:00 PM	0	14	0	1	0	0	0	15
11:00 PM	0	8	0	0	0	0	0	8
Day Total	6	1200	11	35	2	4	0	1258
Percent	0.5%	95.4%	0.9%	2.8%	0.2%	0.3%	0%	
ADT 1258								
AM Peak	10:00 AM	8:00 AM	6:00 AM	9:00 AM	6:00 AM	8:00 AM	12:00 AM	8:00 AM
Volume	1	72	2	6	2	2	0	80
PM Peak	2:00 PM	4:00 PM	3:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	4:00 PM
Volume	2	118	1	5	0	1	0	121

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	0	0	0	0	0	0	0
01:00 AM	0	2	0	0	0	0	0	2
02:00 AM	0	2	0	0	0	0	0	2
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	4	0	0	0	0	0	4
05:00 AM	0	12	0	0	0	0	0	12
06:00 AM	**1**	36	**2**	0	0	**1**	0	40
07:00 AM	0	52	1	1	0	0	0	54
08:00 AM	0	56	0	**3**	0	0	0	59
09:00 AM	0	**77**	0	3	0	0	0	**80**
10:00 AM	0	43	0	2	0	0	0	45
11:00 AM	0	58	0	3	**1**	1	0	63
12:00 PM	0	76	0	1	0	0	0	77
01:00 PM	0	68	0	**4**	0	**1**	0	73
02:00 PM	0	106	0	4	0	1	0	111
03:00 PM	0	98	1	2	0	0	0	101
04:00 PM	0	**124**	**3**	1	0	0	0	**128**
05:00 PM	0	110	1	1	0	0	0	112
06:00 PM	**1**	90	1	1	0	0	0	93
07:00 PM	0	91	0	1	0	0	0	92
08:00 PM	0	73	0	1	0	0	0	74
09:00 PM	0	46	0	0	0	0	0	46
10:00 PM	0	15	0	0	0	0	0	15
11:00 PM	0	5	0	0	0	0	0	5
Day Total	2	1244	9	28	1	4	0	1288
Percent	0.2%	96.6%	0.7%	2.2%	0.1%	0.3%	0%	
ADT 1288								
AM Peak	6:00 AM	9:00 AM	6:00 AM	8:00 AM	11:00 AM	6:00 AM	12:00 AM	9:00 AM
Volume	1	77	2	3	1	1	0	80
PM Peak	6:00 PM	4:00 PM	4:00 PM	1:00 PM	12:00 PM	1:00 PM	12:00 PM	4:00 PM
Volume	1	124	3	4	0	1	0	128

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing
QC JOB #: 16908556
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	10	3609	28	85	8	13	0	3753
Percent	0.3%	96.2%	0.7%	2.3%	0.2%	0.3%	0%	

ADT
1251



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 10. N Country Vista Blvd north of E Autumn Crossing **QC JOB #:** 16908556

SPECIFIC LOCATION: **DIRECTION:** SB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		3	3	0		2			2	
01:00 AM		3	1	2		2			2	
02:00 AM		2	2	2		2			2	
03:00 AM		0	1	0		0			0	
04:00 AM		1	3	4		3			3	
05:00 AM		11	15	12		13			13	
06:00 AM		47	42	40		43			43	
07:00 AM		64	64	54		61			61	
08:00 AM		**75**	**80**	59		**71**			**71**	
09:00 AM		57	57	**80**		65			65	
10:00 AM		43	51	45		46			46	
11:00 AM		62	74	63		66			66	
12:00 PM		73	72	77		74			74	
01:00 PM		60	68	73		67			67	
02:00 PM		107	102	111		107			107	
03:00 PM		105	98	101		101			101	
04:00 PM		105	**121**	**128**		**118**			**118**	
05:00 PM		**120**	115	112		116			116	
06:00 PM		83	71	93		82			82	
07:00 PM		77	73	92		81			81	
08:00 PM		65	76	74		72			72	
09:00 PM		27	46	46		40			40	
10:00 PM		10	15	15		13			13	
11:00 PM		7	8	5		7			7	
Day Total		1207	1258	1288		1252			1252	
% Weekday Average		96.4%	100.5%	102.9%						
% Week Average		96.4%	100.5%	102.9%		100%				
AM Peak Volume		8:00 AM 75	8:00 AM 80	9:00 AM 80		8:00 AM 71			8:00 AM 71	
PM Peak Volume		5:00 PM 120	4:00 PM 121	4:00 PM 128		4:00 PM 118			4:00 PM 118	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	8	0	0	0	0	0	8
05:00 AM	0	34	0	1	0	0	0	35
06:00 AM	0	57	**1**	4	1	0	0	63
07:00 AM	0	72	0	**8**	2	2	0	84
08:00 AM	0	90	0	8	2	**3**	0	103
09:00 AM	0	81	0	8	1	0	0	90
10:00 AM	0	70	0	4	**4**	2	0	80
11:00 AM	0	**122**	0	2	1	0	0	**125**
12:00 PM	0	129	0	**5**	1	**1**	0	136
01:00 PM	0	122	0	4	0	0	0	126
02:00 PM	0	180	**2**	2	**2**	0	0	186
03:00 PM	0	201	1	3	1	0	0	206
04:00 PM	0	198	0	1	1	0	0	200
05:00 PM	0	**207**	0	4	0	0	0	**211**
06:00 PM	**2**	129	0	2	0	0	0	133
07:00 PM	0	108	0	0	0	0	0	108
08:00 PM	0	82	0	1	0	0	0	83
09:00 PM	0	36	0	1	0	0	0	37
10:00 PM	0	17	0	0	0	0	0	17
11:00 PM	0	4	0	0	0	0	0	4
Day Total	2	1955	4	58	16	8	0	2043
Percent	0.1%	95.7%	0.2%	2.8%	0.8%	0.4%	0%	
ADT 2043								
AM Peak	12:00 AM	11:00 AM	6:00 AM	7:00 AM	10:00 AM	8:00 AM	12:00 AM	11:00 AM
Volume	0	122	1	8	4	3	0	125
PM Peak	6:00 PM	5:00 PM	2:00 PM	12:00 PM	2:00 PM	12:00 PM	12:00 PM	5:00 PM
Volume	2	207	2	5	2	1	0	211

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	4	0	0	0	0	0	4
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	0	0	0	0	0	0	0
03:00 AM	0	1	0	0	0	0	0	1
04:00 AM	0	7	0	0	0	0	0	7
05:00 AM	0	34	**1**	1	0	0	0	36
06:00 AM	0	60	1	1	0	0	0	62
07:00 AM	0	86	0	**7**	**2**	**2**	0	97
08:00 AM	0	87	1	6	0	1	0	95
09:00 AM	**1**	72	0	6	2	1	0	82
10:00 AM	0	102	0	4	2	2	0	110
11:00 AM	1	**126**	0	4	0	0	0	**131**
12:00 PM	0	133	0	2	0	1	0	136
01:00 PM	**2**	126	0	**9**	0	1	0	138
02:00 PM	1	156	**2**	1	0	1	0	161
03:00 PM	1	201	2	5	0	2	0	211
04:00 PM	2	**235**	0	1	0	**3**	0	**241**
05:00 PM	1	215	0	1	0	0	0	217
06:00 PM	1	155	0	0	0	0	0	156
07:00 PM	0	108	0	1	0	0	0	109
08:00 PM	0	109	0	0	0	1	0	110
09:00 PM	0	54	0	2	0	1	0	57
10:00 PM	0	13	0	0	0	0	0	13
11:00 PM	0	4	0	0	0	0	0	4
Day Total	10	2091	7	51	6	16	0	2181
Percent	0.5%	95.9%	0.3%	2.3%	0.3%	0.7%	0%	
ADT 2181								
AM Peak	9:00 AM	11:00 AM	5:00 AM	7:00 AM	7:00 AM	7:00 AM	12:00 AM	11:00 AM
Volume	1	126	1	7	2	2	0	131
PM Peak	1:00 PM	4:00 PM	2:00 PM	1:00 PM	12:00 PM	4:00 PM	12:00 PM	4:00 PM
Volume	2	235	2	9	0	3	0	241

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	1	0	0	0	0	0	1
03:00 AM	0	0	0	0	0	0	0	0
04:00 AM	0	9	0	0	0	0	0	9
05:00 AM	0	21	**1**	1	0	0	0	23
06:00 AM	0	54	0	4	0	0	0	58
07:00 AM	0	57	1	8	**1**	0	0	67
08:00 AM	0	99	1	6	0	1	0	107
09:00 AM	**1**	129	0	2	0	**2**	0	134
10:00 AM	1	81	0	**10**	0	0	0	92
11:00 AM	0	**134**	1	2	0	0	0	**137**
12:00 PM	0	145	0	**5**	**1**	1	0	152
01:00 PM	0	131	0	5	0	0	0	136
02:00 PM	3	166	**2**	2	0	0	0	173
03:00 PM	1	196	2	4	0	2	0	205
04:00 PM	1	**208**	0	1	0	**3**	0	**213**
05:00 PM	2	182	0	5	0	1	0	190
06:00 PM	**4**	170	0	1	0	0	0	175
07:00 PM	3	135	0	0	0	0	0	138
08:00 PM	0	105	0	0	0	0	0	105
09:00 PM	0	49	0	0	0	0	0	49
10:00 PM	0	16	0	0	0	0	0	16
11:00 PM	0	13	0	0	0	0	0	13
Day Total	16	2107	8	56	2	10	0	2199
Percent	0.7%	95.8%	0.4%	2.5%	0.1%	0.5%	0%	
ADT 2199								
AM Peak	9:00 AM	11:00 AM	5:00 AM	10:00 AM	7:00 AM	9:00 AM	12:00 AM	11:00 AM
Volume	1	134	1	10	1	2	0	137
PM Peak	6:00 PM	4:00 PM	2:00 PM	12:00 PM	12:00 PM	4:00 PM	12:00 PM	4:00 PM
Volume	4	208	2	5	1	3	0	213

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	28	6153	19	165	24	34	0	6423
Percent	0.4%	95.8%	0.3%	2.6%	0.4%	0.5%	0%	

ADT
2141



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd **QC JOB #:** 16908557

SPECIFIC LOCATION: **DIRECTION:** EB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	4	2		3			3	
01:00 AM		4	3	4		4			4	
02:00 AM		0	0	1		0			0	
03:00 AM		0	1	0		0			0	
04:00 AM		8	7	9		8			8	
05:00 AM		35	36	23		31			31	
06:00 AM		63	62	58		61			61	
07:00 AM		84	97	67		83			83	
08:00 AM		103	95	107		102			102	
09:00 AM		90	82	134		102			102	
10:00 AM		80	110	92		94			94	
11:00 AM		**125**	**131**	**137**		**131**			**131**	
12:00 PM		136	136	152		141			141	
01:00 PM		126	138	136		133			133	
02:00 PM		186	161	173		173			173	
03:00 PM		206	211	205		207			207	
04:00 PM		200	**241**	**213**		**218**			**218**	
05:00 PM		**211**	217	190		206			206	
06:00 PM		133	156	175		155			155	
07:00 PM		108	109	138		118			118	
08:00 PM		83	110	105		99			99	
09:00 PM		37	57	49		48			48	
10:00 PM		17	13	16		15			15	
11:00 PM		4	4	13		7			7	
Day Total		2043	2181	2199		2139			2139	
% Weekday Average		95.5%	102%	102.8%						
% Week Average		95.5%	102%	102.8%		100%				
AM Peak Volume		11:00 AM 125	11:00 AM 131	11:00 AM 137		11:00 AM 131			11:00 AM 131	
PM Peak Volume		5:00 PM 211	4:00 PM 241	4:00 PM 213		4:00 PM 218			4:00 PM 218	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	6	0	0	0	0	0	6
01:00 AM	0	8	0	0	0	0	0	8
02:00 AM	0	1	0	2	0	0	0	3
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	26	0	0	0	0	0	26
05:00 AM	0	85	1	2	0	0	0	88
06:00 AM	0	160	**3**	5	1	0	0	169
07:00 AM	0	**332**	2	11	**5**	2	0	**352**
08:00 AM	0	250	0	**12**	5	**4**	0	271
09:00 AM	0	203	0	12	2	0	0	217
10:00 AM	0	163	0	8	5	2	0	178
11:00 AM	0	260	0	7	4	0	0	271
12:00 PM	0	254	1	10	1	**2**	0	268
01:00 PM	0	221	0	9	0	0	0	230
02:00 PM	1	301	2	**11**	**5**	0	0	320
03:00 PM	**2**	**424**	**4**	8	2	1	0	**441**
04:00 PM	0	350	1	4	2	0	0	357
05:00 PM	0	353	2	7	0	0	0	362
06:00 PM	2	214	1	3	0	0	0	220
07:00 PM	0	174	0	0	0	0	0	174
08:00 PM	1	111	0	1	0	0	0	113
09:00 PM	0	57	0	1	0	0	0	58
10:00 PM	0	26	0	1	0	0	0	27
11:00 PM	0	8	0	0	0	0	0	8
Day Total	6	3992	17	114	32	11	0	4172
Percent	0.1%	95.7%	0.4%	2.7%	0.8%	0.3%	0%	
ADT 4172								
AM Peak	12:00 AM	7:00 AM	6:00 AM	8:00 AM	7:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	0	332	3	12	5	4	0	352
PM Peak	3:00 PM	3:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	2	424	4	11	5	2	0	441

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	10	0	0	0	0	0	10
01:00 AM	0	3	0	0	0	0	0	3
02:00 AM	0	0	0	1	0	0	0	1
03:00 AM	0	3	0	0	0	0	0	3
04:00 AM	0	23	0	0	0	0	0	23
05:00 AM	0	93	**3**	3	0	0	0	99
06:00 AM	0	168	3	1	0	0	0	172
07:00 AM	0	**343**	2	12	3	2	0	**362**
08:00 AM	0	252	1	8	1	1	0	263
09:00 AM	**3**	201	0	**17**	3	2	0	226
10:00 AM	1	215	0	7	**5**	**3**	0	231
11:00 AM	1	240	0	6	2	0	0	249
12:00 PM	0	237	1	6	0	1	0	245
01:00 PM	**3**	232	0	**15**	0	1	0	251
02:00 PM	3	289	2	7	**1**	1	0	303
03:00 PM	1	406	**5**	9	1	**3**	0	425
04:00 PM	3	**422**	1	3	0	3	0	**432**
05:00 PM	2	364	2	3	0	0	0	371
06:00 PM	1	262	1	1	0	0	0	265
07:00 PM	0	176	0	1	0	0	0	177
08:00 PM	1	176	0	0	0	1	0	178
09:00 PM	0	87	0	2	0	1	0	90
10:00 PM	0	21	0	0	0	0	0	21
11:00 PM	0	10	0	0	0	0	0	10
Day Total	19	4233	21	102	16	19	0	4410
Percent	0.4%	96%	0.5%	2.3%	0.4%	0.4%	0%	
ADT 4410								
AM Peak	9:00 AM	7:00 AM	5:00 AM	9:00 AM	10:00 AM	10:00 AM	12:00 AM	7:00 AM
Volume	3	343	3	17	5	3	0	362
PM Peak	1:00 PM	4:00 PM	3:00 PM	1:00 PM	2:00 PM	3:00 PM	12:00 PM	4:00 PM
Volume	3	422	5	15	1	3	0	432

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	5	0	0	0	0	0	5
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	2	0	1	0	0	0	3
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	32	0	0	0	0	0	32
05:00 AM	0	64	2	3	0	0	0	69
06:00 AM	1	136	2	6	0	0	0	145
07:00 AM	0	271	2	10	**2**	0	0	285
08:00 AM	0	**286**	**3**	10	0	1	0	**300**
09:00 AM	**3**	268	0	5	0	**2**	0	278
10:00 AM	1	210	0	**12**	0	0	0	223
11:00 AM	0	267	1	6	0	0	0	274
12:00 PM	0	282	0	8	**1**	1	0	292
01:00 PM	2	254	0	**12**	0	0	0	268
02:00 PM	3	309	2	9	0	0	0	323
03:00 PM	2	**418**	**6**	6	0	2	0	**434**
04:00 PM	3	378	1	6	0	**3**	0	391
05:00 PM	2	305	2	8	0	1	0	318
06:00 PM	**6**	288	1	1	0	0	0	296
07:00 PM	3	220	0	0	0	0	0	223
08:00 PM	0	161	0	2	0	0	0	163
09:00 PM	2	72	0	1	0	0	0	75
10:00 PM	0	28	0	0	0	0	0	28
11:00 PM	0	18	0	0	0	0	0	18
Day Total	28	4280	22	106	3	10	0	4449
Percent	0.6%	96.2%	0.5%	2.4%	0.1%	0.2%	0%	
ADT 4449								
AM Peak	9:00 AM	8:00 AM	8:00 AM	10:00 AM	7:00 AM	9:00 AM	12:00 AM	8:00 AM
Volume	3	286	3	12	2	2	0	300
PM Peak	6:00 PM	3:00 PM	3:00 PM	1:00 PM	12:00 PM	4:00 PM	12:00 PM	3:00 PM
Volume	6	418	6	12	1	3	0	434

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	53	12505	60	322	51	40	0	13031
Percent	0.4%	96%	0.5%	2.5%	0.4%	0.3%	0%	
ADT 4343								

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd **QC JOB #:** 16908557

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		6	10	5		7			7	
01:00 AM		8	3	4		5			5	
02:00 AM		3	1	3		2			2	
03:00 AM		5	3	2		3			3	
04:00 AM		26	23	32		27			27	
05:00 AM		88	99	69		85			85	
06:00 AM		169	172	145		162			162	
07:00 AM		**352**	**362**	285		**333**			**333**	
08:00 AM		271	263	**300**		278			278	
09:00 AM		217	226	278		240			240	
10:00 AM		178	231	223		211			211	
11:00 AM		271	249	274		265			265	
12:00 PM		268	245	292		268			268	
01:00 PM		230	251	268		250			250	
02:00 PM		320	303	323		315			315	
03:00 PM		**441**	425	**434**		**433**			**433**	
04:00 PM		357	**432**	391		393			393	
05:00 PM		362	371	318		350			350	
06:00 PM		220	265	296		260			260	
07:00 PM		174	177	223		191			191	
08:00 PM		113	178	163		151			151	
09:00 PM		58	90	75		74			74	
10:00 PM		27	21	28		25			25	
11:00 PM		8	10	18		12			12	
Day Total		4172	4410	4449		4340			4340	
% Weekday Average		96.1%	101.6%	102.5%						
% Week Average		96.1%	101.6%	102.5%		100%				
AM Peak Volume		7:00 AM 352	7:00 AM 362	8:00 AM 300		7:00 AM 333			7:00 AM 333	
PM Peak Volume		3:00 PM 441	4:00 PM 432	3:00 PM 434		3:00 PM 433			3:00 PM 433	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	2	0	0	0	0	0	2
01:00 AM	0	4	0	0	0	0	0	4
02:00 AM	0	1	0	2	0	0	0	3
03:00 AM	0	5	0	0	0	0	0	5
04:00 AM	0	18	0	0	0	0	0	18
05:00 AM	0	51	1	1	0	0	0	53
06:00 AM	0	103	**2**	1	0	0	0	106
07:00 AM	0	**260**	2	3	**3**	0	0	**268**
08:00 AM	0	160	0	4	3	**1**	0	168
09:00 AM	0	122	0	4	1	0	0	127
10:00 AM	0	93	0	4	1	0	0	98
11:00 AM	0	138	0	**5**	3	0	0	146
12:00 PM	0	125	1	5	0	**1**	0	132
01:00 PM	0	99	0	5	0	0	0	104
02:00 PM	1	121	0	**9**	**3**	0	0	134
03:00 PM	**2**	**223**	**3**	5	1	1	0	**235**
04:00 PM	0	152	1	3	1	0	0	157
05:00 PM	0	146	2	3	0	0	0	151
06:00 PM	0	85	1	1	0	0	0	87
07:00 PM	0	66	0	0	0	0	0	66
08:00 PM	1	29	0	0	0	0	0	30
09:00 PM	0	21	0	0	0	0	0	21
10:00 PM	0	9	0	1	0	0	0	10
11:00 PM	0	4	0	0	0	0	0	4
Day Total	4	2037	13	56	16	3	0	2129
Percent	0.2%	95.7%	0.6%	2.6%	0.8%	0.1%	0%	
ADT 2129								
AM Peak	12:00 AM	7:00 AM	6:00 AM	11:00 AM	7:00 AM	8:00 AM	12:00 AM	7:00 AM
Volume	0	260	2	5	3	1	0	268
PM Peak	3:00 PM	3:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	2	223	3	9	3	1	0	235

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 30 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	6	0	0	0	0	0	6
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	1	0	0	0	1
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	16	0	0	0	0	0	16
05:00 AM	0	59	**2**	2	0	0	0	63
06:00 AM	0	108	2	0	0	0	0	110
07:00 AM	0	**257**	2	5	1	0	0	**265**
08:00 AM	0	165	0	2	1	0	0	168
09:00 AM	**2**	129	0	**11**	1	**1**	0	144
10:00 AM	1	113	0	3	**3**	1	0	121
11:00 AM	0	114	0	2	2	0	0	118
12:00 PM	0	104	1	4	0	0	0	109
01:00 PM	1	106	0	**6**	0	0	0	113
02:00 PM	**2**	133	0	6	**1**	0	0	142
03:00 PM	0	**205**	**3**	4	1	**1**	0	**214**
04:00 PM	1	187	1	2	0	0	0	191
05:00 PM	1	149	2	2	0	0	0	154
06:00 PM	0	107	1	1	0	0	0	109
07:00 PM	0	68	0	0	0	0	0	68
08:00 PM	1	67	0	0	0	0	0	68
09:00 PM	0	33	0	0	0	0	0	33
10:00 PM	0	8	0	0	0	0	0	8
11:00 PM	0	6	0	0	0	0	0	6
Day Total	9	2142	14	51	10	3	0	2229
Percent	0.4%	96.1%	0.6%	2.3%	0.4%	0.1%	0%	
ADT 2229								
AM Peak	9:00 AM	7:00 AM	5:00 AM	9:00 AM	10:00 AM	9:00 AM	12:00 AM	7:00 AM
Volume	2	257	2	11	3	1	0	265
PM Peak	2:00 PM	3:00 PM	3:00 PM	1:00 PM	2:00 PM	3:00 PM	12:00 PM	3:00 PM
Volume	2	205	3	6	1	1	0	214

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
12:00 AM	0	3	0	0	0	0	0	3
01:00 AM	0	0	0	0	0	0	0	0
02:00 AM	0	1	0	1	0	0	0	2
03:00 AM	0	2	0	0	0	0	0	2
04:00 AM	0	23	0	0	0	0	0	23
05:00 AM	0	43	1	2	0	0	0	46
06:00 AM	1	82	**2**	2	0	0	0	87
07:00 AM	0	**214**	1	2	**1**	0	0	**218**
08:00 AM	0	187	2	**4**	0	0	0	193
09:00 AM	**2**	139	0	3	0	0	0	144
10:00 AM	0	129	0	2	0	0	0	131
11:00 AM	0	133	0	4	0	0	0	137
12:00 PM	0	137	0	3	0	0	0	140
01:00 PM	**2**	123	0	**7**	0	0	0	132
02:00 PM	0	143	0	7	0	0	0	150
03:00 PM	1	**222**	**4**	2	0	0	0	**229**
04:00 PM	2	170	1	5	0	0	0	178
05:00 PM	0	123	2	3	0	0	0	128
06:00 PM	2	118	1	0	0	0	0	121
07:00 PM	0	85	0	0	0	0	0	85
08:00 PM	0	56	0	2	0	0	0	58
09:00 PM	2	23	0	1	0	0	0	26
10:00 PM	0	12	0	0	0	0	0	12
11:00 PM	0	5	0	0	0	0	0	5
Day Total	12	2173	14	50	1	0	0	2250
Percent	0.5%	96.6%	0.6%	2.2%	0%	0%	0%	
ADT 2250								
AM Peak	9:00 AM	7:00 AM	6:00 AM	8:00 AM	7:00 AM	12:00 AM	12:00 AM	7:00 AM
Volume	2	214	2	4	1	0	0	218
PM Peak	1:00 PM	3:00 PM	3:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM
Volume	2	222	4	7	0	0	0	229

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Vehicle Classification Data

SUMMARY - Midblock Count - Vehicle Classification Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd
QC JOB #: 16908557
SPECIFIC LOCATION:
DIRECTION: WB
CITY/STATE: Liberty Lake, WA
DATE: Apr 29 2025 - May 1 2025

Start Time	FHWA 1	FHWA 2-3	FHWA 4	FHWA 5	FHWA 6-7	FHWA 8-10	FHWA 11-13	Total
Grand Total	25	6352	41	157	27	6	0	6608
Percent	0.4%	96.1%	0.6%	2.4%	0.4%	0.1%	0%	

ADT
2202



Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY

Type of report: Midblock Count - Volume Data

LOCATION: 11. E Mission Ave btwn N County Vista Blvd and N Molter Rd **QC JOB #:** 16908557

SPECIFIC LOCATION: **DIRECTION:** WB

CITY/STATE: Liberty Lake, WA **DATE:** Apr 29 2025 - May 1 2025

Start Time	Mon	Tue 29 Apr 25	Wed 30 Apr 25	Thu 1 May 25	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2	6	3		4			4	
01:00 AM		4	0	0		1			1	
02:00 AM		3	1	2		2			2	
03:00 AM		5	2	2		3			3	
04:00 AM		18	16	23		19			19	
05:00 AM		53	63	46		54			54	
06:00 AM		106	110	87		101			101	
07:00 AM		**268**	**265**	**218**		**250**			**250**	
08:00 AM		168	168	193		176			176	
09:00 AM		127	144	144		138			138	
10:00 AM		98	121	131		117			117	
11:00 AM		146	118	137		134			134	
12:00 PM		132	109	140		127			127	
01:00 PM		104	113	132		116			116	
02:00 PM		134	142	150		142			142	
03:00 PM		**235**	**214**	**229**		**226**			**226**	
04:00 PM		157	191	178		175			175	
05:00 PM		151	154	128		144			144	
06:00 PM		87	109	121		106			106	
07:00 PM		66	68	85		73			73	
08:00 PM		30	68	58		52			52	
09:00 PM		21	33	26		27			27	
10:00 PM		10	8	12		10			10	
11:00 PM		4	6	5		5			5	
Day Total		2129	2229	2250		2202			2202	
% Weekday Average		96.7%	101.2%	102.2%						
% Week Average		96.7%	101.2%	102.2%		100%				
AM Peak Volume		7:00 AM 268	7:00 AM 265	7:00 AM 218		7:00 AM 250			7:00 AM 250	
PM Peak Volume		3:00 PM 235	3:00 PM 214	3:00 PM 229		3:00 PM 226			3:00 PM 226	

Comments:

Report generated on 5/9/2025 3:42 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

TRUE DATA TO IMPROVE MOBILITY



Location: 2. N Kramer Pkwy -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908503

	2. N Kramer Pkwy Southbound			E Country Vista Dr Westbound			2. N Kramer Pkwy Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	1	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**1**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**



Location: 2. N Kramer Pkwy -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908504

	2. N Kramer Pkwy Southbound			E Country Vista Dr Westbound			2. N Kramer Pkwy Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	1	1	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 4. N Harvard Rd -- E Mission Ave
Date: 4/30/2025
Site Code: 16908507

	4. N Harvard Rd Southbound			E Mission Ave Westbound			4. N Harvard Rd Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**



Location: 4. N Harvard Rd -- E Mission Ave
Date: 4/30/2025
Site Code: 16908508

	4. N Harvard Rd Southbound			E Mission Ave Westbound			4. N Harvard Rd Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 5. N Harvard Rd -- I 90 WB On Ramps
Date: 4/30/2025
Site Code: 16908509

	5. N Harvard Rd Southbound			I 90 WB On Ramps Westbound			5. N Harvard Rd Northbound			I 90 WB On Ramps Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 5. N Harvard Rd -- I 90 WB On Ramps
Date: 4/30/2025
Site Code: 16908510

	5. N Harvard Rd Southbound			I 90 WB On Ramps Westbound			5. N Harvard Rd Northbound			I 90 WB On Ramps Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 6. N Liberty Lake Rd -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908511

	6. N Liberty Lake Rd Southbound			E Appleway Ave Westbound			6. N Liberty Lake Rd Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 6. N Liberty Lake Rd -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908512

	6. N Liberty Lake Rd Southbound			E Appleway Ave Westbound			6. N Liberty Lake Rd Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 7. N Liberty Lake Rd -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908513

	7. N Liberty Lake Rd Southbound			E Country Vista Dr Westbound			7. N Liberty Lake Rd Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	1	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	1	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	1	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 7. N Liberty Lake Rd -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908514

	7. N Liberty Lake Rd Southbound			E Country Vista Dr Westbound			7. N Liberty Lake Rd Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	1	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	2	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 8. E Mission Ave -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908515

	8. E Mission Ave Southbound			E Country Vista Dr Westbound			Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	1	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	1	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	1	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	1	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	1	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

TRUE DATA TO IMPROVE MOBILITY

Location: 8. E Mission Ave -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908516

	8. E Mission Ave Southbound			E Country Vista Dr Westbound			Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	1	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	1	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	1	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	1	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	1	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	1	0
Total	**1**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**6**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 9. N Signal Dr -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908517

	Southbound			E Appleway Ave Westbound			9. N Signal Dr Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 9. N Signal Dr -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908518

	Southbound			E Appleway Ave Westbound			9. N Signal Dr Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 10. N Madson St -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908519

	10. N Madson St Southbound			E Appleway Ave Westbound			10. N Madson St Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 10. N Madson St -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908520

	10. N Madson St Southbound			E Appleway Ave Westbound			10. N Madson St Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	1	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**



Location: 11. N Molter Rd -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908521

	11. N Molter Rd Southbound			E Appleway Ave Westbound			11. N Molter Rd Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 11. N Molter Rd -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908522

	11. N Molter Rd Southbound			E Appleway Ave Westbound			11. N Molter Rd Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	1	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 12. N Molter Rd -- E Mission Ave
Date: 4/30/2025
Site Code: 16908523

	12. N Molter Rd Southbound			E Mission Ave Westbound			12. N Molter Rd Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 12. N Molter Rd -- E Mission Ave
Date: 4/30/2025
Site Code: 16908524

	12. N Molter Rd Southbound			E Mission Ave Westbound			12. N Molter Rd Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	0
04:20 PM	0	1	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**1**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 14. N Country Vista Blvd -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908527

	Southbound			E Appleway Ave Westbound			14. N Country Vista Blvd Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	1	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 14. N Country Vista Blvd -- E Appleway Ave
Date: 4/30/2025
Site Code: 16908528

	Southbound			E Appleway Ave Westbound			14. N Country Vista Blvd Northbound			E Appleway Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	1	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 15. N Country Vista Dr -- E Mission Ave
Date: 4/30/2025
Site Code: 16908529

	15. N Country Vista Dr Southbound			E Mission Ave Westbound			15. N Country Vista Dr Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	1	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	1	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	1
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	1	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**

TRUE DATA TO IMPROVE MOBILITY

Location: 15. N Country Vista Dr -- E Mission Ave
Date: 4/30/2025
Site Code: 16908530

	15. N Country Vista Dr Southbound			E Mission Ave Westbound			15. N Country Vista Dr Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	1	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	1	0
04:40 PM	0	0	0	0	0	0	0	1	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	1	0	0	0	0	0	0	0	0	0	1	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	1	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**1**	**1**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**2**	**1**

TRUE DATA TO IMPROVE MOBILITY

Location: 16. N Molter Rd -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908531

	16. N Molter Rd Southbound			E Country Vista Dr Westbound			16. N Molter Rd Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	1	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	1	1	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	1	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	1	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	1	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	1	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	1	0	0	0	0	0
08:50 AM	0	0	0	0	1	0	0	0	1	0	0	0
08:55 AM	0	0	0	0	1	0	0	0	0	0	0	0
Total	**1**	**0**	**0**	**0**	**3**	**0**	**2**	**0**	**1**	**2**	**2**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 16. N Molter Rd -- E Country Vista Dr
Date: 4/30/2025
Site Code: 16908532

	16. N Molter Rd Southbound			E Country Vista Dr Westbound			16. N Molter Rd Northbound			E Country Vista Dr Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0
04:20 PM	1	0	0	0	1	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	1	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	1	0	0
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	1	1	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	1	0	0	1	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	0
05:20 PM	0	2	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	0	0	0	0
05:35 PM	0	0	0	0	1	0	1	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	1	0	1	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**1**	**2**	**1**	**0**	**4**	**2**	**2**	**2**	**1**	**2**	**1**	**2**

TRUE DATA TO IMPROVE MOBILITY

Location: 17. N Molter Rd -- E Sprague Ave
Date: 4/30/2025
Site Code: 16908533

	17. N Molter Rd Southbound			E Sprague Ave Westbound			17. N Molter Rd Northbound			E Sprague Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	1	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	1	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 17. N Molter Rd -- E Sprague Ave
Date: 4/30/2025
Site Code: 16908534

	17. N Molter Rd Southbound			E Sprague Ave Westbound			17. N Molter Rd Northbound			E Sprague Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	1	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	1	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	1	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	1	0	0	0	0
05:10 PM	0	0	0	0	0	0	1	0	0	0	1	0
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	1	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**2**	**0**



Location: 18. N Kramer Pkwy -- E Mission Ave
Date: 4/30/2025
Site Code: 16908535

	Southbound			E Mission Ave Westbound			18. N Kramer Pkwy Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	1	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 18. N Kramer Pkwy -- E Mission Ave
Date: 4/30/2025
Site Code: 16908536

	Southbound			E Mission Ave Westbound			18. N Kramer Pkwy Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	1	0	0
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 21. N Signal Dr -- E Mission Ave
Date: 4/30/2025
Site Code: 16908541

	21. N Signal Dr Southbound			E Mission Ave Westbound			21. N Signal Dr Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	1	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 21. N Signal Dr -- E Mission Ave
Date: 4/30/2025
Site Code: 16908542

	21. N Signal Dr Southbound			E Mission Ave Westbound			21. N Signal Dr Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 22. N Madson St -- E Mission Ave
Date: 4/30/2025
Site Code: 16908543

	22. N Madson St Southbound			E Mission Ave Westbound			Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	1	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:05 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:10 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:20 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:25 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:35 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:40 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:50 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

TRUE DATA TO IMPROVE MOBILITY

Location: 22. N Madson St -- E Mission Ave
Date: 4/30/2025
Site Code: 16908544

	22. N Madson St Southbound			E Mission Ave Westbound			Northbound			E Mission Ave Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	1	0	0	0	0	0	0	0	0	0
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:55 PM	0	0	0	0	1	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

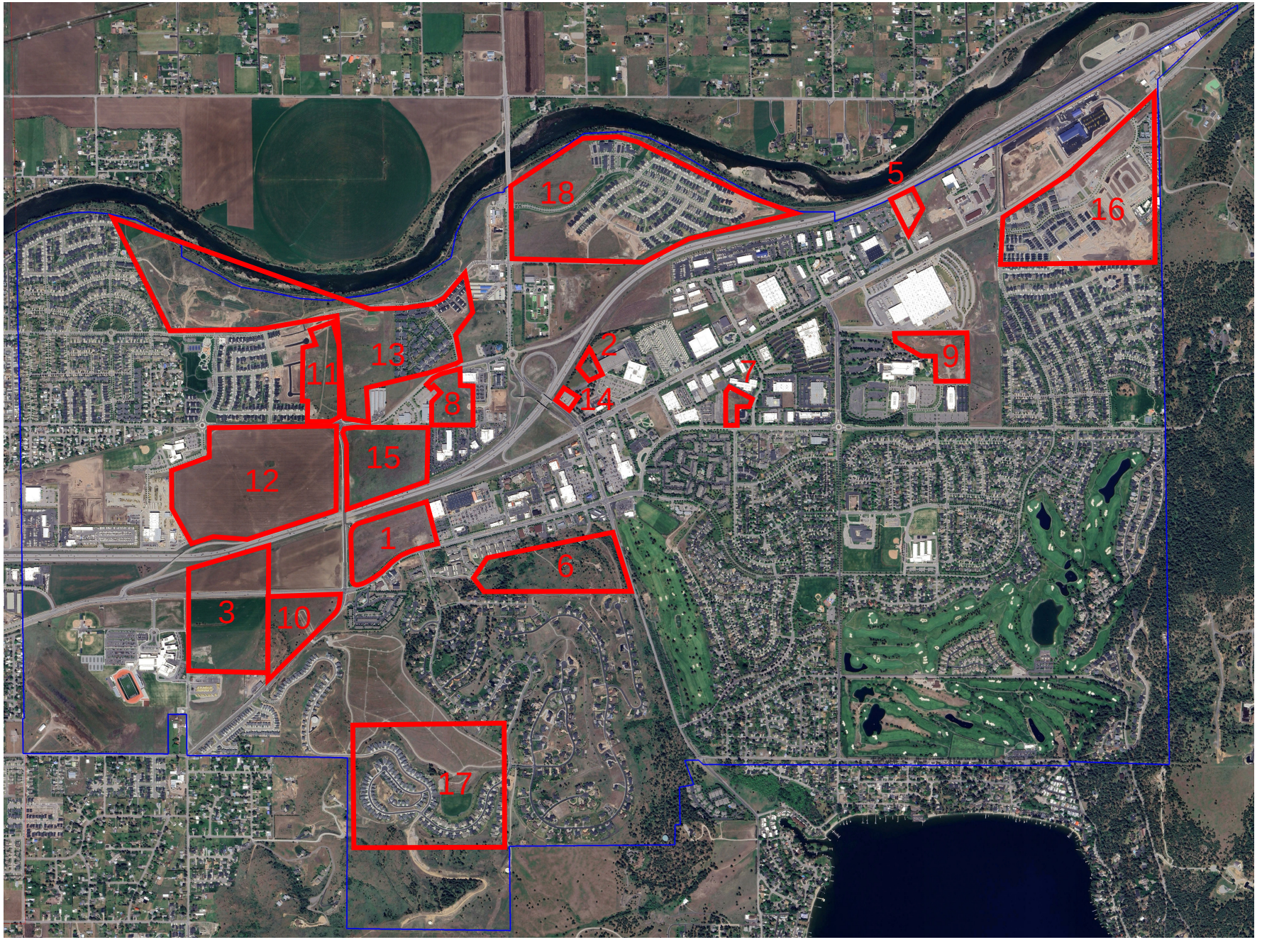
Appendix B

Short-Term Growth Information

	Development	Portion Complete by 2028	Sq Ft (1,000)	Units	ITE Land Use	ITE Code	ITE Rate			Directional Split %				Build out Adjustment	Generated Trips									
										AM		PM			AM			PM			Daily			
							AM	PM	Daily	Enter	Exit	Enter	Exit		In	Out	Total	In	Out	Total	In	Out	Total	
1	Top Golf	All				Various	-	-	-	-	-	-	-		153	107	260	232	232	464	2,887	2,887	5,774	*
2	HA Commerce Center	All																						*
	Warehousing		48.4		Warehousing	150	0.17	0.18	1.71	0.77	0.23	0.28	0.72		6	2	8	2	7	9	41	42	83	*
	Business Hotel			100		312	0.36	0.31	4.02	0.39	0.61	0.55	0.45		14	22	36	17	14	31	201	201	402	*
	General Office Building		12.1			710	1.52	1.44	10.84	0.88	0.12	0.17	0.83		16	2	18	3	14	17	66	65	131	*
	Total		-	-	-	-	-	-	-	-	-	-	-	-	36	26	62	22	35	57	308	308	616	*
3	Centennial County Vista BSP	Residential Only		1176	Multi-Family Housing	220	0.4	0.51	6.74	0.24	0.76	0.63	0.37	50%	56	179	235	189	111	300	1,982	1,981	3,963	**
5	Horman Warehouse	All		15	Warehousing	150	-	-	-	0.72	0.28	0.36	0.64		9	4	13	4	6	10	47	48	97	*
6	Legacy Ridge Mixed Use (Jakes Townhomes)	Residential Only		560	Multi-Family Housing	220	-	-	-	0.24	0.76	0.63	0.37		47	150	197	165	97	262	1,832	1,832	3,664	*
7	Legacy Church	All	20.5		Church	560	0.32	0.49	7.6	0.62	0.38	0.44	0.56		4	3	7	4	6	10	78	78	156	*
8	RCW Truck Sales	All	47		Recreational Vehicle Sales	842	0.85	0.77	5	0.54	0.46	0.37	0.63		22	18	40	13	23	36	118	117	235	*
9	Signal Apartments	All		240	Multi-Family Housing	220	-	-	-	0.24	0.76	0.63	0.37		27	86	113	86	51	137	809	809	1,618	*
10	Neighborly development (Stanley)	Residential Only		288	Multi-Family Housing	220	-	-	-	0.24	0.76	0.63	0.37		27	85	112	91	53	144	961	960	1,921	*
11	River Crossing 3rd Addition	105 Homes		105	Single-Family Housing	210	0.7	0.94	9.43	0.25	0.75	0.63	0.37		19	55	74	62	37	99	495	495	990	**
12	Telido Station	Residential Only																						*
	Single-Family Housing			96	Single-Family Housing	215	-	-	-	0.25	0.75	0.61	0.39	50%	6	16	22	16	11	27	171	170	341	*
	Multi-Family Housing			648	Multi-Family Housing	220	-	-	-	0.24	0.76	0.63	0.37	50%	30	93	123	101	59	160	1,076	1,076	2,152	*
	Total		-	-	-	-	-	-	-	-	-	-	-	-	36	109	145	117	70	187	1,247	1,246	2,493	*
13	River Crossing East and River Crossing 2020	105 Homes		105	Single-Family Housing	210	0.7	0.94	9.43	0.25	0.75	0.63	0.37		19	55	74	62	37	99	495	495	990	**
14	Car Wash	All		1	Automated Car Wash	948	25.83	77.5	387.5	0.5	0.5	0.5	0.5		13	13	26	39	39	78	194	194	388	**
16	Lennar	275 Homes (Mix of SF and condos)																						**
	Single-Family Housing			95	Single-Family Housing	210	0.7	0.94	9.43	0.25	0.75	0.63	0.37		17	50	67	56	33	89	448	448	896	**
	Multi-Family Housing			180	Multi-Family Housing	220	0.4	0.51	6.74	0.24	0.76	0.63	0.37		17	55	72	58	34	92	607	606	1,213	**
	Total		-	-	-	-	-	-	-	-	-	-	-	-	34	105	139	114	67	181	1,055	1,054	2,109	**
17	Legacy Ridge West	68 Homes (All SF)		68		210	0.7	0.94	9.43	0.25	0.75	0.63	0.37		12	36	48	40	24	64	321	320	641	**
18	Truitina	105 Homes (mix of SF and condos)																						**
	Single-Family Housing			55	Single-Family Housing	210	0.7	0.94	9.43	0.25	0.75	0.63	0.37		10	29	39	33	19	52	260	259	519	**
	Multi-Family Housing			50	Multi-Family Housing	220	0.4	0.51	6.74	0.24	0.76	0.63	0.37		5	15	20	16	10	26	169	168	337	**
	Total		-	-	-	-	-	-	-	-	-	-	-	-	15	44	59	49	29	78	429	427	856	**

*From memo from City

** Parametrix calculation


18
5
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Appendix C

Travel Demand Modeling

Appendix: Travel Demand Model

2024 Travel Demand Model Refinement

This section summarizes the changes made to the 2022 SRTC Model.

To get the granular analysis data for the City of Liberty Lake we sub-divided the TAZs 4421, and 4460. This is shown in Table 1. The number of households and employees in the TAZs were adjusted to get the correct household and employment distribution from 2022 to 2024. In the network adjustment, Kramer Parkway bridge over I-90 was added in the network. Number of centroid connectors were added and adjusted to represent the sub-divided TAZs.

Table 1: 2024 Land Use Summary

	2022 Original SRTC Model		2024 Land Capacity Analysis Information	
TAZ	Households	Employees	Households	Employees
4421	3	1129	3	1129
4421A	0	0	0	100
4421B	0	0	0	0
4422C	3	1129	3	1029
4422	916	203	1026	203
4450	1284	477	1284	477
4460	309	5240	446	5240
4460A	309	23	446	23
4460B	0	1164	0	1164
4460C	0	793	0	793
4460D	0	1630	0	1630
4460E	0	1630	0	1630
4470	75	279	75	279
4480	1082	149	1247	149
4490	800	39	937	39
4500	800	205	800	205

2046 Travel Demand Model Refinement

Parametrix worked with the city staff to get the correct growth in the land use scenario of the City of Liberty Lake. First the SRTC model land use inputs were interpolated to get 2046 data. This data was revised based on the growth assumptions from the City of Liberty Lake. The future land use is shown in Table 2. The network was edited to include number of

centroid connectors to represent correct demand in each sub-divided TAZs. The centroid connectors were also edited to update the weight on these connectors to re-run the model. This weight difference helped to adjust the number of trips loaded on the network based on the new sub-divided TAZs.

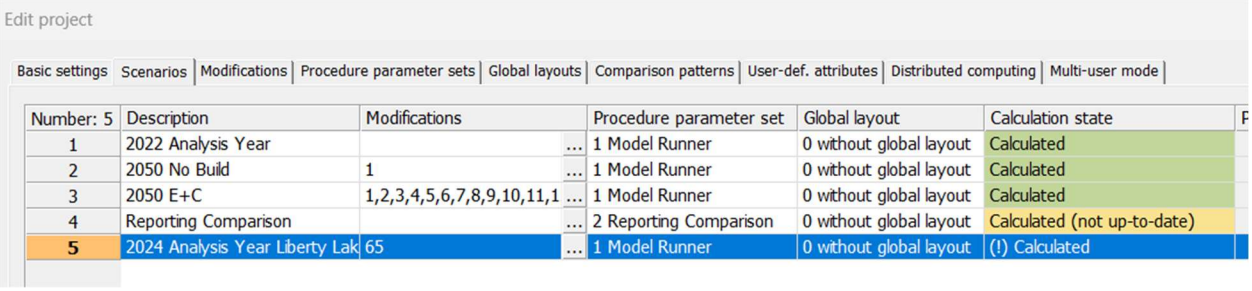
Table 1: 2046 Land Use Summary

	2046 Land Capacity Analysis Information		2050 SRTC Model	
TAZ	Households	Employees	Households	Employees
4421	802	3602	802	1636
4421A	329	725	329	1169
4421B	86	1171	86	0
4422C	387	1705	387	467
4422	2638	702	2638	333
4450	1623	477	1623	652
4460	1096	7474	1096	5798
4460A	1096	849	1096	980
4460B	0	1473	0	1069
4460C	0	1228	0	866
4460D	0	1652	0	1395
4460E	0	2273	0	1488
4470	76	1499	76	282
4480	2111	760	2111	216
4490	1305	39	1305	72
4500	1031	205	1031	245

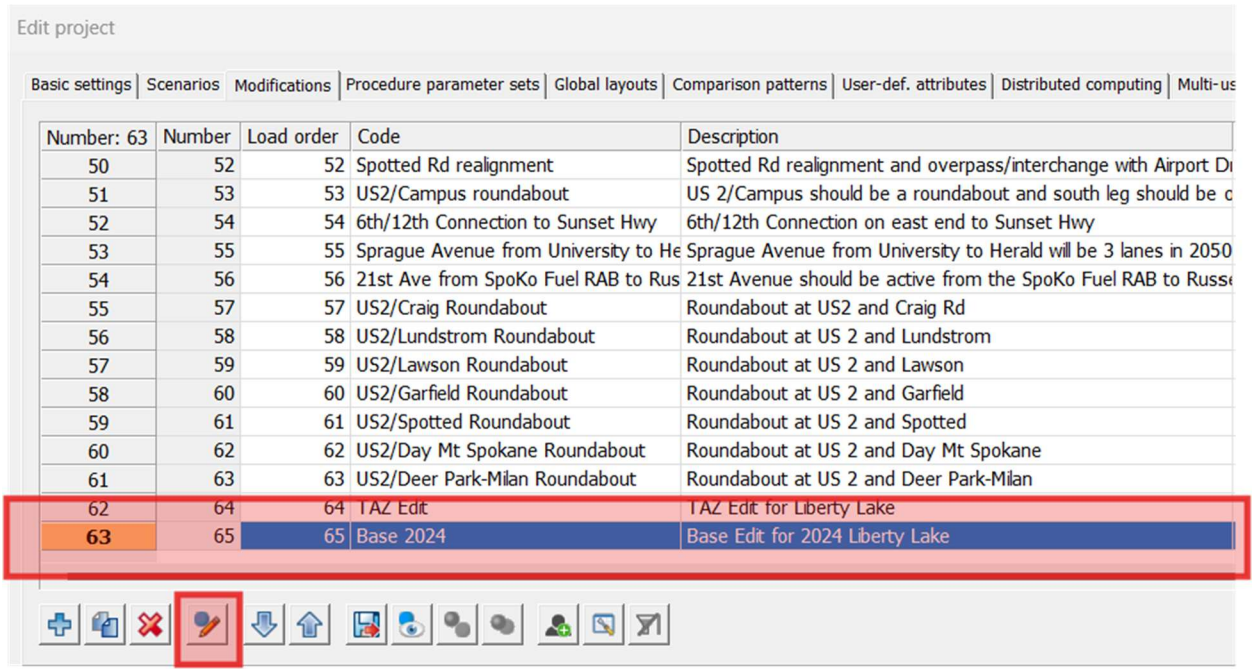
Model edit and run steps

Following section defines the steps taken to edit the SRTC Visum model and run it.

1) Set up a new scenario in the scenario window. Add modifications created in the following step in it.

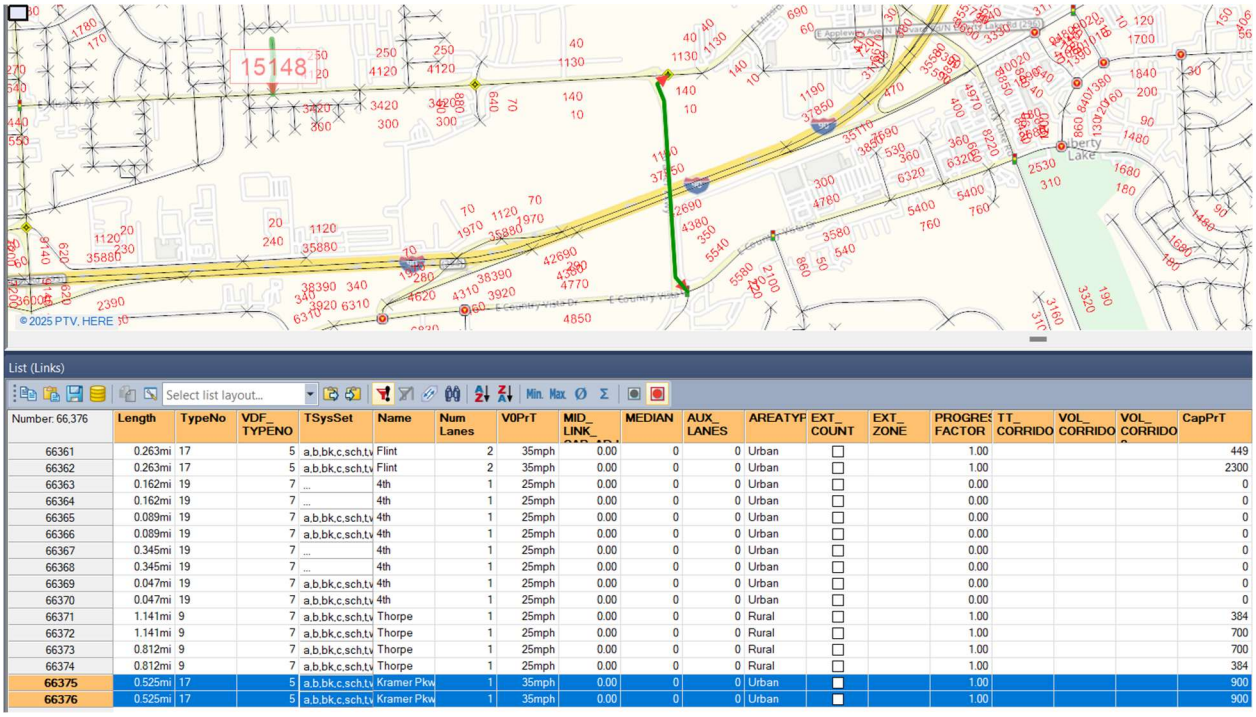


2) Create modifications in the Modifications window. Use edit button to edit the modifications.



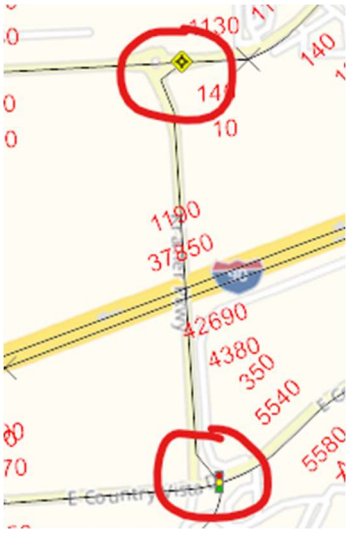
Number: 63	Number	Load order	Code	Description
50	52	52	Spotted Rd realignment	Spotted Rd realignment and overpass/interchange with Airport Dı
51	53	53	US2/Campus roundabout	US 2/Campus should be a roundabout and south leg should be c
52	54	54	6th/12th Connection to Sunset Hwy	6th/12th Connection on east end to Sunset Hwy
53	55	55	Sprague Avenue from University to He	Sprague Avenue from University to Herald will be 3 lanes in 2050
54	56	56	21st Ave from SpoKo Fuel RAB to Rus	21st Avenue should be active from the SpoKo Fuel RAB to Russe
55	57	57	US2/Craig Roundabout	Roundabout at US2 and Craig Rd
56	58	58	US2/Lundstrom Roundabout	Roundabout at US 2 and Lundstrom
57	59	59	US2/Lawson Roundabout	Roundabout at US 2 and Lawson
58	60	60	US2/Garfield Roundabout	Roundabout at US 2 and Garfield
59	61	61	US2/Spotted Roundabout	Roundabout at US 2 and Spotted
60	62	62	US2/Day Mt Spokane Roundabout	Roundabout at US 2 and Day Mt Spokane
61	63	63	US2/Deer Park-Milan Roundabout	Roundabout at US 2 and Deer Park-Milan
62	64	64	TAZ Edit	TAZ Edit for Liberty Lake
63	65	65	Base 2024	Base Edit for 2024 Liberty Lake

3) Base 2024 version edit
Added Kramer Pkwy



	Length	TypeNo	VDF_ TYPENO	TSysSet	Name	Num Lanes	V0PrT	MID_ LINK_	MEDIAN	AUX_ LANES	AREATYP	EXT_ COUNT	EXT_ ZONE	PROGRES FACTOR	TT_ CORRIDO	VOL_ CORRIDO	VOL_ CORRIDO	CapPrT
66361	0.263mi	17	5	a,b,bk,c,sch,tv	Flint	2	35mph	0.00	0	0	Urban	☐		1.00				449
66362	0.263mi	17	5	a,b,bk,c,sch,tv	Flint	2	35mph	0.00	0	0	Urban	☐		1.00				2300
66363	0.162mi	19	7	...	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66364	0.162mi	19	7	...	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66365	0.089mi	19	7	a,b,bk,c,sch,tv	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66366	0.089mi	19	7	a,b,bk,c,sch,tv	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66367	0.345mi	19	7	...	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66368	0.345mi	19	7	...	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66369	0.047mi	19	7	a,b,bk,c,sch,tv	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66370	0.047mi	19	7	a,b,bk,c,sch,tv	4th	1	25mph	0.00	0	0	Urban	☐		0.00				0
66371	1.141mi	9	7	a,b,bk,c,sch,tv	Thorpe	1	25mph	0.00	0	0	Rural	☐		1.00				384
66372	1.141mi	9	7	a,b,bk,c,sch,tv	Thorpe	1	25mph	0.00	0	0	Rural	☐		1.00				700
66373	0.812mi	9	7	a,b,bk,c,sch,tv	Thorpe	1	25mph	0.00	0	0	Rural	☐		1.00				700
66374	0.812mi	9	7	a,b,bk,c,sch,tv	Thorpe	1	25mph	0.00	0	0	Rural	☐		1.00				384
66375	0.525mi	17	5	a,b,bk,c,sch,tv	Kramer Pkw	1	35mph	0.00	0	0	Urban	☐		1.00				900
66376	0.525mi	17	5	a,b,bk,c,sch,tv	Kramer Pkw	1	35mph	0.00	0	0	Urban	☐		1.00				900

4) Edited intersections at Kramer Pkwy to match current configuration of Roundabout in north and signalized intersection in south.

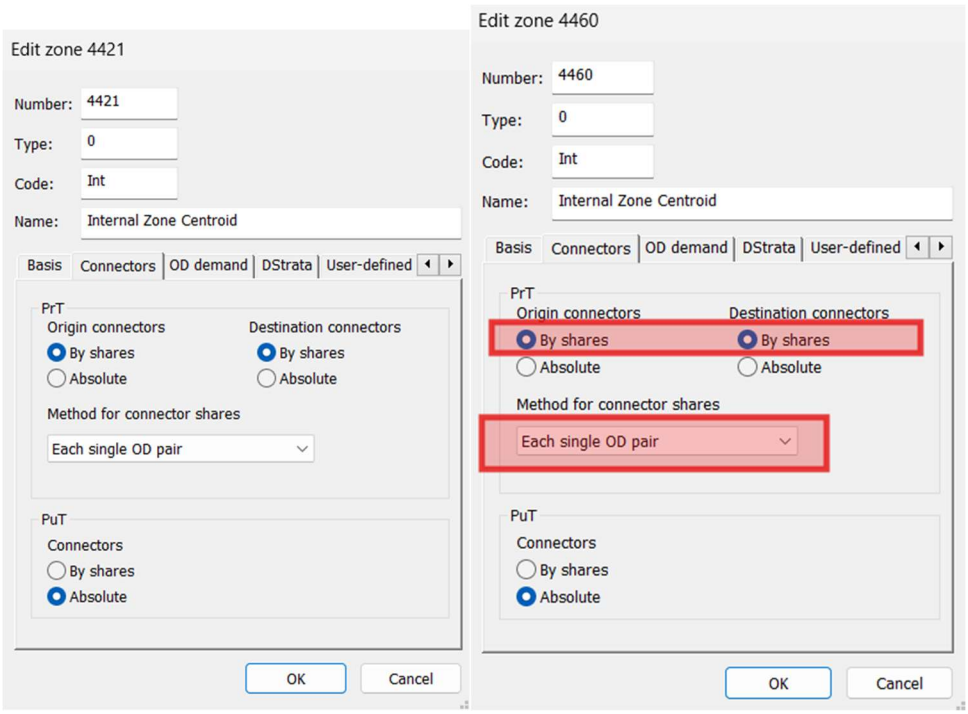


5) Edited the land use values in the Zones (TAZ) list.

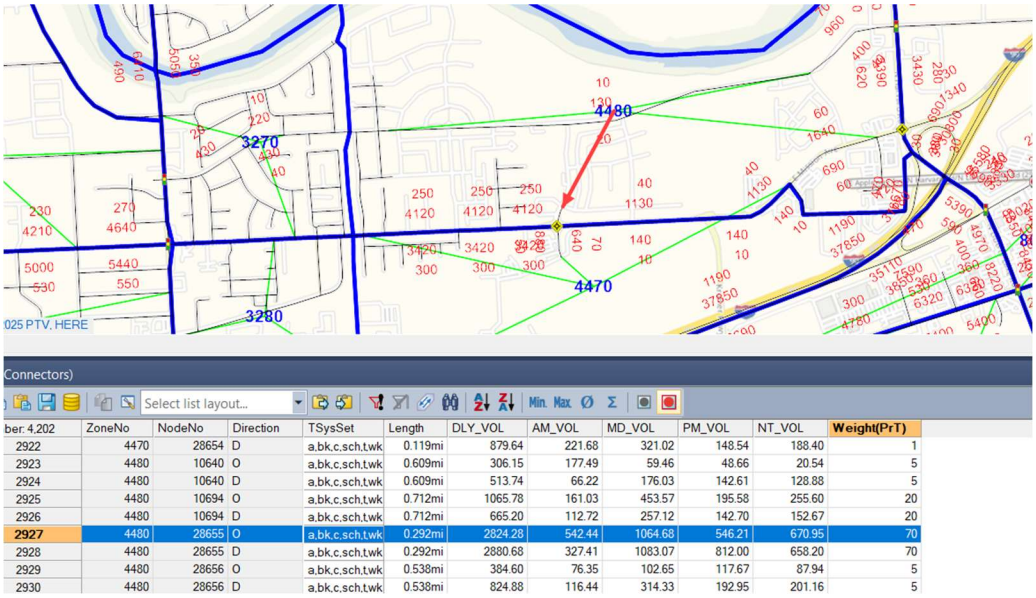
Keeping employment values constant, only altering HH values.

6) For Base and Future Versions – Pseudo Split

Edit TAZ 4421 and 4460 with allowing connector share based on Each single OD pair. And PrT based on By shares.



7) Edit connector weight based on percentage of the household and employment numbers



ber: 4,202	ZoneNo	NodeNo	Direction	TSysSet	Length	DLY_VOL	AM_VOL	MD_VOL	PM_VOL	NT_VOL	Weight(PrT)
2922	4470	28654	D	a,bk,c,sch,twk	0.119mi	879.64	221.68	321.02	148.54	188.40	1
2923	4480	10640	O	a,bk,c,sch,twk	0.609mi	306.15	177.49	59.46	48.66	20.54	5
2924	4480	10640	D	a,bk,c,sch,twk	0.609mi	513.74	66.22	176.03	142.61	128.88	5
2925	4480	10694	O	a,bk,c,sch,twk	0.712mi	1065.78	161.03	453.57	195.58	255.60	20
2926	4480	10694	D	a,bk,c,sch,twk	0.712mi	665.20	112.72	257.12	142.70	152.67	20
2927	4480	28655	O	a,bk,c,sch,twk	0.292mi	2824.28	542.44	1064.68	546.21	670.95	70
2928	4480	28655	D	a,bk,c,sch,twk	0.292mi	2880.68	327.41	1083.07	812.00	658.20	70
2929	4480	28656	O	a,bk,c,sch,twk	0.538mi	384.60	76.35	102.65	117.67	87.94	5
2930	4480	28656	D	a,bk,c,sch,twk	0.538mi	824.88	116.44	314.33	192.95	201.16	5

	2022 Original SRTC Model		2024 Land Capacity Analysis Information			2046 Land Capacity Analysis Information		2050 SRTC Model	
TAZ	Households	Employees	Households	Employees	TAZ	Households	Employees	Households	Employees
4421	3	1129	3	1129	4421	802	3602	802	1636
4421A	0	0	0	100	4421A	329	725	329	1169
4421B	0	0	0	0	4421B	86	1171	86	0
4422C	3	1129	3	1029	4422C	387	1705	387	467
4422	916	203	1026	203	4422	2638	702	2638	333
4450	1284	477	1284	477	4450	1623	477	1623	652
4460	309	5240	446	5240	4460	1096	7474	1096	5798
4460A	309	23	446	23	4460A	1096	849	1096	980
4460B	0	1164	0	1164	4460B	0	1473	0	1069
4460C	0	793	0	793	4460C	0	1228	0	866
4460D	0	1630	0	1630	4460D	0	1652	0	1395
4460E	0	1630	0	1630	4460E	0	2273	0	1488
4470	75	279	75	279	4470	76	1499	76	282
4480	1082	149	1247	149	4480	2111	760	2111	216
4490	800	39	937	39	4490	1305	39	1305	72
4500	800	205	800	205	4500	1031	205	1031	245

Appendix D

Existing Conditions Analysis Results (2025)

AM Peak Hour

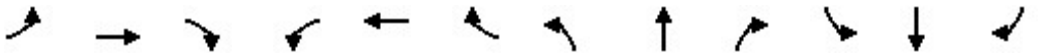
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	142	528	543	55	26	105
Future Vol, veh/h	142	528	543	55	26	105
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	6	5	6	2	0	3
Mvmt Flow	180	668	687	70	33	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	758	0	-	0	1417	380
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	694	-
Critical Hdwy	4.22	-	-	-	6.8	6.96
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.26	-	-	-	3.5	3.33
Pot Cap-1 Maneuver	823	-	-	-	130	615
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	462	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	822	-	-	-	101	614
Mov Cap-2 Maneuver	-	-	-	-	226	-
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	462	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	822	-	-	-	226	614
HCM Lane V/C Ratio	0.219	-	-	-	0.146	0.216
HCM Control Delay (s)	10.6	-	-	-	23.6	12.5
HCM Lane LOS	B	-	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.5	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	339	23	56	559	75	101	77	152	79	29	133
Future Volume (veh/h)	64	339	23	56	559	75	101	77	152	79	29	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1900	1870	1841	1900	1900	1856	1885	1856	1856	1870
Adj Flow Rate, veh/h	83	440	30	73	726	97	131	100	197	103	38	173
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	7	0	2	4	0	0	3	1	3	3	2
Cap, veh/h	300	1088	74	424	1030	138	398	133	261	318	65	294
Arrive On Green	0.05	0.34	0.34	0.05	0.33	0.33	0.08	0.24	0.24	0.07	0.22	0.22
Sat Flow, veh/h	1767	3243	220	1781	3101	414	1810	558	1100	1767	291	1326
Grp Volume(v), veh/h	83	231	239	73	409	414	131	0	297	103	0	211
Grp Sat Flow(s),veh/h/ln	1767	1706	1757	1781	1749	1766	1810	0	1658	1767	0	1617
Q Serve(g_s), s	1.7	6.0	6.0	1.5	11.7	11.7	3.1	0.0	9.6	2.5	0.0	6.7
Cycle Q Clear(g_c), s	1.7	6.0	6.0	1.5	11.7	11.7	3.1	0.0	9.6	2.5	0.0	6.7
Prop In Lane	1.00		0.13	1.00		0.23	1.00		0.66	1.00		0.82
Lane Grp Cap(c), veh/h	300	572	589	424	581	587	398	0	394	318	0	359
V/C Ratio(X)	0.28	0.40	0.41	0.17	0.70	0.71	0.33	0.00	0.75	0.32	0.00	0.59
Avail Cap(c_a), veh/h	533	757	779	664	776	784	581	0	735	525	0	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	14.7	14.7	11.8	16.7	16.7	15.5	0.0	20.4	16.2	0.0	20.0
Incr Delay (d2), s/veh	0.7	0.7	0.6	0.3	2.5	2.5	0.7	0.0	4.2	0.8	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	3.9	4.0	1.0	8.1	8.1	2.2	0.0	6.9	1.8	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	15.3	15.3	12.1	19.2	19.2	16.2	0.0	24.5	17.0	0.0	22.2
LnGrp LOS	B	B	B	B	B	B	B	A	C	B	A	C
Approach Vol, veh/h		553			896			428			314	
Approach Delay, s/veh		15.1			18.7			22.0			20.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	23.8	9.2	17.3	7.4	23.6	8.3	18.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	10.5	25.5	10.5	25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s	3.5	8.0	5.1	8.7	3.7	13.7	4.5	11.6
Green Ext Time (p_c), s	0.1	3.6	0.2	1.5	0.1	5.4	0.2	2.1

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	546	38	35	592	89	47
Future Volume (veh/h)	546	38	35	592	89	47
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1781	1856	1841	1885	1900
Adj Flow Rate, veh/h	620	43	40	673	101	53
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	8	3	4	1	0
Cap, veh/h	1320	91	512	2062	185	166
Arrive On Green	0.40	0.40	0.04	0.59	0.10	0.10
Sat Flow, veh/h	3410	230	1767	3589	1795	1610
Grp Volume(v), veh/h	326	337	40	673	101	53
Grp Sat Flow(s),veh/h/ln	1749	1799	1767	1749	1795	1610
Q Serve(g_s), s	4.0	4.1	0.3	2.9	1.6	0.9
Cycle Q Clear(g_c), s	4.0	4.1	0.3	2.9	1.6	0.9
Prop In Lane		0.13	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	696	716	512	2062	185	166
V/C Ratio(X)	0.47	0.47	0.08	0.33	0.55	0.32
Avail Cap(c_a), veh/h	1524	1568	1079	4840	1564	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.5	6.5	4.3	3.1	12.5	12.2
Incr Delay (d2), s/veh	0.7	0.7	0.1	0.1	3.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	1.7	0.1	0.4	1.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.2	7.2	4.4	3.2	16.0	13.7
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	663			713	154	
Approach Delay, s/veh	7.2			3.3	15.2	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.6	16.1				21.8	7.5
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5				40.5	25.5
Max Q Clear Time (g_c+I1), s	2.3	6.1				4.9	3.6
Green Ext Time (p_c), s	0.0	5.6				7.6	0.7

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

MOVEMENT SUMMARY

Site: 101 [Mission_Harvard AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	196	5.0	196	5.0	0.354	10.2	LOS B	2.4	62.8	0.29	0.53	0.29	35.8
8	T1	228	3.0	228	3.0	0.354	4.2	LOS A	2.4	62.8	0.29	0.53	0.29	35.8
Approach		424	3.9	424	3.9	0.354	7.0	LOS A	2.4	62.8	0.29	0.53	0.29	35.8
East: I-90 Off-ramp														
1	L2	128	2.0	128	2.0	0.289	12.6	LOS B	1.6	41.1	0.61	0.75	0.61	34.7
6	T1	77	4.0	77	4.0	0.289	6.8	LOS A	1.6	41.1	0.61	0.75	0.61	34.6
16	R2	50	4.0	50	4.0	0.289	6.8	LOS A	1.6	41.1	0.61	0.75	0.61	33.6
Approach		255	3.0	255	3.0	0.289	9.7	LOS A	1.6	41.1	0.61	0.75	0.61	34.5
North: Harvard Rd														
4	T1	514	3.0	514	3.0	0.626	8.5	LOS A	5.7	145.4	0.75	0.82	0.88	35.4
14	R2	71	5.0	71	5.0	0.626	8.7	LOS A	5.7	145.4	0.75	0.82	0.88	34.3
Approach		585	3.2	585	3.2	0.626	8.5	LOS A	5.7	145.4	0.75	0.82	0.88	35.3
West: Mission Ave														
5	L2	66	4.0	66	4.0	0.436	14.7	LOS B	3.1	79.4	0.80	0.89	0.85	34.6
12	R2	247	4.0	247	4.0	0.436	8.8	LOS A	3.1	79.4	0.80	0.89	0.85	33.5
Approach		313	4.0	313	4.0	0.436	10.1	LOS B	3.1	79.4	0.80	0.89	0.85	33.7
All Vehicles		1577	3.5	1577	3.5	0.626	8.6	LOS A	5.7	145.4	0.61	0.74	0.67	35.0

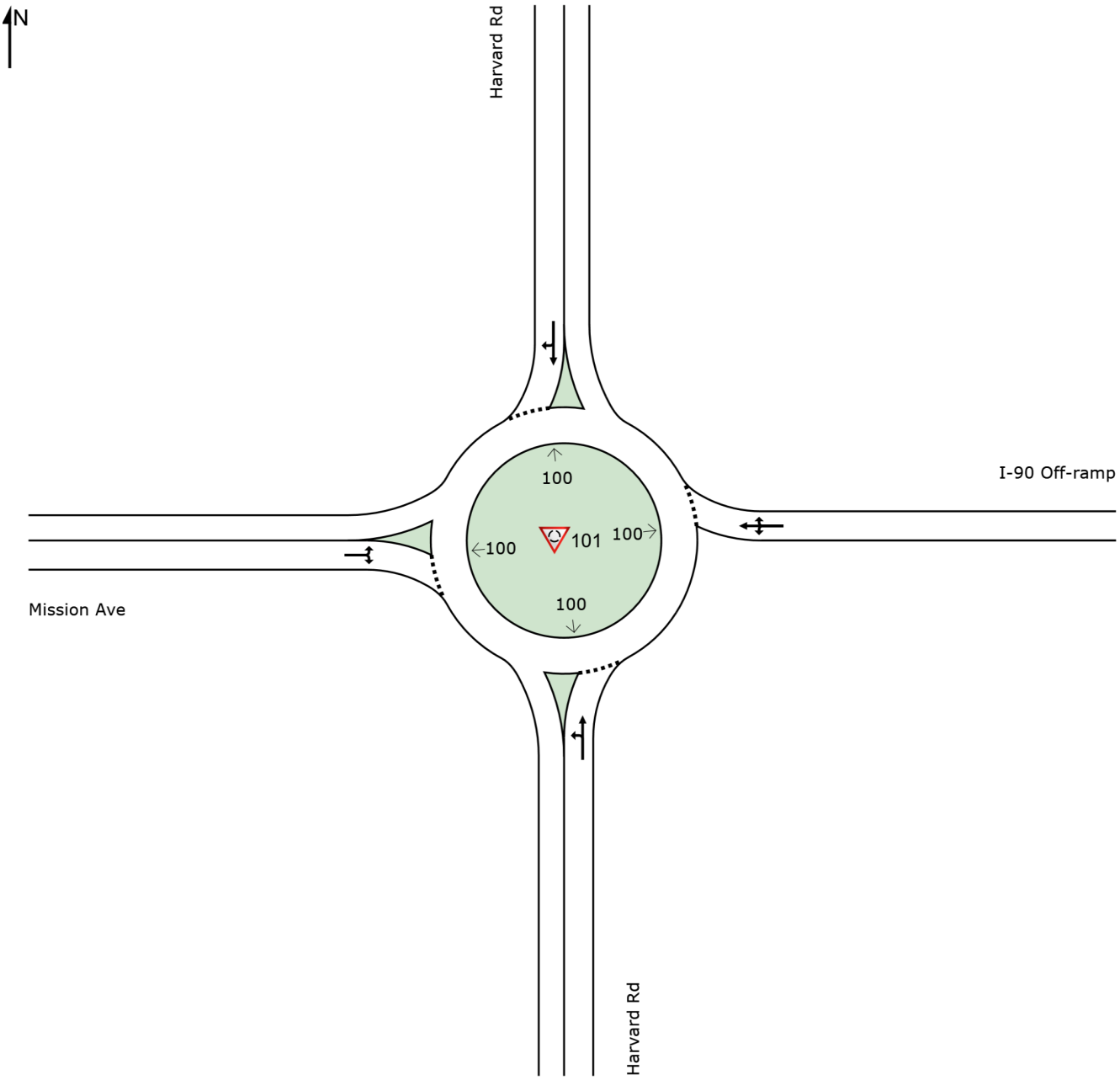
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

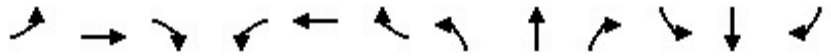
SITE LAYOUT

Site: 101 [Mission_Harvard AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	606	240	63	17	494	85	416	66	226	255	80
Future Volume (veh/h)	141	606	240	63	17	494	85	416	66	226	255	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1707	1470	1811	1811	1856	1811	1856	1870	1781
Adj Flow Rate, veh/h	157	673	267	70	19	549	94	462	73	251	283	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	5	13	29	6	6	3	6	3	2	8
Cap, veh/h	200	1081	482	88	370	680	125	737	321	308	1054	
Arrive On Green	0.11	0.31	0.31	0.05	0.25	0.25	0.07	0.21	0.21	0.17	0.30	0.00
Sat Flow, veh/h	1753	3469	1547	1626	1470	2701	1725	3526	1535	1767	3554	1510
Grp Volume(v), veh/h	157	673	267	70	19	549	94	462	73	251	283	0
Grp Sat Flow(s),veh/h/ln	1753	1735	1547	1626	1470	1351	1725	1763	1535	1767	1777	1510
Q Serve(g_s), s	6.2	11.9	10.3	3.1	0.7	13.7	3.8	8.6	2.8	9.8	4.4	0.0
Cycle Q Clear(g_c), s	6.2	11.9	10.3	3.1	0.7	13.7	3.8	8.6	2.8	9.8	4.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	1081	482	88	370	680	125	737	321	308	1054	
V/C Ratio(X)	0.78	0.62	0.55	0.79	0.05	0.81	0.75	0.63	0.23	0.82	0.27	
Avail Cap(c_a), veh/h	513	1694	755	476	718	1319	601	1475	642	518	1239	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	21.1	20.5	33.5	20.3	25.2	32.6	25.8	23.6	28.5	19.3	0.0
Incr Delay (d2), s/veh	6.6	0.8	1.4	14.7	0.1	2.3	12.0	1.3	0.5	7.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	8.2	6.6	2.7	0.4	7.8	3.5	6.4	1.9	8.1	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	21.9	22.0	48.2	20.4	27.5	44.6	27.1	24.1	35.8	19.4	0.0
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	B	
Approach Vol, veh/h		1097			638			629			534	
Approach Delay, s/veh		24.2			29.6			29.3			27.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	20.0	7.9	27.3	10.2	26.3	12.2	23.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	30.0	21.0	35.0	25.0	25.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	11.3	10.6	5.1	13.9	5.8	6.4	8.2	15.7
Green Ext Time (p_c), s	0.8	4.4	0.1	8.0	0.3	1.7	0.3	2.3

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	382	59	16	375	126	123	179	18	117	93	256
Future Volume (veh/h)	196	382	59	16	375	126	123	179	18	117	93	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1796	1811	1856	1841	1841	1870	1900	1856	1826	1826
Adj Flow Rate, veh/h	218	424	66	18	417	140	137	199	20	130	103	284
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	3	7	6	3	4	4	2	0	3	5	5
Cap, veh/h	418	1022	158	366	589	196	354	799	80	504	417	372
Arrive On Green	0.13	0.33	0.33	0.02	0.23	0.23	0.08	0.24	0.24	0.08	0.24	0.24
Sat Flow, veh/h	1739	3060	473	1725	2599	864	1753	3264	325	1767	1735	1547
Grp Volume(v), veh/h	218	243	247	18	281	276	137	107	112	130	103	284
Grp Sat Flow(s),veh/h/ln	1739	1763	1770	1725	1763	1700	1753	1777	1812	1767	1735	1547
Q Serve(g_s), s	4.6	5.6	5.7	0.4	7.7	7.9	3.0	2.6	2.6	2.8	2.5	9.0
Cycle Q Clear(g_c), s	4.6	5.6	5.7	0.4	7.7	7.9	3.0	2.6	2.6	2.8	2.5	9.0
Prop In Lane	1.00		0.27	1.00		0.51	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	418	589	592	366	400	385	354	435	444	504	417	372
V/C Ratio(X)	0.52	0.41	0.42	0.05	0.70	0.72	0.39	0.25	0.25	0.26	0.25	0.76
Avail Cap(c_a), veh/h	895	854	858	1023	854	824	905	1198	1222	1067	1170	1044
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	13.5	13.6	15.2	18.7	18.8	13.9	16.0	16.0	13.2	16.1	18.6
Incr Delay (d2), s/veh	0.4	0.2	0.2	0.0	0.9	0.9	0.3	0.1	0.1	0.1	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	3.5	3.6	0.3	5.3	5.2	1.9	1.7	1.8	1.8	1.6	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	13.7	13.7	15.2	19.6	19.7	14.1	16.1	16.1	13.3	16.3	19.8
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		708			575			356			517	
Approach Delay, s/veh		13.4			19.5			15.3			17.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	17.4	4.9	22.1	8.5	17.2	10.6	16.4
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	4.6	4.6	2.4	7.7	5.0	11.0	6.6	9.9
Green Ext Time (p_c), s	0.1	0.8	0.0	1.8	0.2	1.7	0.3	2.1

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	311	247	256	8	3	242
Future Vol, veh/h	311	247	256	8	3	242
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	2	2	0	0	4
Mvmt Flow	362	287	298	9	3	281

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	310	0	-	0	1175	157
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	869	-
Critical Hdwy	4.2	-	-	-	6.8	6.98
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	1226	-	-	-	188	854
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	376	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1223	-	-	-	132	852
Mov Cap-2 Maneuver	-	-	-	-	132	-
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	375	-

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	11.6
HCM LOS			B

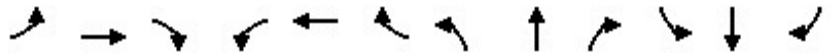
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1223	-	-	-	132	852
HCM Lane V/C Ratio	0.296	-	-	-	0.026	0.33
HCM Control Delay (s)	9.2	-	-	-	33	11.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	1.2	-	-	-	0.1	1.4



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	716	102	15	377	231	21
Future Volume (veh/h)	716	102	15	377	231	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1796	1796	1752	1885	1900
Adj Flow Rate, veh/h	833	119	17	438	269	24
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	7	7	10	1	0
Cap, veh/h	1270	181	328	1868	366	329
Arrive On Green	0.41	0.41	0.02	0.56	0.20	0.20
Sat Flow, veh/h	3164	439	1711	3416	1795	1610
Grp Volume(v), veh/h	474	478	17	438	269	24
Grp Sat Flow(s),veh/h/ln	1749	1762	1711	1664	1795	1610
Q Serve(g_s), s	8.4	8.4	0.2	2.5	5.4	0.5
Cycle Q Clear(g_c), s	8.4	8.4	0.2	2.5	5.4	0.5
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	723	728	328	1868	366	329
V/C Ratio(X)	0.66	0.66	0.05	0.23	0.73	0.07
Avail Cap(c_a), veh/h	1140	1149	968	3906	1217	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	9.0	6.6	4.3	14.3	12.3
Incr Delay (d2), s/veh	1.0	1.0	0.1	0.1	2.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	4.3	0.1	0.8	3.7	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.1	10.1	6.7	4.3	17.1	12.4
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h	952			455	293	
Approach Delay, s/veh	10.1			4.4	16.8	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.7	20.9		11.8		26.5
Change Period (Y+Rc), s	5.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	25.0		26.0		45.0
Max Q Clear Time (g_c+I1), s	2.2	10.4		7.4		4.5
Green Ext Time (p_c), s	0.0	5.5		0.8		3.3

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	522	46	14	378	10	6	6	9	12	1	21
Future Volume (veh/h)	77	522	46	14	378	10	6	6	9	12	1	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1841	1900	1767	1900	1648	1900	1900	1648	418	1826
Adj Flow Rate, veh/h	92	621	55	17	450	12	7	7	11	14	1	25
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	5	4	4	0	9	0	17	0	0	17	100	5
Cap, veh/h	528	1189	105	435	989	26	171	21	33	423	3	71
Arrive On Green	0.07	0.37	0.37	0.02	0.30	0.30	0.05	0.05	0.05	0.01	0.21	0.21
Sat Flow, veh/h	1739	3250	287	1810	3340	89	452	452	710	1570	14	343
Grp Volume(v), veh/h	92	334	342	17	226	236	25	0	0	14	0	26
Grp Sat Flow(s),veh/h/ln	1739	1749	1789	1810	1678	1751	1614	0	0	1570	0	356
Q Serve(g_s), s	1.1	4.6	4.6	0.2	3.3	3.4	0.5	0.0	0.0	0.2	0.0	1.9
Cycle Q Clear(g_c), s	1.1	4.6	4.6	0.2	3.3	3.4	0.5	0.0	0.0	0.2	0.0	1.9
Prop In Lane	1.00		0.16	1.00		0.05	0.28		0.44	1.00		0.96
Lane Grp Cap(c), veh/h	528	640	654	435	497	518	225	0	0	423	0	74
V/C Ratio(X)	0.17	0.52	0.52	0.04	0.45	0.46	0.11	0.00	0.00	0.03	0.00	0.35
Avail Cap(c_a), veh/h	1570	2030	2077	1645	1948	2032	1523	0	0	1452	0	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	7.6	7.6	7.4	8.8	8.8	14.1	0.0	0.0	11.8	0.0	10.4
Incr Delay (d2), s/veh	0.2	0.7	0.6	0.0	0.7	0.6	0.2	0.0	0.0	0.0	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	2.1	2.1	0.1	1.6	1.7	0.3	0.0	0.0	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	8.3	8.3	7.4	9.4	9.4	14.4	0.0	0.0	11.8	0.0	13.2
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		768			479			25			40	
Approach Delay, s/veh		8.1			9.3			14.4			12.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	15.7		10.4	6.7	13.6	4.9	5.4
Change Period (Y+Rc), s	4.0	4.5		4.0	4.5	4.5	4.5	4.0
Max Green Setting (Gmax), s	21.0	35.5		51.0	20.5	35.5	20.5	26.0
Max Q Clear Time (g_c+I1), s	2.2	6.6		3.9	3.1	5.4	2.2	2.5
Green Ext Time (p_c), s	0.0	4.6		0.1	0.2	3.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	241	166	106	303	20	86	18	91	9	3	9
Future Volume (veh/h)	84	241	166	106	303	20	86	18	91	9	3	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1841	1870	1781	1826	1722	1900	1870	1574	1900	1574
Adj Flow Rate, veh/h	91	262	180	115	329	22	93	20	99	10	3	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	5	4	2	8	5	12	0	2	22	0	22
Cap, veh/h	482	476	316	446	819	54	420	272	227	307	162	113
Arrive On Green	0.06	0.24	0.24	0.07	0.25	0.25	0.07	0.14	0.14	0.01	0.09	0.09
Sat Flow, veh/h	1795	1997	1325	1781	3221	214	1640	1900	1585	1499	1900	1334
Grp Volume(v), veh/h	91	226	216	115	172	179	93	20	99	10	3	10
Grp Sat Flow(s),veh/h/ln	1795	1735	1587	1781	1692	1743	1640	1900	1585	1499	1900	1334
Q Serve(g_s), s	1.3	4.0	4.2	1.7	3.0	3.0	1.8	0.3	2.0	0.2	0.1	0.2
Cycle Q Clear(g_c), s	1.3	4.0	4.2	1.7	3.0	3.0	1.8	0.3	2.0	0.2	0.1	0.2
Prop In Lane	1.00		0.83	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	482	414	379	446	430	443	420	272	227	307	162	113
V/C Ratio(X)	0.19	0.55	0.57	0.26	0.40	0.40	0.22	0.07	0.44	0.03	0.02	0.09
Avail Cap(c_a), veh/h	912	932	853	845	909	936	799	1021	852	740	1021	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	11.8	11.9	9.2	10.9	11.0	13.5	13.1	13.8	14.6	14.8	14.9
Incr Delay (d2), s/veh	0.2	1.1	1.3	0.3	0.9	0.8	0.3	0.2	1.9	0.0	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	2.4	2.3	0.9	1.7	1.8	1.0	0.2	1.3	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.5	12.9	13.2	9.5	11.8	11.8	13.8	13.3	15.7	14.7	14.9	15.4
LnGrp LOS	A	B	B	A	B	B	B	B	B	B	B	B
Approach Vol, veh/h		533			466			212			23	
Approach Delay, s/veh		12.5			11.2			14.6			15.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	10.1	6.5	14.0	6.8	8.0	7.1	13.4
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	10.5	19.0	10.5	19.0	10.5	19.0	10.5	19.0
Max Q Clear Time (g_c+I1), s	2.2	4.0	3.3	5.0	3.8	2.2	3.7	6.2
Green Ext Time (p_c), s	0.0	0.5	0.1	2.3	0.1	0.0	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 101 [Mission_Molter AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Molter Rd														
3	L2	101	2.0	101	2.0	0.224	10.8	LOS B	1.2	29.1	0.39	0.58	0.39	35.8
8	T1	128	1.0	128	1.0	0.224	4.8	LOS A	1.2	29.1	0.39	0.58	0.39	35.7
18	R2	20	1.0	20	1.0	0.224	4.9	LOS A	1.2	29.1	0.39	0.58	0.39	34.7
Approach		249	1.4	249	1.4	0.224	7.3	LOS A	1.2	29.1	0.39	0.58	0.39	35.7
East: Mission Ave														
1	L2	17	2.0	17	2.0	0.253	11.3	LOS B	1.3	34.4	0.47	0.56	0.47	36.4
6	T1	193	2.0	193	2.0	0.253	5.3	LOS A	1.3	34.4	0.47	0.56	0.47	36.4
16	R2	53	4.0	53	4.0	0.253	5.5	LOS A	1.3	34.4	0.47	0.56	0.47	35.2
Approach		263	2.4	263	2.4	0.253	5.7	LOS A	1.3	34.4	0.47	0.56	0.47	36.1
North: Molter Rd														
7	L2	32	4.0	32	4.0	0.171	11.3	LOS B	0.9	22.2	0.46	0.59	0.46	36.1
4	T1	91	4.0	91	4.0	0.171	5.4	LOS A	0.9	22.2	0.46	0.59	0.46	36.0
14	R2	46	8.0	46	8.0	0.171	5.6	LOS A	0.9	22.2	0.46	0.59	0.46	34.8
Approach		169	5.1	169	5.1	0.171	6.6	LOS A	0.9	22.2	0.46	0.59	0.46	35.7
West: Mission Ave														
5	L2	59	4.0	59	4.0	0.236	10.5	LOS B	1.3	32.6	0.34	0.52	0.34	36.4
2	T1	115	4.0	115	4.0	0.236	4.6	LOS A	1.3	32.6	0.34	0.52	0.34	36.4
12	R2	94	4.0	94	4.0	0.236	4.7	LOS A	1.3	32.6	0.34	0.52	0.34	35.2
Approach		268	4.0	268	4.0	0.236	5.9	LOS A	1.3	32.6	0.34	0.52	0.34	36.0
All Vehicles		949	3.1	949	3.1	0.253	6.3	LOS A	1.3	34.4	0.41	0.56	0.41	35.9

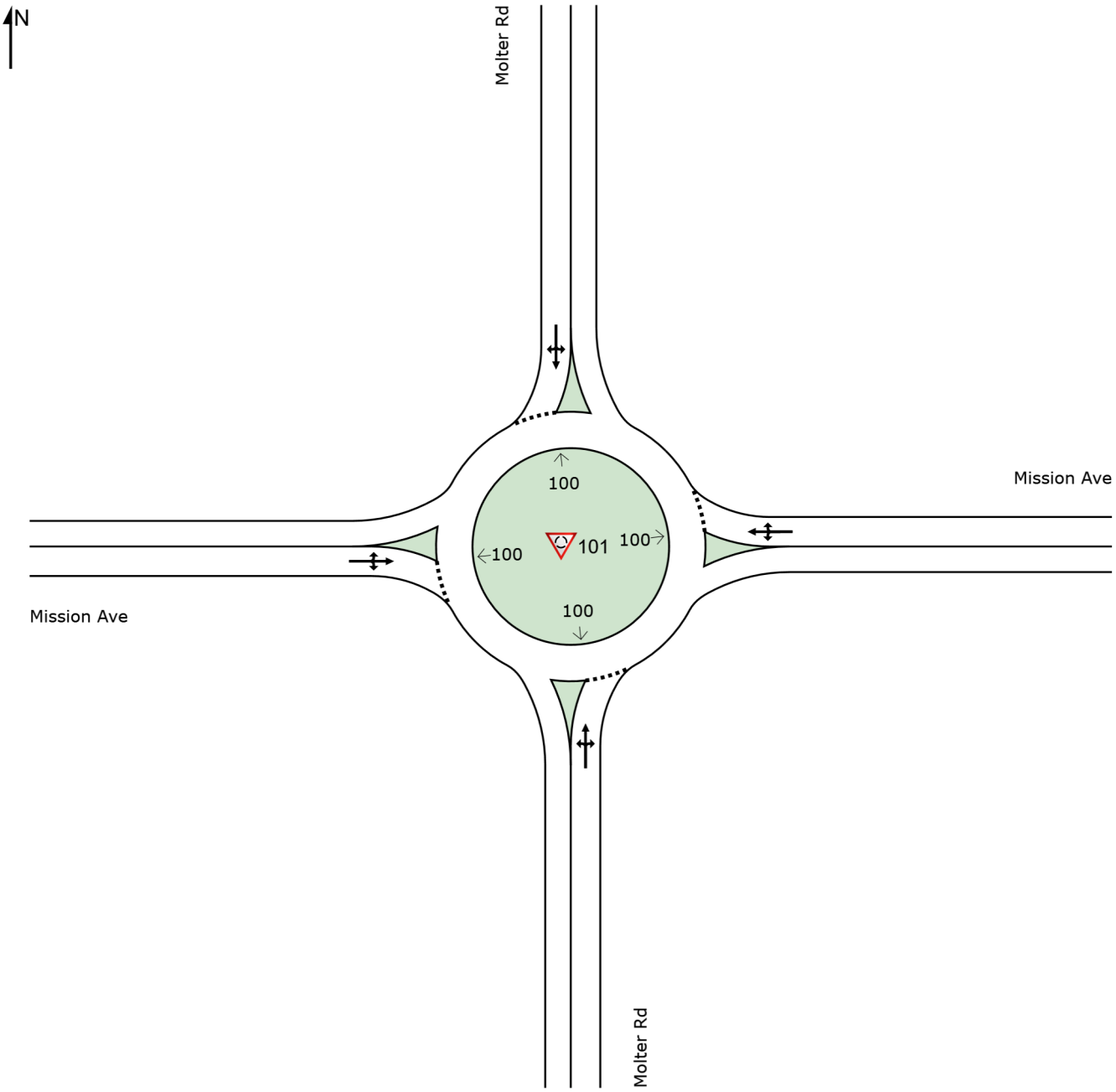
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Molter AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvest AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvest Pkwy														
3	L2	112	4.0	112	4.0	0.234	10.9	LOS B	1.2	31.5	0.40	0.60	0.40	35.7
8	T1	32	1.0	32	1.0	0.234	4.8	LOS A	1.2	31.5	0.40	0.60	0.40	35.7
18	R2	110	4.0	110	4.0	0.234	5.0	LOS A	1.2	31.5	0.40	0.60	0.40	34.5
Approach		254	3.6	254	3.6	0.234	7.5	LOS A	1.2	31.5	0.40	0.60	0.40	35.2
East: Mission Ave														
1	L2	156	3.0	156	3.0	0.256	10.6	LOS B	1.4	35.4	0.35	0.59	0.35	35.5
6	T1	110	3.0	110	3.0	0.256	4.6	LOS A	1.4	35.4	0.35	0.59	0.35	35.4
16	R2	25	3.0	25	3.0	0.256	4.7	LOS A	1.4	35.4	0.35	0.59	0.35	34.4
Approach		291	3.0	291	3.0	0.256	7.8	LOS A	1.4	35.4	0.35	0.59	0.35	35.4
North: Harvest Pkwy														
7	L2	35	1.0	35	1.0	0.107	11.5	LOS B	0.5	13.0	0.47	0.62	0.47	35.8
4	T1	35	1.0	35	1.0	0.107	5.5	LOS A	0.5	13.0	0.47	0.62	0.47	35.7
14	R2	36	1.0	36	1.0	0.107	5.6	LOS A	0.5	13.0	0.47	0.62	0.47	34.6
Approach		106	1.0	106	1.0	0.107	7.5	LOS A	0.5	13.0	0.47	0.62	0.47	35.4
West: Mission Ave														
5	L2	7	3.0	7	3.0	0.253	11.0	LOS B	1.3	33.8	0.41	0.53	0.41	36.8
2	T1	160	3.0	160	3.0	0.253	5.0	LOS A	1.3	33.8	0.41	0.53	0.41	36.7
12	R2	107	3.0	107	3.0	0.253	5.1	LOS A	1.3	33.8	0.41	0.53	0.41	35.5
Approach		274	3.0	274	3.0	0.253	5.2	LOS A	1.3	33.8	0.41	0.53	0.41	36.2
All Vehicles		925	2.9	925	2.9	0.256	6.9	LOS A	1.4	35.4	0.40	0.58	0.40	35.6

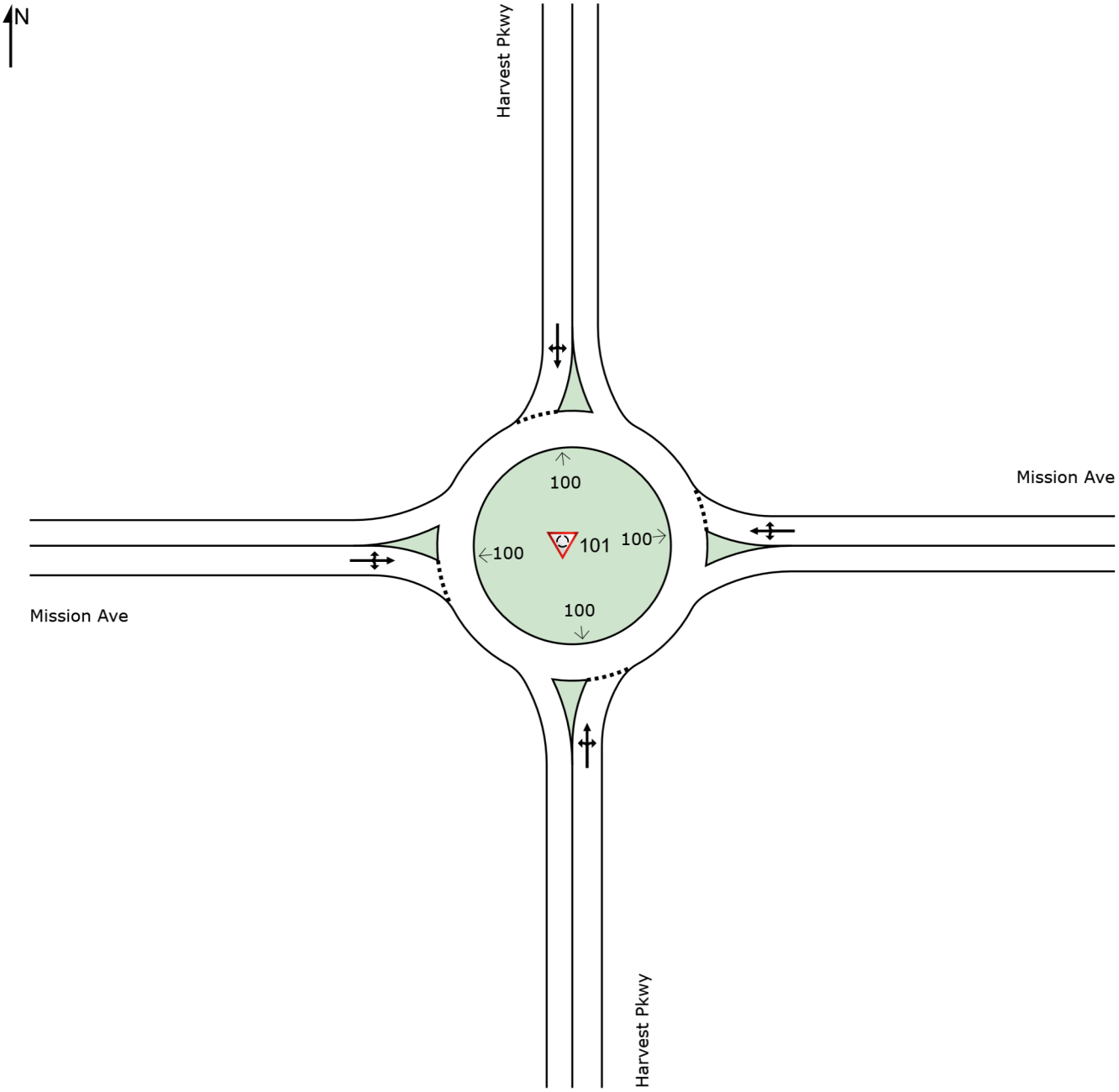
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Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvest AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	173	62	32	309	138	56
Future Vol, veh/h	173	62	32	309	138	56
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	8	6	8	3	4
Mvmt Flow	186	67	34	332	148	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	621	222
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	400	-
Critical Hdwy	-	-	4.16	-	6.43	6.24
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.254	-	3.527	3.336
Pot Cap-1 Maneuver	-	-	1288	-	449	813
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	675	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1287	-	437	812
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	525	812	-	-	1287	-
HCM Lane V/C Ratio	0.283	0.074	-	-	0.027	-
HCM Control Delay (s)	14.5	9.8	-	-	7.9	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	1.2	0.2	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	41	11	8	125	7	15	27	10	6	24	121
Future Vol, veh/h	40	41	11	8	125	7	15	27	10	6	24	121
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	5	0	0	0	0	13	7	10	17	0	3
Mvmt Flow	47	48	13	9	145	8	17	31	12	7	28	141
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8.7	9.3	8.5	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	100%	0%	100%	0%	4%
Vol Thru, %	52%	0%	79%	0%	95%	16%
Vol Right, %	19%	0%	21%	0%	5%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	40	52	8	132	151
LT Vol	15	40	0	8	0	6
Through Vol	27	0	41	0	125	24
RT Vol	10	0	11	0	7	121
Lane Flow Rate	60	47	60	9	153	176
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.083	0.075	0.087	0.015	0.219	0.219
Departure Headway (Hd)	4.966	5.773	5.154	5.67	5.129	4.485
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	720	620	693	630	698	799
Service Time	3.01	3.519	2.9	3.414	2.873	2.518
HCM Lane V/C Ratio	0.083	0.076	0.087	0.014	0.219	0.22
HCM Control Delay	8.5	9	8.4	8.5	9.3	8.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.3	0	0.8	0.8

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	119	46	10	95	23	43	100	24	35	47	57
Future Vol, veh/h	65	119	46	10	95	23	43	100	24	35	47	57
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	3	0	2	0	1	0	0	2	0	3	2	7
Mvmt Flow	88	161	62	14	128	31	58	135	32	47	64	77
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	13	10.6	10.9	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	28%	8%	100%	0%
Vol Thru, %	0%	81%	52%	74%	0%	45%
Vol Right, %	0%	19%	20%	18%	0%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	124	230	128	35	104
LT Vol	43	0	65	10	35	0
Through Vol	0	100	119	95	0	47
RT Vol	0	24	46	23	0	57
Lane Flow Rate	58	168	311	173	47	141
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.107	0.281	0.463	0.265	0.089	0.229
Departure Headway (Hd)	6.657	6.045	5.362	5.519	6.779	5.862
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	593	671	649	528	611
Service Time	4.406	3.793	3.403	3.567	4.53	3.612
HCM Lane V/C Ratio	0.108	0.283	0.463	0.267	0.089	0.231
HCM Control Delay	10.2	11.2	13	10.6	10.2	10.4
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.4	1.1	2.5	1.1	0.3	0.9

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	37	4	0	52	30	10	45	1	17	22	1
Future Vol, veh/h	14	37	4	0	52	30	10	45	1	17	22	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	5	0	0	4	3	0	0	100	6	0	0
Mvmt Flow	17	46	5	0	64	37	12	56	1	21	27	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.6	7.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	25%	0%	42%
Vol Thru, %	80%	67%	63%	55%
Vol Right, %	2%	7%	37%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	55	82	40
LT Vol	10	14	0	17
Through Vol	45	37	52	22
RT Vol	1	4	30	1
Lane Flow Rate	69	68	101	49
Geometry Grp	1	1	1	1
Degree of Util (X)	0.082	0.079	0.113	0.062
Departure Headway (Hd)	4.255	4.191	4.005	4.519
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	841	880	798
Service Time	2.353	2.288	2.098	2.519
HCM Lane V/C Ratio	0.083	0.081	0.115	0.061
HCM Control Delay	7.7	7.7	7.6	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.4	0.2

MOVEMENT SUMMARY

Site: 101 [Mission_Kramer AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Kramer Pkwy														
3	L2	140	2.0	140	2.0	0.185	10.5	LOS B	0.9	22.8	0.31	0.60	0.31	35.3
18	R2	76	2.0	76	2.0	0.185	4.6	LOS A	0.9	22.8	0.31	0.60	0.31	34.2
Approach		216	2.0	216	2.0	0.185	8.4	LOS A	0.9	22.8	0.31	0.60	0.31	34.9
East: Mission Ave														
1	L2	57	6.0	57	6.0	0.203	10.5	LOS B	1.0	26.7	0.32	0.51	0.32	36.2
6	T1	170	6.0	170	6.0	0.203	4.6	LOS A	1.0	26.7	0.32	0.51	0.32	36.2
Approach		227	6.0	227	6.0	0.203	6.1	LOS A	1.0	26.7	0.32	0.51	0.32	36.2
West: Mission Ave														
2	T1	141	6.0	141	6.0	0.267	4.2	LOS A	1.5	37.6	0.22	0.43	0.22	37.4
12	R2	184	3.0	184	3.0	0.267	4.2	LOS A	1.5	37.6	0.22	0.43	0.22	36.3
Approach		325	4.3	325	4.3	0.267	4.2	LOS A	1.5	37.6	0.22	0.43	0.22	36.7
All Vehicles		768	4.2	768	4.2	0.267	5.9	LOS A	1.5	37.6	0.27	0.50	0.27	36.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
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Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

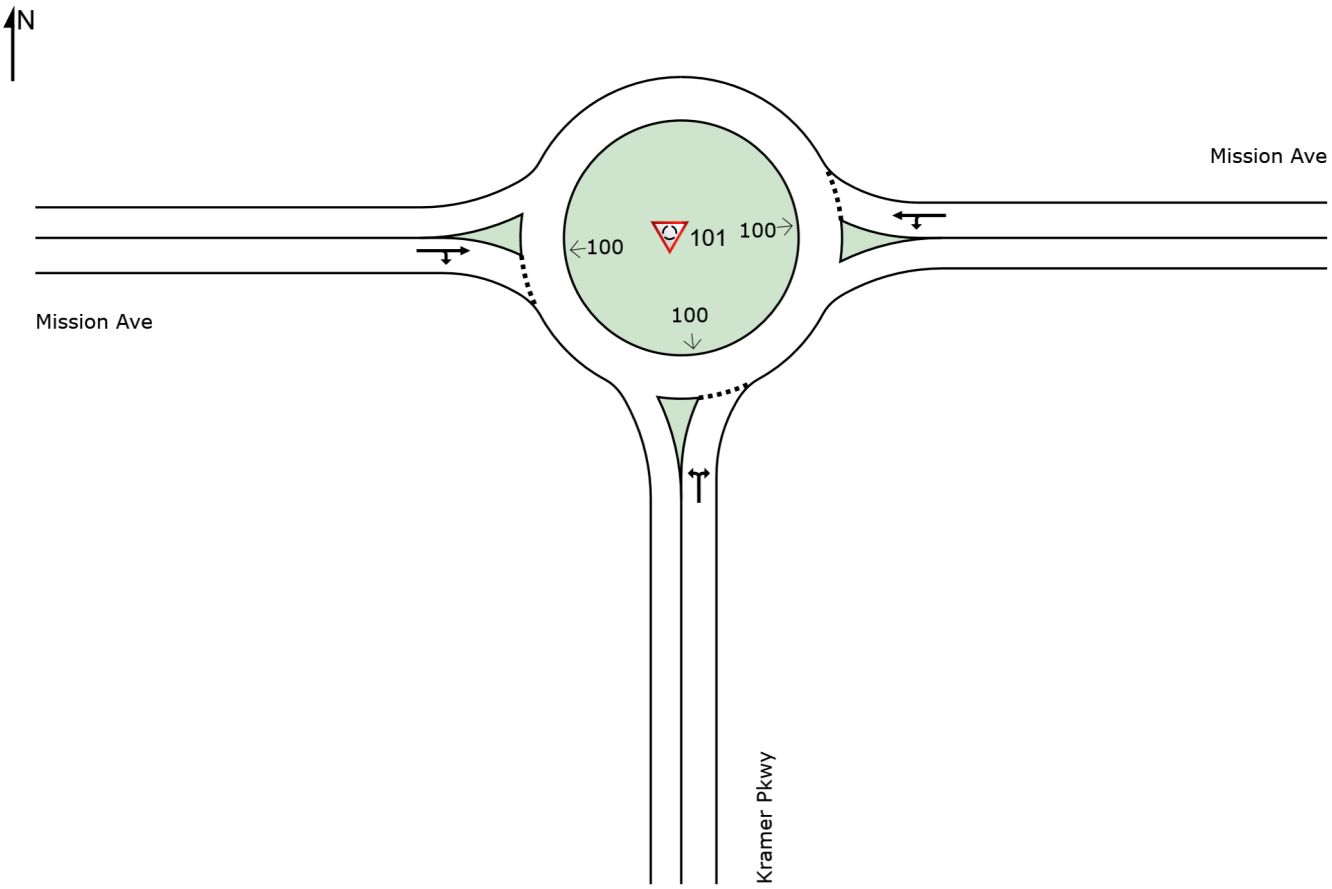
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SITE LAYOUT

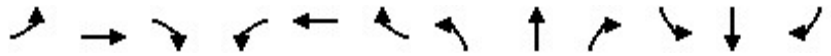
Site: 101 [Mission_Kramer AM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	3	25	25	3	5	15	309	20	3	535	11
Future Volume (veh/h)	16	3	25	25	3	5	15	309	20	3	535	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1781	1411	1900	1900	1856	1826	1900	1841	1767
Adj Flow Rate, veh/h	19	3	29	29	3	6	17	359	23	3	622	13
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	8	33	0	0	3	5	0	4	9
Cap, veh/h	35	7	72	48	24	48	454	1336	85	558	1341	28
Arrive On Green	0.02	0.05	0.05	0.03	0.06	0.06	0.02	0.40	0.40	0.00	0.38	0.38
Sat Flow, veh/h	1810	153	1480	1697	420	840	1810	3365	215	1810	3503	73
Grp Volume(v), veh/h	19	0	32	29	0	9	17	187	195	3	310	325
Grp Sat Flow(s),veh/h/ln	1810	0	1634	1697	0	1260	1810	1763	1817	1810	1749	1828
Q Serve(g_s), s	0.3	0.0	0.6	0.5	0.0	0.2	0.2	2.3	2.4	0.0	4.3	4.3
Cycle Q Clear(g_c), s	0.3	0.0	0.6	0.5	0.0	0.2	0.2	2.3	2.4	0.0	4.3	4.3
Prop In Lane	1.00		0.91	1.00		0.67	1.00		0.12	1.00		0.04
Lane Grp Cap(c), veh/h	35	0	80	48	0	73	454	700	721	558	669	700
V/C Ratio(X)	0.54	0.00	0.40	0.60	0.00	0.12	0.04	0.27	0.27	0.01	0.46	0.46
Avail Cap(c_a), veh/h	334	0	879	417	0	755	1257	2412	2486	885	1908	1995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	15.0	15.6	0.0	14.5	6.2	6.6	6.6	6.2	7.5	7.5
Incr Delay (d2), s/veh	12.3	0.0	4.6	11.5	0.0	1.1	0.0	0.3	0.3	0.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.5	0.6	0.0	0.1	0.1	1.1	1.1	0.0	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	0.0	19.6	27.2	0.0	15.6	6.2	6.9	6.9	6.2	8.2	8.2
LnGrp LOS	C	A	B	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		51			38			399			638	
Approach Delay, s/veh		22.8			24.4			6.9			8.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	17.0	4.6	6.4	4.1	17.4	4.9	6.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.6	35.5	6.0	19.5	6.0	44.5	8.0	17.5
Max Q Clear Time (g_c+I1), s	2.2	6.3	2.3	2.2	2.0	4.4	2.5	2.6
Green Ext Time (p_c), s	0.0	6.1	0.0	0.0	0.0	3.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	5	20	1	3	10	305	15	1	524	4
Future Vol, veh/h	1	1	5	20	1	3	10	305	15	1	524	4
Conflicting Peds, #/hr	2	0	0	0	0	2	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	55	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	4	0
Mvmt Flow	1	1	5	22	1	3	11	335	16	1	576	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	774	955	292	656	949	178	582	0	0	351	0	0
Stage 1	582	582	-	365	365	-	-	-	-	-	-	-
Stage 2	192	373	-	291	584	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	292	260	710	355	262	841	1002	-	-	1219	-	-
Stage 1	471	502	-	632	627	-	-	-	-	-	-	-
Stage 2	797	622	-	698	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	256	709	348	258	840	1000	-	-	1219	-	-
Mov Cap-2 Maneuver	286	256	-	348	258	-	-	-	-	-	-	-
Stage 1	465	500	-	625	620	-	-	-	-	-	-	-
Stage 2	782	615	-	691	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	15.4	0.3	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1000	-	-	270	709	342	840	1219	-	-
HCM Lane V/C Ratio	0.011	-	-	0.008	0.008	0.067	0.004	0.001	-	-
HCM Control Delay (s)	8.6	-	-	18.4	10.1	16.3	9.3	8	-	-
HCM Lane LOS	A	-	-	C	B	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	0	0	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	255	6	2	266	180	16	50	6	103	6	9
Future Vol, veh/h	25	255	6	2	266	180	16	50	6	103	6	9
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	2	0	0	3	1	0	0	0	7	0	11
Mvmt Flow	27	277	7	2	289	196	17	54	7	112	7	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	485	0	0	291	0	0	744	831	288	756	736	389
Stage 1	-	-	-	-	-	-	342	342	-	391	391	-
Stage 2	-	-	-	-	-	-	402	489	-	365	345	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.5	6.2	7.17	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.3	3.563	4	3.399
Pot Cap-1 Maneuver	1047	-	-	1282	-	-	333	307	756	318	349	640
Stage 1	-	-	-	-	-	-	677	642	-	623	611	-
Stage 2	-	-	-	-	-	-	629	553	-	644	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1047	-	-	1275	-	-	314	297	752	266	337	639
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	297	-	266	337	-
Stage 1	-	-	-	-	-	-	656	621	-	607	610	-
Stage 2	-	-	-	-	-	-	611	552	-	568	620	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	20	28
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	1047	-	-	1275	-	-	282
HCM Lane V/C Ratio	0.247	0.026	-	-	0.002	-	-	0.455
HCM Control Delay (s)	20	8.5	-	-	7.8	-	-	28
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	2.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	306	383	3	6	7
Future Vol, veh/h	34	306	383	3	6	7
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	4	2	0	17	0
Mvmt Flow	39	348	435	3	7	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	441	0	-	0	867	440
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	427	-
Critical Hdwy	4.1	-	-	-	6.57	6.2
Critical Hdwy Stg 1	-	-	-	-	5.57	-
Critical Hdwy Stg 2	-	-	-	-	5.57	-
Follow-up Hdwy	2.2	-	-	-	3.653	3.3
Pot Cap-1 Maneuver	1130	-	-	-	305	621
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	627	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1127	-	-	-	293	619
Mov Cap-2 Maneuver	-	-	-	-	412	-
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	626	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1127	-	-	-	502
HCM Lane V/C Ratio	0.034	-	-	-	0.029
HCM Control Delay (s)	8.3	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Lane Configurations							
Traffic Volume (vph)	310	244	89	425	173	95	
Future Volume (vph)	310	244	89	425	173	95	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		75	100		100	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	
Frt	0.934					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	3227	0	1805	3343	1787	1615	
Flt Permitted			0.950		0.950		
Satd. Flow (perm)	3227	0	1805	3343	1787	1615	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	158					128	
Link Speed (mph)	30			30	30		
Link Distance (ft)	425			3165	712		
Travel Time (s)	9.7			71.9	16.2		
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	
Heavy Vehicles (%)	8%	0%	0%	8%	1%	0%	
Adj. Flow (vph)	419	330	120	574	234	128	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	749	0	120	574	234	128	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane	Yes			Yes	Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2		1	2	1	1	
Detector Template	Thru		Left	Thru	Left	Right	
Leading Detector (ft)	100		20	100	20	20	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	6		20	6	20	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94			
Detector 2 Size(ft)	6			6			
Detector 2 Type	Cl+Ex			Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)	0.0			0.0			
Turn Type	NA		Prot	NA	Prot	Perm	
Protected Phases	2		1	6	8		14



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Permitted Phases						8	
Detector Phase	2		1	6	8	8	
Switch Phase							
Minimum Initial (s)	7.0		4.0	4.0	7.0	7.0	4.0
Minimum Split (s)	26.5		9.5	36.5	21.5	21.5	25.0
Total Split (s)	40.0		30.0	70.0	30.0	30.0	25.0
Total Split (%)	32.0%		24.0%	56.0%	24.0%	24.0%	20%
Maximum Green (s)	34.5		24.5	64.5	26.0	26.0	21.0
Yellow Time (s)	4.5		4.5	4.5	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	4.0	
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None	Ped
Walk Time (s)							6.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							2
Act Effct Green (s)	23.3		10.9	40.0	16.9	16.9	
Actuated g/C Ratio	0.25		0.12	0.43	0.18	0.18	
v/c Ratio	0.80		0.56	0.40	0.72	0.32	
Control Delay	33.2		52.2	18.8	50.2	8.9	
Queue Delay	0.0		0.0	0.0	0.0	0.0	
Total Delay	33.2		52.2	18.8	50.2	8.9	
LOS	C		D	B	D	A	
Approach Delay	33.2			24.6	35.6		
Approach LOS	C			C	D		
Queue Length 50th (ft)	168		66	114	127	0	
Queue Length 95th (ft)	207		118	141	194	26	
Internal Link Dist (ft)	345			3085	632		
Turn Bay Length (ft)			100		100		
Base Capacity (vph)	1340		493	2408	518	559	
Starvation Cap Reductn	0		0	0	0	0	
Spillback Cap Reductn	0		0	0	0	0	
Storage Cap Reductn	0		0	0	0	0	
Reduced v/c Ratio	0.56		0.24	0.24	0.45	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 92.5			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 30.4		Intersection LOS: C	
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Ridgeline HS & Country Vista Dr



PM Peak Hour

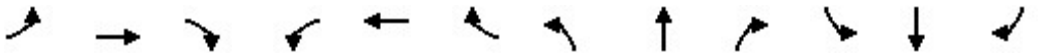
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	136	775	585	20	15	203
Future Vol, veh/h	136	775	585	20	15	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	5	2	0	0	2
Mvmt Flow	139	791	597	20	15	207

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	617	0	-	0	1281	309
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	674	-
Critical Hdwy	4.16	-	-	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.32
Pot Cap-1 Maneuver	952	-	-	-	160	687
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	473	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	952	-	-	-	137	687
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	473	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	952	-	-	-	270	687
HCM Lane V/C Ratio	0.146	-	-	-	0.057	0.302
HCM Control Delay (s)	9.4	-	-	-	19.1	12.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.2	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	679	34	240	525	159	33	66	169	117	75	35
Future Volume (veh/h)	92	679	34	240	525	159	33	66	169	117	75	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1885	1870	1885	1900	1856	1870	1870	1900	1900
Adj Flow Rate, veh/h	95	700	35	247	541	164	34	68	174	121	77	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	1	0	1	2	1	0	3	2	2	0	0
Cap, veh/h	377	1026	51	431	979	295	430	92	236	328	304	142
Arrive On Green	0.06	0.30	0.30	0.13	0.36	0.36	0.03	0.20	0.20	0.08	0.25	0.25
Sat Flow, veh/h	1810	3471	173	1795	2689	812	1810	462	1181	1781	1224	572
Grp Volume(v), veh/h	95	361	374	247	357	348	34	0	242	121	0	113
Grp Sat Flow(s),veh/h/ln	1810	1791	1854	1795	1777	1724	1810	0	1643	1781	0	1797
Q Serve(g_s), s	2.1	10.6	10.6	5.3	9.5	9.6	0.9	0.0	8.2	3.1	0.0	3.0
Cycle Q Clear(g_c), s	2.1	10.6	10.6	5.3	9.5	9.6	0.9	0.0	8.2	3.1	0.0	3.0
Prop In Lane	1.00		0.09	1.00		0.47	1.00		0.72	1.00		0.32
Lane Grp Cap(c), veh/h	377	529	548	431	647	627	430	0	329	328	0	446
V/C Ratio(X)	0.25	0.68	0.68	0.57	0.55	0.56	0.08	0.00	0.74	0.37	0.00	0.25
Avail Cap(c_a), veh/h	593	766	793	523	760	738	697	0	703	505	0	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	18.5	18.5	12.4	15.1	15.1	18.1	0.0	22.4	17.1	0.0	18.0
Incr Delay (d2), s/veh	0.5	2.2	2.1	1.7	1.0	1.1	0.1	0.0	4.5	1.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	7.7	7.9	3.6	6.5	6.4	0.6	0.0	6.0	2.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	20.7	20.7	14.2	16.1	16.2	18.2	0.0	26.9	18.1	0.0	18.4
LnGrp LOS	B	C	C	B	B	B	B	A	C	B	A	B
Approach Vol, veh/h		830			952			276			234	
Approach Delay, s/veh		19.9			15.6			25.8			18.2	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	22.1	6.2	19.3	7.9	26.2	9.1	16.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	10.5	25.5	10.5	25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s	7.3	12.6	2.9	5.0	4.1	11.6	5.1	10.2
Green Ext Time (p_c), s	0.3	5.0	0.0	0.7	0.2	5.1	0.2	1.7

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	687	64	85	765	61	46
Future Volume (veh/h)	687	64	85	765	61	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1885	1900	1900
Adj Flow Rate, veh/h	731	68	90	814	65	49
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	2	0	1	0	0
Cap, veh/h	1431	133	536	2294	144	128
Arrive On Green	0.43	0.43	0.07	0.64	0.08	0.08
Sat Flow, veh/h	3407	308	1810	3676	1810	1610
Grp Volume(v), veh/h	395	404	90	814	65	49
Grp Sat Flow(s),veh/h/ln	1791	1830	1810	1791	1810	1610
Q Serve(g_s), s	5.2	5.2	0.7	3.4	1.1	0.9
Cycle Q Clear(g_c), s	5.2	5.2	0.7	3.4	1.1	0.9
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	773	790	536	2294	144	128
V/C Ratio(X)	0.51	0.51	0.17	0.35	0.45	0.38
Avail Cap(c_a), veh/h	1421	1451	1002	4513	1435	1277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.7	6.7	4.2	2.7	14.1	14.0
Incr Delay (d2), s/veh	0.7	0.7	0.2	0.1	3.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	2.3	0.2	0.4	0.9	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.4	7.4	4.4	2.8	17.3	16.7
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	799			904	114	
Approach Delay, s/veh	7.4			3.0	17.0	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	6.7	18.4				25.1	7.1
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5				40.5	25.5
Max Q Clear Time (g_c+I1), s	2.7	7.2				5.4	3.1
Green Ext Time (p_c), s	0.2	6.7				9.6	0.5

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

MOVEMENT SUMMARY

Site: 101 [Mission_Harvard PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	228	2.0	228	2.0	0.620	11.0	LOS B	5.9	151.1	0.59	0.56	0.59	35.4
8	T1	477	2.0	477	2.0	0.620	5.1	LOS A	5.9	151.1	0.59	0.56	0.59	35.3
Approach		705	2.0	705	2.0	0.620	7.0	LOS A	5.9	151.1	0.59	0.56	0.59	35.4
East: I-90 Off-ramp														
1	L2	164	1.0	164	1.0	0.576	20.0	LOS B	5.2	131.8	0.93	1.08	1.21	31.5
6	T1	114	1.0	114	1.0	0.576	14.0	LOS B	5.2	131.8	0.93	1.08	1.21	31.5
16	R2	79	1.0	79	1.0	0.576	14.1	LOS B	5.2	131.8	0.93	1.08	1.21	30.6
Approach		357	1.0	357	1.0	0.576	16.8	LOS B	5.2	131.8	0.93	1.08	1.21	31.3
North: Harvard Rd														
4	T1	480	1.0	480	1.0	0.635	9.6	LOS A	6.1	153.6	0.83	0.91	1.02	34.8
14	R2	71	1.0	71	1.0	0.635	9.7	LOS A	6.1	153.6	0.83	0.91	1.02	33.8
Approach		551	1.0	551	1.0	0.635	9.6	LOS A	6.1	153.6	0.83	0.91	1.02	34.7
West: Mission Ave														
5	L2	140	1.0	140	1.0	0.645	17.7	LOS B	6.4	162.4	0.90	1.04	1.18	32.9
12	R2	338	2.0	338	2.0	0.645	11.9	LOS B	6.4	162.4	0.90	1.04	1.18	31.9
Approach		478	1.7	478	1.7	0.645	13.6	LOS B	6.4	162.4	0.90	1.04	1.18	32.1
All Vehicles		2091	1.5	2091	1.5	0.645	10.9	LOS B	6.4	162.4	0.78	0.85	0.94	33.7

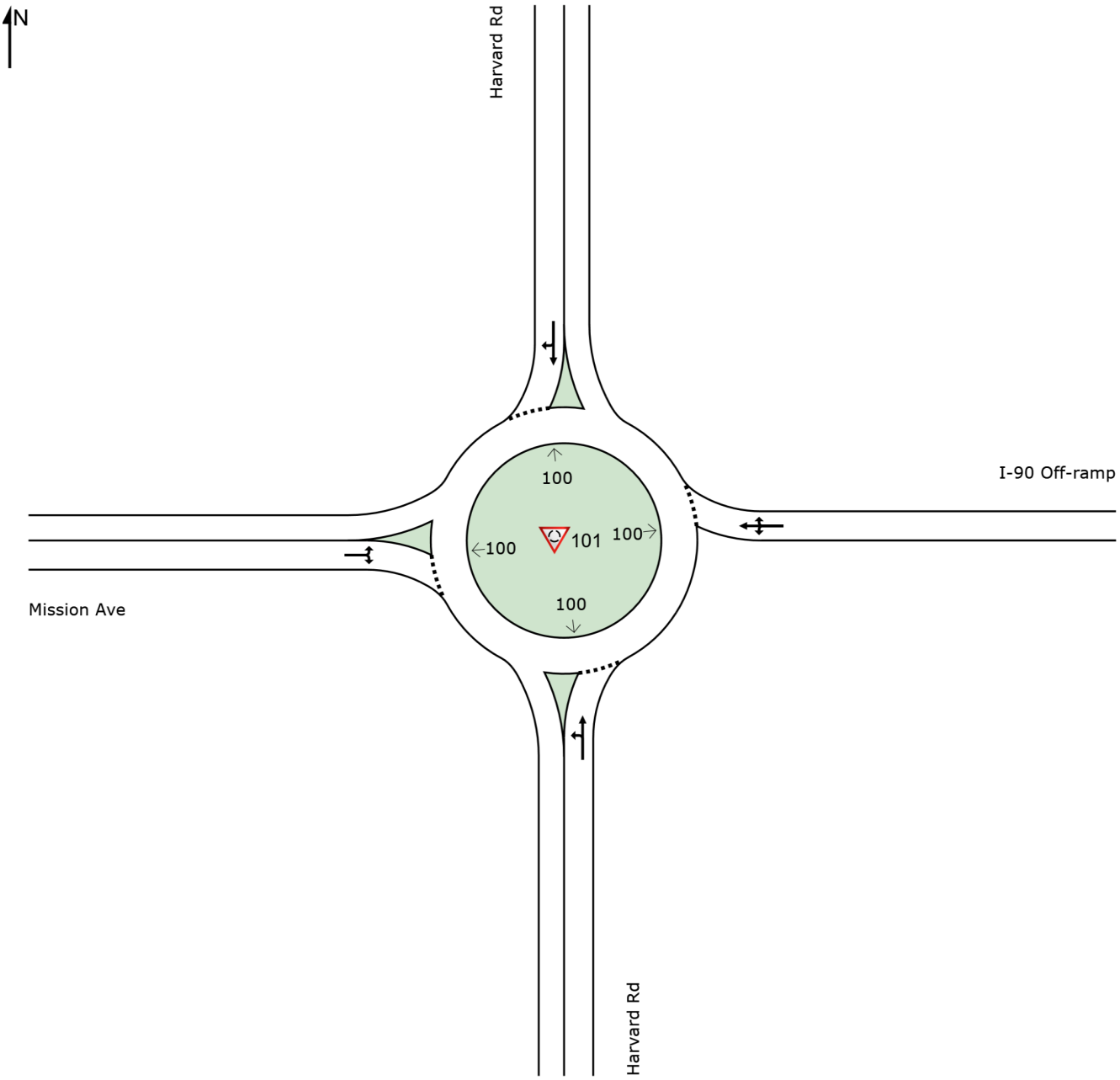
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

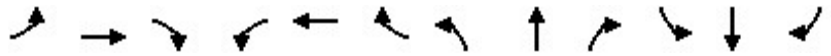
SITE LAYOUT

Site: 101 [Mission_Harvard PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	368	296	119	42	711	125	561	84	243	400	103
Future Volume (veh/h)	151	368	296	119	42	711	125	561	84	243	400	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1856	1900	1870	1885	1885	1870	1885	1885	1885
Adj Flow Rate, veh/h	164	400	322	129	46	773	136	610	91	264	435	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	3	0	2	1	1	2	1	1	1
Cap, veh/h	199	1171	522	162	585	860	174	812	360	303	1034	
Arrive On Green	0.11	0.33	0.33	0.09	0.31	0.31	0.10	0.23	0.23	0.17	0.29	0.00
Sat Flow, veh/h	1767	3554	1585	1767	1900	2790	1795	3582	1585	1795	3582	1598
Grp Volume(v), veh/h	164	400	322	129	46	773	136	610	91	264	435	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1585	1767	1900	1395	1795	1791	1585	1795	1791	1598
Q Serve(g_s), s	8.9	8.4	16.8	7.0	1.7	26.0	7.3	15.6	4.6	14.1	9.7	0.0
Cycle Q Clear(g_c), s	8.9	8.4	16.8	7.0	1.7	26.0	7.3	15.6	4.6	14.1	9.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	1171	522	162	585	860	174	812	360	303	1034	
V/C Ratio(X)	0.82	0.34	0.62	0.80	0.08	0.90	0.78	0.75	0.25	0.87	0.42	
Avail Cap(c_a), veh/h	378	1267	565	378	677	994	457	1094	484	384	1034	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.6	24.9	27.7	43.7	24.1	32.5	43.3	35.4	31.1	39.8	28.3	0.0
Incr Delay (d2), s/veh	8.2	0.2	2.2	8.7	0.1	10.0	10.4	2.5	0.5	17.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	6.3	10.7	6.2	1.4	14.8	6.7	11.3	3.3	12.1	7.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	25.1	29.9	52.4	24.1	42.5	53.7	37.9	31.7	57.2	28.5	0.0
LnGrp LOS	D	C	C	D	C	D	D	D	C	E	C	
Approach Vol, veh/h		886			948			837			699	
Approach Delay, s/veh		31.6			42.9			39.8			39.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	27.3	13.0	37.4	14.5	33.4	15.1	35.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	30.0	21.0	35.0	25.0	25.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	16.1	17.6	9.0	18.8	9.3	11.7	10.9	28.0
Green Ext Time (p_c), s	0.5	4.7	0.2	4.9	0.5	2.3	0.3	2.2

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	301	481	153	43	513	128	101	143	19	243	182	259
Future Volume (veh/h)	301	481	153	43	513	128	101	143	19	243	182	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1900	1870	1870	1885	1856	1900	1856	1885	1870
Adj Flow Rate, veh/h	320	512	163	46	546	136	107	152	20	259	194	276
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	2	0	2	2	1	3	0	3	1	2
Cap, veh/h	465	1011	320	365	717	178	311	463	60	514	409	365
Arrive On Green	0.16	0.38	0.38	0.04	0.25	0.25	0.07	0.15	0.15	0.15	0.23	0.23
Sat Flow, veh/h	1795	2676	848	1810	2821	700	1795	3138	407	1767	1791	1598
Grp Volume(v), veh/h	320	342	333	46	343	339	107	84	88	259	194	276
Grp Sat Flow(s),veh/h/ln	1795	1791	1733	1810	1777	1744	1795	1763	1782	1767	1791	1598
Q Serve(g_s), s	7.1	8.7	8.8	1.1	10.6	10.6	2.9	2.5	2.6	6.8	5.5	9.5
Cycle Q Clear(g_c), s	7.1	8.7	8.8	1.1	10.6	10.6	2.9	2.5	2.6	6.8	5.5	9.5
Prop In Lane	1.00		0.49	1.00		0.40	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	465	677	655	365	452	443	311	260	263	514	409	365
V/C Ratio(X)	0.69	0.51	0.51	0.13	0.76	0.76	0.34	0.32	0.33	0.50	0.47	0.76
Avail Cap(c_a), veh/h	816	772	747	942	766	752	822	1058	1070	874	1075	959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	14.2	14.2	15.3	20.4	20.4	19.4	22.6	22.6	15.7	19.7	21.3
Incr Delay (d2), s/veh	0.7	0.2	0.2	0.1	1.0	1.0	0.2	0.3	0.3	0.3	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	5.7	5.5	0.8	7.4	7.3	2.1	1.8	1.9	4.5	3.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	14.4	14.4	15.4	21.4	21.5	19.7	22.8	22.9	15.9	20.1	22.5
LnGrp LOS	B	B	B	B	C	C	B	C	C	B	C	C
Approach Vol, veh/h		995			728			279			729	
Approach Delay, s/veh		14.2			21.0			21.6			19.5	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	13.2	6.1	26.8	8.2	18.0	13.4	19.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	9.0	4.6	3.1	10.8	4.9	11.5	9.1	12.6
Green Ext Time (p_c), s	0.3	0.6	0.0	2.5	0.1	2.0	0.4	2.4

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	291	416	270	13	6	382
Future Vol, veh/h	291	416	270	13	6	382
Conflicting Peds, #/hr	7	0	0	7	5	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	17	2
Mvmt Flow	313	447	290	14	6	411

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	311	0	-	0	1159	159
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	855	-
Critical Hdwy	4.14	-	-	-	7.14	6.94
Critical Hdwy Stg 1	-	-	-	-	6.14	-
Critical Hdwy Stg 2	-	-	-	-	6.14	-
Follow-up Hdwy	2.22	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	1246	-	-	-	168	858
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	342	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1239	-	-	-	124	853
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	340	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	13.4
HCM LOS			B

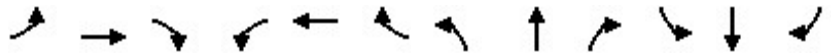
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1239	-	-	-	124	853
HCM Lane V/C Ratio	0.253	-	-	-	0.052	0.482
HCM Control Delay (s)	8.9	-	-	-	35.6	13.1
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	1	-	-	-	0.2	2.7



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	470	145	29	737	171	38
Future Volume (veh/h)	470	145	29	737	171	38
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1856	1900	1856
Adj Flow Rate, veh/h	528	163	33	828	192	43
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	0	3	0	3
Cap, veh/h	958	294	441	1940	290	252
Arrive On Green	0.36	0.36	0.03	0.55	0.16	0.16
Sat Flow, veh/h	2770	823	1810	3618	1810	1572
Grp Volume(v), veh/h	350	341	33	828	192	43
Grp Sat Flow(s),veh/h/ln	1777	1722	1810	1763	1810	1572
Q Serve(g_s), s	4.9	4.9	0.3	4.3	3.1	0.7
Cycle Q Clear(g_c), s	4.9	4.9	0.3	4.3	3.1	0.7
Prop In Lane		0.48	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	636	616	441	1940	290	252
V/C Ratio(X)	0.55	0.55	0.07	0.43	0.66	0.17
Avail Cap(c_a), veh/h	1427	1383	1256	5097	1512	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	8.0	5.5	4.1	12.3	11.3
Incr Delay (d2), s/veh	0.7	0.8	0.1	0.1	2.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	2.3	0.1	1.0	2.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.7	8.8	5.6	4.3	14.8	11.6
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	691			861	235	
Approach Delay, s/veh	8.8			4.3	14.3	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.0	16.1		9.0		22.1
Change Period (Y+Rc), s	5.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	25.0		26.0		45.0
Max Q Clear Time (g_c+I1), s	2.3	6.9		5.1		6.3
Green Ext Time (p_c), s	0.0	4.2		0.6		7.0

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	454	10	12	567	20	38	9	26	25	10	100
Future Volume (veh/h)	59	454	10	12	567	20	38	9	26	25	10	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1752	1900	1841	1900	1856	1737	1900	1841	1900	1885
Adj Flow Rate, veh/h	71	547	12	14	683	24	46	11	31	30	12	120
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	10	0	4	0	3	11	0	4	0	1
Cap, veh/h	422	1408	31	463	1177	41	214	29	53	496	39	385
Arrive On Green	0.06	0.40	0.40	0.01	0.34	0.34	0.11	0.11	0.11	0.03	0.26	0.26
Sat Flow, veh/h	1781	3555	78	1810	3447	121	614	262	476	1753	148	1484
Grp Volume(v), veh/h	71	273	286	14	346	361	88	0	0	30	0	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1856	1810	1749	1819	1352	0	0	1753	0	1633
Q Serve(g_s), s	0.9	4.2	4.2	0.2	6.2	6.2	1.8	0.0	0.0	0.5	0.0	2.5
Cycle Q Clear(g_c), s	0.9	4.2	4.2	0.2	6.2	6.2	2.3	0.0	0.0	0.5	0.0	2.5
Prop In Lane	1.00		0.04	1.00		0.07	0.52		0.35	1.00		0.91
Lane Grp Cap(c), veh/h	422	704	735	463	597	621	296	0	0	496	0	424
V/C Ratio(X)	0.17	0.39	0.39	0.03	0.58	0.58	0.30	0.00	0.00	0.06	0.00	0.31
Avail Cap(c_a), veh/h	1287	1666	1740	1441	1639	1705	1054	0	0	1395	0	2199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	8.2	8.2	8.0	10.2	10.2	15.9	0.0	0.0	12.5	0.0	11.3
Incr Delay (d2), s/veh	0.2	0.4	0.3	0.0	0.9	0.9	0.6	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	2.1	2.2	0.1	3.4	3.5	1.2	0.0	0.0	0.3	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	8.5	8.5	8.0	11.1	11.1	16.5	0.0	0.0	12.6	0.0	11.7
LnGrp LOS	A	A	A	A	B	B	B	A	A	B	A	B
Approach Vol, veh/h		630			721			88			162	
Approach Delay, s/veh		8.4			11.1			16.5			11.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	19.5		13.8	6.6	17.4	5.6	8.2
Change Period (Y+Rc), s	4.0	4.5		4.0	4.5	4.5	4.5	4.0
Max Green Setting (Gmax), s	21.0	35.5		51.0	20.5	35.5	20.5	26.0
Max Q Clear Time (g_c+I1), s	2.2	6.2		4.5	2.9	8.2	2.5	4.3
Green Ext Time (p_c), s	0.0	3.6		0.9	0.1	4.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	386	112	79	360	8	146	12	119	16	20	48
Future Volume (veh/h)	11	386	112	79	360	8	146	12	119	16	20	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1885	1841	1900	1856	1900	1856	1900	1900	1841
Adj Flow Rate, veh/h	12	424	123	87	396	9	160	13	131	18	22	53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	0	1	4	0	3	0	3	0	0	4
Cap, veh/h	412	699	201	384	1053	24	487	361	298	328	180	147
Arrive On Green	0.01	0.26	0.26	0.05	0.30	0.30	0.11	0.19	0.19	0.01	0.09	0.09
Sat Flow, veh/h	1810	2724	783	1795	3496	79	1767	1900	1572	1810	1900	1560
Grp Volume(v), veh/h	12	275	272	87	198	207	160	13	131	18	22	53
Grp Sat Flow(s),veh/h/ln	1810	1777	1729	1795	1749	1826	1767	1900	1572	1810	1900	1560
Q Serve(g_s), s	0.2	5.3	5.4	1.4	3.5	3.5	3.0	0.2	2.9	0.4	0.4	1.2
Cycle Q Clear(g_c), s	0.2	5.3	5.4	1.4	3.5	3.5	3.0	0.2	2.9	0.4	0.4	1.2
Prop In Lane	1.00		0.45	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	456	444	384	527	550	487	361	298	328	180	147
V/C Ratio(X)	0.03	0.60	0.61	0.23	0.38	0.38	0.33	0.04	0.44	0.05	0.12	0.36
Avail Cap(c_a), veh/h	881	863	840	769	850	888	769	923	764	790	923	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.6	12.8	12.8	10.2	10.8	10.8	12.6	12.9	14.0	15.7	16.2	16.6
Incr Delay (d2), s/veh	0.0	1.3	1.4	0.3	0.6	0.6	0.4	0.1	1.4	0.1	0.4	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	3.3	3.3	0.8	2.1	2.1	1.8	0.1	1.7	0.2	0.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	14.1	14.2	10.5	11.4	11.4	13.0	13.0	15.4	15.8	16.6	18.7
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		559			492			304			93	
Approach Delay, s/veh		14.1			11.2			14.1			17.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	12.4	4.9	16.8	8.8	8.7	6.6	15.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	10.5	19.0	10.5	19.0	10.5	19.0	10.5	19.0
Max Q Clear Time (g_c+I1), s	2.4	4.9	2.2	5.5	5.0	3.2	3.4	7.4
Green Ext Time (p_c), s	0.0	0.5	0.0	2.7	0.2	0.3	0.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 101 [Mission_Molter PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Molter Rd														
3	L2	63	2.0	63	2.0	0.188	11.4	LOS B	1.0	24.5	0.48	0.62	0.48	35.7
8	T1	113	1.0	113	1.0	0.188	5.5	LOS A	1.0	24.5	0.48	0.62	0.48	35.6
18	R2	14	1.0	14	1.0	0.188	5.5	LOS A	1.0	24.5	0.48	0.62	0.48	34.6
Approach		190	1.3	190	1.3	0.188	7.4	LOS A	1.0	24.5	0.48	0.62	0.48	35.6
East: Mission Ave														
1	L2	19	2.0	19	2.0	0.299	11.0	LOS B	1.7	42.8	0.44	0.52	0.44	36.5
6	T1	265	2.0	265	2.0	0.299	5.0	LOS A	1.7	42.8	0.44	0.52	0.44	36.4
16	R2	42	2.0	42	2.0	0.299	5.1	LOS A	1.7	42.8	0.44	0.52	0.44	35.3
Approach		326	2.0	326	2.0	0.299	5.4	LOS A	1.7	42.8	0.44	0.52	0.44	36.3
North: Molter Rd														
7	L2	63	2.0	63	2.0	0.224	11.5	LOS B	1.2	30.3	0.50	0.63	0.50	35.8
4	T1	108	2.0	108	2.0	0.224	5.6	LOS A	1.2	30.3	0.50	0.63	0.50	35.7
14	R2	52	2.0	52	2.0	0.224	5.7	LOS A	1.2	30.3	0.50	0.63	0.50	34.6
Approach		223	2.0	223	2.0	0.224	7.3	LOS A	1.2	30.3	0.50	0.63	0.50	35.5
West: Mission Ave														
5	L2	48	3.0	48	3.0	0.308	10.9	LOS B	1.8	45.5	0.42	0.53	0.42	36.4
2	T1	226	3.0	226	3.0	0.308	4.9	LOS A	1.8	45.5	0.42	0.53	0.42	36.3
12	R2	65	3.0	65	3.0	0.308	5.0	LOS A	1.8	45.5	0.42	0.53	0.42	35.2
Approach		339	3.0	339	3.0	0.308	5.8	LOS A	1.8	45.5	0.42	0.53	0.42	36.1
All Vehicles		1078	2.2	1078	2.2	0.308	6.3	LOS A	1.8	45.5	0.45	0.56	0.45	35.9

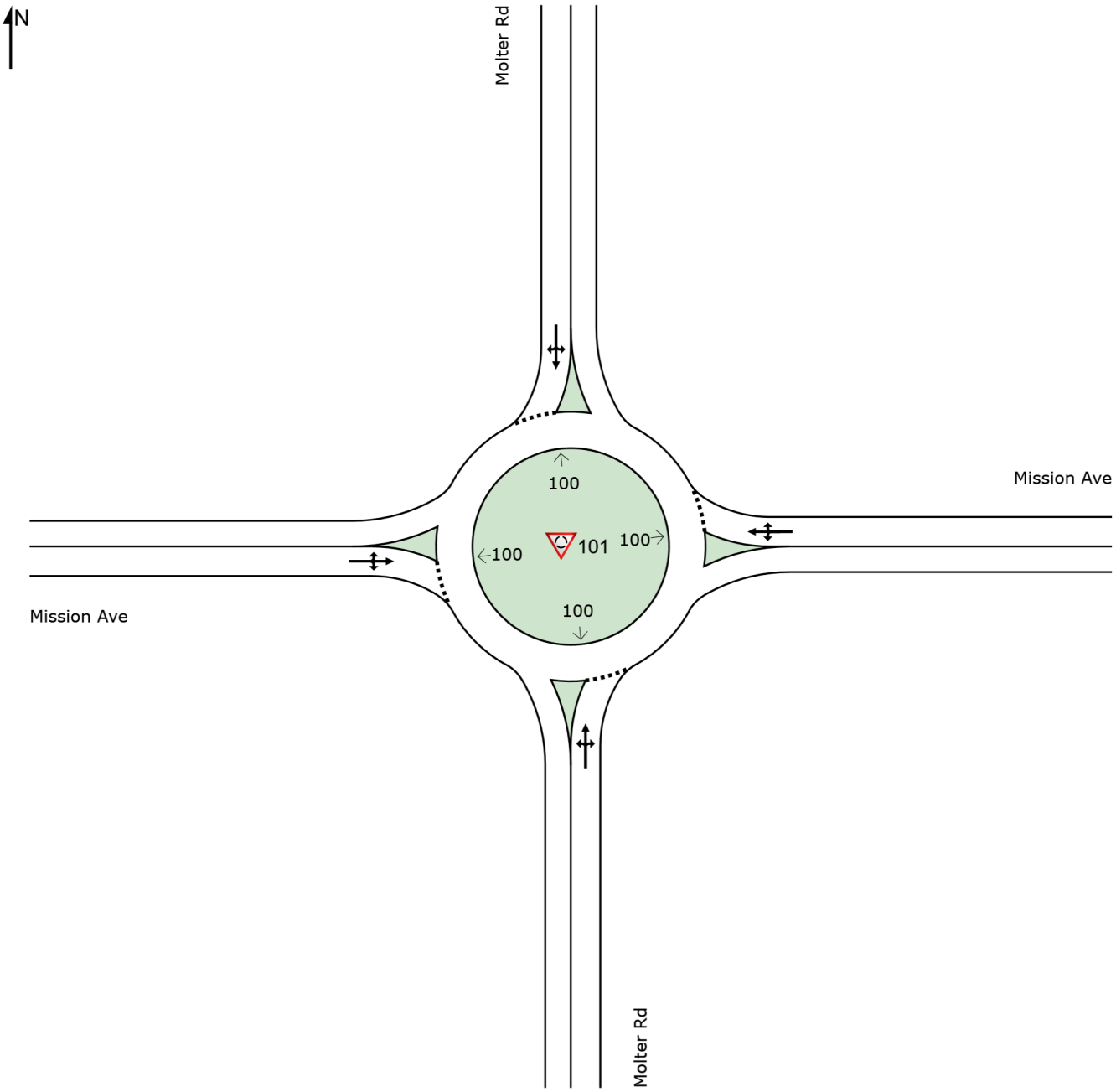
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Molter PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Mission_Harvest PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvest Pkwy														
3	L2	36	3.0	36	3.0	0.102	11.3	LOS B	0.5	12.2	0.44	0.61	0.44	35.9
8	T1	12	2.0	12	2.0	0.102	5.3	LOS A	0.5	12.2	0.44	0.61	0.44	35.8
18	R2	55	2.0	55	2.0	0.102	5.4	LOS A	0.5	12.2	0.44	0.61	0.44	34.7
Approach		103	2.3	103	2.3	0.102	7.4	LOS A	0.5	12.2	0.44	0.61	0.44	35.3
East: Mission Ave														
1	L2	50	3.0	50	3.0	0.323	10.4	LOS B	1.8	46.4	0.30	0.47	0.30	36.8
6	T1	270	3.0	270	3.0	0.323	4.4	LOS A	1.8	46.4	0.30	0.47	0.30	36.7
16	R2	65	3.0	65	3.0	0.323	4.5	LOS A	1.8	46.4	0.30	0.47	0.30	35.6
Approach		385	3.0	385	3.0	0.323	5.2	LOS A	1.8	46.4	0.30	0.47	0.30	36.5
North: Harvest Pkwy														
7	L2	35	1.0	35	1.0	0.085	11.3	LOS B	0.4	10.1	0.45	0.62	0.45	35.7
4	T1	10	1.0	10	1.0	0.085	5.4	LOS A	0.4	10.1	0.45	0.62	0.45	35.6
14	R2	40	1.0	40	1.0	0.085	5.4	LOS A	0.4	10.1	0.45	0.62	0.45	34.6
Approach		85	1.0	85	1.0	0.085	7.9	LOS A	0.4	10.1	0.45	0.62	0.45	35.2
West: Mission Ave														
5	L2	53	3.0	53	3.0	0.272	10.3	LOS B	1.4	37.1	0.27	0.47	0.27	36.8
2	T1	240	4.0	240	4.0	0.272	4.4	LOS A	1.4	37.1	0.27	0.47	0.27	36.7
12	R2	30	3.0	30	3.0	0.272	4.4	LOS A	1.4	37.1	0.27	0.47	0.27	35.6
Approach		323	3.7	323	3.7	0.272	5.3	LOS A	1.4	37.1	0.27	0.47	0.27	36.6
All Vehicles		896	3.0	896	3.0	0.323	5.8	LOS A	1.8	46.4	0.32	0.50	0.32	36.3

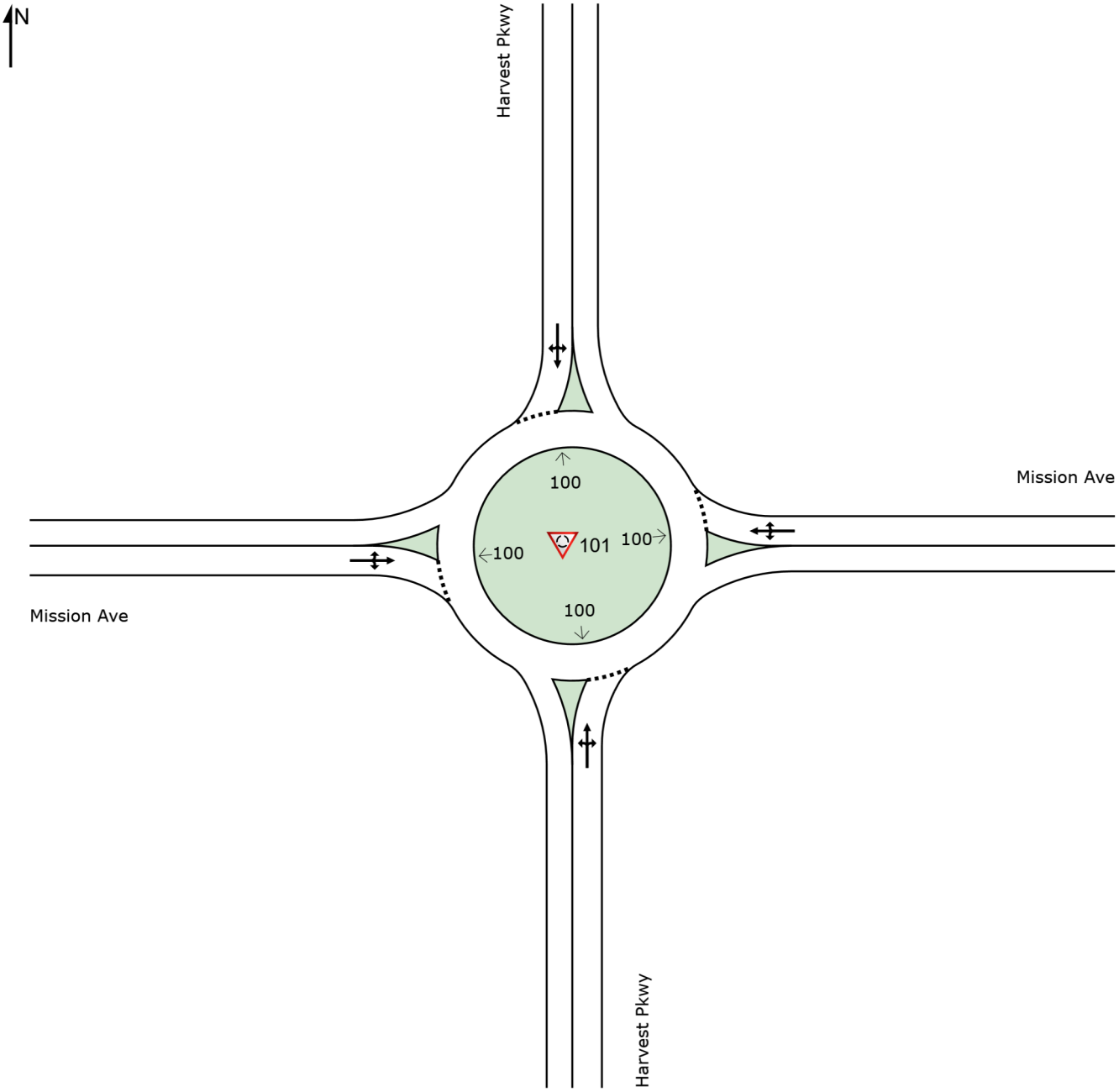
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvest PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	395	126	52	254	100	64
Future Vol, veh/h	395	126	52	254	100	64
Conflicting Peds, #/hr	0	4	4	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	5	1	2
Mvmt Flow	429	137	57	276	109	70

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	570	0	892	503
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	390	-
Critical Hdwy	-	-	4.1	-	6.41	6.22
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.318
Pot Cap-1 Maneuver	-	-	1013	-	314	569
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	686	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1010	-	295	567
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	421	567	-	-	1010	-
HCM Lane V/C Ratio	0.258	0.123	-	-	0.056	-
HCM Control Delay (s)	16.5	12.2	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1	0.4	-	-	0.2	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	122	21	7	68	14	17	29	6	9	33	88
Future Vol, veh/h	107	122	21	7	68	14	17	29	6	9	33	88
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	1	0	0	0	0	0	0	3	0	0	0	5
Mvmt Flow	129	147	25	8	82	17	20	35	7	11	40	106
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.6	8.9	8.6	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	7%
Vol Thru, %	56%	0%	85%	0%	83%	25%
Vol Right, %	12%	0%	15%	0%	17%	68%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	107	143	7	82	130
LT Vol	17	107	0	7	0	9
Through Vol	29	0	122	0	68	33
RT Vol	6	0	21	0	14	88
Lane Flow Rate	63	129	172	8	99	157
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.088	0.202	0.24	0.014	0.143	0.199
Departure Headway (Hd)	5.081	5.643	5.019	5.838	5.214	4.575
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	702	634	713	610	684	782
Service Time	3.135	3.395	2.771	3.599	2.974	2.617
HCM Lane V/C Ratio	0.09	0.203	0.241	0.013	0.145	0.201
HCM Control Delay	8.6	9.8	9.4	8.7	8.9	8.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.8	0.9	0	0.5	0.7

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	77	92	90	7	59	16	68	80	13	22	94	62
Future Vol, veh/h	77	92	90	7	59	16	68	80	13	22	94	62
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	1	1	0	0	0	2	1	0	0	0	0
Mvmt Flow	87	103	101	8	66	18	76	90	15	25	106	70
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.2	9.2	9.8	10.1
HCM LOS	B	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	30%	9%	100%	0%
Vol Thru, %	0%	86%	36%	72%	0%	60%
Vol Right, %	0%	14%	35%	20%	0%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	93	259	82	22	156
LT Vol	68	0	77	7	22	0
Through Vol	0	80	92	59	0	94
RT Vol	0	13	90	16	0	62
Lane Flow Rate	76	104	291	92	25	175
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.134	0.166	0.401	0.135	0.043	0.268
Departure Headway (Hd)	6.329	5.706	4.961	5.291	6.283	5.495
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	568	629	730	677	571	656
Service Time	4.057	3.433	2.961	3.324	4.009	3.221
HCM Lane V/C Ratio	0.134	0.165	0.399	0.136	0.044	0.267
HCM Control Delay	10	9.6	11.2	9.2	9.3	10.2
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0.5	0.6	1.9	0.5	0.1	1.1

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	67	5	2	49	29	7	25	4	32	42	8
Future Vol, veh/h	9	67	5	2	49	29	7	25	4	32	42	8
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	11	80	6	2	58	35	8	30	5	38	50	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.6	7.7	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	11%	3%	39%
Vol Thru, %	69%	83%	61%	51%
Vol Right, %	11%	6%	36%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	81	80	82
LT Vol	7	9	2	32
Through Vol	25	67	49	42
RT Vol	4	5	29	8
Lane Flow Rate	43	96	95	98
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.115	0.109	0.119
Departure Headway (Hd)	4.402	4.305	4.113	4.388
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	816	835	874	820
Service Time	2.415	2.316	2.123	2.399
HCM Lane V/C Ratio	0.053	0.115	0.109	0.12
HCM Control Delay	7.7	7.9	7.6	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.4	0.4

MOVEMENT SUMMARY

Site: 101 [Mission_Kramer PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Kramer Pkwy														
3	L2	198	1.0	198	1.0	0.290	11.0	LOS B	1.6	40.0	0.44	0.65	0.44	35.1
18	R2	118	2.0	118	2.0	0.290	5.2	LOS A	1.6	40.0	0.44	0.65	0.44	34.0
Approach		316	1.4	316	1.4	0.290	8.9	LOS A	1.6	40.0	0.44	0.65	0.44	34.7
East: Mission Ave														
1	L2	82	2.0	82	2.0	0.289	10.8	LOS B	1.6	41.7	0.42	0.55	0.42	36.1
6	T1	236	3.0	236	3.0	0.289	4.9	LOS A	1.6	41.7	0.42	0.55	0.42	36.0
Approach		318	2.7	318	2.7	0.289	6.4	LOS A	1.6	41.7	0.42	0.55	0.42	36.0
West: Mission Ave														
2	T1	237	3.0	237	3.0	0.316	4.3	LOS A	1.9	47.7	0.28	0.43	0.28	37.2
12	R2	145	2.0	145	2.0	0.316	4.3	LOS A	1.9	47.7	0.28	0.43	0.28	36.1
Approach		382	2.6	382	2.6	0.316	4.3	LOS A	1.9	47.7	0.28	0.43	0.28	36.8
All Vehicles		1016	2.3	1016	2.3	0.316	6.4	LOS A	1.9	47.7	0.37	0.54	0.37	35.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

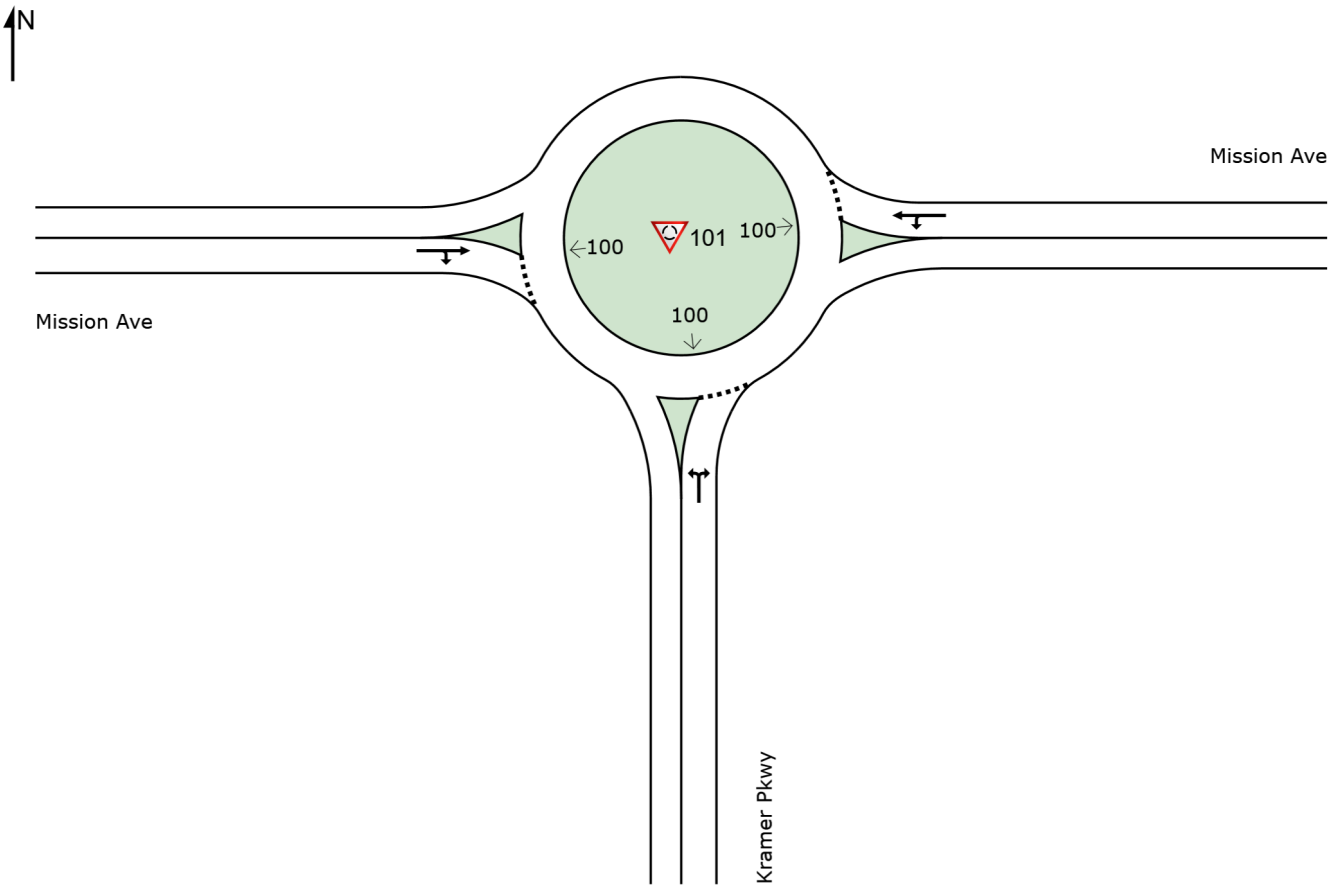
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SITE LAYOUT

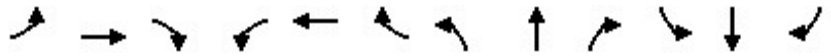
Site: 101 [Mission_Kramer PM (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	4	50	18	4	2	35	636	25	1	483	16
Future Volume (veh/h)	22	4	50	18	4	2	35	636	25	1	483	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1530	1826	1811	1900	1159	1900	1870	1900	1900	1870	1900
Adj Flow Rate, veh/h	24	4	55	20	4	2	38	699	27	1	531	18
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	25	5	6	0	50	0	2	0	0	2	0
Cap, veh/h	43	6	83	35	77	38	514	1473	57	417	1361	46
Arrive On Green	0.02	0.07	0.07	0.02	0.06	0.06	0.04	0.42	0.42	0.00	0.39	0.39
Sat Flow, veh/h	1810	89	1221	1725	1195	597	1810	3488	135	1810	3507	119
Grp Volume(v), veh/h	24	0	59	20	0	6	38	356	370	1	269	280
Grp Sat Flow(s),veh/h/ln	1810	0	1310	1725	0	1792	1810	1777	1846	1810	1777	1849
Q Serve(g_s), s	0.5	0.0	1.5	0.4	0.0	0.1	0.4	5.0	5.0	0.0	3.8	3.8
Cycle Q Clear(g_c), s	0.5	0.0	1.5	0.4	0.0	0.1	0.4	5.0	5.0	0.0	3.8	3.8
Prop In Lane	1.00		0.93	1.00		0.33	1.00		0.07	1.00		0.06
Lane Grp Cap(c), veh/h	43	0	89	35	0	115	514	750	780	417	690	718
V/C Ratio(X)	0.56	0.00	0.66	0.57	0.00	0.05	0.07	0.47	0.47	0.00	0.39	0.39
Avail Cap(c_a), veh/h	312	0	658	396	0	1004	1230	2271	2360	724	1812	1886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	15.8	16.9	0.0	15.3	6.1	7.3	7.3	6.7	7.7	7.7
Incr Delay (d2), s/veh	10.8	0.0	11.4	14.0	0.0	0.3	0.1	0.7	0.6	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	1.2	0.5	0.0	0.1	0.2	2.4	2.5	0.0	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	0.0	27.2	30.9	0.0	15.6	6.2	7.9	7.9	6.7	8.2	8.2
LnGrp LOS	C	A	C	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		83			26			764			550	
Approach Delay, s/veh		27.3			27.4			7.8			8.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	18.0	4.8	6.7	4.0	19.2	4.7	6.9
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.0	35.5	6.0	19.5	6.0	44.5	8.0	17.5
Max Q Clear Time (g_c+I1), s	2.4	5.8	2.5	2.1	2.0	7.0	2.4	3.5
Green Ext Time (p_c), s	0.0	5.2	0.0	0.0	0.0	7.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	2	15	12	1	7	15	620	25	4	473	11
Future Vol, veh/h	5	2	15	12	1	7	15	620	25	4	473	11
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	55	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	9	8	0	0	0	2	0	0	2	9
Mvmt Flow	6	2	17	13	1	8	17	697	28	4	531	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	931	1306	274	1022	1298	366	544	0	0	726	0	0
Stage 1	546	546	-	746	746	-	-	-	-	-	-	-
Stage 2	385	760	-	276	552	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.08	7.66	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.66	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.66	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.58	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	225	161	703	182	163	637	1035	-	-	886	-	-
Stage 1	495	521	-	358	424	-	-	-	-	-	-	-
Stage 2	615	417	-	690	518	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	217	157	702	173	159	635	1034	-	-	885	-	-
Mov Cap-2 Maneuver	217	157	-	173	159	-	-	-	-	-	-	-
Stage 1	487	518	-	352	417	-	-	-	-	-	-	-
Stage 2	595	410	-	667	515	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	21.9	0.2	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1034	-	-	196	702	172	635	885	-	-
HCM Lane V/C Ratio	0.016	-	-	0.04	0.024	0.085	0.012	0.005	-	-
HCM Control Delay (s)	8.5	-	-	24.1	10.3	27.9	10.7	9.1	-	-
HCM Lane LOS	A	-	-	C	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0.3	0	0	-	-

Intersection	
Int Delay, s/veh	11

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	254	19	4	347	159	6	15	8	147	31	34
Future Vol, veh/h	39	254	19	4	347	159	6	15	8	147	31	34
Conflicting Peds, #/hr	4	0	7	7	0	4	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	3	5	0	1	0	0	7	0	1	0	6
Mvmt Flow	41	270	20	4	369	169	6	16	9	156	33	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	297	0	0	866	919	287	841	845	459
Stage 1	-	-	-	-	-	-	369	369	-	466	466	-
Stage 2	-	-	-	-	-	-	497	550	-	375	379	-
Critical Hdwy	4.15	-	-	4.1	-	-	7.1	6.57	6.2	7.11	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Follow-up Hdwy	2.245	-	-	2.2	-	-	3.5	4.063	3.3	3.509	4	3.354
Pot Cap-1 Maneuver	1012	-	-	1276	-	-	276	266	757	286	302	594
Stage 1	-	-	-	-	-	-	655	612	-	579	566	-
Stage 2	-	-	-	-	-	-	559	508	-	648	618	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1009	-	-	1269	-	-	227	252	753	259	286	592
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	252	-	259	286	-
Stage 1	-	-	-	-	-	-	625	583	-	554	563	-
Stage 2	-	-	-	-	-	-	492	505	-	598	589	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	18.4	50.6
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	1009	-	-	1269	-	-	289
HCM Lane V/C Ratio	0.103	0.041	-	-	0.003	-	-	0.78
HCM Control Delay (s)	18.4	8.7	-	-	7.8	-	-	50.6
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	6

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	368	436	3	13	42
Future Vol, veh/h	4	368	436	3	13	42
Conflicting Peds, #/hr	2	0	0	2	9	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	4	396	469	3	14	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	474	0	-	0	886	473
Stage 1	-	-	-	-	473	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1099	-	-	-	318	595
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	672	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1097	-	-	-	315	594
Mov Cap-2 Maneuver	-	-	-	-	439	-
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1097	-	-	-	548
HCM Lane V/C Ratio	0.004	-	-	-	0.108
HCM Control Delay (s)	8.3	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Lane Configurations							
Traffic Volume (vph)	755	35	11	570	35	35	
Future Volume (vph)	755	35	11	570	35	35	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		75	100		100	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	
Frt	0.993					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	3421	0	1805	3505	1805	1615	
Flt Permitted			0.950		0.950		
Satd. Flow (perm)	3421	0	1805	3505	1805	1615	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	4					36	
Link Speed (mph)	30			30	30		
Link Distance (ft)	425			3165	712		
Travel Time (s)	9.7			71.9	16.2		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	5%	0%	0%	3%	0%	0%	
Adj. Flow (vph)	770	36	11	582	36	36	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	806	0	11	582	36	36	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane	Yes			Yes	Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2		1	2	1	1	
Detector Template	Thru		Left	Thru	Left	Right	
Leading Detector (ft)	100		20	100	20	20	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	6		20	6	20	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94			
Detector 2 Size(ft)	6			6			
Detector 2 Type	Cl+Ex			Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)	0.0			0.0			
Turn Type	NA		Prot	NA	Prot	Perm	
Protected Phases	2		1	6	8		14



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Permitted Phases						8	
Detector Phase	2		1	6	8	8	
Switch Phase							
Minimum Initial (s)	7.0		4.0	4.0	7.0	7.0	4.0
Minimum Split (s)	26.5		9.5	36.5	21.5	21.5	25.0
Total Split (s)	40.0		30.0	70.0	30.0	30.0	25.0
Total Split (%)	32.0%		24.0%	56.0%	24.0%	24.0%	20%
Maximum Green (s)	34.5		24.5	64.5	26.0	26.0	21.0
Yellow Time (s)	4.5		4.5	4.5	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	4.0	
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None	Ped
Walk Time (s)							6.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							4
Act Effct Green (s)	20.8		5.2	22.5	7.5	7.5	
Actuated g/C Ratio	0.33		0.08	0.36	0.12	0.12	
v/c Ratio	0.71		0.07	0.46	0.17	0.16	
Control Delay	22.9		33.6	16.5	32.2	14.1	
Queue Delay	0.0		0.0	0.0	0.0	0.0	
Total Delay	22.9		33.6	16.5	32.2	14.1	
LOS	C		C	B	C	B	
Approach Delay	22.9			16.9	23.2		
Approach LOS	C			B	C		
Queue Length 50th (ft)	136		4	90	13	0	
Queue Length 95th (ft)	247		21	129	47	28	
Internal Link Dist (ft)	345			3085	632		
Turn Bay Length (ft)			100		100		
Base Capacity (vph)	1963		734	3332	780	718	
Starvation Cap Reductn	0		0	0	0	0	
Spillback Cap Reductn	0		0	0	0	0	
Storage Cap Reductn	0		0	0	0	0	
Reduced v/c Ratio	0.41		0.01	0.17	0.05	0.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 63			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Ridgeline HS & Country Vista Dr



Appendix E

Short-Term Analysis Results (2028)

AM Peak Hour

Intersection	
Int Delay, s/veh	3.1

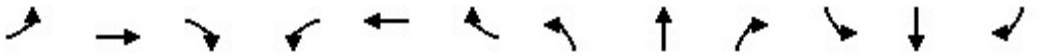
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	145	620	760	95	45	105
Future Vol, veh/h	145	620	760	95	45	105
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	6	5	6	2	0	3
Mvmt Flow	184	785	962	120	57	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1083	0	-	0	1784	542
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	761	-
Critical Hdwy	4.22	-	-	-	6.8	6.96
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.26	-	-	-	3.5	3.33
Pot Cap-1 Maneuver	617	-	-	-	75	482
Stage 1	-	-	-	-	312	-
Stage 2	-	-	-	-	427	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	616	-	-	-	~ 53	482
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	427	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	23.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	616	-	-	-	153	482
HCM Lane V/C Ratio	0.298	-	-	-	0.372	0.276
HCM Control Delay (s)	13.3	-	-	-	41.9	15.3
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	1.2	-	-	-	1.6	1.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	490	35	80	655	110	130	95	195	150	45	175
Future Volume (veh/h)	85	490	35	80	655	110	130	95	195	150	45	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1900	1870	1841	1900	1900	1856	1885	1856	1856	1870
Adj Flow Rate, veh/h	110	636	45	104	851	143	169	123	253	195	58	227
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	7	0	2	4	0	0	3	1	3	3	2
Cap, veh/h	239	1062	75	326	975	164	404	144	297	333	92	361
Arrive On Green	0.06	0.33	0.33	0.06	0.33	0.33	0.09	0.27	0.27	0.11	0.28	0.28
Sat Flow, veh/h	1767	3233	229	1781	2995	503	1810	541	1114	1767	330	1293
Grp Volume(v), veh/h	110	335	346	104	497	497	169	0	376	195	0	285
Grp Sat Flow(s),veh/h/ln	1767	1706	1755	1781	1749	1750	1810	0	1655	1767	0	1623
Q Serve(g_s), s	3.0	12.3	12.3	2.9	20.1	20.1	4.9	0.0	16.2	5.8	0.0	11.5
Cycle Q Clear(g_c), s	3.0	12.3	12.3	2.9	20.1	20.1	4.9	0.0	16.2	5.8	0.0	11.5
Prop In Lane	1.00		0.13	1.00		0.29	1.00		0.67	1.00		0.80
Lane Grp Cap(c), veh/h	239	561	577	326	569	569	404	0	441	333	0	453
V/C Ratio(X)	0.46	0.60	0.60	0.32	0.87	0.87	0.42	0.00	0.85	0.58	0.00	0.63
Avail Cap(c_a), veh/h	376	580	597	470	595	595	489	0	563	394	0	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.3	21.0	21.0	16.2	23.8	23.8	17.8	0.0	26.1	18.8	0.0	23.6
Incr Delay (d2), s/veh	2.0	2.0	1.9	0.8	13.6	13.6	1.0	0.0	10.9	2.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	8.6	8.8	2.1	15.0	15.1	3.7	0.0	11.8	4.4	0.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	23.0	23.0	17.0	37.4	37.4	18.8	0.0	37.0	21.1	0.0	25.8
LnGrp LOS	C	C	C	B	D	D	B	A	D	C	A	C
Approach Vol, veh/h		791			1098			545			480	
Approach Delay, s/veh		22.6			35.5			31.4			23.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	29.1	11.5	25.4	9.2	28.9	12.4	24.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	10.5	25.5	10.5	25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s	4.9	14.3	6.9	13.5	5.0	22.1	7.8	18.2
Green Ext Time (p_c), s	0.2	4.2	0.2	1.8	0.2	2.3	0.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	760	45	75	710	45	110	5	165	35	5	30
Future Volume (veh/h)	40	760	45	75	710	45	110	5	165	35	5	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1781	1856	1841	1870	1885	1870	1900	1870	1870	1870
Adj Flow Rate, veh/h	45	864	51	85	807	51	125	6	188	40	6	33
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.92
Percent Heavy Veh, %	2	4	8	3	4	2	1	2	0	2	2	2
Cap, veh/h	418	1506	89	416	1565	99	403	10	305	260	49	272
Arrive On Green	0.04	0.45	0.45	0.06	0.47	0.47	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3356	198	1767	3340	211	1379	49	1543	1189	250	1373
Grp Volume(v), veh/h	45	450	465	85	422	436	125	0	194	40	0	39
Grp Sat Flow(s),veh/h/ln	1781	1749	1805	1767	1749	1803	1379	0	1593	1189	0	1623
Q Serve(g_s), s	0.6	8.7	8.7	1.1	7.7	7.7	3.7	0.0	5.1	1.5	0.0	0.9
Cycle Q Clear(g_c), s	0.6	8.7	8.7	1.1	7.7	7.7	4.6	0.0	5.1	6.5	0.0	0.9
Prop In Lane	1.00		0.11	1.00		0.12	1.00		0.97	1.00		0.85
Lane Grp Cap(c), veh/h	418	785	810	416	819	845	403	0	315	260	0	321
V/C Ratio(X)	0.11	0.57	0.57	0.20	0.52	0.52	0.31	0.00	0.62	0.15	0.00	0.12
Avail Cap(c_a), veh/h	760	1551	1601	720	1551	1599	901	0	889	689	0	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	9.3	9.3	6.8	8.5	8.5	17.0	0.0	16.7	19.7	0.0	15.1
Incr Delay (d2), s/veh	0.2	0.9	0.9	0.3	0.7	0.7	0.6	0.0	2.8	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	4.9	5.0	0.6	4.2	4.3	2.0	0.0	3.3	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	10.3	10.3	7.2	9.2	9.2	17.6	0.0	19.5	20.1	0.0	15.3
LnGrp LOS	A	B	B	A	A	A	B	A	B	C	A	B
Approach Vol, veh/h		960			943			319			79	
Approach Delay, s/veh		10.1			9.0			18.8			17.7	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	25.0		13.5	6.2	25.9		13.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	40.5		25.5	10.5	40.5		25.5
Max Q Clear Time (g_c+I1), s	3.1	10.7		8.5	2.6	9.7		7.1
Green Ext Time (p_c), s	0.1	9.8		0.3	0.1	9.1		2.1

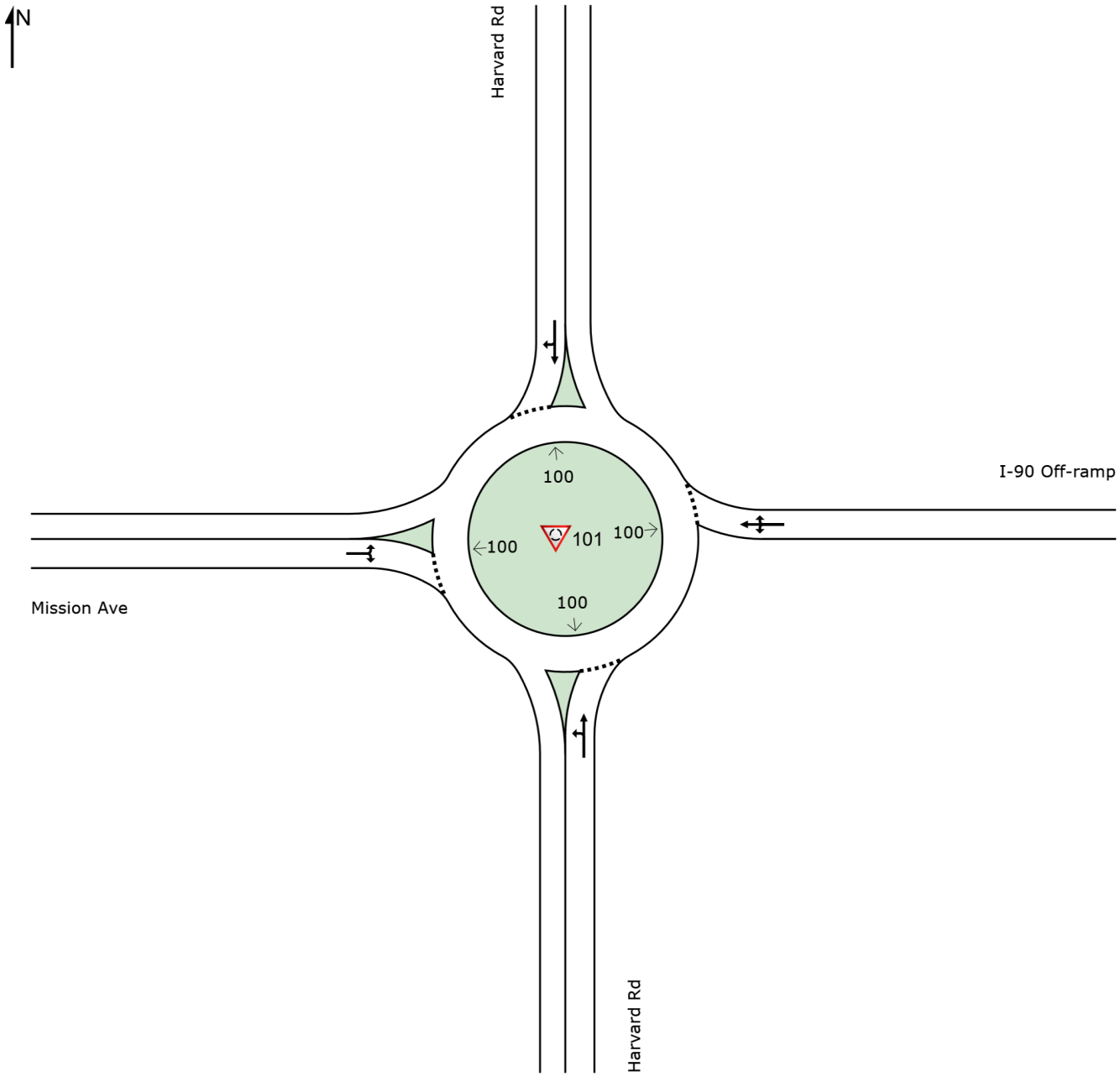
Intersection Summary		
HCM 6th Ctrl Delay		11.1
HCM 6th LOS		B

SITE LAYOUT

Site: 101 [Mission_Harvard AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

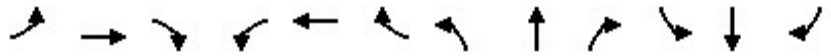
Site: 101 [Mission_Harvard AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	240	5.0	240	5.0	0.387	10.2	LOS B	2.9	74.4	0.33	0.53	0.33	35.6
8	T1	265	3.0	265	3.0	0.387	4.3	LOS A	2.9	74.4	0.33	0.53	0.33	35.6
Approach		505	4.0	505	4.0	0.387	7.1	LOS A	2.9	74.4	0.33	0.53	0.33	35.6
East: I-90 Off-ramp														
1	L2	160	2.0	160	2.0	0.322	12.9	LOS B	2.0	50.3	0.67	0.77	0.67	34.5
6	T1	85	4.0	85	4.0	0.322	7.1	LOS A	2.0	50.3	0.67	0.77	0.67	34.4
16	R2	55	4.0	55	4.0	0.322	7.2	LOS A	2.0	50.3	0.67	0.77	0.67	33.4
Approach		300	2.9	300	2.9	0.322	10.2	LOS B	2.0	50.3	0.67	0.77	0.67	34.2
North: Harvard Rd														
4	T1	580	3.0	580	3.0	0.674	9.5	LOS A	7.1	182.1	0.82	0.90	1.03	34.8
14	R2	90	5.0	90	5.0	0.674	9.7	LOS A	7.1	182.1	0.82	0.90	1.03	33.8
Approach		670	3.3	670	3.3	0.674	9.6	LOS A	7.1	182.1	0.82	0.90	1.03	34.7
West: Mission Ave														
5	L2	80	4.0	80	4.0	0.559	17.0	LOS B	5.1	132.8	0.91	1.00	1.11	33.4
12	R2	330	4.0	330	4.0	0.559	11.1	LOS B	5.1	132.8	0.91	1.00	1.11	32.4
Approach		410	4.0	410	4.0	0.559	12.3	LOS B	5.1	132.8	0.91	1.00	1.11	32.6
All Vehicles		1885	3.6	1885	3.6	0.674	9.6	LOS A	7.1	182.1	0.69	0.80	0.80	34.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



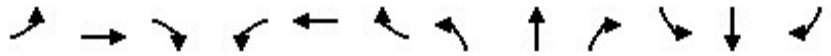
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	625	265	115	25	545	125	490	125	290	330	105
Future Volume (veh/h)	155	625	265	115	25	545	125	490	125	290	330	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1707	1470	1811	1811	1856	1811	1856	1870	1781
Adj Flow Rate, veh/h	172	694	294	128	28	606	139	544	139	322	367	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	5	13	29	6	6	3	6	3	2	8
Cap, veh/h	210	983	438	159	384	706	177	770	335	360	1096	
Arrive On Green	0.12	0.28	0.28	0.10	0.26	0.26	0.10	0.22	0.22	0.20	0.31	0.00
Sat Flow, veh/h	1753	3469	1547	1626	1470	2701	1725	3526	1535	1767	3554	1510
Grp Volume(v), veh/h	172	694	294	128	28	606	139	544	139	322	367	0
Grp Sat Flow(s),veh/h/ln	1753	1735	1547	1626	1470	1351	1725	1763	1535	1767	1777	1510
Q Serve(g_s), s	8.8	16.4	15.4	7.1	1.3	19.5	7.2	13.0	7.1	16.2	7.3	0.0
Cycle Q Clear(g_c), s	8.8	16.4	15.4	7.1	1.3	19.5	7.2	13.0	7.1	16.2	7.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	983	438	159	384	706	177	770	335	360	1096	
V/C Ratio(X)	0.82	0.71	0.67	0.81	0.07	0.86	0.78	0.71	0.41	0.89	0.33	
Avail Cap(c_a), veh/h	402	1327	592	373	562	1033	471	1156	503	406	1096	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.3	29.4	29.0	40.4	25.4	32.2	40.1	33.0	30.7	35.5	24.4	0.0
Incr Delay (d2), s/veh	7.7	1.5	2.5	9.2	0.1	5.0	10.3	1.7	1.2	20.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	11.1	9.8	5.7	0.8	10.9	6.3	9.5	4.9	13.8	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	30.8	31.5	49.7	25.5	37.2	50.3	34.8	31.9	56.3	24.6	0.0
LnGrp LOS	D	C	C	D	C	D	D	C	C	E	C	
Approach Vol, veh/h		1160			762			822			689	
Approach Delay, s/veh		33.4			38.9			36.9			39.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.7	25.0	12.9	30.9	14.4	33.2	14.9	28.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	30.0	21.0	35.0	25.0	25.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	18.2	15.0	9.1	18.4	9.2	9.3	10.8	21.5
Green Ext Time (p_c), s	0.4	4.9	0.2	7.4	0.5	2.1	0.3	2.4

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	455	80	20	440	135	135	185	20	130	100	365
Future Volume (veh/h)	380	455	80	20	440	135	135	185	20	130	100	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1796	1811	1856	1841	1841	1870	1900	1856	1826	1826
Adj Flow Rate, veh/h	422	506	89	22	489	150	150	206	22	144	111	406
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	3	7	6	3	4	4	2	0	3	5	5
Cap, veh/h	472	1217	213	293	588	179	266	970	102	509	513	458
Arrive On Green	0.20	0.41	0.41	0.02	0.22	0.22	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	1739	2999	525	1725	2661	811	1753	3243	343	1767	1735	1547
Grp Volume(v), veh/h	422	296	299	22	323	316	150	112	116	144	111	406
Grp Sat Flow(s),veh/h/ln	1739	1763	1761	1725	1763	1710	1753	1777	1809	1767	1735	1547
Q Serve(g_s), s	15.2	10.3	10.4	0.8	15.0	15.2	5.0	4.0	4.1	4.8	4.1	21.5
Cycle Q Clear(g_c), s	15.2	10.3	10.4	0.8	15.0	15.2	5.0	4.0	4.1	4.8	4.1	21.5
Prop In Lane	1.00		0.30	1.00		0.47	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	472	715	715	293	390	378	266	531	541	509	513	458
V/C Ratio(X)	0.89	0.41	0.42	0.08	0.83	0.84	0.56	0.21	0.21	0.28	0.22	0.89
Avail Cap(c_a), veh/h	544	715	715	682	524	508	553	735	748	803	718	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	18.2	18.2	25.1	31.9	31.9	21.4	22.5	22.5	18.4	22.7	28.8
Incr Delay (d2), s/veh	14.4	0.1	0.1	0.0	6.1	6.8	0.7	0.1	0.1	0.1	0.1	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.1	7.3	7.3	0.6	11.2	11.1	3.6	3.0	3.1	3.4	3.0	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	18.4	18.4	25.1	38.0	38.7	22.1	22.6	22.6	18.5	22.8	37.4
LnGrp LOS	C	B	B	C	D	D	C	C	C	B	C	D
Approach Vol, veh/h		1017			661			378			661	
Approach Delay, s/veh		24.9			37.9			22.4			30.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	30.2	5.6	39.3	11.0	29.9	21.5	23.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	6.7	6.1	2.8	12.4	7.0	23.5	17.2	17.2
Green Ext Time (p_c), s	0.2	0.8	0.0	2.0	0.2	1.9	0.3	1.8

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	370	275	280	10	5	290
Future Vol, veh/h	370	275	280	10	5	290
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	2	2	0	0	4
Mvmt Flow	430	320	326	12	6	337

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	341	0	-	0	1356	172
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	1021	-
Critical Hdwy	4.2	-	-	-	6.8	6.98
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	1193	-	-	-	143	835
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	313	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1190	-	-	-	91	833
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	312	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	12.8
HCM LOS			B

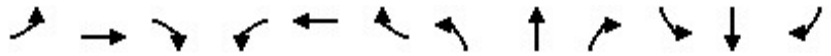
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1190	-	-	-	91	833
HCM Lane V/C Ratio	0.362	-	-	-	0.064	0.405
HCM Control Delay (s)	9.7	-	-	-	47.2	12.2
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	1.7	-	-	-	0.2	2



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	810	110	15	455	245	25
Future Volume (veh/h)	810	110	15	455	245	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1796	1796	1752	1885	1900
Adj Flow Rate, veh/h	942	128	17	529	285	29
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	7	7	10	1	0
Cap, veh/h	1344	183	297	1903	380	341
Arrive On Green	0.43	0.43	0.02	0.57	0.21	0.21
Sat Flow, veh/h	3186	420	1711	3416	1795	1610
Grp Volume(v), veh/h	532	538	17	529	285	29
Grp Sat Flow(s),veh/h/ln	1749	1765	1711	1664	1795	1610
Q Serve(g_s), s	10.3	10.3	0.2	3.4	6.2	0.6
Cycle Q Clear(g_c), s	10.3	10.3	0.2	3.4	6.2	0.6
Prop In Lane		0.24	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	760	767	297	1903	380	341
V/C Ratio(X)	0.70	0.70	0.06	0.28	0.75	0.09
Avail Cap(c_a), veh/h	1051	1061	885	3601	1122	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.6	9.6	7.1	4.5	15.4	13.2
Incr Delay (d2), s/veh	1.2	1.2	0.1	0.1	3.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	5.6	0.1	1.2	4.4	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.8	10.8	7.2	4.6	18.3	13.3
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h	1070			546	314	
Approach Delay, s/veh	10.8			4.7	17.9	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.7	23.1		12.8		28.8
Change Period (Y+Rc), s	5.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	25.0		26.0		45.0
Max Q Clear Time (g_c+I1), s	2.2	12.3		8.2		5.4
Green Ext Time (p_c), s	0.0	5.8		0.9		4.1

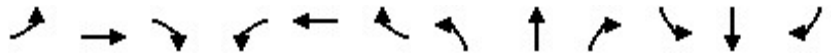
Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	590	50	15	445	10	10	10	10	15	5	25
Future Volume (veh/h)	80	590	50	15	445	10	10	10	10	15	5	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1841	1900	1767	1900	1648	1900	1900	1648	418	1826
Adj Flow Rate, veh/h	95	702	60	18	530	12	12	12	12	18	6	30
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	5	4	4	0	9	0	17	0	0	17	100	5
Cap, veh/h	505	1269	108	410	1080	24	177	31	31	422	13	65
Arrive On Green	0.07	0.39	0.39	0.02	0.32	0.32	0.06	0.06	0.06	0.02	0.21	0.21
Sat Flow, veh/h	1739	3261	279	1810	3355	76	536	536	536	1570	61	303
Grp Volume(v), veh/h	95	376	386	18	265	277	36	0	0	18	0	36
Grp Sat Flow(s),veh/h/ln	1739	1749	1791	1810	1678	1753	1609	0	0	1570	0	363
Q Serve(g_s), s	1.2	5.5	5.5	0.2	4.2	4.2	0.7	0.0	0.0	0.3	0.0	2.9
Cycle Q Clear(g_c), s	1.2	5.5	5.5	0.2	4.2	4.2	0.7	0.0	0.0	0.3	0.0	2.9
Prop In Lane	1.00		0.16	1.00		0.04	0.33		0.33	1.00		0.83
Lane Grp Cap(c), veh/h	505	680	697	410	540	564	240	0	0	422	0	78
V/C Ratio(X)	0.19	0.55	0.55	0.04	0.49	0.49	0.15	0.00	0.00	0.04	0.00	0.46
Avail Cap(c_a), veh/h	1463	1882	1928	1529	1807	1887	1414	0	0	1368	0	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	7.8	7.8	7.4	9.0	9.0	14.9	0.0	0.0	12.4	0.0	11.3
Incr Delay (d2), s/veh	0.2	0.7	0.7	0.0	0.7	0.7	0.3	0.0	0.0	0.0	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	2.6	2.6	0.1	2.1	2.2	0.4	0.0	0.0	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	8.5	8.5	7.5	9.7	9.7	15.2	0.0	0.0	12.4	0.0	15.6
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		857			560			36			54	
Approach Delay, s/veh		8.4			9.6			15.2			14.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	17.3		11.0	6.8	15.1	5.1	5.9
Change Period (Y+Rc), s	4.0	4.5		4.0	4.5	4.5	4.5	4.0
Max Green Setting (Gmax), s	21.6	35.5		51.0	20.5	35.5	20.5	26.0
Max Q Clear Time (g_c+I1), s	2.2	7.5		4.9	3.2	6.2	2.3	2.7
Green Ext Time (p_c), s	0.0	5.3		0.2	0.2	3.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	270	175	110	350	20	105	30	95	10	10	10
Future Volume (veh/h)	85	270	175	110	350	20	105	30	95	10	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1841	1870	1781	1826	1722	1900	1870	1574	1900	1574
Adj Flow Rate, veh/h	92	293	190	120	380	22	114	33	103	11	11	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	5	4	2	8	5	12	0	2	22	0	22
Cap, veh/h	461	504	318	433	862	50	433	307	256	298	168	118
Arrive On Green	0.06	0.25	0.25	0.08	0.26	0.26	0.08	0.16	0.16	0.01	0.09	0.09
Sat Flow, veh/h	1795	2041	1287	1781	3252	188	1640	1900	1585	1499	1900	1334
Grp Volume(v), veh/h	92	248	235	120	197	205	114	33	103	11	11	11
Grp Sat Flow(s),veh/h/ln	1795	1735	1594	1781	1692	1748	1640	1900	1585	1499	1900	1334
Q Serve(g_s), s	1.4	4.7	4.9	1.8	3.6	3.7	2.3	0.6	2.2	0.3	0.2	0.3
Cycle Q Clear(g_c), s	1.4	4.7	4.9	1.8	3.6	3.7	2.3	0.6	2.2	0.3	0.2	0.3
Prop In Lane	1.00		0.81	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	461	428	394	433	448	463	433	307	256	298	168	118
V/C Ratio(X)	0.20	0.58	0.60	0.28	0.44	0.44	0.26	0.11	0.40	0.04	0.07	0.09
Avail Cap(c_a), veh/h	861	879	808	797	858	886	758	963	804	705	963	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.7	12.4	12.5	9.6	11.5	11.5	13.6	13.4	14.1	15.4	15.7	15.7
Incr Delay (d2), s/veh	0.2	1.2	1.5	0.3	1.0	0.9	0.3	0.2	1.4	0.0	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	2.8	2.7	1.0	2.1	2.2	1.3	0.4	1.3	0.1	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	13.6	13.9	9.9	12.4	12.4	14.0	13.6	15.5	15.4	15.9	16.2
LnGrp LOS	A	B	B	A	B	B	B	B	B	B	B	B
Approach Vol, veh/h		575			522			250			33	
Approach Delay, s/veh		13.2			11.8			14.6			15.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	11.1	6.7	14.9	7.6	8.3	7.3	14.3
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	10.5	19.0	10.5	19.0	10.5	19.0	10.5	19.0
Max Q Clear Time (g_c+I1), s	2.3	4.2	3.4	5.7	4.3	2.3	3.8	6.9
Green Ext Time (p_c), s	0.0	0.6	0.1	2.6	0.1	0.0	0.1	2.4

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 101 [Mission_Molter AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Molter Rd														
3	L2	105	2.0	105	2.0	0.254	11.2	LOS B	1.4	34.4	0.45	0.61	0.45	35.7
8	T1	135	1.0	135	1.0	0.254	5.2	LOS A	1.4	34.4	0.45	0.61	0.45	35.6
18	R2	30	1.0	30	1.0	0.254	5.2	LOS A	1.4	34.4	0.45	0.61	0.45	34.6
Approach		270	1.4	270	1.4	0.254	7.5	LOS A	1.4	34.4	0.45	0.61	0.45	35.5
East: Mission Ave														
1	L2	50	2.0	50	2.0	0.386	11.6	LOS B	2.3	59.5	0.54	0.60	0.54	36.0
6	T1	265	2.0	265	2.0	0.386	5.6	LOS A	2.3	59.5	0.54	0.60	0.54	36.0
16	R2	80	4.0	80	4.0	0.386	5.8	LOS A	2.3	59.5	0.54	0.60	0.54	34.8
Approach		395	2.4	395	2.4	0.386	6.4	LOS A	2.3	59.5	0.54	0.60	0.54	35.7
North: Molter Rd														
7	L2	45	4.0	45	4.0	0.211	12.0	LOS B	1.1	29.3	0.55	0.66	0.55	35.6
4	T1	95	4.0	95	4.0	0.211	6.1	LOS A	1.1	29.3	0.55	0.66	0.55	35.6
14	R2	50	8.0	50	8.0	0.211	6.3	LOS A	1.1	29.3	0.55	0.66	0.55	34.4
Approach		190	5.1	190	5.1	0.211	7.5	LOS A	1.1	29.3	0.55	0.66	0.55	35.3
West: Mission Ave														
5	L2	60	4.0	60	4.0	0.285	10.9	LOS B	1.6	41.0	0.41	0.55	0.41	36.3
2	T1	155	4.0	155	4.0	0.285	4.9	LOS A	1.6	41.0	0.41	0.55	0.41	36.2
12	R2	95	4.0	95	4.0	0.285	5.0	LOS A	1.6	41.0	0.41	0.55	0.41	35.1
Approach		310	4.0	310	4.0	0.285	6.1	LOS A	1.6	41.0	0.41	0.55	0.41	35.9
All Vehicles		1165	3.0	1165	3.0	0.386	6.8	LOS A	2.3	59.5	0.49	0.60	0.49	35.6

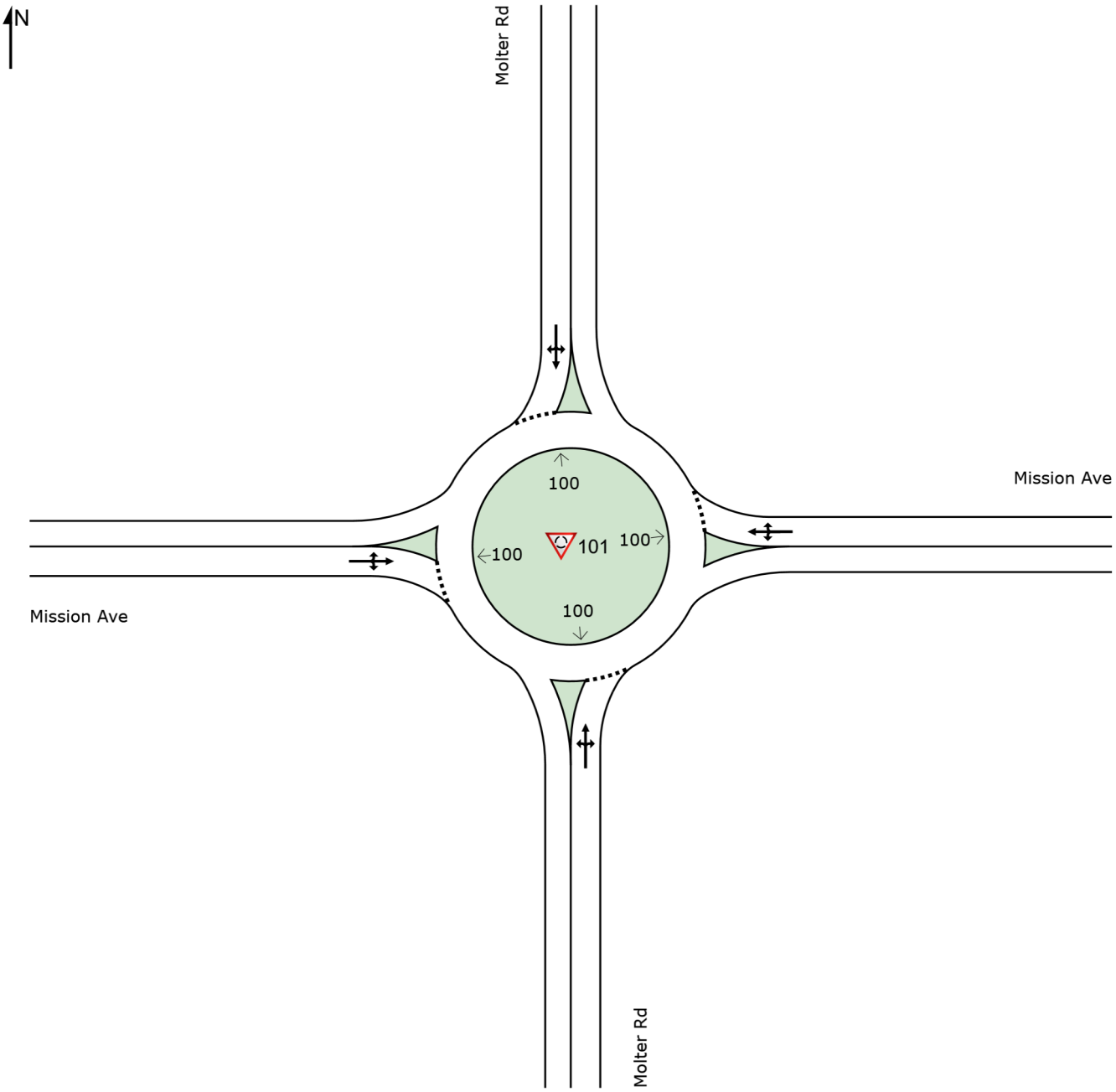
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Molter AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvest AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvest Pkwy														
3	L2	120	4.0	120	4.0	0.290	11.1	LOS B	1.6	41.3	0.45	0.62	0.45	35.7
8	T1	35	1.0	35	1.0	0.290	5.1	LOS A	1.6	41.3	0.45	0.62	0.45	35.7
18	R2	150	4.0	150	4.0	0.290	5.3	LOS A	1.6	41.3	0.45	0.62	0.45	34.5
Approach		305	3.7	305	3.7	0.290	7.6	LOS A	1.6	41.3	0.45	0.62	0.45	35.1
East: Mission Ave														
1	L2	175	3.0	175	3.0	0.330	10.8	LOS B	1.9	49.7	0.40	0.59	0.40	35.5
6	T1	165	3.0	165	3.0	0.330	4.8	LOS A	1.9	49.7	0.40	0.59	0.40	35.5
16	R2	30	3.0	30	3.0	0.330	4.9	LOS A	1.9	49.7	0.40	0.59	0.40	34.4
Approach		370	3.0	370	3.0	0.330	7.6	LOS A	1.9	49.7	0.40	0.59	0.40	35.4
North: Harvest Pkwy														
7	L2	45	1.0	45	1.0	0.130	12.0	LOS B	0.7	16.5	0.54	0.67	0.54	35.5
4	T1	35	1.0	35	1.0	0.130	6.0	LOS A	0.7	16.5	0.54	0.67	0.54	35.4
14	R2	40	1.0	40	1.0	0.130	6.1	LOS A	0.7	16.5	0.54	0.67	0.54	34.3
Approach		120	1.0	120	1.0	0.130	8.3	LOS A	0.7	16.5	0.54	0.67	0.54	35.1
West: Mission Ave														
5	L2	10	3.0	10	3.0	0.289	11.2	LOS B	1.6	40.2	0.45	0.55	0.45	36.6
2	T1	185	3.0	185	3.0	0.289	5.2	LOS A	1.6	40.2	0.45	0.55	0.45	36.5
12	R2	110	3.0	110	3.0	0.289	5.3	LOS A	1.6	40.2	0.45	0.55	0.45	35.4
Approach		305	3.0	305	3.0	0.289	5.5	LOS A	1.6	40.2	0.45	0.55	0.45	36.1
All Vehicles		1100	3.0	1100	3.0	0.330	7.1	LOS A	1.9	49.7	0.45	0.60	0.45	35.5

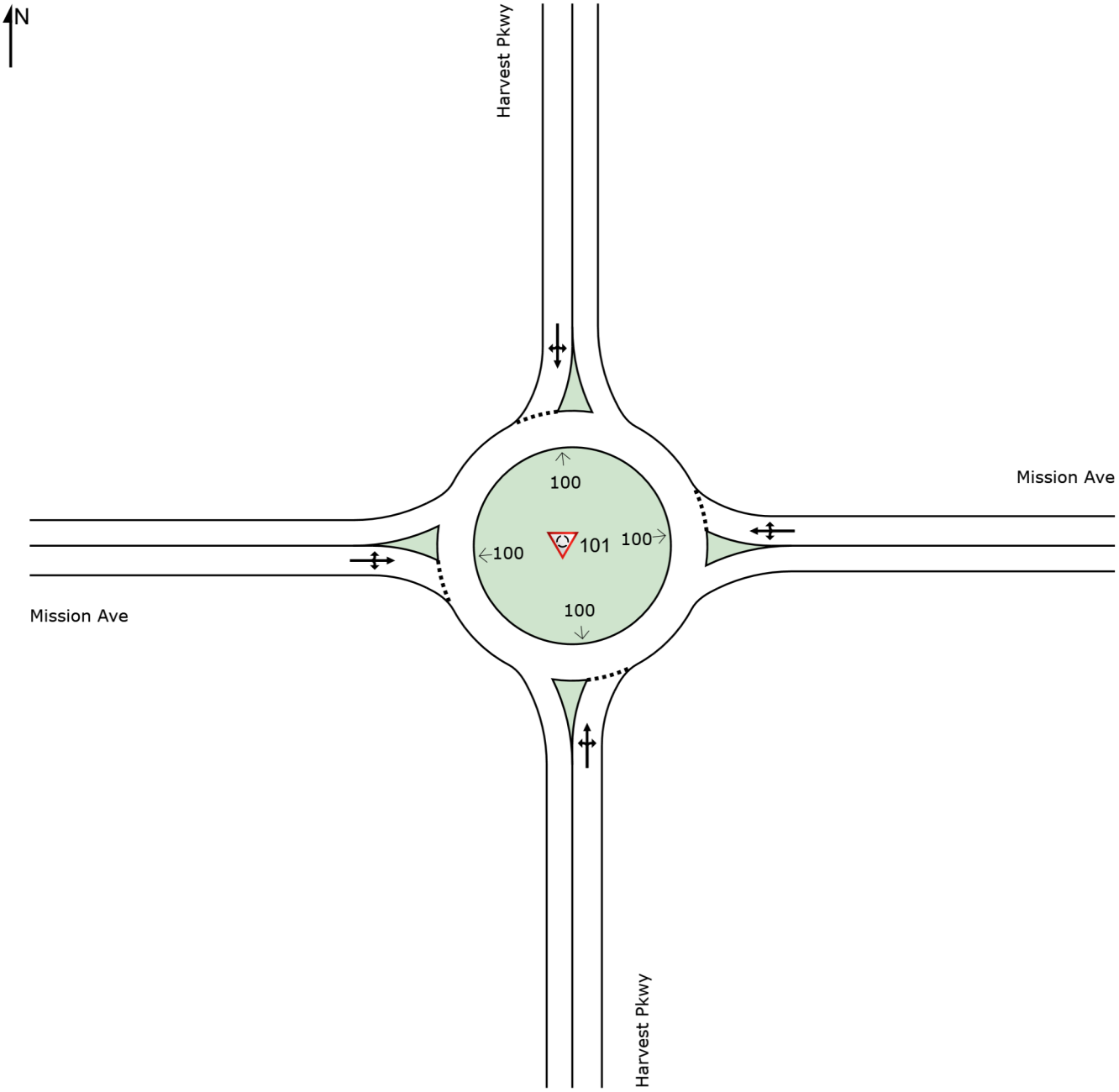
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Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvest AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	185	75	45	335	160	95
Future Vol, veh/h	185	75	45	335	160	95
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	8	6	8	3	4
Mvmt Flow	199	81	48	360	172	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	281	0	697	242
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	-	-	4.16	-	6.43	6.24
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.254	-	3.527	3.336
Pot Cap-1 Maneuver	-	-	1259	-	406	792
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1258	-	390	791
Mov Cap-2 Maneuver	-	-	-	-	487	-
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	612	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	487	791	-	-	1258	-
HCM Lane V/C Ratio	0.353	0.129	-	-	0.038	-
HCM Control Delay (s)	16.4	10.2	-	-	8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.6	0.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	45	15	10	130	10	15	30	10	10	25	180
Future Vol, veh/h	70	45	15	10	130	10	15	30	10	10	25	180
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	5	0	0	0	0	13	7	10	17	0	3
Mvmt Flow	81	52	17	12	151	12	17	35	12	12	29	209
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.3	9.8	8.9	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	27%	100%	0%	100%	0%	5%
Vol Thru, %	55%	0%	75%	0%	93%	12%
Vol Right, %	18%	0%	25%	0%	7%	84%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	70	60	10	140	215
LT Vol	15	70	0	10	0	10
Through Vol	30	0	45	0	130	25
RT Vol	10	0	15	0	10	180
Lane Flow Rate	64	81	70	12	163	250
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.093	0.136	0.104	0.019	0.243	0.322
Departure Headway (Hd)	5.237	6.002	5.354	5.933	5.378	4.633
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	679	593	663	599	663	773
Service Time	3.314	3.78	3.133	3.71	3.154	2.686
HCM Lane V/C Ratio	0.094	0.137	0.106	0.02	0.246	0.323
HCM Control Delay	8.9	9.7	8.8	8.8	9.9	9.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.1	0.9	1.4

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	130	50	10	100	25	45	110	25	35	70	60
Future Vol, veh/h	70	130	50	10	100	25	45	110	25	35	70	60
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	3	0	2	0	1	0	0	2	0	3	2	7
Mvmt Flow	95	176	68	14	135	34	61	149	34	47	95	81
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	14.7	11.3	11.7	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	28%	7%	100%	0%
Vol Thru, %	0%	81%	52%	74%	0%	54%
Vol Right, %	0%	19%	20%	19%	0%	46%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	135	250	135	35	130
LT Vol	45	0	70	10	35	0
Through Vol	0	110	130	100	0	70
RT Vol	0	25	50	25	0	60
Lane Flow Rate	61	182	338	182	47	176
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.116	0.318	0.524	0.293	0.092	0.299
Departure Headway (Hd)	6.892	6.284	5.579	5.788	6.987	6.13
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	518	569	642	617	511	583
Service Time	4.663	4.055	3.64	3.86	4.759	3.901
HCM Lane V/C Ratio	0.118	0.32	0.526	0.295	0.092	0.302
HCM Control Delay	10.6	12	14.7	11.3	10.5	11.5
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.4	1.4	3.1	1.2	0.3	1.2

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	40	5	0	55	30	10	45	5	20	25	5
Future Vol, veh/h	15	40	5	0	55	30	10	45	5	20	25	5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	5	0	0	4	3	0	0	100	6	0	0
Mvmt Flow	19	49	6	0	68	37	12	56	6	25	31	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.7	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	25%	0%	40%
Vol Thru, %	75%	67%	65%	50%
Vol Right, %	8%	8%	35%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	60	85	50
LT Vol	10	15	0	20
Through Vol	45	40	55	25
RT Vol	5	5	30	5
Lane Flow Rate	74	74	105	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.089	0.089	0.121	0.077
Departure Headway (Hd)	4.348	4.32	4.157	4.498
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	833	868	799
Service Time	2.359	2.331	2.157	2.51
HCM Lane V/C Ratio	0.089	0.089	0.121	0.078
HCM Control Delay	7.8	7.8	7.7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.4	0.2

MOVEMENT SUMMARY

Site: 101 [Mission_Kramer AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Kramer Pkwy														
3	L2	185	2.0	185	2.0	0.264	11.0	LOS B	1.4	36.1	0.43	0.65	0.43	35.0
8	T1	10	3.0	10	3.0	0.264	5.1	LOS A	1.4	36.1	0.43	0.65	0.43	34.9
18	R2	90	2.0	90	2.0	0.264	5.1	LOS A	1.4	36.1	0.43	0.65	0.43	33.9
Approach		285	2.0	285	2.0	0.264	9.0	LOS A	1.4	36.1	0.43	0.65	0.43	34.7
East: Mission Ave														
1	L2	70	6.0	70	6.0	0.269	10.9	LOS B	1.5	38.6	0.42	0.55	0.42	36.0
6	T1	205	6.0	205	6.0	0.269	5.0	LOS A	1.5	38.6	0.42	0.55	0.42	36.0
16	R2	10	3.0	10	3.0	0.269	5.0	LOS A	1.5	38.6	0.42	0.55	0.42	34.9
Approach		285	5.9	285	5.9	0.269	6.4	LOS A	1.5	38.6	0.42	0.55	0.42	35.9
North: Kramer Pkwy														
7	L2	25	3.0	25	3.0	0.056	12.3	LOS B	0.3	7.5	0.56	0.65	0.56	34.9
4	T1	20	3.0	20	3.0	0.056	6.3	LOS A	0.3	7.5	0.56	0.65	0.56	34.8
14	R2	5	3.0	5	3.0	0.056	6.4	LOS A	0.3	7.5	0.56	0.65	0.56	33.8
Approach		50	3.0	50	3.0	0.056	9.3	LOS A	0.3	7.5	0.56	0.65	0.56	34.8
West: Mission Ave														
5	L2	5	3.0	5	3.0	0.414	10.6	LOS B	2.6	67.3	0.36	0.48	0.36	37.0
2	T1	200	6.0	200	6.0	0.414	4.7	LOS A	2.6	67.3	0.36	0.48	0.36	36.9
12	R2	275	3.0	275	3.0	0.414	4.7	LOS A	2.6	67.3	0.36	0.48	0.36	35.8
Approach		480	4.3	480	4.3	0.414	4.7	LOS A	2.6	67.3	0.36	0.48	0.36	36.3
All Vehicles		1100	4.0	1100	4.0	0.414	6.5	LOS A	2.6	67.3	0.40	0.55	0.40	35.7

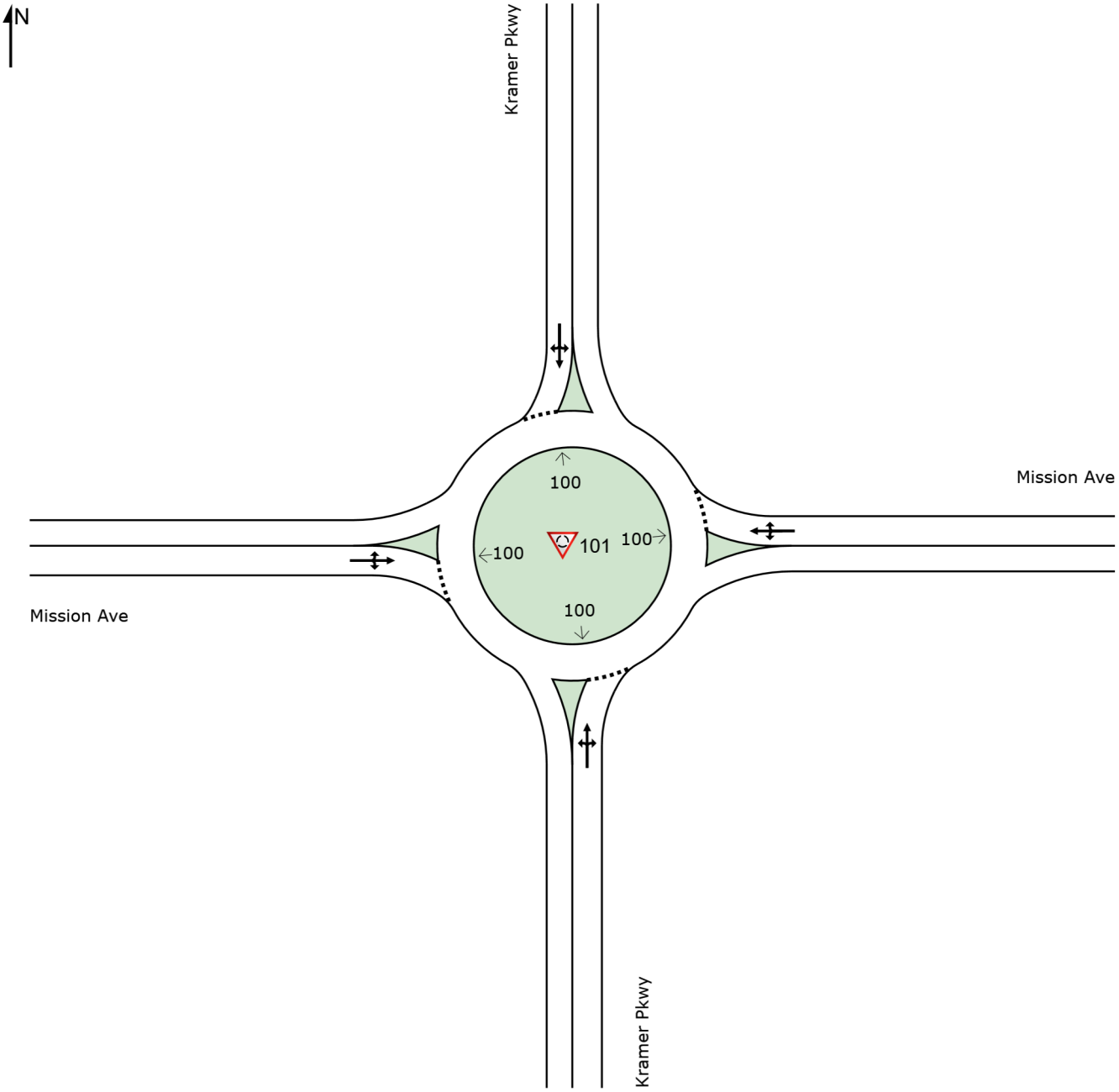
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

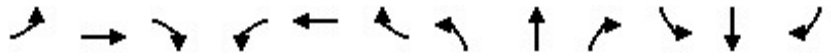
SITE LAYOUT

Site: 101 [Mission_Kramer AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	5	50	55	5	10	25	340	35	5	570	15
Future Volume (veh/h)	20	5	50	55	5	10	25	340	35	5	570	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1781	1411	1900	1900	1856	1826	1900	1841	1767
Adj Flow Rate, veh/h	23	6	58	64	6	12	29	395	41	6	663	17
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	8	33	0	0	3	5	0	4	9
Cap, veh/h	41	9	83	89	36	72	439	1314	136	528	1344	34
Arrive On Green	0.02	0.06	0.06	0.05	0.09	0.09	0.03	0.41	0.41	0.01	0.39	0.39
Sat Flow, veh/h	1810	153	1480	1697	420	840	1810	3225	333	1810	3484	89
Grp Volume(v), veh/h	23	0	64	64	0	18	29	215	221	6	333	347
Grp Sat Flow(s),veh/h/ln	1810	0	1634	1697	0	1260	1810	1763	1796	1810	1749	1825
Q Serve(g_s), s	0.4	0.0	1.4	1.3	0.0	0.5	0.3	2.9	3.0	0.1	5.1	5.1
Cycle Q Clear(g_c), s	0.4	0.0	1.4	1.3	0.0	0.5	0.3	2.9	3.0	0.1	5.1	5.1
Prop In Lane	1.00		0.91	1.00		0.67	1.00		0.19	1.00		0.05
Lane Grp Cap(c), veh/h	41	0	91	89	0	108	439	718	732	528	675	704
V/C Ratio(X)	0.56	0.00	0.70	0.72	0.00	0.17	0.07	0.30	0.30	0.01	0.49	0.49
Avail Cap(c_a), veh/h	305	0	803	381	0	690	1151	2203	2244	821	1743	1819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	16.5	16.6	0.0	15.1	6.6	7.1	7.1	6.7	8.3	8.3
Incr Delay (d2), s/veh	11.2	0.0	12.9	10.2	0.0	1.0	0.1	0.3	0.3	0.0	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	1.4	1.2	0.0	0.3	0.2	1.4	1.5	0.0	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	0.0	29.4	26.8	0.0	16.1	6.7	7.4	7.5	6.7	9.1	9.1
LnGrp LOS	C	A	C	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		87			82			465			686	
Approach Delay, s/veh		29.1			24.4			7.4			9.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	18.2	4.8	7.6	4.2	19.0	5.9	6.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.0	35.5	6.0	19.5	6.0	44.5	8.0	17.5
Max Q Clear Time (g_c+I1), s	2.3	7.1	2.4	2.5	2.1	5.0	3.3	3.4
Green Ext Time (p_c), s	0.0	6.6	0.0	0.0	0.0	4.2	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	5	45	5	5	10	330	25	5	535	5
Future Vol, veh/h	5	5	5	45	5	5	10	330	25	5	535	5
Conflicting Peds, #/hr	2	0	0	0	0	2	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	55	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	4	0
Mvmt Flow	5	5	5	49	5	5	11	363	27	5	588	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	811	1015	299	706	1004	197	595	0	0	390	0	0
Stage 1	603	603	-	399	399	-	-	-	-	-	-	-
Stage 2	208	412	-	307	605	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	274	240	703	327	244	817	991	-	-	1180	-	-
Stage 1	458	492	-	604	606	-	-	-	-	-	-	-
Stage 2	780	598	-	683	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	263	236	702	315	240	816	989	-	-	1180	-	-
Mov Cap-2 Maneuver	263	236	-	315	240	-	-	-	-	-	-	-
Stage 1	452	489	-	597	599	-	-	-	-	-	-	-
Stage 2	758	591	-	667	488	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	18.5	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	989	-	-	249	702	305	816	1180	-	-
HCM Lane V/C Ratio	0.011	-	-	0.044	0.008	0.18	0.007	0.005	-	-
HCM Control Delay (s)	8.7	-	-	20.1	10.2	19.4	9.4	8.1	-	-
HCM Lane LOS	A	-	-	C	B	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.6	0	0	-	-

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	315	10	5	320	195	20	50	10	115	10	10
Future Vol, veh/h	25	315	10	5	320	195	20	50	10	115	10	10
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	2	0	0	3	1	0	0	0	7	0	11
Mvmt Flow	27	342	11	5	348	212	22	54	11	125	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	560	0	0	360	0	0	886	979	355	898	878	456
Stage 1	-	-	-	-	-	-	409	409	-	464	464	-
Stage 2	-	-	-	-	-	-	477	570	-	434	414	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.5	6.2	7.17	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.3	3.563	4	3.399
Pot Cap-1 Maneuver	982	-	-	1210	-	-	267	252	693	255	289	586
Stage 1	-	-	-	-	-	-	623	600	-	569	567	-
Stage 2	-	-	-	-	-	-	573	509	-	591	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	1203	-	-	246	243	689	203	278	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	243	-	203	278	-
Stage 1	-	-	-	-	-	-	602	580	-	554	565	-
Stage 2	-	-	-	-	-	-	548	507	-	513	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	25.1	50
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	265	982	-	-	1203	-	-	218
HCM Lane V/C Ratio	0.328	0.028	-	-	0.005	-	-	0.673
HCM Control Delay (s)	25.1	8.8	-	-	8	-	-	50
HCM Lane LOS	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0	-	-	4.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	365	455	5	10	10
Future Vol, veh/h	35	365	455	5	10	10
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	4	2	0	17	0
Mvmt Flow	40	415	517	6	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	526	0	-	0	1019	523
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	496	-
Critical Hdwy	4.1	-	-	-	6.57	6.2
Critical Hdwy Stg 1	-	-	-	-	5.57	-
Critical Hdwy Stg 2	-	-	-	-	5.57	-
Follow-up Hdwy	2.2	-	-	-	3.653	3.3
Pot Cap-1 Maneuver	1051	-	-	-	246	558
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	582	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1048	-	-	-	236	557
Mov Cap-2 Maneuver	-	-	-	-	363	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	581	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1048	-	-	-	440
HCM Lane V/C Ratio	0.038	-	-	-	0.052
HCM Control Delay (s)	8.6	-	-	-	13.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Lane Configurations							
Traffic Volume (vph)	420	245	90	680	175	95	
Future Volume (vph)	420	245	90	680	175	95	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		75	100		100	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	
Frt	0.945					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	3247	0	1805	3343	1787	1615	
Flt Permitted			0.950		0.950		
Satd. Flow (perm)	3247	0	1805	3343	1787	1615	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	93					128	
Link Speed (mph)	30			30	30		
Link Distance (ft)	425			3165	712		
Travel Time (s)	9.7			71.9	16.2		
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	
Heavy Vehicles (%)	8%	0%	0%	8%	1%	0%	
Adj. Flow (vph)	568	331	122	919	236	128	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	899	0	122	919	236	128	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane	Yes			Yes	Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2		1	2	1	1	
Detector Template	Thru		Left	Thru	Left	Right	
Leading Detector (ft)	100		20	100	20	20	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	6		20	6	20	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94			
Detector 2 Size(ft)	6			6			
Detector 2 Type	Cl+Ex			Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)	0.0			0.0			
Turn Type	NA		Prot	NA	Prot	Perm	
Protected Phases	2		1	6	8		14



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Permitted Phases						8	
Detector Phase	2		1	6	8	8	
Switch Phase							
Minimum Initial (s)	7.0		4.0	4.0	7.0	7.0	4.0
Minimum Split (s)	26.5		9.5	36.5	21.5	21.5	25.0
Total Split (s)	40.0		30.0	70.0	30.0	30.0	25.0
Total Split (%)	32.0%		24.0%	56.0%	24.0%	24.0%	20%
Maximum Green (s)	34.5		24.5	64.5	26.0	26.0	21.0
Yellow Time (s)	4.5		4.5	4.5	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	4.0	
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None	Ped
Walk Time (s)							6.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							2
Act Effct Green (s)	31.1		11.4	48.1	17.8	17.8	
Actuated g/C Ratio	0.31		0.11	0.48	0.18	0.18	
v/c Ratio	0.85		0.60	0.58	0.75	0.33	
Control Delay	38.7		57.4	21.1	55.9	9.1	
Queue Delay	0.0		0.0	0.0	0.0	0.0	
Total Delay	38.7		57.4	21.1	55.9	9.1	
LOS	D		E	C	E	A	
Approach Delay	38.7			25.3	39.5		
Approach LOS	D			C	D		
Queue Length 50th (ft)	255		79	215	151	0	
Queue Length 95th (ft)	294		119	239	196	26	
Internal Link Dist (ft)	345			3085	632		
Turn Bay Length (ft)			100		100		
Base Capacity (vph)	1189		445	2171	468	517	
Starvation Cap Reductn	0		0	0	0	0	
Spillback Cap Reductn	0		0	0	0	0	
Storage Cap Reductn	0		0	0	0	0	
Reduced v/c Ratio	0.76		0.27	0.42	0.50	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 101.1			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 32.8		Intersection LOS: C	
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Ridgeline HS & Country Vista Dr



PM Peak Hour

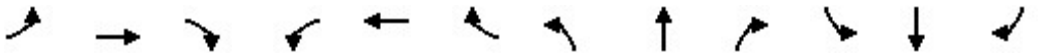
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	1025	765	55	65	205
Future Vol, veh/h	140	1025	765	55	65	205
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	125	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	5	2	0	0	2
Mvmt Flow	143	1046	781	56	66	209

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	837	0	-	0	1618	419
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	809	-
Critical Hdwy	4.16	-	-	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.23	-	-	-	3.5	3.32
Pot Cap-1 Maneuver	786	-	-	-	96	583
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	403	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	786	-	-	-	79	583
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	403	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	786	-	-	-	201	583
HCM Lane V/C Ratio	0.182	-	-	-	0.33	0.359
HCM Control Delay (s)	10.6	-	-	-	31.5	14.6
HCM Lane LOS	B	-	-	-	D	B
HCM 95th %tile Q(veh)	0.7	-	-	-	1.4	1.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	835	65	295	720	245	55	85	210	180	95	70
Future Volume (veh/h)	140	835	65	295	720	245	55	85	210	180	95	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1885	1870	1885	1900	1856	1870	1870	1900	1900
Adj Flow Rate, veh/h	144	861	67	304	742	253	57	88	216	186	98	72
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	1	0	1	2	1	0	3	2	2	0	0
Cap, veh/h	296	1027	80	376	941	321	424	107	262	327	295	217
Arrive On Green	0.08	0.31	0.31	0.14	0.36	0.36	0.04	0.22	0.22	0.10	0.29	0.29
Sat Flow, veh/h	1810	3367	262	1795	2601	887	1810	476	1169	1781	1018	748
Grp Volume(v), veh/h	144	458	470	304	507	488	57	0	304	186	0	170
Grp Sat Flow(s),veh/h/ln	1810	1791	1838	1795	1777	1711	1810	0	1645	1781	0	1765
Q Serve(g_s), s	4.1	18.4	18.4	8.4	19.6	19.6	1.9	0.0	13.6	5.8	0.0	5.8
Cycle Q Clear(g_c), s	4.1	18.4	18.4	8.4	19.6	19.6	1.9	0.0	13.6	5.8	0.0	5.8
Prop In Lane	1.00		0.14	1.00		0.52	1.00		0.71	1.00		0.42
Lane Grp Cap(c), veh/h	296	546	561	376	643	619	424	0	369	327	0	512
V/C Ratio(X)	0.49	0.84	0.84	0.81	0.79	0.79	0.13	0.00	0.82	0.57	0.00	0.33
Avail Cap(c_a), veh/h	401	592	608	378	643	619	604	0	544	388	0	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	25.0	25.0	17.2	22.0	22.0	21.7	0.0	28.4	20.0	0.0	21.5
Incr Delay (d2), s/veh	1.8	10.3	10.0	12.8	6.9	7.1	0.2	0.0	8.0	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	13.8	14.1	7.9	13.8	13.4	1.4	0.0	9.9	4.4	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	35.3	35.1	30.0	28.8	29.1	21.9	0.0	36.5	22.2	0.0	22.1
LnGrp LOS	B	D	D	C	C	C	C	A	D	C	A	C
Approach Vol, veh/h		1072			1299			361			356	
Approach Delay, s/veh		33.1			29.2			34.2			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	28.0	7.3	26.9	10.5	32.4	12.4	21.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	10.5	25.5	10.5	25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s	10.4	20.4	3.9	7.8	6.1	21.6	7.8	15.6
Green Ext Time (p_c), s	0.0	3.1	0.1	1.2	0.2	2.6	0.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	880	85	220	1040	70	75	5	125	75	5	65
Future Volume (veh/h)	65	880	85	220	1040	70	75	5	125	75	5	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1870	1900	1885	1870	1900	1870	1900	1870	1870	1870
Adj Flow Rate, veh/h	69	936	90	234	1106	74	80	5	133	80	5	69
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	2	0	1	2	0	2	0	2	2	2
Cap, veh/h	357	1502	144	457	1776	119	336	11	290	274	20	282
Arrive On Green	0.05	0.45	0.45	0.10	0.52	0.52	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	3302	317	1810	3407	228	1347	58	1536	1251	108	1493
Grp Volume(v), veh/h	69	508	518	234	581	599	80	0	138	80	0	74
Grp Sat Flow(s),veh/h/ln	1781	1791	1828	1810	1791	1844	1347	0	1594	1251	0	1602
Q Serve(g_s), s	1.1	11.6	11.6	3.4	12.4	12.4	2.9	0.0	4.1	3.3	0.0	2.1
Cycle Q Clear(g_c), s	1.1	11.6	11.6	3.4	12.4	12.4	5.0	0.0	4.1	7.4	0.0	2.1
Prop In Lane	1.00		0.17	1.00		0.12	1.00		0.96	1.00		0.93
Lane Grp Cap(c), veh/h	357	815	832	457	934	961	336	0	301	274	0	303
V/C Ratio(X)	0.19	0.62	0.62	0.51	0.62	0.62	0.24	0.00	0.46	0.29	0.00	0.24
Avail Cap(c_a), veh/h	637	1349	1377	621	1349	1390	720	0	756	643	0	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.8	11.1	11.1	8.0	9.1	9.1	20.7	0.0	19.4	22.6	0.0	18.5
Incr Delay (d2), s/veh	0.4	1.1	1.1	1.3	1.0	0.9	0.5	0.0	1.5	0.8	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	7.2	7.3	1.9	7.0	7.3	1.6	0.0	2.7	1.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	12.3	12.2	9.3	10.1	10.1	21.2	0.0	20.9	23.5	0.0	19.1
LnGrp LOS	A	B	B	A	B	B	C	A	C	C	A	B
Approach Vol, veh/h		1095			1414			218			154	
Approach Delay, s/veh		12.0			9.9			21.0			21.4	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.1	28.9		14.7	6.6	32.5		14.7
Change Period (Y+Rc), s	4.5	4.5		* 4.5	4.0	4.5		4.5
Max Green Setting (Gmax), s	10.5	40.5		* 26	11.0	40.5		25.5
Max Q Clear Time (g_c+I1), s	5.4	13.6		9.4	3.1	14.4		7.0
Green Ext Time (p_c), s	0.5	10.9		0.8	0.1	12.7		1.4

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

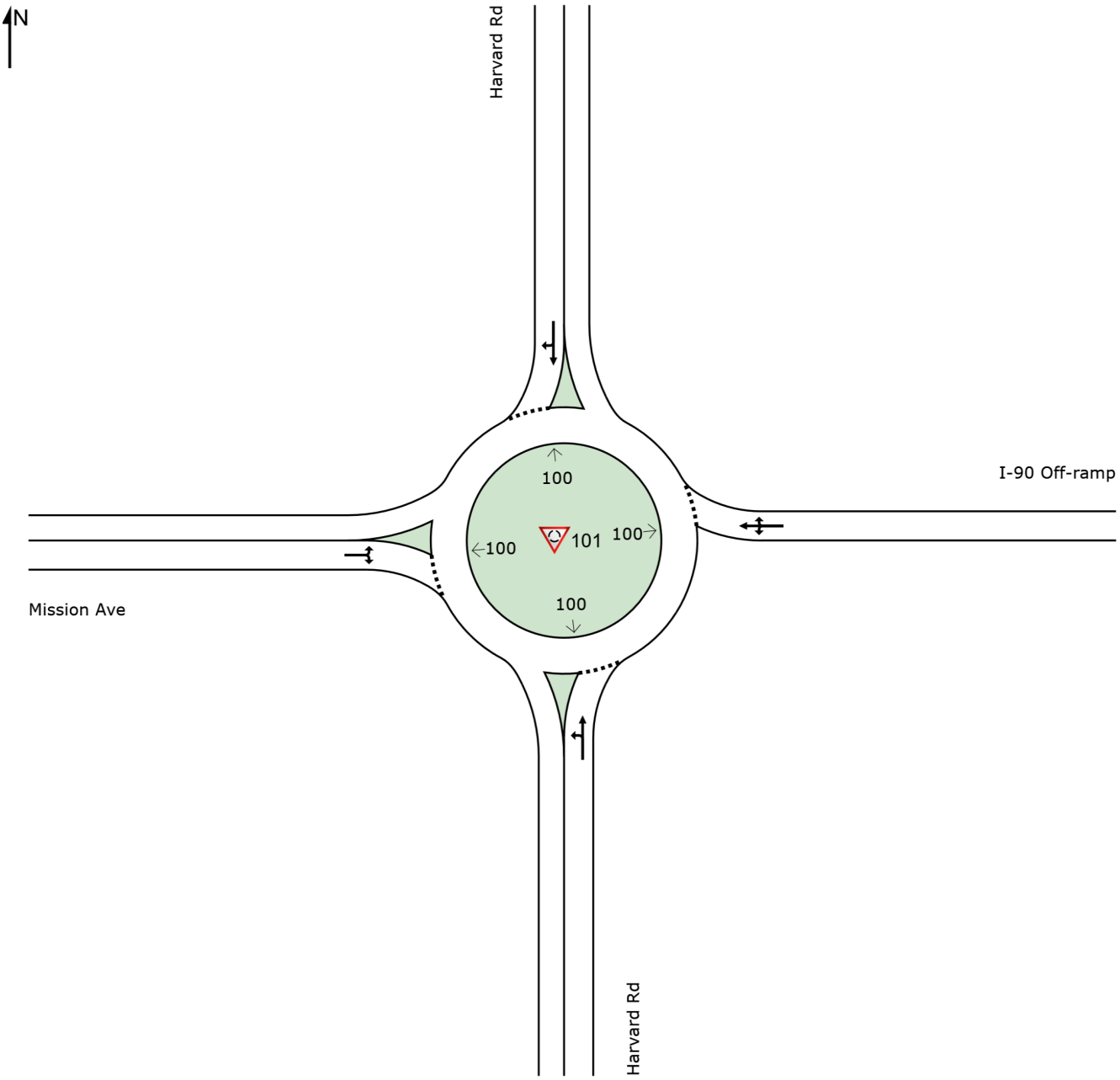
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SITE LAYOUT

Site: 101 [Mission_Harvard PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvard PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	305	2.0	305	2.0	0.690	11.1	LOS B	7.6	192.7	0.68	0.57	0.68	35.1
8	T1	550	2.0	550	2.0	0.690	5.1	LOS A	7.6	192.7	0.68	0.57	0.68	35.0
Approach		855	2.0	855	2.0	0.690	7.3	LOS A	7.6	192.7	0.68	0.57	0.68	35.1
East: I-90 Off-ramp														
1	L2	225	1.0	225	1.0	0.791	34.4	LOS C	11.5	291.0	1.00	1.33	1.88	26.2
6	T1	130	1.0	130	1.0	0.791	28.5	LOS C	11.5	291.0	1.00	1.33	1.88	26.2
16	R2	90	1.0	90	1.0	0.791	28.6	LOS C	11.5	291.0	1.00	1.33	1.88	25.6
Approach		445	1.0	445	1.0	0.791	31.5	LOS C	11.5	291.0	1.00	1.33	1.88	26.1
North: Harvard Rd														
4	T1	545	1.0	545	1.0	0.739	13.5	LOS B	9.4	236.9	0.96	1.11	1.38	32.9
14	R2	90	1.0	90	1.0	0.739	13.5	LOS B	9.4	236.9	0.96	1.11	1.38	32.0
Approach		635	1.0	635	1.0	0.739	13.5	LOS B	9.4	236.9	0.96	1.11	1.38	32.7
West: Mission Ave														
5	L2	160	1.0	160	1.0	0.781	23.7	LOS C	10.9	275.9	1.00	1.23	1.60	30.3
12	R2	410	2.0	410	2.0	0.781	17.9	LOS B	10.9	275.9	1.00	1.23	1.60	29.4
Approach		570	1.7	570	1.7	0.781	19.5	LOS B	10.9	275.9	1.00	1.23	1.60	29.6
All Vehicles		2505	1.5	2505	1.5	0.791	15.9	LOS B	11.5	291.0	0.88	0.99	1.28	31.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	385	360	200	50	790	160	665	160	295	510	120
Future Volume (veh/h)	170	385	360	200	50	790	160	665	160	295	510	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1856	1900	1870	1885	1885	1870	1885	1885	1885
Adj Flow Rate, veh/h	185	418	391	217	54	859	174	723	174	321	554	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	3	0	2	1	1	2	1	1	1
Cap, veh/h	216	1012	451	247	575	844	209	853	377	326	1055	
Arrive On Green	0.12	0.28	0.28	0.14	0.30	0.30	0.12	0.24	0.24	0.18	0.29	0.00
Sat Flow, veh/h	1767	3554	1585	1767	1900	2790	1795	3582	1585	1795	3582	1598
Grp Volume(v), veh/h	185	418	391	217	54	859	174	723	174	321	554	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1585	1767	1900	1395	1795	1791	1585	1795	1791	1598
Q Serve(g_s), s	11.9	11.0	27.1	13.9	2.4	35.0	11.0	22.3	10.9	20.6	14.9	0.0
Cycle Q Clear(g_c), s	11.9	11.0	27.1	13.9	2.4	35.0	11.0	22.3	10.9	20.6	14.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	1012	451	247	575	844	209	853	377	326	1055	
V/C Ratio(X)	0.86	0.41	0.87	0.88	0.09	1.02	0.83	0.85	0.46	0.98	0.53	
Avail Cap(c_a), veh/h	321	1075	480	321	575	844	388	929	411	326	1055	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.8	33.5	39.3	48.8	28.9	40.3	50.0	42.1	37.7	47.2	34.0	0.0
Incr Delay (d2), s/veh	13.9	0.4	15.3	19.1	0.1	35.4	11.4	7.3	1.2	45.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	8.4	18.1	11.9	2.0	22.8	9.4	16.0	7.8	19.3	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	33.9	54.6	67.9	29.0	75.7	61.4	49.4	39.0	92.8	34.5	0.0
LnGrp LOS	E	C	D	E	C	F	E	D	D	F	C	
Approach Vol, veh/h		994			1130			1071			875	
Approach Delay, s/veh		47.6			72.0			49.6			55.9	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	32.5	20.2	37.9	18.5	39.1	18.1	40.0
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	30.0	21.0	35.0	25.0	25.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	22.6	24.3	15.9	29.1	13.0	16.9	13.9	37.0
Green Ext Time (p_c), s	0.0	3.3	0.3	2.8	0.6	2.3	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	56.7
HCM 6th LOS	E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	575	175	45	625	140	130	150	20	255	190	510
Future Volume (veh/h)	475	575	175	45	625	140	130	150	20	255	190	510
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1900	1870	1870	1885	1856	1900	1856	1885	1870
Adj Flow Rate, veh/h	505	612	186	48	665	149	138	160	21	271	202	543
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	2	0	2	2	1	3	0	3	1	2
Cap, veh/h	428	1099	333	282	689	154	198	878	114	576	596	531
Arrive On Green	0.20	0.41	0.41	0.03	0.24	0.24	0.07	0.28	0.28	0.13	0.33	0.33
Sat Flow, veh/h	1795	2707	821	1810	2885	646	1795	3139	406	1767	1791	1598
Grp Volume(v), veh/h	505	405	393	48	409	405	138	89	92	271	202	543
Grp Sat Flow(s),veh/h/ln	1795	1791	1737	1810	1777	1754	1795	1763	1782	1767	1791	1598
Q Serve(g_s), s	21.0	18.5	18.6	2.1	24.3	24.4	5.8	4.1	4.2	11.1	9.1	35.5
Cycle Q Clear(g_c), s	21.0	18.5	18.6	2.1	24.3	24.4	5.8	4.1	4.2	11.1	9.1	35.5
Prop In Lane	1.00		0.47	1.00		0.37	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	428	727	705	282	424	419	198	493	499	576	596	531
V/C Ratio(X)	1.18	0.56	0.56	0.17	0.96	0.97	0.70	0.18	0.18	0.47	0.34	1.02
Avail Cap(c_a), veh/h	428	727	705	584	424	419	421	586	593	702	596	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	24.3	24.4	29.3	40.2	40.2	28.4	29.2	29.2	21.2	26.8	35.6
Incr Delay (d2), s/veh	103.0	0.6	0.6	0.1	34.2	34.9	1.7	0.1	0.1	0.2	0.1	44.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	31.1	12.4	12.1	1.7	20.8	20.6	4.5	3.1	3.2	8.1	7.0	27.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.9	24.9	25.0	29.5	74.4	75.1	30.1	29.2	29.3	21.4	26.9	80.4
LnGrp LOS	F	C	C	C	E	E	C	C	C	C	C	F
Approach Vol, veh/h		1303			862			319			1016	
Approach Delay, s/veh		67.2			72.2			29.6			54.0	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	34.4	7.2	47.8	11.8	40.0	25.0	30.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	13.1	6.2	4.1	20.6	7.8	37.5	23.0	26.4
Green Ext Time (p_c), s	0.3	0.6	0.0	1.6	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	360	455	310	15	10	465
Future Vol, veh/h	360	455	310	15	10	465
Conflicting Peds, #/hr	7	0	0	7	5	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	17	2
Mvmt Flow	387	489	333	16	11	500

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	356	0	-	0	1372	182
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	1024	-
Critical Hdwy	4.14	-	-	-	7.14	6.94
Critical Hdwy Stg 1	-	-	-	-	6.14	-
Critical Hdwy Stg 2	-	-	-	-	6.14	-
Follow-up Hdwy	2.22	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	1199	-	-	-	120	829
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	276	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1192	-	-	-	80	824
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	274	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	16.8
HCM LOS			C

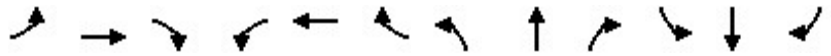
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1192	-	-	-	80	824
HCM Lane V/C Ratio	0.325	-	-	-	0.134	0.607
HCM Control Delay (s)	9.5	-	-	-	56.9	15.9
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.4	-	-	-	0.4	4.2



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	580	155	30	850	190	40
Future Volume (veh/h)	580	155	30	850	190	40
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1856	1900	1856
Adj Flow Rate, veh/h	652	174	34	955	213	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	0	3	0	3
Cap, veh/h	1081	288	403	1997	313	272
Arrive On Green	0.39	0.39	0.03	0.57	0.17	0.17
Sat Flow, veh/h	2868	740	1810	3618	1810	1572
Grp Volume(v), veh/h	417	409	34	955	213	45
Grp Sat Flow(s),veh/h/ln	1777	1737	1810	1763	1810	1572
Q Serve(g_s), s	6.5	6.5	0.3	5.6	3.8	0.8
Cycle Q Clear(g_c), s	6.5	6.5	0.3	5.6	3.8	0.8
Prop In Lane		0.43	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	692	677	403	1997	313	272
V/C Ratio(X)	0.60	0.60	0.08	0.48	0.68	0.17
Avail Cap(c_a), veh/h	1286	1257	1130	4592	1362	1183
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.4	8.4	5.9	4.5	13.4	12.2
Incr Delay (d2), s/veh	0.8	0.9	0.1	0.2	2.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	3.1	0.1	1.6	2.6	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.3	9.3	6.0	4.6	16.0	12.4
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	826			989	258	
Approach Delay, s/veh	9.3			4.7	15.4	
Approach LOS	A			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.1	18.5		10.0		24.6
Change Period (Y+Rc), s	5.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	25.0		26.0		45.0
Max Q Clear Time (g_c+I1), s	2.3	8.5		5.8		7.6
Green Ext Time (p_c), s	0.0	5.0		0.7		8.4

Intersection Summary	
HCM 6th Ctrl Delay	7.8
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	545	15	15	650	20	45	10	30	25	10	100
Future Volume (veh/h)	60	545	15	15	650	20	45	10	30	25	10	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1752	1900	1841	1900	1856	1737	1900	1841	1900	1885
Adj Flow Rate, veh/h	72	657	18	18	783	24	54	12	36	30	12	120
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	10	0	4	0	3	11	0	4	0	1
Cap, veh/h	397	1475	40	429	1277	39	208	33	58	475	39	385
Arrive On Green	0.05	0.42	0.42	0.02	0.37	0.37	0.12	0.12	0.12	0.03	0.26	0.26
Sat Flow, veh/h	1781	3533	97	1810	3464	106	605	272	479	1753	148	1484
Grp Volume(v), veh/h	72	330	345	18	395	412	102	0	0	30	0	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1810	1749	1822	1356	0	0	1753	0	1633
Q Serve(g_s), s	1.0	5.5	5.5	0.3	7.6	7.6	2.2	0.0	0.0	0.6	0.0	2.7
Cycle Q Clear(g_c), s	1.0	5.5	5.5	0.3	7.6	7.6	2.9	0.0	0.0	0.6	0.0	2.7
Prop In Lane	1.00		0.05	1.00		0.06	0.53		0.35	1.00		0.91
Lane Grp Cap(c), veh/h	397	742	773	429	645	672	299	0	0	475	0	424
V/C Ratio(X)	0.18	0.45	0.45	0.04	0.61	0.61	0.34	0.00	0.00	0.06	0.00	0.31
Avail Cap(c_a), veh/h	1191	1538	1604	1323	1514	1577	973	0	0	1302	0	2031
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	8.5	8.5	7.9	10.6	10.6	17.0	0.0	0.0	13.4	0.0	12.2
Incr Delay (d2), s/veh	0.2	0.4	0.4	0.0	1.0	0.9	0.7	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	2.9	3.0	0.1	4.3	4.4	1.5	0.0	0.0	0.4	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	9.0	9.0	8.0	11.5	11.5	17.7	0.0	0.0	13.4	0.0	12.6
LnGrp LOS	A	A	A	A	B	B	B	A	A	B	A	B
Approach Vol, veh/h		747			825			102			162	
Approach Delay, s/veh		8.9			11.4			17.7			12.8	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	21.6		14.6	6.7	19.6	5.7	9.0
Change Period (Y+Rc), s	4.0	4.5		4.0	4.5	4.5	4.5	4.0
Max Green Setting (Gmax), s	21.0	35.5		51.0	20.5	35.5	20.5	26.0
Max Q Clear Time (g_c+I1), s	2.3	7.5		4.7	3.0	9.6	2.6	4.9
Green Ext Time (p_c), s	0.0	4.5		0.9	0.1	5.6	0.0	0.5

Intersection Summary		
HCM 6th Ctrl Delay		10.9
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	455	135	80	405	10	165	20	120	20	30	50
Future Volume (veh/h)	15	455	135	80	405	10	165	20	120	20	30	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1885	1841	1900	1856	1900	1856	1900	1900	1841
Adj Flow Rate, veh/h	16	500	148	88	445	11	181	22	132	22	33	55
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	0	1	4	0	3	0	3	0	0	4
Cap, veh/h	407	762	224	361	1127	28	482	371	307	315	173	142
Arrive On Green	0.01	0.28	0.28	0.05	0.32	0.32	0.12	0.20	0.20	0.02	0.09	0.09
Sat Flow, veh/h	1810	2707	797	1795	3488	86	1767	1900	1572	1810	1900	1560
Grp Volume(v), veh/h	16	327	321	88	223	233	181	22	132	22	33	55
Grp Sat Flow(s),veh/h/ln	1810	1777	1727	1795	1749	1825	1767	1900	1572	1810	1900	1560
Q Serve(g_s), s	0.3	6.8	6.9	1.4	4.1	4.2	3.6	0.4	3.1	0.5	0.7	1.4
Cycle Q Clear(g_c), s	0.3	6.8	6.9	1.4	4.1	4.2	3.6	0.4	3.1	0.5	0.7	1.4
Prop In Lane	1.00		0.46	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	500	486	361	565	590	482	371	307	315	173	142
V/C Ratio(X)	0.04	0.65	0.66	0.24	0.39	0.40	0.38	0.06	0.43	0.07	0.19	0.39
Avail Cap(c_a), veh/h	838	805	782	714	792	827	711	861	712	739	861	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.6	13.3	13.3	10.4	11.0	11.0	13.0	13.7	14.8	16.9	17.6	18.0
Incr Delay (d2), s/veh	0.0	1.5	1.5	0.3	0.6	0.6	0.5	0.1	1.3	0.1	0.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	4.3	4.3	0.9	2.5	2.6	2.2	0.3	1.9	0.3	0.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	14.7	14.8	10.7	11.6	11.6	13.5	13.8	16.2	17.0	18.4	20.4
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	C
Approach Vol, veh/h		664			544			335			110	
Approach Delay, s/veh		14.7			11.5			14.6			19.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	13.2	5.0	18.6	9.6	8.8	6.8	16.8
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	10.5	19.0	10.5	19.0	10.5	19.0	10.5	19.0
Max Q Clear Time (g_c+I1), s	2.5	5.1	2.3	6.2	5.6	3.4	3.4	8.9
Green Ext Time (p_c), s	0.0	0.6	0.0	3.0	0.2	0.3	0.1	2.9

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 101 [Mission_Molter PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Molter Rd														
3	L2	65	2.0	65	2.0	0.248	12.1	LOS B	1.4	34.8	0.58	0.67	0.58	35.5
8	T1	120	1.0	120	1.0	0.248	6.1	LOS A	1.4	34.8	0.58	0.67	0.58	35.5
18	R2	45	1.0	45	1.0	0.248	6.2	LOS A	1.4	34.8	0.58	0.67	0.58	34.4
Approach		230	1.3	230	1.3	0.248	7.8	LOS A	1.4	34.8	0.58	0.67	0.58	35.3
East: Mission Ave														
1	L2	40	2.0	40	2.0	0.396	11.2	LOS B	2.5	63.0	0.50	0.55	0.50	36.2
6	T1	325	2.0	325	2.0	0.396	5.3	LOS A	2.5	63.0	0.50	0.55	0.50	36.2
16	R2	60	2.0	60	2.0	0.396	5.3	LOS A	2.5	63.0	0.50	0.55	0.50	35.1
Approach		425	2.0	425	2.0	0.396	5.8	LOS A	2.5	63.0	0.50	0.55	0.50	36.0
North: Molter Rd														
7	L2	90	2.0	90	2.0	0.281	12.1	LOS B	1.6	40.6	0.59	0.69	0.59	35.3
4	T1	115	2.0	115	2.0	0.281	6.2	LOS A	1.6	40.6	0.59	0.69	0.59	35.3
14	R2	55	2.0	55	2.0	0.281	6.3	LOS A	1.6	40.6	0.59	0.69	0.59	34.2
Approach		260	2.0	260	2.0	0.281	8.3	LOS A	1.6	40.6	0.59	0.69	0.59	35.1
West: Mission Ave														
5	L2	50	3.0	50	3.0	0.391	11.3	LOS B	2.4	62.6	0.51	0.57	0.51	36.1
2	T1	295	3.0	295	3.0	0.391	5.3	LOS A	2.4	62.6	0.51	0.57	0.51	36.0
12	R2	65	3.0	65	3.0	0.391	5.4	LOS A	2.4	62.6	0.51	0.57	0.51	34.9
Approach		410	3.0	410	3.0	0.391	6.1	LOS A	2.4	62.6	0.51	0.57	0.51	35.9
All Vehicles		1325	2.2	1325	2.2	0.396	6.7	LOS A	2.5	63.0	0.53	0.61	0.53	35.6

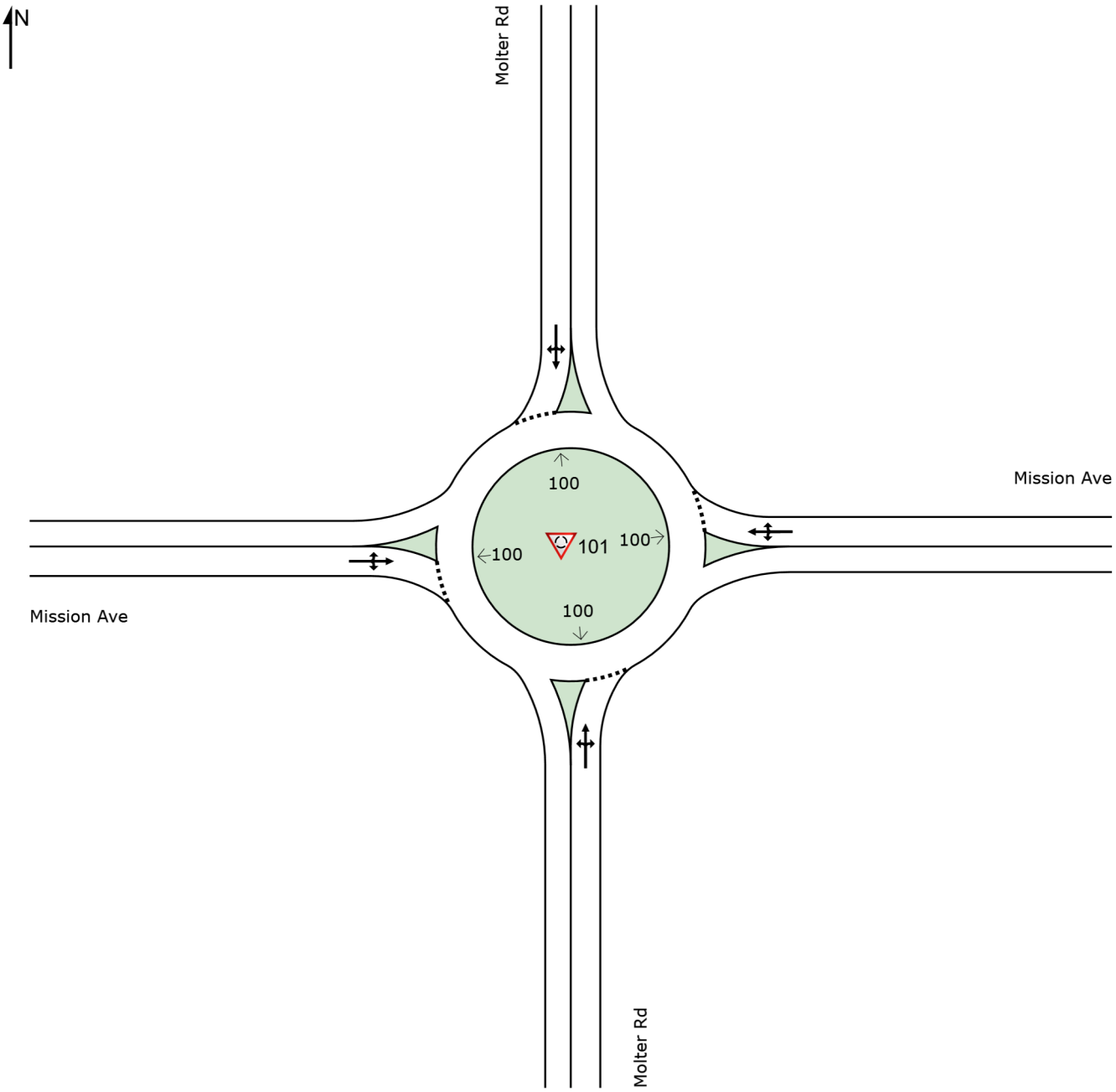
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Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Molter PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvest PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvest Pkwy														
3	L2	40	3.0	40	3.0	0.148	11.8	LOS B	0.7	19.0	0.51	0.65	0.51	35.8
8	T1	15	2.0	15	2.0	0.148	5.8	LOS A	0.7	19.0	0.51	0.65	0.51	35.8
18	R2	85	2.0	85	2.0	0.148	5.8	LOS A	0.7	19.0	0.51	0.65	0.51	34.7
Approach		140	2.3	140	2.3	0.148	7.5	LOS A	0.7	19.0	0.51	0.65	0.51	35.1
East: Mission Ave														
1	L2	95	3.0	95	3.0	0.407	10.5	LOS B	2.5	65.0	0.35	0.50	0.35	36.5
6	T1	310	3.0	310	3.0	0.407	4.6	LOS A	2.5	65.0	0.35	0.50	0.35	36.4
16	R2	75	3.0	75	3.0	0.407	4.6	LOS A	2.5	65.0	0.35	0.50	0.35	35.3
Approach		480	3.0	480	3.0	0.407	5.7	LOS A	2.5	65.0	0.35	0.50	0.35	36.2
North: Harvest Pkwy														
7	L2	45	1.0	45	1.0	0.107	11.9	LOS B	0.5	13.4	0.52	0.67	0.52	35.4
4	T1	10	1.0	10	1.0	0.107	5.9	LOS A	0.5	13.4	0.52	0.67	0.52	35.3
14	R2	45	1.0	45	1.0	0.107	6.0	LOS A	0.5	13.4	0.52	0.67	0.52	34.3
Approach		100	1.0	100	1.0	0.107	8.6	LOS A	0.5	13.4	0.52	0.67	0.52	34.9
West: Mission Ave														
5	L2	55	3.0	55	3.0	0.348	10.7	LOS B	2.0	51.1	0.37	0.51	0.37	36.5
2	T1	300	4.0	300	4.0	0.348	4.8	LOS A	2.0	51.1	0.37	0.51	0.37	36.4
12	R2	40	3.0	40	3.0	0.348	4.8	LOS A	2.0	51.1	0.37	0.51	0.37	35.3
Approach		395	3.8	395	3.8	0.348	5.6	LOS A	2.0	51.1	0.37	0.51	0.37	36.3
All Vehicles		1115	3.0	1115	3.0	0.407	6.2	LOS A	2.5	65.0	0.39	0.54	0.39	36.0

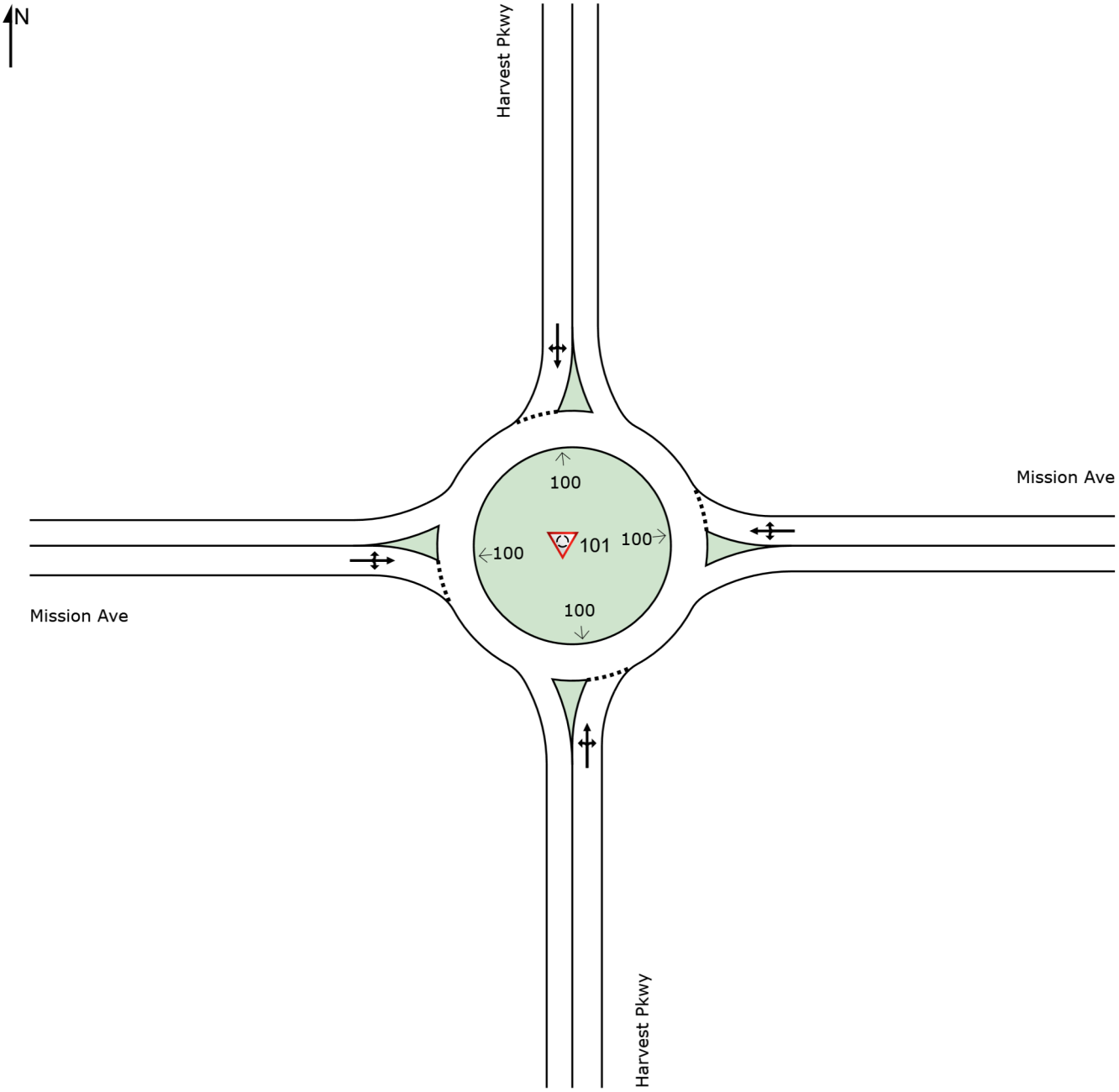
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Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvest PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	425	160	90	270	115	90
Future Vol, veh/h	425	160	90	270	115	90
Conflicting Peds, #/hr	0	4	4	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	5	1	2
Mvmt Flow	462	174	98	293	125	98

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	640	0	1042	554
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	489	-
Critical Hdwy	-	-	4.1	-	6.41	6.22
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.318
Pot Cap-1 Maneuver	-	-	954	-	256	532
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	619	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	951	-	229	530
Mov Cap-2 Maneuver	-	-	-	-	362	-
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	362	530	-	-	951	-
HCM Lane V/C Ratio	0.345	0.185	-	-	0.103	-
HCM Control Delay (s)	20.1	13.3	-	-	9.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	0.7	-	-	0.3	-

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	165	125	25	10	75	15	20	30	10	10	35	145
Future Vol, veh/h	165	125	25	10	75	15	20	30	10	10	35	145
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	1	0	0	0	0	0	0	3	0	0	0	5
Mvmt Flow	199	151	30	12	90	18	24	36	12	12	42	175
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.8	9.5	9.2	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	5%
Vol Thru, %	50%	0%	83%	0%	83%	18%
Vol Right, %	17%	0%	17%	0%	17%	76%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	165	150	10	90	190
LT Vol	20	165	0	10	0	10
Through Vol	30	0	125	0	75	35
RT Vol	10	0	25	0	15	145
Lane Flow Rate	72	199	181	12	108	229
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.11	0.33	0.268	0.021	0.171	0.303
Departure Headway (Hd)	5.498	5.98	5.34	6.291	5.666	4.765
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	653	604	678	571	635	744
Service Time	3.52	3.68	3.04	4.004	3.379	2.861
HCM Lane V/C Ratio	0.11	0.329	0.267	0.021	0.17	0.308
HCM Control Delay	9.2	11.6	10	9.1	9.5	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.4	1.4	1.1	0.1	0.6	1.3

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	100	90	10	75	20	70	105	15	25	110	65
Future Vol, veh/h	80	100	90	10	75	20	70	105	15	25	110	65
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	1	1	0	0	0	2	1	0	0	0	0
Mvmt Flow	90	112	101	11	84	22	79	118	17	28	124	73
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.2	9.8	10.3	10.9
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	30%	10%	100%	0%
Vol Thru, %	0%	88%	37%	71%	0%	63%
Vol Right, %	0%	12%	33%	19%	0%	37%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	120	270	105	25	175
LT Vol	70	0	80	10	25	0
Through Vol	0	105	100	75	0	110
RT Vol	0	15	90	20	0	65
Lane Flow Rate	79	135	303	118	28	197
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.143	0.222	0.436	0.181	0.051	0.313
Departure Headway (Hd)	6.533	5.919	5.178	5.536	6.495	5.723
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	607	695	647	551	627
Service Time	4.272	3.658	3.217	3.583	4.233	3.46
HCM Lane V/C Ratio	0.144	0.222	0.436	0.182	0.051	0.314
HCM Control Delay	10.4	10.3	12.2	9.8	9.6	11.1
HCM Lane LOS	B	B	B	A	A	B
HCM 95th-tile Q	0.5	0.8	2.2	0.7	0.2	1.3

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	70	5	5	50	30	10	25	5	35	45	10
Future Vol, veh/h	10	70	5	5	50	30	10	25	5	35	45	10
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	12	83	6	6	60	36	12	30	6	42	54	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.7	7.7	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	12%	6%	39%
Vol Thru, %	62%	82%	59%	50%
Vol Right, %	12%	6%	35%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	85	85	90
LT Vol	10	10	5	35
Through Vol	25	70	50	45
RT Vol	5	5	30	10
Lane Flow Rate	48	101	101	107
Geometry Grp	1	1	1	1
Degree of Util (X)	0.059	0.122	0.117	0.131
Departure Headway (Hd)	4.443	4.351	4.166	4.412
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	808	827	863	815
Service Time	2.458	2.363	2.179	2.426
HCM Lane V/C Ratio	0.059	0.122	0.117	0.131
HCM Control Delay	7.7	8	7.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.4	0.4

MOVEMENT SUMMARY

Site: 101 [Mission_Kramer PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Kramer Pkwy														
3	L2	310	1.0	310	1.0	0.461	11.8	LOS B	3.0	76.2	0.59	0.72	0.59	34.7
8	T1	25	3.0	25	3.0	0.461	5.9	LOS A	3.0	76.2	0.59	0.72	0.59	34.5
18	R2	135	2.0	135	2.0	0.461	6.0	LOS A	3.0	76.2	0.59	0.72	0.59	33.6
Approach		470	1.4	470	1.4	0.461	9.8	LOS A	3.0	76.2	0.59	0.72	0.59	34.3
East: Mission Ave														
1	L2	100	2.0	100	2.0	0.444	11.9	LOS B	2.9	75.1	0.62	0.65	0.62	35.5
6	T1	310	3.0	310	3.0	0.444	6.0	LOS A	2.9	75.1	0.62	0.65	0.62	35.4
16	R2	20	3.0	20	3.0	0.444	6.1	LOS A	2.9	75.1	0.62	0.65	0.62	34.3
Approach		430	2.8	430	2.8	0.444	7.4	LOS A	2.9	75.1	0.62	0.65	0.62	35.3
North: Kramer Pkwy														
7	L2	20	3.0	20	3.0	0.064	14.2	LOS B	0.4	9.5	0.71	0.72	0.71	34.2
4	T1	20	3.0	20	3.0	0.064	8.3	LOS A	0.4	9.5	0.71	0.72	0.71	34.2
14	R2	5	3.0	5	3.0	0.064	8.3	LOS A	0.4	9.5	0.71	0.72	0.71	33.2
Approach		45	3.0	45	3.0	0.064	10.9	LOS B	0.4	9.5	0.71	0.72	0.71	34.1
West: Mission Ave														
5	L2	5	3.0	5	3.0	0.453	10.8	LOS B	3.1	79.0	0.43	0.50	0.43	36.8
2	T1	285	3.0	285	3.0	0.453	4.8	LOS A	3.1	79.0	0.43	0.50	0.43	36.7
12	R2	230	2.0	230	2.0	0.453	4.8	LOS A	3.1	79.0	0.43	0.50	0.43	35.6
Approach		520	2.6	520	2.6	0.453	4.9	LOS A	3.1	79.0	0.43	0.50	0.43	36.2
All Vehicles		1465	2.3	1465	2.3	0.461	7.4	LOS A	3.1	79.0	0.54	0.62	0.54	35.3

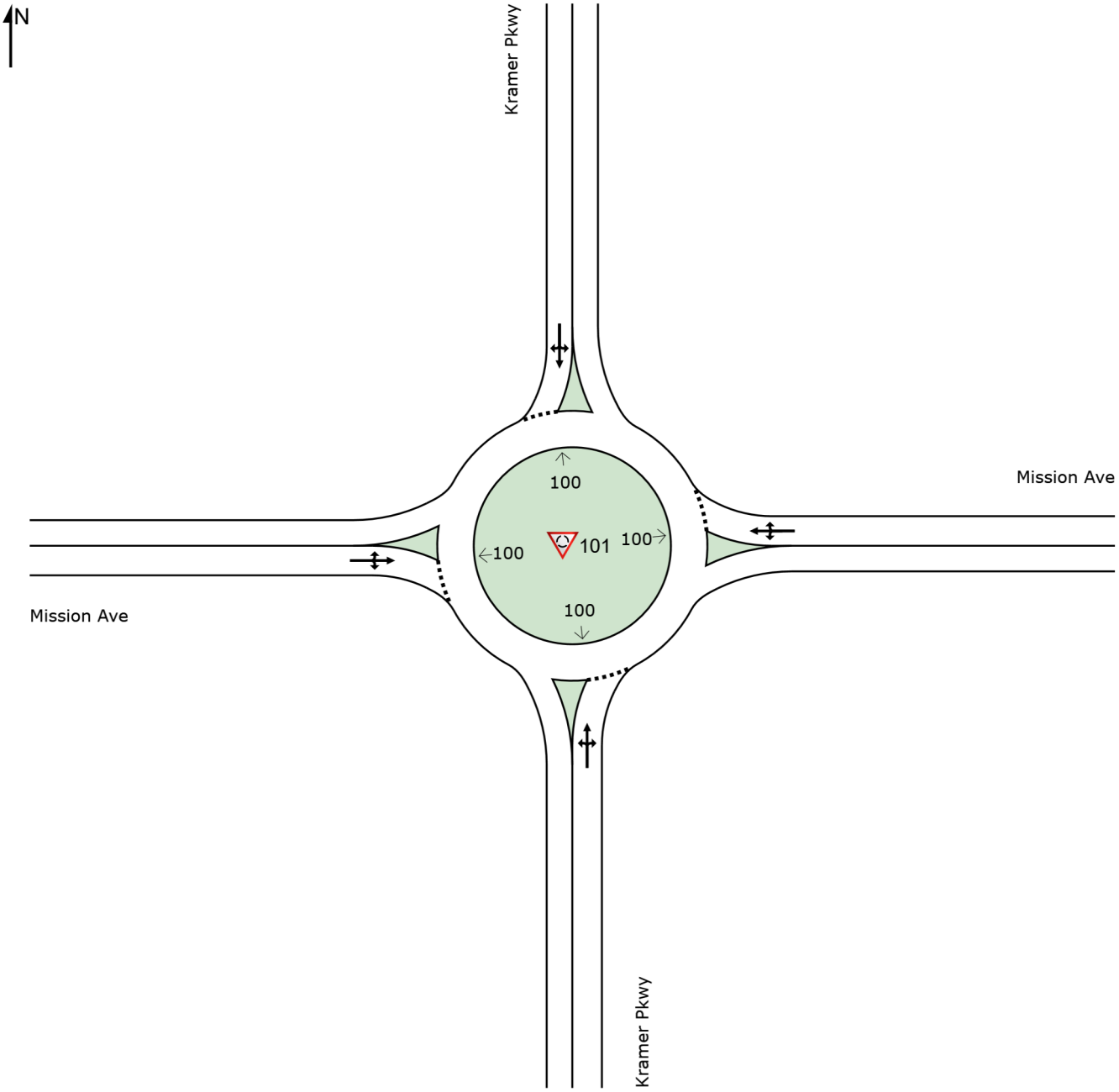
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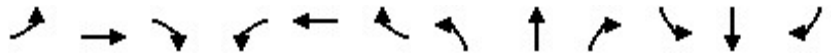
SITE LAYOUT

Site: 101 [Mission_Kramer PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	5	70	45	5	5	60	680	60	5	520	20
Future Volume (veh/h)	25	5	70	45	5	5	60	680	60	5	520	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1530	1826	1811	1900	1159	1900	1870	1900	1900	1870	1900
Adj Flow Rate, veh/h	27	5	77	49	5	5	66	747	66	5	571	22
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	25	5	6	0	50	0	2	0	0	2	0
Cap, veh/h	47	6	89	73	77	77	512	1462	129	386	1380	53
Arrive On Green	0.03	0.07	0.07	0.04	0.09	0.09	0.05	0.44	0.44	0.01	0.40	0.40
Sat Flow, veh/h	1810	80	1229	1725	872	872	1810	3303	292	1810	3489	134
Grp Volume(v), veh/h	27	0	82	49	0	10	66	402	411	5	291	302
Grp Sat Flow(s),veh/h/ln	1810	0	1308	1725	0	1743	1810	1777	1818	1810	1777	1846
Q Serve(g_s), s	0.6	0.0	2.4	1.1	0.0	0.2	0.8	6.3	6.3	0.1	4.6	4.6
Cycle Q Clear(g_c), s	0.6	0.0	2.4	1.1	0.0	0.2	0.8	6.3	6.3	0.1	4.6	4.6
Prop In Lane	1.00		0.94	1.00		0.50	1.00		0.16	1.00		0.07
Lane Grp Cap(c), veh/h	47	0	95	73	0	155	512	786	804	386	703	730
V/C Ratio(X)	0.57	0.00	0.86	0.67	0.00	0.06	0.13	0.51	0.51	0.01	0.41	0.41
Avail Cap(c_a), veh/h	279	0	589	355	0	874	1115	2034	2081	655	1623	1686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	17.8	18.4	0.0	16.2	6.4	7.8	7.8	7.3	8.5	8.5
Incr Delay (d2), s/veh	10.5	0.0	26.0	10.2	0.0	0.2	0.1	0.7	0.7	0.0	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	2.4	1.0	0.0	0.1	0.4	3.2	3.3	0.0	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	0.0	43.9	28.6	0.0	16.5	6.6	8.5	8.5	7.3	9.0	9.0
LnGrp LOS	C	A	D	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		109			59			879			598	
Approach Delay, s/veh		40.2			26.5			8.4			9.0	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	19.9	5.0	8.0	4.2	21.7	5.6	7.3
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.0	35.5	6.0	19.5	6.0	44.5	8.0	17.5
Max Q Clear Time (g_c+I1), s	2.8	6.6	2.6	2.2	2.1	8.3	3.1	4.4
Green Ext Time (p_c), s	0.1	5.6	0.0	0.0	0.0	8.9	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	15	30	5	10	15	640	55	5	495	15
Future Vol, veh/h	5	5	15	30	5	10	15	640	55	5	495	15
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	1	1	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	55	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	9	8	0	0	0	2	0	0	2	9
Mvmt Flow	6	6	17	34	6	11	17	719	62	6	556	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	977	1394	289	1079	1371	394	574	0	0	782	0	0
Stage 1	578	578	-	785	785	-	-	-	-	-	-	-
Stage 2	399	816	-	294	586	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.08	7.66	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.66	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.66	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.58	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	208	143	687	165	147	611	1009	-	-	845	-	-
Stage 1	474	504	-	339	407	-	-	-	-	-	-	-
Stage 2	604	393	-	673	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	194	139	686	153	143	609	1008	-	-	844	-	-
Mov Cap-2 Maneuver	194	139	-	153	143	-	-	-	-	-	-	-
Stage 1	465	500	-	333	400	-	-	-	-	-	-	-
Stage 2	574	386	-	644	496	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.8	31.2	0.2	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1008	-	-	162	686	151	609	844	-	-
HCM Lane V/C Ratio	0.017	-	-	0.069	0.025	0.26	0.018	0.007	-	-
HCM Control Delay (s)	8.6	-	-	28.9	10.4	37	11	9.3	-	-
HCM Lane LOS	A	-	-	D	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	1	0.1	0	-	-

Intersection	
Int Delay, s/veh	26.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	330	20	5	430	175	10	15	10	155	35	35
Future Vol, veh/h	40	330	20	5	430	175	10	15	10	155	35	35
Conflicting Peds, #/hr	4	0	7	7	0	4	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	3	5	0	1	0	0	7	0	1	0	6
Mvmt Flow	43	351	21	5	457	186	11	16	11	165	37	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	647	0	0	379	0	0	1053	1112	369	1025	1029	555
Stage 1	-	-	-	-	-	-	455	455	-	564	564	-
Stage 2	-	-	-	-	-	-	598	657	-	461	465	-
Critical Hdwy	4.15	-	-	4.1	-	-	7.1	6.57	6.2	7.11	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Follow-up Hdwy	2.245	-	-	2.2	-	-	3.5	4.063	3.3	3.509	4	3.354
Pot Cap-1 Maneuver	924	-	-	1191	-	-	206	204	681	214	236	524
Stage 1	-	-	-	-	-	-	589	560	-	512	512	-
Stage 2	-	-	-	-	-	-	492	454	-	582	566	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	921	-	-	1184	-	-	159	192	677	189	222	522
Mov Cap-2 Maneuver	-	-	-	-	-	-	159	192	-	189	222	-
Stage 1	-	-	-	-	-	-	558	530	-	486	508	-
Stage 2	-	-	-	-	-	-	421	451	-	530	536	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	24.1	142.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	921	-	-	1184	-	-	215
HCM Lane V/C Ratio	0.165	0.046	-	-	0.004	-	-	1.113
HCM Control Delay (s)	24.1	9.1	-	-	8.1	-	-	142.3
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	11.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	455	530	5	15	45
Future Vol, veh/h	5	455	530	5	15	45
Conflicting Peds, #/hr	2	0	0	2	9	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	5	489	570	5	16	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	577	0	-	0	1083	575
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	508	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1006	-	-	-	243	521
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	608	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1004	-	-	-	241	520
Mov Cap-2 Maneuver	-	-	-	-	376	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	607	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1004	-	-	-	475
HCM Lane V/C Ratio	0.005	-	-	-	0.136
HCM Control Delay (s)	8.6	-	-	-	13.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Lane Configurations							
Traffic Volume (vph)	1050	35	15	780	35	35	
Future Volume (vph)	1050	35	15	780	35	35	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		75	100		100	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	
Frt	0.995					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	3426	0	1805	3505	1805	1615	
Flt Permitted			0.950		0.950		
Satd. Flow (perm)	3426	0	1805	3505	1805	1615	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	3					36	
Link Speed (mph)	30			30	30		
Link Distance (ft)	425			3165	712		
Travel Time (s)	9.7			71.9	16.2		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	5%	0%	0%	3%	0%	0%	
Adj. Flow (vph)	1071	36	15	796	36	36	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1107	0	15	796	36	36	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane	Yes			Yes	Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2		1	2	1	1	
Detector Template	Thru		Left	Thru	Left	Right	
Leading Detector (ft)	100		20	100	20	20	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	6		20	6	20	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94			
Detector 2 Size(ft)	6			6			
Detector 2 Type	Cl+Ex			Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)	0.0			0.0			
Turn Type	NA		Prot	NA	Prot	Perm	
Protected Phases	2		1	6	8		14



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Permitted Phases						8	
Detector Phase	2		1	6	8	8	
Switch Phase							
Minimum Initial (s)	7.0		4.0	4.0	7.0	7.0	4.0
Minimum Split (s)	26.5		9.5	36.5	21.5	21.5	25.0
Total Split (s)	40.0		30.0	70.0	30.0	30.0	25.0
Total Split (%)	32.0%		24.0%	56.0%	24.0%	24.0%	20%
Maximum Green (s)	34.5		24.5	64.5	26.0	26.0	21.0
Yellow Time (s)	4.5		4.5	4.5	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	4.0	
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None	Ped
Walk Time (s)							6.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							4
Act Effct Green (s)	34.8		5.3	36.9	7.3	7.3	
Actuated g/C Ratio	0.46		0.07	0.48	0.10	0.10	
v/c Ratio	0.71		0.12	0.47	0.21	0.19	
Control Delay	21.4		38.3	14.7	37.7	15.5	
Queue Delay	0.0		0.0	0.0	0.0	0.0	
Total Delay	21.4		38.3	14.7	37.7	15.5	
LOS	C		D	B	D	B	
Approach Delay	21.4			15.2	26.6		
Approach LOS	C			B	C		
Queue Length 50th (ft)	211		7	133	16	0	
Queue Length 95th (ft)	376		27	183	49	29	
Internal Link Dist (ft)	345			3085	632		
Turn Bay Length (ft)			100		100		
Base Capacity (vph)	1563		584	2987	620	578	
Starvation Cap Reductn	0		0	0	0	0	
Spillback Cap Reductn	0		0	0	0	0	
Storage Cap Reductn	0		0	0	0	0	
Reduced v/c Ratio	0.71		0.03	0.27	0.06	0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 76.4			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Ridgeline HS & Country Vista Dr



Appendix F

Short-Term Mitigated Analysis Results (2028)

Intersection 1:

I-90 WB Off Ramp / E Country Vista Dr

MOVEMENT SUMMARY

Site: 1 [I-90 Ramps_Appleway PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Appleway Ave														
6	T1	765	2.0	781	2.0	0.323	5.4	LOS A	2.0	50.9	0.37	0.49	0.37	39.6
16	R2	55	0.0	56	0.0	0.323	5.5	LOS A	2.0	50.9	0.36	0.49	0.36	37.1
Approach		820	1.9	837	1.9	0.323	5.4	LOS A	2.0	50.9	0.37	0.49	0.37	39.4
North: I-90 Ramps														
7	L2	65	0.0	66	0.0	0.367	12.6	LOS B	1.5	38.5	0.59	0.82	0.62	36.8
14	R2	205	2.0	209	2.0	0.367	6.9	LOS A	1.5	38.5	0.59	0.82	0.62	35.5
Approach		270	1.5	276	1.5	0.367	8.2	LOS A	1.5	38.5	0.59	0.82	0.62	35.8
West: Appleway Ave														
5	L2	140	3.0	143	3.0	0.445	11.2	LOS B	3.5	90.9	0.31	0.50	0.31	37.8
2	T1	1025	5.0	1046	5.0	0.445	5.0	LOS A	3.5	92.0	0.31	0.46	0.31	39.0
Approach		1165	4.8	1189	4.8	0.445	5.7	LOS A	3.5	92.0	0.31	0.47	0.31	38.9
All Vehicles		2255	3.3	2301	3.3	0.445	5.9	LOS A	3.5	92.0	0.36	0.52	0.37	38.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

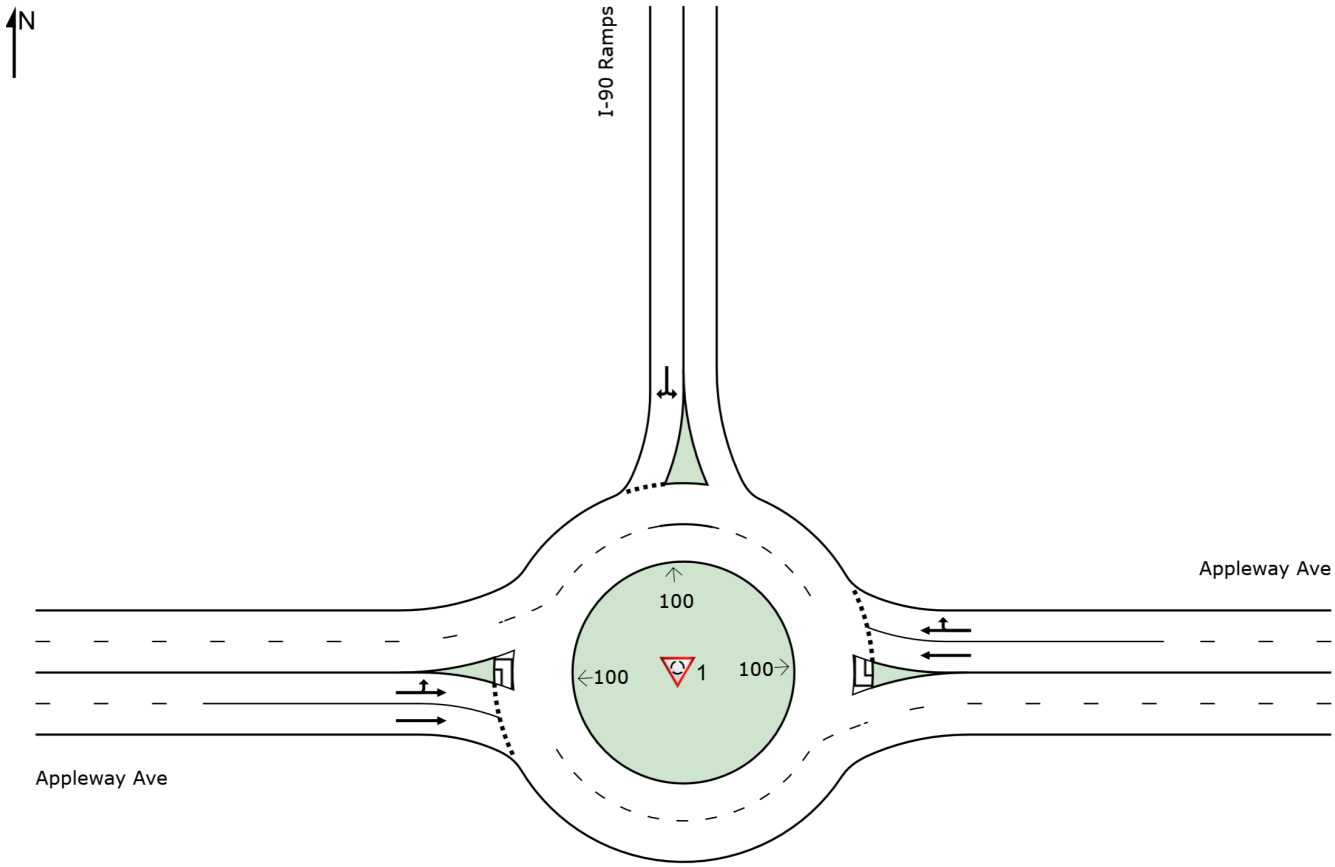
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SITE LAYOUT

Site: 1 [I-90 Ramps_Appleway AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 1 [I-90 Ramps_Appleway AM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Appleway Ave														
6	T1	760	6.0	962	6.0	0.451	6.0	LOS A	3.1	81.8	0.48	0.55	0.48	38.5
16	R2	95	2.0	120	2.0	0.451	5.9	LOS A	3.1	81.8	0.47	0.54	0.47	36.6
Approach		855	5.6	1082	5.6	0.451	6.0	LOS A	3.1	81.8	0.48	0.55	0.48	38.3
North: I-90 Ramps														
7	L2	45	0.0	57	0.0	0.291	12.8	LOS B	1.1	29.2	0.63	0.83	0.63	36.4
14	R2	105	3.0	133	3.0	0.291	7.1	LOS A	1.1	29.2	0.63	0.83	0.63	35.0
Approach		150	2.1	190	2.1	0.291	8.8	LOS A	1.1	29.2	0.63	0.83	0.63	35.4
West: Appleway Ave														
5	L2	145	6.0	184	6.0	0.361	11.1	LOS B	2.6	67.7	0.27	0.53	0.27	37.4
2	T1	620	5.0	785	5.0	0.361	4.9	LOS A	2.6	68.3	0.26	0.46	0.26	39.1
Approach		765	5.2	968	5.2	0.361	6.1	LOS A	2.6	68.3	0.26	0.47	0.26	38.8
All Vehicles		1770	5.1	2241	5.1	0.451	6.3	LOS A	3.1	81.8	0.40	0.54	0.40	38.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

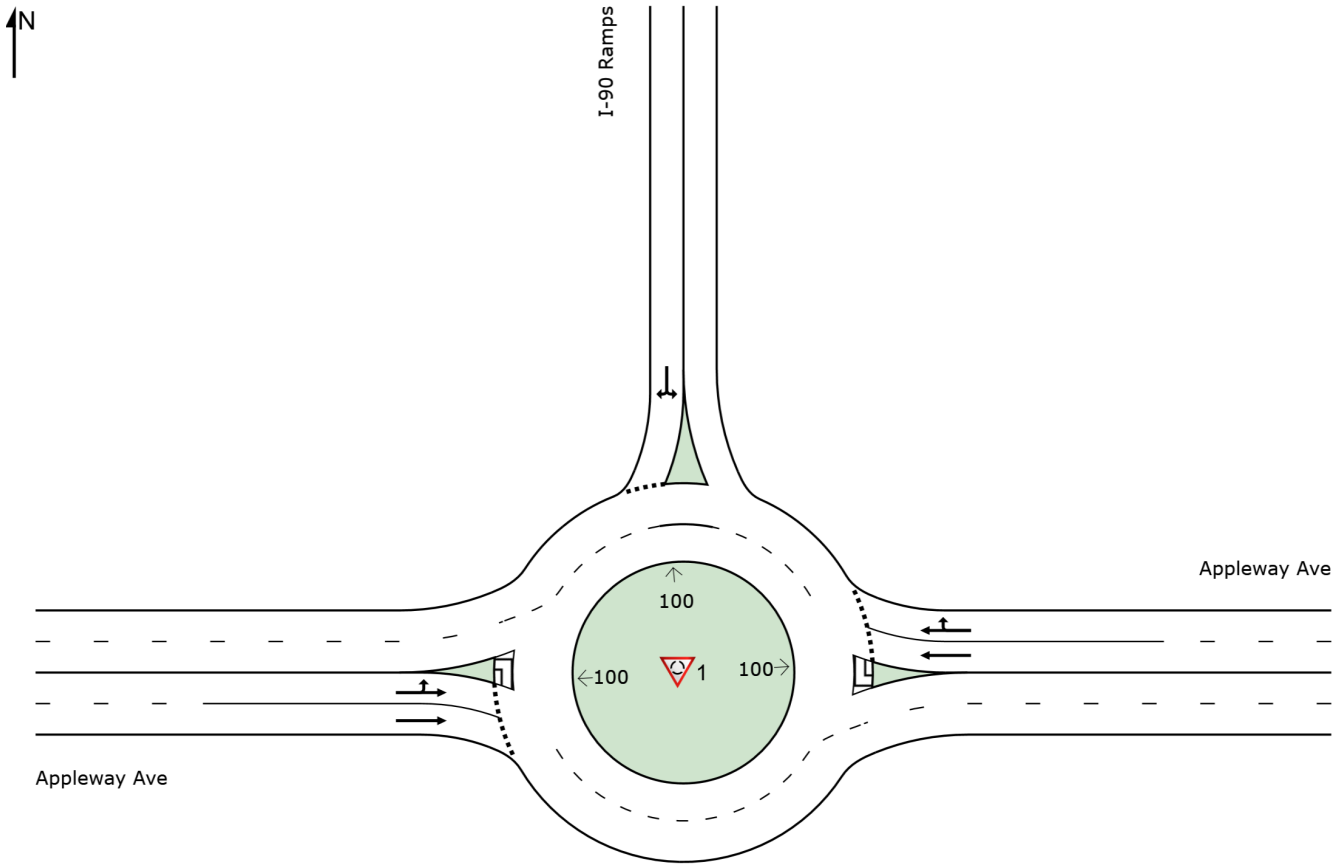
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SITE LAYOUT

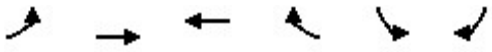
Site: 1 [I-90 Ramps_Appleway PM 2028 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



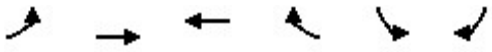
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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	145	620	760	95	45	105
Future Volume (veh/h)	145	620	760	95	45	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1811	1826	1811	1870	1900	1856
Adj Flow Rate, veh/h	184	785	962	120	57	133
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	6	5	6	2	0	3
Cap, veh/h	336	1976	1308	163	571	496
Arrive On Green	0.09	0.57	0.42	0.42	0.32	0.32
Sat Flow, veh/h	1725	3561	3169	384	1810	1572
Grp Volume(v), veh/h	184	785	538	544	57	133
Grp Sat Flow(s),veh/h/ln	1725	1735	1721	1741	1810	1572
Q Serve(g_s), s	3.8	8.8	18.2	18.2	1.6	4.4
Cycle Q Clear(g_c), s	3.8	8.8	18.2	18.2	1.6	4.4
Prop In Lane	1.00			0.22	1.00	1.00
Lane Grp Cap(c), veh/h	336	1976	731	740	571	496
V/C Ratio(X)	0.55	0.40	0.74	0.74	0.10	0.27
Avail Cap(c_a), veh/h	730	4480	1580	1599	571	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	8.3	16.8	16.8	16.9	17.8
Incr Delay (d2), s/veh	1.4	0.1	1.5	1.4	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	5.0	11.0	11.1	1.1	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.2	8.5	18.2	18.2	17.2	19.2
LnGrp LOS	B	A	B	B	B	B
Approach Vol, veh/h		969	1082		190	
Approach Delay, s/veh		9.6	18.2		18.6	
Approach LOS		A	B		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	43.7	26.0	10.1	33.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	90.0	22.0	22.0	64.0
Max Q Clear Time (g_c+I1), s	10.8	6.4	5.8	20.2
Green Ext Time (p_c), s	6.8	0.4	0.4	9.4

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	1025	765	55	65	205
Future Volume (veh/h)	140	1025	765	55	65	205
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1856	1826	1870	1900	1900	1870
Adj Flow Rate, veh/h	143	1046	781	56	66	209
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	5	2	0	0	2
Cap, veh/h	306	1558	1069	77	803	703
Arrive On Green	0.08	0.45	0.32	0.32	0.44	0.44
Sat Flow, veh/h	1767	3561	3456	241	1810	1585
Grp Volume(v), veh/h	143	1046	413	424	66	209
Grp Sat Flow(s),veh/h/ln	1767	1735	1777	1827	1810	1585
Q Serve(g_s), s	3.8	17.7	15.3	15.4	1.6	6.3
Cycle Q Clear(g_c), s	3.8	17.7	15.3	15.4	1.6	6.3
Prop In Lane	1.00			0.13	1.00	1.00
Lane Grp Cap(c), veh/h	306	1558	565	581	803	703
V/C Ratio(X)	0.47	0.67	0.73	0.73	0.08	0.30
Avail Cap(c_a), veh/h	597	3684	1361	1400	803	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	16.2	22.5	22.5	12.0	13.3
Incr Delay (d2), s/veh	1.1	0.5	1.8	1.8	0.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	10.6	10.4	10.7	1.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.2	16.7	24.4	24.3	12.2	14.3
LnGrp LOS	B	B	C	C	B	B
Approach Vol, veh/h		1189	837		275	
Approach Delay, s/veh		16.7	24.3		13.8	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	37.4	37.0	9.7	27.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	79.0	33.0	18.0	57.0
Max Q Clear Time (g_c+I1), s	19.7	8.3	5.8	17.4
Green Ext Time (p_c), s	10.3	0.8	0.3	6.3

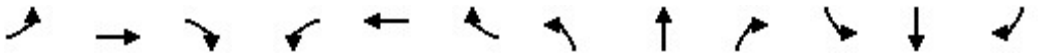
Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Intersection 6:

Liberty Lake Road / Appleway Ave

HCM 6th Signalized Intersection Summary
6: Appleway Ave & Liberty Lake Rd

09/17/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	625	265	115	25	545	125	490	125	290	330	105
Future Volume (veh/h)	155	625	265	115	25	545	125	490	125	290	330	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1707	1470	1811	1811	1856	1811	1856	1870	1781
Adj Flow Rate, veh/h	172	694	294	128	28	606	139	544	139	322	367	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	5	13	29	6	6	3	6	3	2	8
Cap, veh/h	209	979	437	157	382	1272	175	750	327	373	1108	
Arrive On Green	0.12	0.28	0.28	0.10	0.26	0.26	0.10	0.21	0.21	0.21	0.31	0.00
Sat Flow, veh/h	1753	3469	1547	1626	1470	2701	1725	3526	1535	1767	3554	1510
Grp Volume(v), veh/h	172	694	294	128	28	606	139	544	139	322	367	0
Grp Sat Flow(s),veh/h/ln	1753	1735	1547	1626	1470	1351	1725	1763	1535	1767	1777	1510
Q Serve(g_s), s	8.7	16.4	15.4	7.0	1.3	14.0	7.2	13.1	7.2	16.1	7.2	0.0
Cycle Q Clear(g_c), s	8.7	16.4	15.4	7.0	1.3	14.0	7.2	13.1	7.2	16.1	7.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	979	437	157	382	1272	175	750	327	373	1108	
V/C Ratio(X)	0.82	0.71	0.67	0.81	0.07	0.48	0.80	0.73	0.43	0.86	0.33	
Avail Cap(c_a), veh/h	384	1330	593	267	483	1458	340	1042	454	581	1479	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.3	29.4	29.0	40.4	25.5	16.5	40.1	33.5	31.1	34.7	24.1	0.0
Incr Delay (d2), s/veh	7.8	1.5	2.6	9.7	0.1	0.3	11.0	2.1	1.3	10.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	11.1	9.8	5.8	0.8	7.5	6.4	9.6	4.9	12.4	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	30.9	31.6	50.1	25.6	16.8	51.1	35.6	32.4	44.8	24.3	0.0
LnGrp LOS	D	C	C	D	C	B	D	D	C	D	C	
Approach Vol, veh/h		1160			762			822			689	
Approach Delay, s/veh		33.5			22.7			37.7			33.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.3	24.4	12.8	30.8	14.3	33.5	14.9	28.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	30.0	27.0	15.0	35.0	18.0	38.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	18.1	15.1	9.0	18.4	9.2	9.2	10.7	16.0
Green Ext Time (p_c), s	1.2	4.3	0.1	7.4	0.3	2.5	0.3	2.4

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Appleway Ave & Liberty Lake Rd

09/17/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	385	360	200	50	790	160	665	160	295	510	120
Future Volume (veh/h)	170	385	360	200	50	790	160	665	160	295	510	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1856	1900	1870	1885	1885	1870	1885	1885	1885
Adj Flow Rate, veh/h	185	418	391	217	54	859	174	723	174	321	554	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	3	0	2	1	1	2	1	1	1
Cap, veh/h	216	984	439	245	557	1365	207	837	371	352	1096	
Arrive On Green	0.12	0.28	0.28	0.14	0.29	0.29	0.12	0.23	0.23	0.20	0.31	0.00
Sat Flow, veh/h	1767	3554	1585	1767	1900	2790	1795	3582	1585	1795	3582	1598
Grp Volume(v), veh/h	185	418	391	217	54	859	174	723	174	321	554	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1585	1767	1900	1395	1795	1791	1585	1795	1791	1598
Q Serve(g_s), s	11.9	11.2	27.5	14.0	2.4	26.4	11.0	22.5	11.0	20.3	14.8	0.0
Cycle Q Clear(g_c), s	11.9	11.2	27.5	14.0	2.4	26.4	11.0	22.5	11.0	20.3	14.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	984	439	245	557	1365	207	837	371	352	1096	
V/C Ratio(X)	0.86	0.42	0.89	0.89	0.10	0.63	0.84	0.86	0.47	0.91	0.51	
Avail Cap(c_a), veh/h	335	1070	477	274	557	1365	309	894	396	386	1096	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.0	34.4	40.3	49.1	29.9	21.9	50.4	42.7	38.3	45.8	33.1	0.0
Incr Delay (d2), s/veh	12.5	0.4	18.3	25.6	0.1	0.9	15.1	8.8	1.3	25.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	8.5	18.7	12.5	2.0	13.4	9.8	16.3	7.8	17.0	10.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	34.9	58.7	74.7	29.9	22.8	65.5	51.5	39.6	70.9	33.5	0.0
LnGrp LOS	E	C	E	E	C	C	E	D	D	E	C	
Approach Vol, veh/h		994			1130			1071			875	
Approach Delay, s/veh		49.4			33.1			51.8			47.2	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	32.2	20.1	37.2	18.4	40.6	18.2	39.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	25.0	29.0	18.0	35.0	20.0	33.0	22.0	31.0
Max Q Clear Time (g_c+I1), s	22.3	24.5	16.0	29.5	13.0	16.8	13.9	28.4
Green Ext Time (p_c), s	0.4	2.6	0.1	2.6	0.4	3.4	0.3	1.2

Intersection Summary	
HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

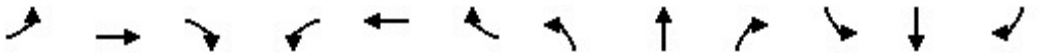
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection 7:

N Liberty Lake Rd / E Country Vista Dr

HCM 6th Signalized Intersection Summary
7: Liberty Lake Rd & Country Vista Dr.

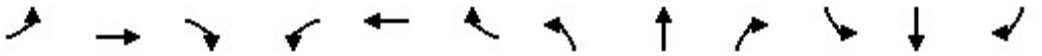
08/07/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	455	80	20	440	135	135	185	20	130	100	365
Future Volume (veh/h)	380	455	80	20	440	135	135	185	20	130	100	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1796	1811	1856	1841	1841	1870	1900	1856	1826	1826
Adj Flow Rate, veh/h	422	506	89	22	489	150	150	206	22	144	111	406
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	3	7	6	3	4	4	2	0	3	5	5
Cap, veh/h	527	1097	192	34	610	186	290	993	105	533	526	469
Arrive On Green	0.16	0.37	0.37	0.02	0.23	0.23	0.08	0.31	0.31	0.08	0.30	0.30
Sat Flow, veh/h	3374	2999	525	1725	2661	811	1753	3243	343	1767	1735	1547
Grp Volume(v), veh/h	422	296	299	22	323	316	150	112	116	144	111	406
Grp Sat Flow(s),veh/h/ln	1687	1763	1761	1725	1763	1710	1753	1777	1809	1767	1735	1547
Q Serve(g_s), s	9.0	9.5	9.6	0.9	12.8	13.0	4.3	3.5	3.5	4.1	3.5	18.4
Cycle Q Clear(g_c), s	9.0	9.5	9.6	0.9	12.8	13.0	4.3	3.5	3.5	4.1	3.5	18.4
Prop In Lane	1.00		0.30	1.00		0.47	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	527	645	644	34	404	392	290	544	554	533	526	469
V/C Ratio(X)	0.80	0.46	0.46	0.65	0.80	0.81	0.52	0.21	0.21	0.27	0.21	0.87
Avail Cap(c_a), veh/h	953	645	644	487	605	587	640	849	864	892	829	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	18.0	18.0	36.2	27.0	27.1	18.1	19.1	19.1	15.5	19.3	24.5
Incr Delay (d2), s/veh	1.1	0.2	0.2	7.5	2.5	2.8	0.5	0.1	0.1	0.1	0.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.7	3.7	0.5	5.4	5.4	1.6	1.4	1.4	1.6	1.4	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	18.2	18.2	43.7	29.5	29.9	18.6	19.2	19.2	15.6	19.4	28.4
LnGrp LOS	C	B	B	D	C	C	B	B	B	B	B	C
Approach Vol, veh/h		1017			661			378			661	
Approach Delay, s/veh		23.6			30.1			19.0			24.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	27.3	5.5	31.7	10.1	27.0	15.6	21.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	6.1	5.5	2.9	11.6	6.3	20.4	11.0	15.0
Green Ext Time (p_c), s	0.2	0.8	0.0	2.1	0.2	2.1	0.7	2.0

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	575	175	45	625	140	130	150	20	255	190	510
Future Volume (veh/h)	475	575	175	45	625	140	130	150	20	255	190	510
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1900	1870	1870	1885	1856	1900	1856	1885	1870
Adj Flow Rate, veh/h	505	612	186	48	665	149	138	160	21	271	202	543
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	2	0	2	2	1	3	0	3	1	2
Cap, veh/h	588	1032	313	62	712	159	207	925	120	595	620	553
Arrive On Green	0.17	0.38	0.38	0.03	0.25	0.25	0.07	0.29	0.29	0.12	0.35	0.35
Sat Flow, veh/h	3483	2707	821	1810	2885	646	1795	3139	406	1767	1791	1598
Grp Volume(v), veh/h	505	405	393	48	409	405	138	89	92	271	202	543
Grp Sat Flow(s),veh/h/ln	1742	1791	1737	1810	1777	1754	1795	1763	1782	1767	1791	1598
Q Serve(g_s), s	14.4	18.5	18.6	2.7	23.1	23.2	5.4	3.8	3.9	10.4	8.5	34.5
Cycle Q Clear(g_c), s	14.4	18.5	18.6	2.7	23.1	23.2	5.4	3.8	3.9	10.4	8.5	34.5
Prop In Lane	1.00		0.47	1.00		0.37	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	588	683	662	62	439	433	207	519	525	595	620	553
V/C Ratio(X)	0.86	0.59	0.59	0.77	0.93	0.93	0.67	0.17	0.18	0.46	0.33	0.98
Avail Cap(c_a), veh/h	714	683	662	371	442	436	445	610	617	738	620	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	25.3	25.4	49.1	37.8	37.8	26.7	26.9	26.9	19.3	24.7	33.2
Incr Delay (d2), s/veh	8.9	1.0	1.0	7.3	26.3	26.9	1.4	0.1	0.1	0.2	0.1	33.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	7.9	7.7	1.3	13.1	13.0	2.3	1.6	1.7	4.2	3.6	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	26.3	26.4	56.4	64.1	64.7	28.1	26.9	27.0	19.5	24.8	66.5
LnGrp LOS	D	C	C	E	E	E	C	C	C	B	C	E
Approach Vol, veh/h		1303			862			319			1016	
Approach Delay, s/veh		35.6			64.0			27.4			45.7	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	34.7	7.5	43.6	11.4	40.0	21.3	29.8
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	12.4	5.9	4.7	20.6	7.4	36.5	16.4	25.2
Green Ext Time (p_c), s	0.3	0.7	0.0	1.6	0.1	0.0	0.9	0.2

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Intersection 8:

E Mission Ave / E Country Vista Dr

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	370	275	280	10	0	290
Future Vol, veh/h	370	275	280	10	0	290
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	2	2	0	0	4
Mvmt Flow	430	320	326	12	0	337

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	341	0	-	0	1356	172
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	1021	-
Critical Hdwy	4.2	-	-	-	6.8	6.98
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	1193	-	-	-	143	835
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	313	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1190	-	-	-	91	833
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	312	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1190	-	-	-	-	833
HCM Lane V/C Ratio	0.362	-	-	-	-	0.405
HCM Control Delay (s)	9.7	-	-	-	0	12.2
HCM Lane LOS	A	-	-	-	A	B
HCM 95th %tile Q(veh)	1.7	-	-	-	-	2

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	360	455	310	15	0	465
Future Vol, veh/h	360	455	310	15	0	465
Conflicting Peds, #/hr	7	0	0	7	5	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	17	2
Mvmt Flow	387	489	333	16	0	500

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	356	0	-	0	1372	182
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	1024	-
Critical Hdwy	4.14	-	-	-	7.14	6.94
Critical Hdwy Stg 1	-	-	-	-	6.14	-
Critical Hdwy Stg 2	-	-	-	-	6.14	-
Follow-up Hdwy	2.22	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	1199	-	-	-	120	829
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	276	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1192	-	-	-	80	824
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	274	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1192	-	-	-	-	824
HCM Lane V/C Ratio	0.325	-	-	-	-	0.607
HCM Control Delay (s)	9.5	-	-	-	0	15.9
HCM Lane LOS	A	-	-	-	A	C
HCM 95th %tile Q(veh)	1.4	-	-	-	-	4.2

Intersection 20:

N Harvard Rd/E Wellington Pkwy

MOVEMENT SUMMARY

Site: 20 [Harvard_Wellington PM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	15	0.0	17	0.0	0.276	9.8	LOS A	1.7	41.9	0.11	0.38	0.11	37.8
8	T1	640	2.0	719	2.0	0.276	3.8	LOS A	1.7	41.9	0.11	0.38	0.11	37.8
18	R2	55	0.0	62	0.0	0.276	4.1	LOS A	1.7	41.9	0.10	0.38	0.10	36.6
Approach		710	1.8	798	1.8	0.276	3.9	LOS A	1.7	41.9	0.11	0.38	0.11	37.7
East: Wellington Pkwy														
1	L2	30	8.0	34	8.0	0.067	12.2	LOS B	0.2	5.3	0.45	0.74	0.45	34.5
6	T1	5	0.0	6	0.0	0.067	5.7	LOS A	0.2	5.3	0.45	0.74	0.45	34.7
16	R2	10	0.0	11	0.0	0.067	5.9	LOS A	0.2	5.3	0.45	0.74	0.45	33.7
Approach		45	5.3	51	5.3	0.067	10.1	LOS B	0.2	5.3	0.45	0.74	0.45	34.4
North: Harvard Rd														
7	L2	5	9.0	6	9.0	0.211	10.1	LOS B	1.2	29.9	0.21	0.39	0.21	37.2
4	T1	495	2.0	556	2.0	0.211	4.0	LOS A	1.2	29.9	0.20	0.38	0.20	37.4
14	R2	15	0.0	17	0.0	0.211	4.3	LOS A	1.2	29.9	0.20	0.38	0.20	36.2
Approach		515	2.0	579	2.0	0.211	4.0	LOS A	1.2	29.9	0.20	0.38	0.20	37.4
West: Wellington Pkwy														
5	L2	5	0.0	6	0.0	0.036	11.4	LOS B	0.1	2.9	0.42	0.63	0.42	36.3
2	T1	5	0.0	6	0.0	0.036	5.3	LOS A	0.1	2.9	0.42	0.63	0.42	36.2
12	R2	15	9.0	17	9.0	0.036	5.9	LOS A	0.1	2.9	0.42	0.63	0.42	34.9
Approach		25	5.4	28	5.4	0.036	6.9	LOS A	0.1	2.9	0.42	0.63	0.42	35.5
All Vehicles		1295	2.1	1455	2.1	0.276	4.3	LOS A	1.7	41.9	0.16	0.40	0.16	37.4

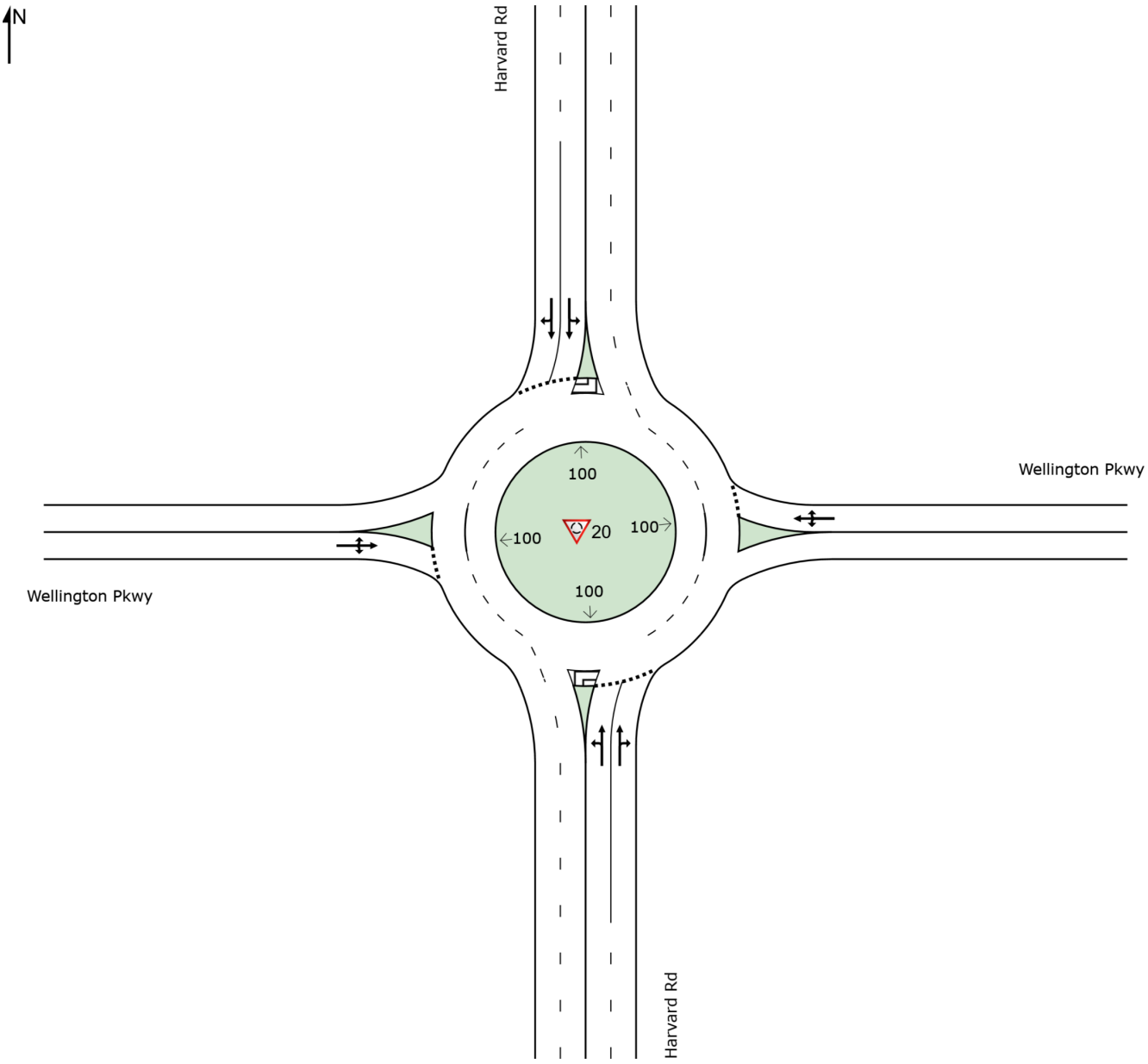
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 20 [Harvard_Wellington PM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 20 [Harvard_Wellington AM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	10	0.0	11	0.0	0.140	9.8	LOS A	0.7	18.5	0.09	0.38	0.09	37.8
8	T1	330	3.0	363	3.0	0.140	3.8	LOS A	0.7	18.5	0.09	0.38	0.09	37.8
18	R2	25	0.0	27	0.0	0.140	4.1	LOS A	0.7	18.5	0.09	0.37	0.09	36.6
Approach		365	2.7	401	2.7	0.140	4.0	LOS A	0.7	18.5	0.09	0.38	0.09	37.7
East: Wellington Pkwy														
1	L2	45	0.0	49	0.0	0.065	10.9	LOS B	0.2	5.0	0.34	0.68	0.34	34.8
6	T1	5	0.0	5	0.0	0.065	4.9	LOS A	0.2	5.0	0.34	0.68	0.34	34.6
16	R2	5	0.0	5	0.0	0.065	5.0	LOS A	0.2	5.0	0.34	0.68	0.34	33.7
Approach		55	0.0	60	0.0	0.065	9.8	LOS A	0.2	5.0	0.34	0.68	0.34	34.6
North: Harvard Rd														
7	L2	5	0.0	5	0.0	0.224	10.0	LOS B	1.2	32.1	0.22	0.39	0.22	37.5
4	T1	535	4.0	588	4.0	0.224	4.0	LOS A	1.2	32.2	0.22	0.39	0.22	37.3
14	R2	5	0.0	5	0.0	0.224	4.3	LOS A	1.2	32.2	0.22	0.38	0.22	36.2
Approach		545	3.9	599	3.9	0.224	4.1	LOS A	1.2	32.2	0.22	0.39	0.22	37.3
West: Wellington Pkwy														
5	L2	5	0.0	5	0.0	0.020	11.4	LOS B	0.1	1.5	0.43	0.63	0.43	35.9
2	T1	5	0.0	5	0.0	0.020	5.4	LOS A	0.1	1.5	0.43	0.63	0.43	35.8
12	R2	5	0.0	5	0.0	0.020	5.6	LOS A	0.1	1.5	0.43	0.63	0.43	34.8
Approach		15	0.0	16	0.0	0.020	7.5	LOS A	0.1	1.5	0.43	0.63	0.43	35.5
All Vehicles		980	3.2	1077	3.2	0.224	4.4	LOS A	1.2	32.2	0.18	0.40	0.18	37.3

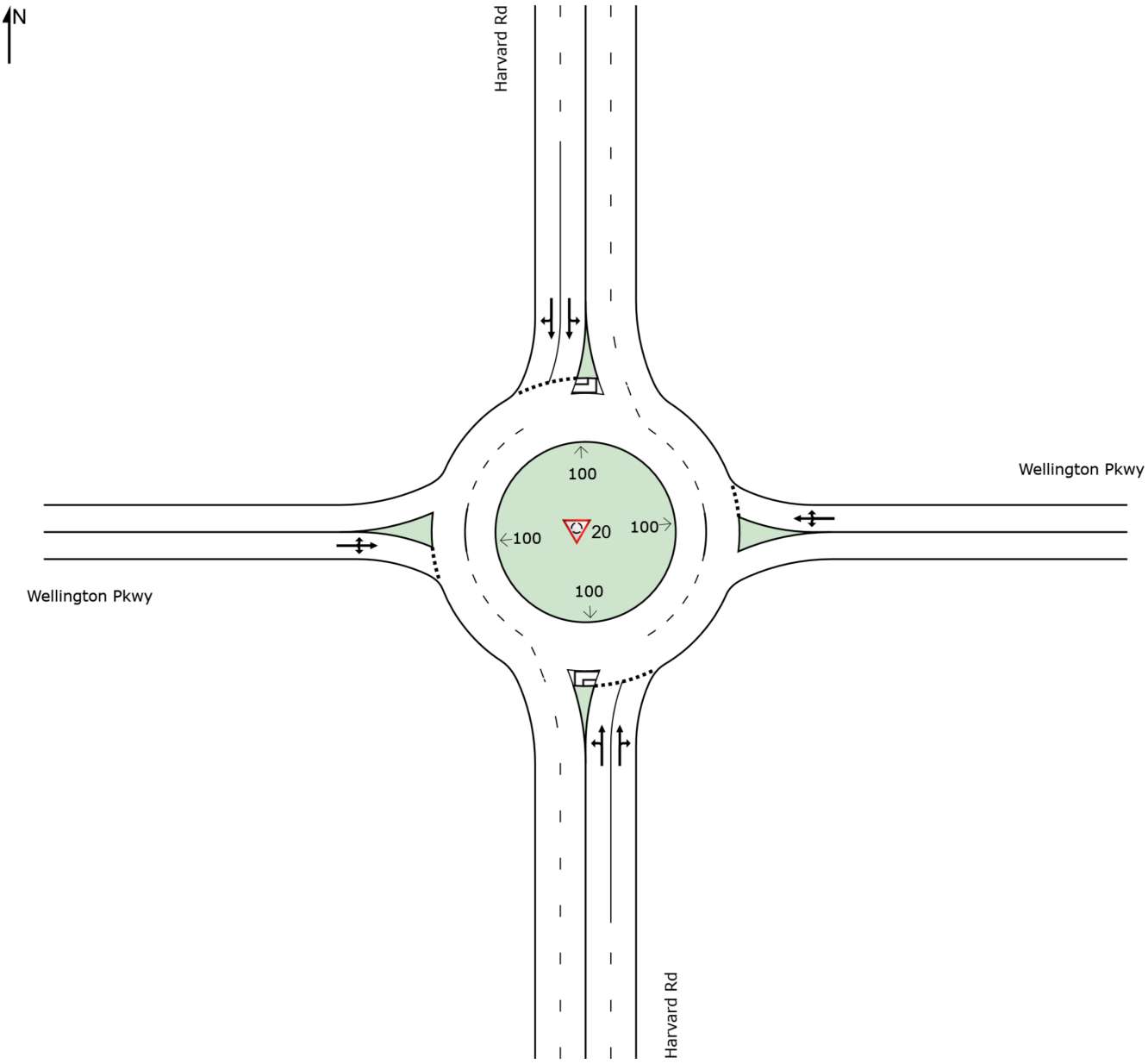
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 20 [Harvard_Wellington AM 2028 Mit (Site Folder: General)]

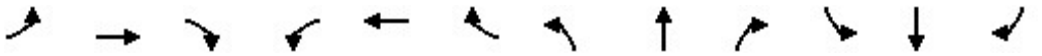
New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



HCM 6th Signalized Intersection Summary
20: Harvard Rd & E Wellington Parkway

10/22/2025



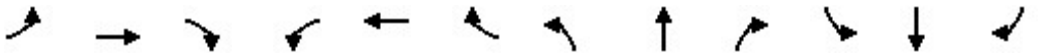
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	45	5	5	10	330	25	5	535	5
Future Volume (veh/h)	5	5	5	45	5	5	10	330	25	5	535	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1856	1900	1900	1841	1900
Adj Flow Rate, veh/h	5	5	5	49	5	5	11	363	27	5	588	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	3	0	0	4	0
Cap, veh/h	235	0	118	299	0	118	562	1323	98	650	1391	12
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.01	0.40	0.40	0.01	0.39	0.39
Sat Flow, veh/h	0	0	1605	0	0	1605	1810	3327	246	1810	3554	30
Grp Volume(v), veh/h	10	0	5	54	0	5	11	192	198	5	289	304
Grp Sat Flow(s),veh/h/ln	0	0	1605	0	0	1605	1810	1763	1810	1810	1749	1835
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	0.1	0.1	1.7	1.7	0.0	2.8	2.8
Cycle Q Clear(g_c), s	1.7	0.0	0.1	1.7	0.0	0.1	0.1	1.7	1.7	0.0	2.8	2.8
Prop In Lane	0.50		1.00	0.91		1.00	1.00		0.14	1.00		0.02
Lane Grp Cap(c), veh/h	235	0	118	299	0	118	562	701	720	650	684	718
V/C Ratio(X)	0.04	0.00	0.04	0.18	0.00	0.04	0.02	0.27	0.28	0.01	0.42	0.42
Avail Cap(c_a), veh/h	2242	0	2098	2095	0	2098	1329	5225	5366	1429	5183	5439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	0.0	9.9	11.5	0.0	9.9	4.3	4.7	4.7	4.2	5.1	5.1
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.3	0.0	0.1	0.0	0.2	0.2	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.5	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	10.0	11.8	0.0	10.0	4.3	4.9	4.9	4.2	5.5	5.5
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		15			59			401			598	
Approach Delay, s/veh		11.0			11.6			4.9			5.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	13.0		5.7	4.1	13.1		5.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	10.0	68.0		30.0	10.0	68.0		30.0				
Max Q Clear Time (g_c+I1), s	2.1	4.8		3.7	2.0	3.7		3.7				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	2.6		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		5.7	
HCM 6th LOS		A	

HCM 6th Signalized Intersection Summary
20: Harvard Rd & E Wellington Parkway

10/22/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	15	30	5	10	15	640	55	5	495	15
Future Volume (veh/h)	5	5	15	30	5	10	15	640	55	5	495	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1767	1781	1900	1900	1900	1870	1900	1900	1870	1767
Adj Flow Rate, veh/h	6	6	17	34	6	11	17	719	62	6	556	17
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	9	8	0	0	0	2	0	0	2	9
Cap, veh/h	207	0	118	255	0	127	597	1507	130	501	1563	48
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.02	0.46	0.46	0.01	0.44	0.44
Sat Flow, veh/h	0	0	1491	0	0	1604	1810	3310	285	1810	3520	108
Grp Volume(v), veh/h	12	0	17	40	0	11	17	386	395	6	280	293
Grp Sat Flow(s),veh/h/ln	0	0	1491	0	0	1604	1810	1777	1819	1810	1777	1851
Q Serve(g_s), s	0.0	0.0	0.3	0.0	0.0	0.2	0.1	3.9	4.0	0.0	2.7	2.7
Cycle Q Clear(g_c), s	2.1	0.0	0.3	2.1	0.0	0.2	0.1	3.9	4.0	0.0	2.7	2.7
Prop In Lane	0.50		1.00	0.85		1.00	1.00		0.16	1.00		0.06
Lane Grp Cap(c), veh/h	207	0	118	255	0	127	597	809	828	501	789	822
V/C Ratio(X)	0.06	0.00	0.14	0.16	0.00	0.09	0.03	0.48	0.48	0.01	0.36	0.36
Avail Cap(c_a), veh/h	1566	0	1369	1481	0	1472	1188	5165	5286	1043	5097	5309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	11.2	13.1	0.0	11.2	4.0	5.0	5.0	4.2	4.8	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.3	0.0	0.3	0.0	0.4	0.4	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.2	0.4	0.0	0.1	0.0	1.1	1.1	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	11.8	13.4	0.0	11.4	4.0	5.4	5.4	4.2	5.1	5.1
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		29			51			798			579	
Approach Delay, s/veh		12.4			12.9			5.4			5.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	15.6		6.1	4.2	15.9		6.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	9.0	75.0		24.0	8.0	76.0		24.0				
Max Q Clear Time (g_c+I1), s	2.1	4.7		4.1	2.0	6.0		4.1				
Green Ext Time (p_c), s	0.0	4.0		0.1	0.0	5.9		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Intersection 21:

E Mission Ave/N Signal Dr

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	315	10	5	320	195	20	50	10	0	0	10
Future Vol, veh/h	25	315	10	5	320	195	20	50	10	0	0	10
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	2	0	0	3	1	0	0	0	7	0	11
Mvmt Flow	27	342	11	5	348	212	22	54	11	0	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	560	0	0	360	0	0	881	979	355	898	878	456
Stage 1	-	-	-	-	-	-	409	409	-	464	464	-
Stage 2	-	-	-	-	-	-	472	570	-	434	414	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.5	6.2	7.17	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.3	3.563	4	3.399
Pot Cap-1 Maneuver	982	-	-	1210	-	-	269	252	693	255	289	586
Stage 1	-	-	-	-	-	-	623	600	-	569	567	-
Stage 2	-	-	-	-	-	-	576	509	-	591	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	1203	-	-	256	243	689	203	278	585
Mov Cap-2 Maneuver	-	-	-	-	-	-	256	243	-	203	278	-
Stage 1	-	-	-	-	-	-	602	580	-	554	565	-
Stage 2	-	-	-	-	-	-	562	507	-	513	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	24.8	11.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	268	982	-	-	1203	-	-	585
HCM Lane V/C Ratio	0.324	0.028	-	-	0.005	-	-	0.019
HCM Control Delay (s)	24.8	8.8	-	-	8	-	-	11.3
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	330	20	5	430	175	10	15	10	0	0	35
Future Vol, veh/h	40	330	20	5	430	175	10	15	10	0	0	35
Conflicting Peds, #/hr	4	0	7	7	0	4	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	3	5	0	1	0	0	7	0	1	0	6
Mvmt Flow	43	351	21	5	457	186	11	16	11	0	0	37

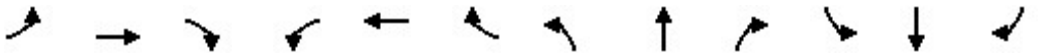
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	647	0	0	379	0	0	1035	1112	369	1025	1029	555
Stage 1	-	-	-	-	-	-	455	455	-	564	564	-
Stage 2	-	-	-	-	-	-	580	657	-	461	465	-
Critical Hdwy	4.15	-	-	4.1	-	-	7.1	6.57	6.2	7.11	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Follow-up Hdwy	2.245	-	-	2.2	-	-	3.5	4.063	3.3	3.509	4	3.354
Pot Cap-1 Maneuver	924	-	-	1191	-	-	212	204	681	214	236	524
Stage 1	-	-	-	-	-	-	589	560	-	512	512	-
Stage 2	-	-	-	-	-	-	504	454	-	582	566	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	921	-	-	1184	-	-	188	192	677	189	222	522
Mov Cap-2 Maneuver	-	-	-	-	-	-	188	192	-	189	222	-
Stage 1	-	-	-	-	-	-	558	530	-	486	508	-
Stage 2	-	-	-	-	-	-	466	451	-	530	536	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	22.7	12.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	921	-	-	1184	-	-	522
HCM Lane V/C Ratio	0.155	0.046	-	-	0.004	-	-	0.071
HCM Control Delay (s)	22.7	9.1	-	-	8.1	-	-	12.4
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.2

HCM 6th Signalized Intersection Summary
21: Signal Dr & Mission Ave

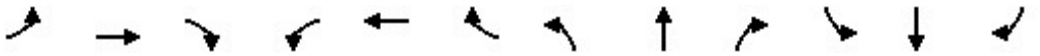
08/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	315	10	5	320	195	20	50	10	115	10	10
Future Volume (veh/h)	25	315	10	5	320	195	20	50	10	115	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1870	1900	1900	1856	1885	1900	1900	1900	1796	1900	1737
Adj Flow Rate, veh/h	27	342	11	5	348	212	22	54	11	125	11	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	2	0	0	3	1	0	0	0	7	0	11
Cap, veh/h	485	897	29	672	536	327	227	248	44	486	38	22
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	807	1802	58	1040	1076	656	275	1272	224	1182	193	111
Grp Volume(v), veh/h	27	0	353	5	0	560	87	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	807	0	1859	1040	0	1732	1771	0	0	1486	0	0
Q Serve(g_s), s	0.7	0.0	3.1	0.1	0.0	6.2	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	3.1	3.1	0.0	6.2	1.0	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.38	0.25		0.13	0.85		0.07
Lane Grp Cap(c), veh/h	485	0	926	672	0	862	518	0	0	545	0	0
V/C Ratio(X)	0.06	0.00	0.38	0.01	0.00	0.65	0.17	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	1758	0	3858	2313	0	3593	2023	0	0	1778	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	4.0	5.0	0.0	4.8	8.9	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.0	0.8	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.4	0.0	0.0	0.8	0.3	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	0.0	4.3	5.0	0.0	5.7	9.0	0.0	0.0	9.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		380			565			87			147	
Approach Delay, s/veh		4.5			5.7			9.0			9.5	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.1		17.0		9.1		17.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		54.0		28.0		54.0				
Max Q Clear Time (g_c+I1), s		4.1		8.9		3.0		8.2				
Green Ext Time (p_c), s		0.8		2.6		0.4		4.6				
Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
21: Signal Dr & Mission Ave

08/06/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	330	20	5	430	175	10	15	10	155	35	35
Future Volume (veh/h)	40	330	20	5	430	175	10	15	10	155	35	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1826	1900	1885	1900	1900	1796	1900	1885	1900	1811
Adj Flow Rate, veh/h	43	351	21	5	457	186	11	16	11	165	37	37
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	3	5	0	1	0	0	7	0	1	0	6
Cap, veh/h	398	877	52	612	643	262	204	225	117	421	83	58
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	767	1732	104	1023	1271	517	247	916	474	947	339	236
Grp Volume(v), veh/h	43	0	372	5	0	643	38	0	0	239	0	0
Grp Sat Flow(s),veh/h/ln	767	0	1836	1023	0	1788	1636	0	0	1521	0	0
Q Serve(g_s), s	1.5	0.0	4.1	0.1	0.0	9.0	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	10.4	0.0	4.1	4.2	0.0	9.0	0.6	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.29	0.29		0.29	0.69		0.15
Lane Grp Cap(c), veh/h	398	0	930	612	0	905	546	0	0	563	0	0
V/C Ratio(X)	0.11	0.00	0.40	0.01	0.00	0.71	0.07	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	1220	0	2898	1709	0	2822	1640	0	0	1628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	4.9	6.2	0.0	6.1	9.4	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	1.0	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.8	0.0	0.0	1.8	0.2	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.3	0.0	5.2	6.2	0.0	7.2	9.4	0.0	0.0	11.3	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	A	A	A	B	A	A
Approach Vol, veh/h		415			648			38			239	
Approach Delay, s/veh		5.7			7.2			9.4			11.3	
Approach LOS		A			A			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.9		20.4		11.9		20.4				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		31.0		51.0		31.0		51.0				
Max Q Clear Time (g_c+I1), s		6.5		12.4		2.6		11.0				
Green Ext Time (p_c), s		1.4		2.9		0.1		5.4				

Intersection Summary												
HCM 6th Ctrl Delay			7.5									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	24.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	315	10	5	320	195	20	50	10	115	10	10
Future Vol, veh/h	25	315	10	5	320	195	20	50	10	115	10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	8	2	0	0	3	1	0	0	0	7	0	11
Mvmt Flow	27	342	11	5	348	212	22	54	11	125	11	11
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	17	35.3	11.4	12.8
HCM LOS	C	E	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	100%	0%	100%	0%	85%
Vol Thru, %	62%	0%	97%	0%	62%	7%
Vol Right, %	12%	0%	3%	0%	38%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	25	325	5	515	135
LT Vol	20	25	0	5	0	115
Through Vol	50	0	315	0	320	10
RT Vol	10	0	10	0	195	10
Lane Flow Rate	87	27	353	5	560	147
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.168	0.051	0.595	0.01	0.876	0.286
Departure Headway (Hd)	6.971	6.697	6.063	6.358	5.633	7.016
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	531	590	559	638	515
Service Time	4.979	4.489	3.855	4.138	3.413	5.016
HCM Lane V/C Ratio	0.168	0.051	0.598	0.009	0.878	0.285
HCM Control Delay	11.4	9.9	17.5	9.2	35.6	12.8
HCM Lane LOS	B	A	C	A	E	B
HCM 95th-tile Q	0.6	0.2	3.9	0	10.3	1.2

Intersection	
Intersection Delay, s/veh	47
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	330	20	5	430	175	10	15	10	155	35	35
Future Vol, veh/h	40	330	20	5	430	175	10	15	10	155	35	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	3	5	0	1	0	0	7	0	1	0	6
Mvmt Flow	43	351	21	5	457	186	11	16	11	165	37	37
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	19.7	78.1	11.4	15.7
HCM LOS	C	F	B	C

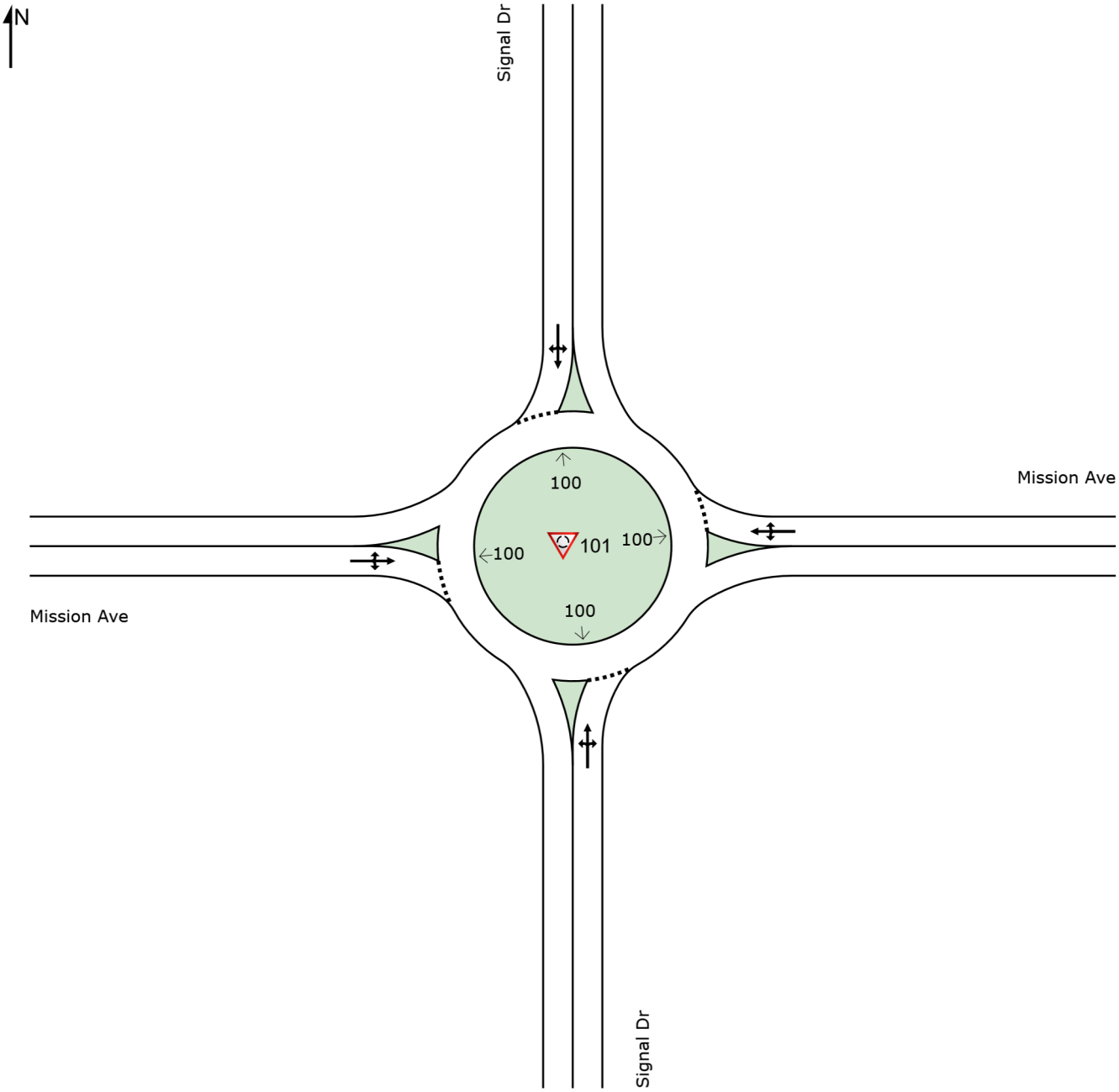
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	100%	0%	100%	0%	69%
Vol Thru, %	43%	0%	94%	0%	71%	16%
Vol Right, %	29%	0%	6%	0%	29%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	40	350	5	605	225
LT Vol	10	40	0	5	0	155
Through Vol	15	0	330	0	430	35
RT Vol	10	0	20	0	175	35
Lane Flow Rate	37	43	372	5	644	239
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.077	0.082	0.655	0.01	1.064	0.452
Departure Headway (Hd)	7.727	7.12	6.533	6.65	5.953	7.037
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	467	506	555	537	611	515
Service Time	5.727	4.82	4.233	4.408	3.71	5.037
HCM Lane V/C Ratio	0.079	0.085	0.67	0.009	1.054	0.464
HCM Control Delay	11.4	10.5	20.8	9.5	78.7	15.7
HCM Lane LOS	B	B	C	A	F	C
HCM 95th-tile Q	0.2	0.3	4.7	0	18	2.3

SITE LAYOUT

Site: 101 [Mission_Signal PM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Signal AM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Signal Dr														
3	L2	20	0.0	22	0.0	0.095	7.7	LOS A	0.5	11.9	0.54	0.48	0.54	25.3
8	T1	50	0.0	54	0.0	0.095	2.5	LOS A	0.5	11.9	0.54	0.48	0.54	24.8
18	R2	10	0.0	11	0.0	0.095	3.4	LOS A	0.5	11.9	0.54	0.48	0.54	24.1
Approach		80	0.0	87	0.0	0.095	3.9	LOS A	0.5	11.9	0.54	0.48	0.54	24.8
East: Mission Ave														
1	L2	5	0.0	5	0.0	0.474	7.8	LOS A	3.4	85.7	0.38	0.34	0.38	30.0
6	T1	320	3.0	348	3.0	0.474	2.3	LOS A	3.4	85.7	0.38	0.34	0.38	29.6
16	R2	195	1.0	212	1.0	0.474	2.8	LOS A	3.4	85.7	0.38	0.34	0.38	28.8
Approach		520	2.2	565	2.2	0.474	2.5	LOS A	3.4	85.7	0.38	0.34	0.38	29.3
North: Signal Dr														
7	L2	115	7.0	125	7.0	0.160	11.8	LOS B	0.8	21.2	0.51	0.71	0.51	34.1
4	T1	10	0.0	11	0.0	0.160	5.6	LOS A	0.8	21.2	0.51	0.71	0.51	34.2
14	R2	10	11.0	11	11.0	0.160	6.1	LOS A	0.8	21.2	0.51	0.71	0.51	33.0
Approach		135	6.8	147	6.8	0.160	10.9	LOS B	0.8	21.2	0.51	0.71	0.51	34.0
West: Mission Ave														
5	L2	25	8.0	27	8.0	0.333	8.1	LOS A	2.0	50.9	0.38	0.34	0.38	29.9
2	T1	315	2.0	342	2.0	0.333	2.4	LOS A	2.0	50.9	0.38	0.34	0.38	29.5
12	R2	10	0.0	11	0.0	0.333	2.9	LOS A	2.0	50.9	0.38	0.34	0.38	28.7
Approach		350	2.4	380	2.4	0.333	2.8	LOS A	2.0	50.9	0.38	0.34	0.38	29.5
All Vehicles		1085	2.7	1179	2.7	0.474	3.8	LOS A	3.4	85.7	0.41	0.39	0.41	29.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Mission_Signal PM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Signal Dr														
3	L2	10	0.0	11	0.0	0.043	7.9	LOS A	0.2	5.4	0.57	0.52	0.57	25.2
8	T1	15	0.0	16	0.0	0.043	2.7	LOS A	0.2	5.4	0.57	0.52	0.57	24.7
18	R2	10	0.0	11	0.0	0.043	3.6	LOS A	0.2	5.4	0.57	0.52	0.57	24.1
Approach		35	0.0	37	0.0	0.043	4.4	LOS A	0.2	5.4	0.57	0.52	0.57	24.6
East: Mission Ave														
1	L2	5	0.0	5	0.0	0.527	7.7	LOS A	4.1	103.1	0.33	0.30	0.33	30.1
6	T1	430	3.0	457	3.0	0.527	2.1	LOS A	4.1	103.1	0.33	0.30	0.33	29.7
16	R2	175	0.0	186	0.0	0.527	2.7	LOS A	4.1	103.1	0.33	0.30	0.33	28.9
Approach		610	2.1	649	2.1	0.527	2.3	LOS A	4.1	103.1	0.33	0.30	0.33	29.5
North: Signal Dr														
7	L2	155	0.0	165	0.0	0.259	12.3	LOS B	1.4	36.0	0.59	0.74	0.59	34.5
4	T1	35	0.0	37	0.0	0.259	6.4	LOS A	1.4	36.0	0.59	0.74	0.59	34.4
14	R2	35	0.0	37	0.0	0.259	6.4	LOS A	1.4	36.0	0.59	0.74	0.59	33.4
Approach		225	0.0	239	0.0	0.259	10.5	LOS B	1.4	36.0	0.59	0.74	0.59	34.3
West: Mission Ave														
5	L2	40	5.0	43	5.0	0.385	8.5	LOS A	2.5	63.1	0.48	0.40	0.48	29.6
2	T1	330	3.0	351	3.0	0.385	2.8	LOS A	2.5	63.1	0.48	0.40	0.48	29.2
12	R2	20	5.0	21	5.0	0.385	3.4	LOS A	2.5	63.1	0.48	0.40	0.48	28.4
Approach		390	3.3	415	3.3	0.385	3.4	LOS A	2.5	63.1	0.48	0.40	0.48	29.2
All Vehicles		1260	2.0	1340	2.0	0.527	4.2	LOS A	4.1	103.1	0.43	0.42	0.43	30.0

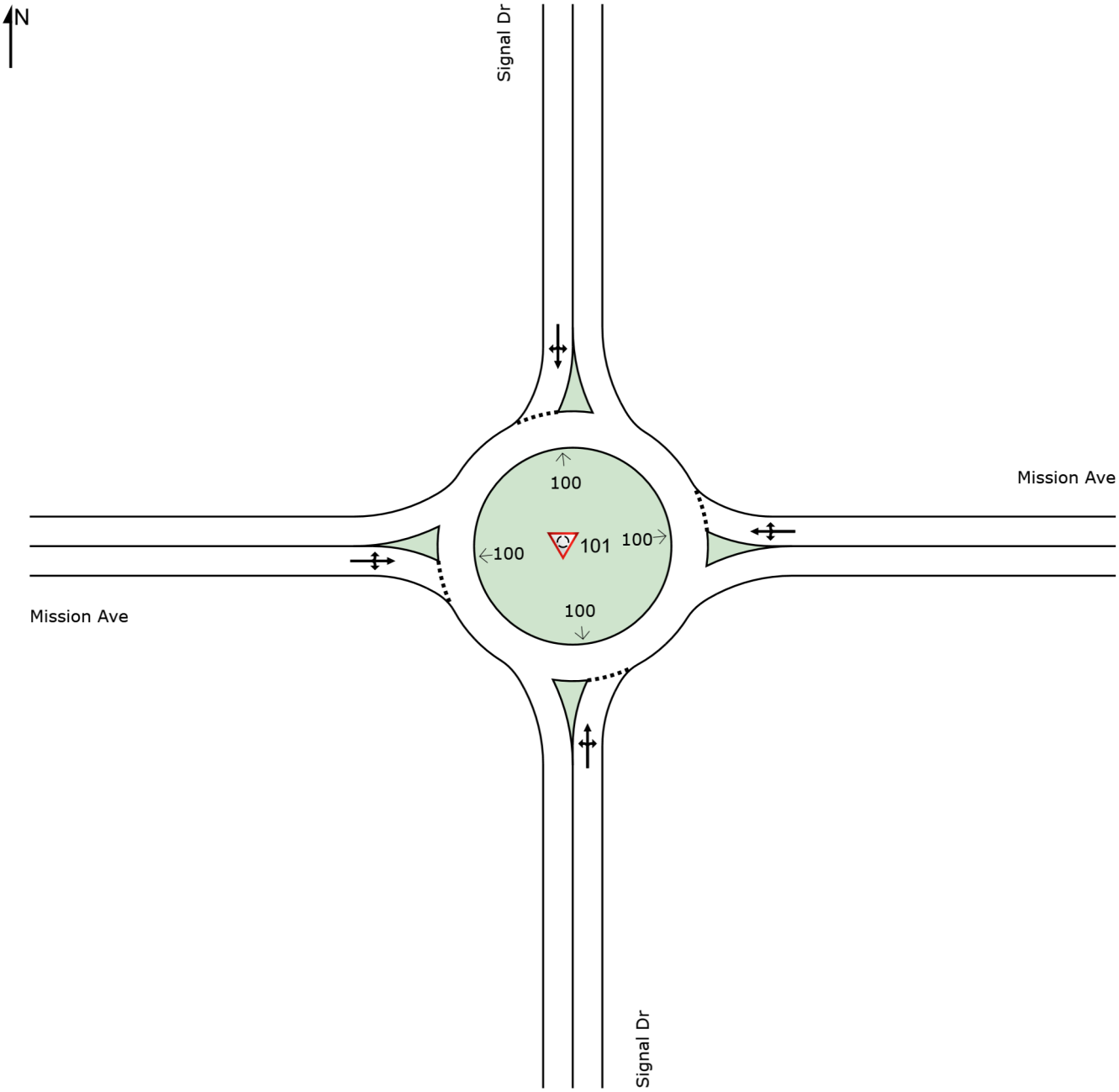
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Signal AM 2028 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

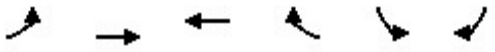
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Appendix G

Long-Term Analysis Results (2046)

AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	315	730	805	100	50	195
Future Volume (veh/h)	315	730	805	100	50	195
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1811	1826	1811	1870	1900	1856
Adj Flow Rate, veh/h	399	924	1019	127	63	247
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	6	5	6	2	0	3
Cap, veh/h	477	2355	1406	175	350	304
Arrive On Green	0.16	0.68	0.46	0.46	0.19	0.19
Sat Flow, veh/h	1725	3561	3169	383	1810	1572
Grp Volume(v), veh/h	399	924	569	577	63	247
Grp Sat Flow(s),veh/h/ln	1725	1735	1721	1742	1810	1572
Q Serve(g_s), s	6.7	7.3	16.8	16.9	1.8	9.4
Cycle Q Clear(g_c), s	6.7	7.3	16.8	16.9	1.8	9.4
Prop In Lane	1.00			0.22	1.00	1.00
Lane Grp Cap(c), veh/h	477	2355	786	795	350	304
V/C Ratio(X)	0.84	0.39	0.72	0.73	0.18	0.81
Avail Cap(c_a), veh/h	1250	5259	1455	1473	635	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	4.4	13.8	13.8	21.1	24.2
Incr Delay (d2), s/veh	3.9	0.1	1.3	1.3	0.2	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	3.1	9.9	10.0	1.2	12.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.2	4.5	15.1	15.1	21.4	29.4
LnGrp LOS	B	A	B	B	C	C
Approach Vol, veh/h		1323	1146		310	
Approach Delay, s/veh		7.7	15.1		27.8	
Approach LOS		A	B		C	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			46.6		16.1	13.9	32.6
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			95.0		22.0	38.0	53.0
Max Q Clear Time (g_c+I1), s			9.3		11.4	8.7	18.9
Green Ext Time (p_c), s			8.6		0.7	1.3	9.8

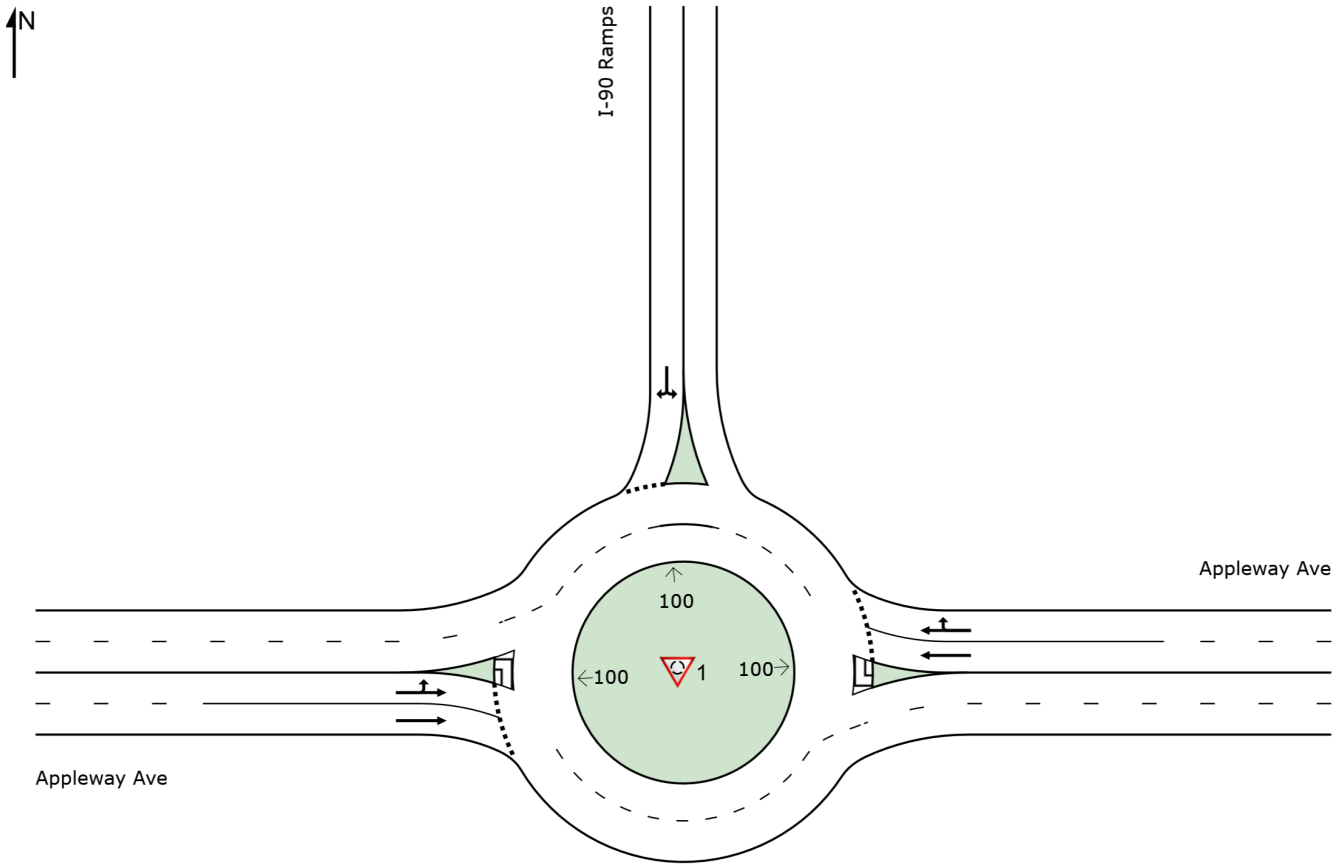
Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

SITE LAYOUT

Site: 1 [I-90 Ramps_Appleway AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 1 [I-90 Ramps_Appleway AM 2046 (Site Folder: General)]

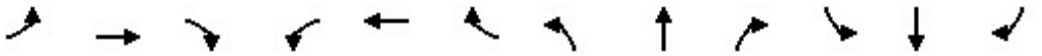
New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Appleway Ave														
6	T1	805	6.0	1019	6.0	0.575	8.7	LOS A	5.0	129.8	0.74	0.78	0.82	37.5
16	R2	100	2.0	127	2.0	0.575	8.2	LOS A	5.0	129.8	0.73	0.76	0.80	35.7
Approach		905	5.6	1146	5.6	0.575	8.6	LOS A	5.0	129.8	0.74	0.78	0.82	37.3
North: I-90 Ramps														
7	L2	50	0.0	63	0.0	0.537	14.6	LOS B	2.9	72.7	0.76	0.94	0.92	35.7
14	R2	195	3.0	247	3.0	0.537	9.0	LOS A	2.9	72.7	0.76	0.94	0.92	34.3
Approach		245	2.4	310	2.4	0.537	10.1	LOS B	2.9	72.7	0.76	0.94	0.92	34.6
West: Appleway Ave														
5	L2	315	6.0	399	6.0	0.499	11.3	LOS B	4.4	116.2	0.35	0.57	0.35	36.4
2	T1	730	5.0	924	5.0	0.499	5.0	LOS A	4.5	117.2	0.34	0.47	0.34	38.7
Approach		1045	5.3	1323	5.3	0.499	6.9	LOS A	4.5	117.2	0.34	0.50	0.34	38.0
All Vehicles		2195	5.1	2778	5.1	0.575	8.0	LOS A	5.0	129.8	0.55	0.66	0.60	37.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

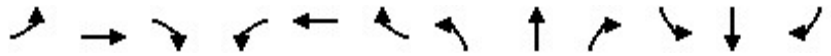
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	730	40	125	795	205	140	110	205	160	75	200
Future Volume (veh/h)	90	730	40	125	795	205	140	110	205	160	75	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1900	1870	1841	1900	1900	1856	1885	1856	1856	1870
Adj Flow Rate, veh/h	117	948	52	162	1032	266	182	143	266	208	97	260
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	7	0	2	4	0	0	3	1	3	3	2
Cap, veh/h	204	1020	56	257	908	233	356	161	299	317	129	345
Arrive On Green	0.07	0.31	0.31	0.09	0.33	0.33	0.10	0.28	0.28	0.11	0.29	0.29
Sat Flow, veh/h	1767	3290	180	1781	2755	707	1810	581	1080	1767	446	1195
Grp Volume(v), veh/h	117	492	508	162	653	645	182	0	409	208	0	357
Grp Sat Flow(s),veh/h/ln	1767	1706	1764	1781	1749	1714	1810	0	1661	1767	0	1640
Q Serve(g_s), s	3.6	22.8	22.8	4.9	26.9	26.9	5.7	0.0	19.3	6.7	0.0	16.2
Cycle Q Clear(g_c), s	3.6	22.8	22.8	4.9	26.9	26.9	5.7	0.0	19.3	6.7	0.0	16.2
Prop In Lane	1.00		0.10	1.00		0.41	1.00		0.65	1.00		0.73
Lane Grp Cap(c), veh/h	204	529	547	257	576	565	356	0	459	317	0	474
V/C Ratio(X)	0.57	0.93	0.93	0.63	1.13	1.14	0.51	0.00	0.89	0.66	0.00	0.75
Avail Cap(c_a), veh/h	315	533	551	335	576	565	415	0	519	355	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	27.3	27.3	20.2	27.4	27.4	19.6	0.0	28.3	20.4	0.0	26.4
Incr Delay (d2), s/veh	3.6	23.1	22.6	3.6	80.0	83.6	1.6	0.0	16.8	4.5	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	18.0	18.4	3.9	33.9	34.2	4.4	0.0	14.5	5.4	0.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	50.4	49.9	23.8	107.3	111.0	21.2	0.0	45.1	24.8	0.0	32.8
LnGrp LOS	C	D	D	C	F	F	C	A	D	C	A	C
Approach Vol, veh/h		1117			1460			591			565	
Approach Delay, s/veh		47.5			99.7			37.7			29.9	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	29.8	12.3	28.1	9.9	31.4	13.3	27.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	10.5	25.5	10.5	25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s	6.9	24.8	7.7	18.2	5.6	28.9	8.7	21.3
Green Ext Time (p_c), s	0.2	0.5	0.2	1.7	0.2	0.0	0.2	1.3

Intersection Summary	
HCM 6th Ctrl Delay	63.7
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	770	115	95	1020	50	120	10	175	40	10	35
Future Volume (veh/h)	45	770	115	95	1020	50	120	10	175	40	10	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1841	1781	1856	1841	1870	1885	1870	1900	1870	1870	1870
Adj Flow Rate, veh/h	51	875	131	108	1159	57	136	11	199	45	11	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.92
Percent Heavy Veh, %	2	4	8	3	4	2	1	2	0	2	2	2
Cap, veh/h	322	1519	227	397	1754	86	370	17	304	223	74	256
Arrive On Green	0.04	0.50	0.50	0.06	0.52	0.52	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3051	457	1767	3393	167	1367	84	1514	1172	368	1273
Grp Volume(v), veh/h	51	502	504	108	597	619	136	0	210	45	0	49
Grp Sat Flow(s),veh/h/ln	1781	1749	1759	1767	1749	1811	1367	0	1598	1172	0	1641
Q Serve(g_s), s	0.8	11.2	11.2	1.6	13.9	13.9	5.1	0.0	6.7	2.0	0.0	1.4
Cycle Q Clear(g_c), s	0.8	11.2	11.2	1.6	13.9	13.9	6.4	0.0	6.7	8.8	0.0	1.4
Prop In Lane	1.00		0.26	1.00		0.09	1.00		0.95	1.00		0.78
Lane Grp Cap(c), veh/h	322	870	875	397	904	936	370	0	321	223	0	330
V/C Ratio(X)	0.16	0.58	0.58	0.27	0.66	0.66	0.37	0.00	0.65	0.20	0.00	0.15
Avail Cap(c_a), veh/h	588	1275	1282	628	1275	1320	723	0	733	526	0	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.8	9.8	9.8	7.2	9.8	9.8	20.9	0.0	20.4	24.5	0.0	18.3
Incr Delay (d2), s/veh	0.3	0.9	0.9	0.5	1.2	1.1	0.9	0.0	3.2	0.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	6.5	6.6	0.9	7.9	8.1	2.8	0.0	4.6	1.0	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	10.7	10.7	7.8	11.0	11.0	21.8	0.0	23.6	25.1	0.0	18.6
LnGrp LOS	A	B	B	A	B	B	C	A	C	C	A	B
Approach Vol, veh/h		1057			1324			346			94	
Approach Delay, s/veh		10.6			10.7			22.9			21.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	32.2		15.7	6.7	33.2		15.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	40.5		25.5	10.5	40.5		25.5
Max Q Clear Time (g_c+I1), s	3.6	13.2		10.8	2.8	15.9		8.7
Green Ext Time (p_c), s	0.2	10.7		0.4	0.1	12.8		2.2

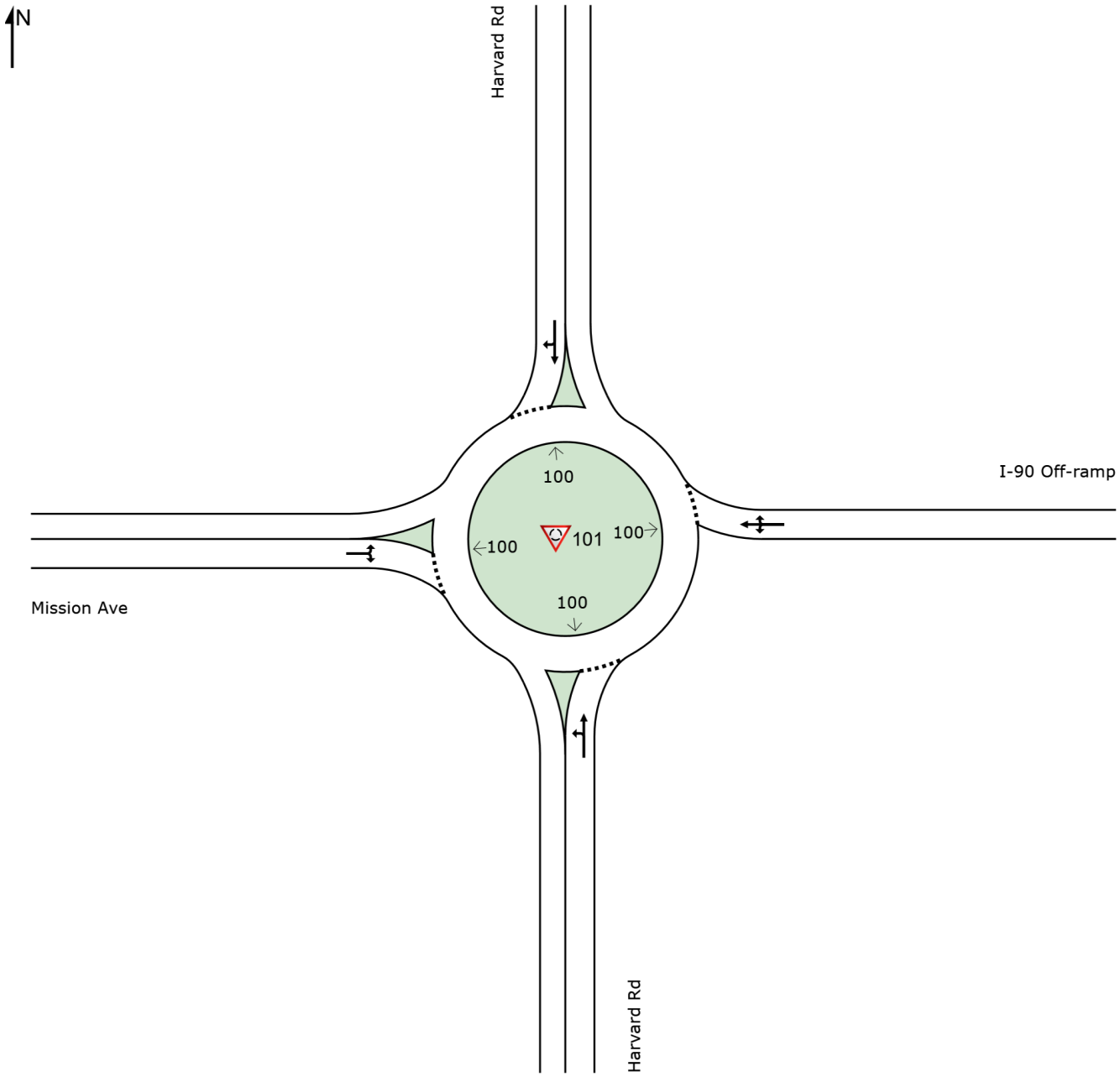
Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

SITE LAYOUT

Site: 101 [Mission_Harvard AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvard AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	270	5.0	270	5.0	0.429	10.4	LOS B	3.4	87.0	0.40	0.55	0.40	35.4
8	T1	275	3.0	275	3.0	0.429	4.4	LOS A	3.4	87.0	0.40	0.55	0.40	35.4
Approach		545	4.0	545	4.0	0.429	7.4	LOS A	3.4	87.0	0.40	0.55	0.40	35.4
East: I-90 Off-ramp														
1	L2	200	2.0	200	2.0	0.528	15.3	LOS B	4.4	112.0	0.81	0.92	0.95	33.7
6	T1	175	4.0	175	4.0	0.528	9.4	LOS A	4.4	112.0	0.81	0.92	0.95	33.6
16	R2	85	4.0	85	4.0	0.528	9.5	LOS A	4.4	112.0	0.81	0.92	0.95	32.7
Approach		460	3.1	460	3.1	0.528	12.0	LOS B	4.4	112.0	0.81	0.92	0.95	33.5
North: Harvard Rd														
4	T1	645	3.0	645	3.0	0.997	39.6	LOS E	30.6	786.1	1.00	1.80	2.97	23.8
14	R2	200	5.0	200	5.0	0.997	39.9	LOS E	30.6	786.1	1.00	1.80	2.97	23.3
Approach		845	3.5	845	3.5	0.997	39.7	LOS D	30.6	786.1	1.00	1.80	2.97	23.7
West: Mission Ave														
5	L2	105	4.0	105	4.0	0.737	24.6	LOS C	9.2	237.5	1.00	1.21	1.53	29.9
12	R2	350	4.0	350	4.0	0.737	18.8	LOS B	9.2	237.5	1.00	1.21	1.53	29.1
Approach		455	4.0	455	4.0	0.737	20.1	LOS C	9.2	237.5	1.00	1.21	1.53	29.3
All Vehicles		2305	3.6	2305	3.6	0.997	22.7	LOS C	30.6	786.1	0.82	1.21	1.67	28.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	650	275	190	30	575	135	500	200	300	345	115
Future Volume (veh/h)	165	650	275	190	30	575	135	500	200	300	345	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1707	1470	1811	1811	1856	1811	1856	1870	1781
Adj Flow Rate, veh/h	183	722	306	211	33	639	150	556	222	333	383	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	5	13	29	6	6	3	6	3	2	8
Cap, veh/h	216	942	420	241	436	1336	185	749	326	350	1044	
Arrive On Green	0.12	0.27	0.27	0.15	0.30	0.30	0.11	0.21	0.21	0.20	0.29	0.00
Sat Flow, veh/h	1753	3469	1547	1626	1470	2701	1725	3526	1535	1767	3554	1510
Grp Volume(v), veh/h	183	722	306	211	33	639	150	556	222	333	383	0
Grp Sat Flow(s),veh/h/ln	1753	1735	1547	1626	1470	1351	1725	1763	1535	1767	1777	1510
Q Serve(g_s), s	10.8	20.3	19.0	13.5	1.7	16.6	9.0	15.6	14.1	19.7	9.0	0.0
Cycle Q Clear(g_c), s	10.8	20.3	19.0	13.5	1.7	16.6	9.0	15.6	14.1	19.7	9.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	942	420	241	436	1336	185	749	326	350	1044	
V/C Ratio(X)	0.85	0.77	0.73	0.88	0.08	0.48	0.81	0.74	0.68	0.95	0.37	
Avail Cap(c_a), veh/h	347	1145	511	322	485	1427	407	998	434	350	1044	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.5	35.5	35.1	44.2	26.8	17.7	46.3	39.0	38.4	42.0	29.6	0.0
Incr Delay (d2), s/veh	10.3	3.0	4.9	18.2	0.1	0.3	11.3	2.6	3.7	35.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	13.7	12.2	10.8	1.1	8.8	7.9	11.3	9.5	17.7	7.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	38.5	40.0	62.4	26.9	18.0	57.5	41.7	42.2	77.7	29.9	0.0
LnGrp LOS	E	D	D	E	C	B	E	D	D	E	C	
Approach Vol, veh/h		1211			883			928			716	
Approach Delay, s/veh		41.5			28.9			44.4			52.1	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	27.5	19.7	33.8	16.4	36.1	17.1	36.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	30.0	21.0	35.0	25.0	25.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	21.3	17.6	15.5	22.3	11.0	11.0	12.8	18.6
Green Ext Time (p_c), s	0.0	4.9	0.3	6.5	0.5	2.1	0.3	2.7

Intersection Summary	
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	390	515	105	25	545	145	195	195	25	140	110	455
Future Volume (veh/h)	390	515	105	25	545	145	195	195	25	140	110	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1796	1811	1856	1841	1841	1870	1900	1856	1826	1826
Adj Flow Rate, veh/h	433	572	117	28	606	161	217	217	28	156	122	506
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	3	7	6	3	4	4	2	0	3	5	5
Cap, veh/h	506	1076	219	264	663	176	264	1160	148	565	594	530
Arrive On Green	0.15	0.37	0.37	0.02	0.24	0.24	0.10	0.37	0.37	0.08	0.34	0.34
Sat Flow, veh/h	3374	2916	595	1725	2756	731	1753	3170	404	1767	1735	1547
Grp Volume(v), veh/h	433	345	344	28	387	380	217	120	125	156	122	506
Grp Sat Flow(s),veh/h/ln	1687	1763	1748	1725	1763	1724	1753	1777	1798	1767	1735	1547
Q Serve(g_s), s	12.7	15.6	15.7	1.2	21.8	21.8	8.0	4.7	4.8	5.7	5.1	32.5
Cycle Q Clear(g_c), s	12.7	15.6	15.7	1.2	21.8	21.8	8.0	4.7	4.8	5.7	5.1	32.5
Prop In Lane	1.00		0.34	1.00		0.42	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	506	651	645	264	424	415	264	650	658	565	594	530
V/C Ratio(X)	0.86	0.53	0.53	0.11	0.91	0.92	0.82	0.19	0.19	0.28	0.21	0.95
Avail Cap(c_a), veh/h	696	651	645	583	442	432	451	650	658	794	605	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	25.2	25.2	28.2	37.6	37.7	23.8	22.0	22.0	18.9	23.7	32.7
Incr Delay (d2), s/veh	5.9	0.4	0.4	0.1	22.1	22.9	2.4	0.1	0.1	0.1	0.1	27.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.6	10.7	10.7	0.9	17.5	17.3	6.0	3.5	3.6	4.2	3.7	22.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	25.6	25.7	28.3	59.7	60.6	26.3	22.0	22.0	19.0	23.7	59.9
LnGrp LOS	D	C	C	C	E	E	C	C	C	B	C	E
Approach Vol, veh/h		1122			795			462			784	
Approach Delay, s/veh		34.3			59.0			24.0			46.1	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	41.7	6.2	42.1	14.2	39.4	19.3	29.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	7.7	6.8	3.2	17.7	10.0	34.5	14.7	23.8
Green Ext Time (p_c), s	0.2	0.9	0.0	1.9	0.2	0.3	0.5	0.6

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	380	305	290	15	0	315
Future Vol, veh/h	380	305	290	15	0	315
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	2	2	0	0	4
Mvmt Flow	442	355	337	17	0	366

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	357	0	-	0	1412	180
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	1063	-
Critical Hdwy	4.2	-	-	-	6.8	6.98
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.25	-	-	-	3.5	3.34
Pot Cap-1 Maneuver	1177	-	-	-	131	826
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	298	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1174	-	-	-	81	824
Mov Cap-2 Maneuver	-	-	-	-	81	-
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	297	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	12.8
HCM LOS			B

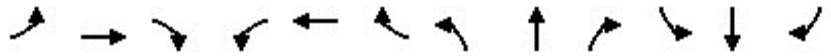
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1174	-	-	-	-	824
HCM Lane V/C Ratio	0.376	-	-	-	-	0.445
HCM Control Delay (s)	9.9	-	-	-	0	12.8
HCM Lane LOS	A	-	-	-	A	B
HCM 95th %tile Q(veh)	1.8	-	-	-	-	2.3



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1000	120	20	540	255	30
Future Volume (veh/h)	1000	120	20	540	255	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1796	1796	1752	1885	1900
Adj Flow Rate, veh/h	1163	140	23	628	297	35
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	4	7	7	10	1	0
Cap, veh/h	1466	176	252	1978	385	346
Arrive On Green	0.47	0.47	0.02	0.59	0.21	0.21
Sat Flow, veh/h	3236	378	1711	3416	1795	1610
Grp Volume(v), veh/h	646	657	23	628	297	35
Grp Sat Flow(s),veh/h/ln	1749	1773	1711	1664	1795	1610
Q Serve(g_s), s	14.7	14.8	0.3	4.4	7.3	0.8
Cycle Q Clear(g_c), s	14.7	14.8	0.3	4.4	7.3	0.8
Prop In Lane		0.21	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	815	827	252	1978	385	346
V/C Ratio(X)	0.79	0.80	0.09	0.32	0.77	0.10
Avail Cap(c_a), veh/h	928	940	759	3178	991	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.6	10.7	8.4	4.8	17.4	14.9
Incr Delay (d2), s/veh	4.2	4.3	0.2	0.1	3.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	9.0	0.2	1.7	5.4	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.8	14.9	8.6	4.9	20.7	15.0
LnGrp LOS	B	B	A	A	C	B
Approach Vol, veh/h	1303			651	332	
Approach Delay, s/veh	14.9			5.0	20.1	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.0	27.0		14.1		33.0
Change Period (Y+Rc), s	5.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	25.0		26.0		45.0
Max Q Clear Time (g_c+I1), s	2.3	16.8		9.3		6.4
Green Ext Time (p_c), s	0.0	5.1		0.9		5.0

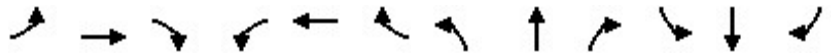
Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	780	55	20	530	15	15	15	15	20	10	30
Future Volume (veh/h)	100	780	55	20	530	15	15	15	15	20	10	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1841	1900	1767	1900	1648	1900	1900	1648	418	1826
Adj Flow Rate, veh/h	119	929	65	24	631	18	18	18	18	24	12	36
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	5	4	4	0	9	0	17	0	0	17	100	5
Cap, veh/h	499	1493	104	362	1289	37	159	37	37	396	19	57
Arrive On Green	0.07	0.45	0.45	0.02	0.39	0.39	0.07	0.07	0.07	0.02	0.21	0.21
Sat Flow, veh/h	1739	3316	232	1810	3333	95	534	534	534	1570	92	276
Grp Volume(v), veh/h	119	490	504	24	318	331	54	0	0	24	0	48
Grp Sat Flow(s),veh/h/ln	1739	1749	1799	1810	1678	1750	1602	0	0	1570	0	368
Q Serve(g_s), s	1.5	8.4	8.4	0.3	5.6	5.6	1.3	0.0	0.0	0.5	0.0	4.7
Cycle Q Clear(g_c), s	1.5	8.4	8.4	0.3	5.6	5.6	1.3	0.0	0.0	0.5	0.0	4.7
Prop In Lane	1.00		0.13	1.00		0.05	0.33		0.33	1.00		0.75
Lane Grp Cap(c), veh/h	499	787	810	362	649	677	232	0	0	396	0	76
V/C Ratio(X)	0.24	0.62	0.62	0.07	0.49	0.49	0.23	0.00	0.00	0.06	0.00	0.63
Avail Cap(c_a), veh/h	1281	1586	1632	1291	1522	1587	1187	0	0	1181	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.6	8.2	8.2	7.4	9.1	9.1	17.6	0.0	0.0	14.6	0.0	14.2
Incr Delay (d2), s/veh	0.2	0.8	0.8	0.1	0.6	0.6	0.5	0.0	0.0	0.1	0.0	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	4.1	4.2	0.2	2.9	3.0	0.8	0.0	0.0	0.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	9.0	9.0	7.4	9.7	9.6	18.1	0.0	0.0	14.7	0.0	22.4
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	C
Approach Vol, veh/h		1113			673			54			72	
Approach Delay, s/veh		8.8			9.6			18.1			19.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	22.1		12.1	7.4	19.6	5.4	6.7
Change Period (Y+Rc), s	4.0	4.5		4.0	4.5	4.5	4.5	4.0
Max Green Setting (Gmax), s	21.0	35.5		51.0	20.5	35.5	20.5	26.0
Max Q Clear Time (g_c+I1), s	2.3	10.4		6.7	3.5	7.6	2.5	3.3
Green Ext Time (p_c), s	0.0	7.2		0.3	0.3	4.3	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	445	185	140	455	45	115	35	135	20	15	15
Future Volume (veh/h)	120	445	185	140	455	45	115	35	135	20	15	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1841	1870	1781	1826	1722	1900	1870	1574	1900	1574
Adj Flow Rate, veh/h	130	484	201	152	495	49	125	38	147	22	16	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	5	4	2	8	5	12	0	2	22	0	22
Cap, veh/h	458	705	291	414	955	94	414	306	255	278	165	116
Arrive On Green	0.08	0.29	0.29	0.09	0.31	0.31	0.09	0.16	0.16	0.02	0.09	0.09
Sat Flow, veh/h	1795	2394	988	1781	3112	307	1640	1900	1585	1499	1900	1334
Grp Volume(v), veh/h	130	350	335	152	268	276	125	38	147	22	16	16
Grp Sat Flow(s),veh/h/ln	1795	1735	1648	1781	1692	1726	1640	1900	1585	1499	1900	1334
Q Serve(g_s), s	2.1	7.7	7.8	2.5	5.7	5.7	2.9	0.7	3.7	0.6	0.3	0.5
Cycle Q Clear(g_c), s	2.1	7.7	7.8	2.5	5.7	5.7	2.9	0.7	3.7	0.6	0.3	0.5
Prop In Lane	1.00		0.60	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	458	511	485	414	519	530	414	306	255	278	165	116
V/C Ratio(X)	0.28	0.68	0.69	0.37	0.52	0.52	0.30	0.12	0.58	0.08	0.10	0.14
Avail Cap(c_a), veh/h	753	760	722	684	741	756	663	832	694	617	832	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.6	13.5	13.6	9.9	12.4	12.4	15.3	15.6	16.8	17.7	18.2	18.3
Incr Delay (d2), s/veh	0.3	1.6	1.8	0.5	1.1	1.1	0.4	0.3	2.9	0.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	4.9	4.7	1.5	3.4	3.5	1.7	0.5	2.5	0.3	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	15.2	15.3	10.4	13.5	13.5	15.7	15.8	19.7	17.8	18.6	19.1
LnGrp LOS	A	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		815			696			310			54	
Approach Delay, s/veh		14.4			12.8			17.6			18.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	12.0	7.9	18.3	8.4	8.8	8.4	17.8
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	10.5	19.0	10.5	19.0	10.5	19.0	10.5	19.0
Max Q Clear Time (g_c+I1), s	2.6	5.7	4.1	7.7	4.9	2.5	4.5	9.8
Green Ext Time (p_c), s	0.0	0.8	0.2	3.4	0.1	0.1	0.2	3.0

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 101 [Mission_Molter AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Molter Rd														
3	L2	135	2.0	135	2.0	0.328	11.5	LOS B	1.9	48.0	0.52	0.64	0.52	35.4
8	T1	165	1.0	165	1.0	0.328	5.5	LOS A	1.9	48.0	0.52	0.64	0.52	35.3
18	R2	35	1.0	35	1.0	0.328	5.6	LOS A	1.9	48.0	0.52	0.64	0.52	34.3
Approach		335	1.4	335	1.4	0.328	8.0	LOS A	1.9	48.0	0.52	0.64	0.52	35.3
East: Mission Ave														
1	L2	55	2.0	55	2.0	0.436	12.3	LOS B	2.8	70.7	0.63	0.67	0.63	35.7
6	T1	275	2.0	275	2.0	0.436	6.3	LOS A	2.8	70.7	0.63	0.67	0.63	35.6
16	R2	85	4.0	85	4.0	0.436	6.5	LOS A	2.8	70.7	0.63	0.67	0.63	34.5
Approach		415	2.4	415	2.4	0.436	7.1	LOS A	2.8	70.7	0.63	0.67	0.63	35.4
North: Molter Rd														
7	L2	50	4.0	50	4.0	0.267	12.4	LOS B	1.5	39.2	0.61	0.70	0.61	35.5
4	T1	115	4.0	115	4.0	0.267	6.5	LOS A	1.5	39.2	0.61	0.70	0.61	35.5
14	R2	65	8.0	65	8.0	0.267	6.7	LOS A	1.5	39.2	0.61	0.70	0.61	34.3
Approach		230	5.1	230	5.1	0.267	7.8	LOS A	1.5	39.2	0.61	0.70	0.61	35.1
West: Mission Ave														
5	L2	90	4.0	90	4.0	0.369	11.2	LOS B	2.2	57.9	0.48	0.59	0.48	36.0
2	T1	165	4.0	165	4.0	0.369	5.2	LOS A	2.2	57.9	0.48	0.59	0.48	35.9
12	R2	135	4.0	135	4.0	0.369	5.3	LOS A	2.2	57.9	0.48	0.59	0.48	34.8
Approach		390	4.0	390	4.0	0.369	6.6	LOS A	2.2	57.9	0.48	0.59	0.48	35.6
All Vehicles		1370	3.1	1370	3.1	0.436	7.3	LOS A	2.8	70.7	0.56	0.64	0.56	35.4

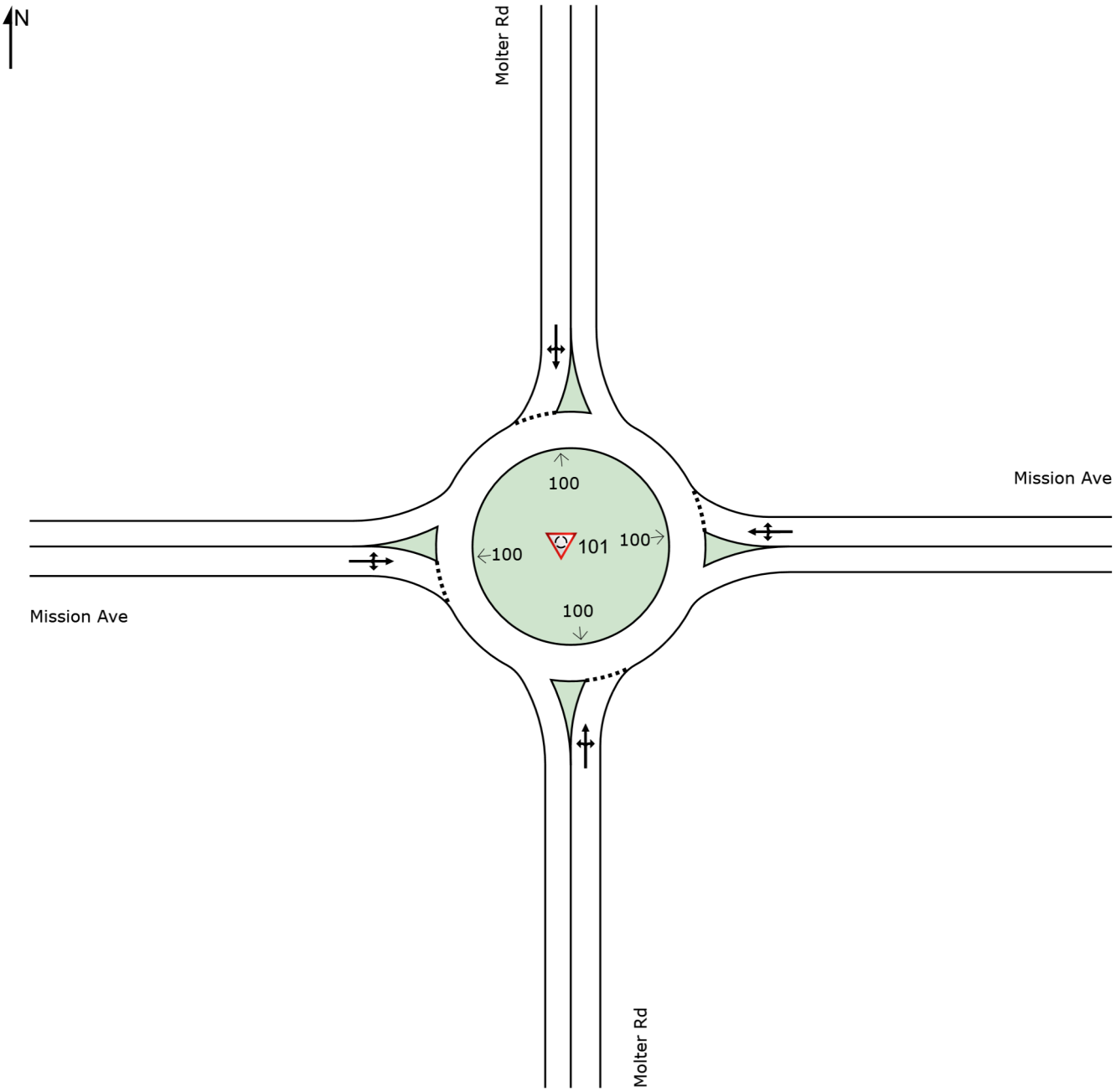
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Molter AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvest AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvest Pkwy														
3	L2	125	4.0	125	4.0	0.384	11.9	LOS B	2.4	61.0	0.59	0.69	0.59	35.4
8	T1	85	1.0	85	1.0	0.384	5.8	LOS A	2.4	61.0	0.59	0.69	0.59	35.4
18	R2	160	4.0	160	4.0	0.384	6.0	LOS A	2.4	61.0	0.59	0.69	0.59	34.3
Approach		370	3.3	370	3.3	0.384	8.0	LOS A	2.4	61.0	0.59	0.69	0.59	34.9
East: Mission Ave														
1	L2	240	3.0	240	3.0	0.486	11.5	LOS B	3.4	86.4	0.56	0.65	0.56	35.2
6	T1	175	3.0	175	3.0	0.486	5.5	LOS A	3.4	86.4	0.56	0.65	0.56	35.1
16	R2	95	3.0	95	3.0	0.486	5.6	LOS A	3.4	86.4	0.56	0.65	0.56	34.1
Approach		510	3.0	510	3.0	0.486	8.3	LOS A	3.4	86.4	0.56	0.65	0.56	34.9
North: Harvest Pkwy														
7	L2	55	1.0	55	1.0	0.195	12.6	LOS B	1.1	27.3	0.62	0.72	0.62	35.3
4	T1	55	1.0	55	1.0	0.195	6.7	LOS A	1.1	27.3	0.62	0.72	0.62	35.2
14	R2	55	1.0	55	1.0	0.195	6.8	LOS A	1.1	27.3	0.62	0.72	0.62	34.1
Approach		165	1.0	165	1.0	0.195	8.7	LOS A	1.1	27.3	0.62	0.72	0.62	34.8
West: Mission Ave														
5	L2	30	3.0	30	3.0	0.468	12.2	LOS B	3.0	78.1	0.62	0.65	0.62	36.0
2	T1	255	3.0	255	3.0	0.468	6.2	LOS A	3.0	78.1	0.62	0.65	0.62	35.9
12	R2	170	3.0	170	3.0	0.468	6.3	LOS A	3.0	78.1	0.62	0.65	0.62	34.8
Approach		455	3.0	455	3.0	0.468	6.6	LOS A	3.0	78.1	0.62	0.65	0.62	35.5
All Vehicles		1500	2.9	1500	2.9	0.486	7.8	LOS A	3.4	86.4	0.59	0.67	0.59	35.1

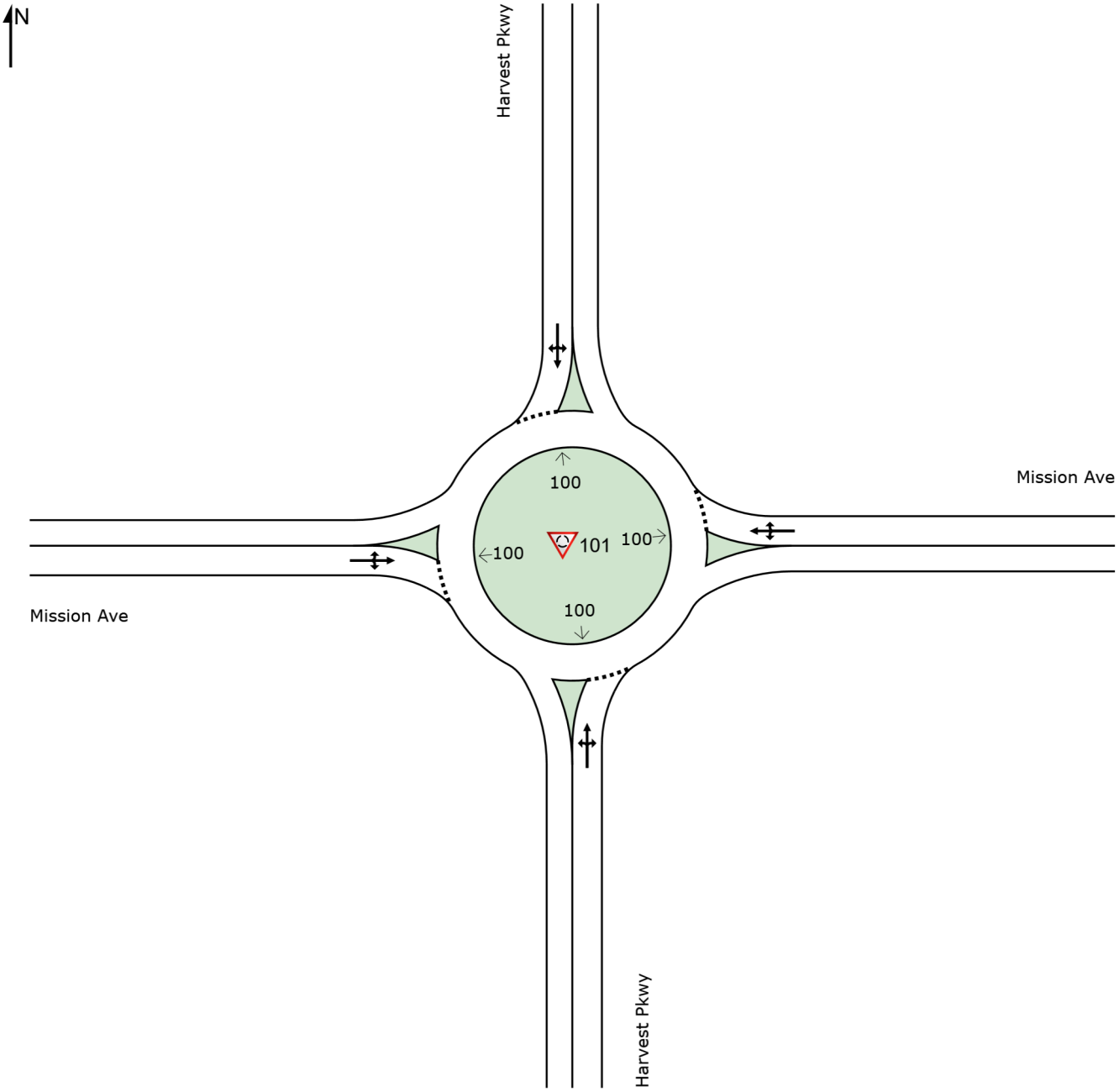
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvest AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	555	80	50	590	170	100
Future Vol, veh/h	555	80	50	590	170	100
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	8	6	8	3	4
Mvmt Flow	597	86	54	634	183	108

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	684	0	1383	642
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	742	-
Critical Hdwy	-	-	4.16	-	6.43	6.24
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.254	-	3.527	3.336
Pot Cap-1 Maneuver	-	-	891	-	~ 158	471
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	469	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	890	-	~ 148	470
Mov Cap-2 Maneuver	-	-	-	-	285	-
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	440	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	29.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	285	470	-	-	890	-
HCM Lane V/C Ratio	0.641	0.229	-	-	0.06	-
HCM Control Delay (s)	37.7	14.9	-	-	9.3	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	4.1	0.9	-	-	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	50	20	15	135	15	20	35	15	15	30	190
Future Vol, veh/h	75	50	20	15	135	15	20	35	15	15	30	190
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	5	0	0	0	0	13	7	10	17	0	3
Mvmt Flow	87	58	23	17	157	17	23	41	17	17	35	221
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.6	10.3	9.3	10.6
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	100%	0%	100%	0%	6%
Vol Thru, %	50%	0%	71%	0%	90%	13%
Vol Right, %	21%	0%	29%	0%	10%	81%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	75	70	15	150	235
LT Vol	20	75	0	15	0	15
Through Vol	35	0	50	0	135	30
RT Vol	15	0	20	0	15	190
Lane Flow Rate	81	87	81	17	174	273
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.124	0.151	0.126	0.03	0.272	0.363
Departure Headway (Hd)	5.47	6.253	5.578	6.182	5.605	4.778
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	658	576	645	582	644	743
Service Time	3.481	3.964	3.289	3.888	3.311	2.867
HCM Lane V/C Ratio	0.123	0.151	0.126	0.029	0.27	0.367
HCM Control Delay	9.3	10.1	9.1	9.1	10.4	10.6
HCM Lane LOS	A	B	A	A	B	B
HCM 95th-tile Q	0.4	0.5	0.4	0.1	1.1	1.7

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	140	60	15	110	30	60	120	30	40	75	95
Future Vol, veh/h	100	140	60	15	110	30	60	120	30	40	75	95
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	3	0	2	0	1	0	0	2	0	3	2	7
Mvmt Flow	135	189	81	20	149	41	81	162	41	54	101	128
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	22.2	13.6	13.5	13.9
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	33%	10%	100%	0%
Vol Thru, %	0%	80%	47%	71%	0%	44%
Vol Right, %	0%	20%	20%	19%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	150	300	155	40	170
LT Vol	60	0	100	15	40	0
Through Vol	0	120	140	110	0	75
RT Vol	0	30	60	30	0	95
Lane Flow Rate	81	203	405	209	54	230
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.171	0.393	0.696	0.381	0.115	0.43
Departure Headway (Hd)	7.608	6.985	6.178	6.55	7.67	6.736
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	471	515	584	549	466	533
Service Time	5.367	4.744	4.225	4.609	5.428	4.494
HCM Lane V/C Ratio	0.172	0.394	0.693	0.381	0.116	0.432
HCM Control Delay	11.9	14.2	22.2	13.6	11.4	14.5
HCM Lane LOS	B	B	C	B	B	B
HCM 95th-tile Q	0.6	1.9	5.5	1.8	0.4	2.1

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	50	10	0	65	35	15	50	10	25	30	10
Future Vol, veh/h	20	50	10	0	65	35	15	50	10	25	30	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	5	0	0	4	3	0	0	100	6	0	0
Mvmt Flow	25	62	12	0	80	43	19	62	12	31	37	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	25%	0%	38%
Vol Thru, %	67%	62%	65%	46%
Vol Right, %	13%	12%	35%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	80	100	65
LT Vol	15	20	0	25
Through Vol	50	50	65	30
RT Vol	10	10	35	10
Lane Flow Rate	93	99	123	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.114	0.121	0.146	0.102
Departure Headway (Hd)	4.451	4.412	4.271	4.59
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	806	815	842	782
Service Time	2.469	2.427	2.286	2.608
HCM Lane V/C Ratio	0.115	0.121	0.146	0.102
HCM Control Delay	8	8	8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.5	0.3

MOVEMENT SUMMARY

Site: 101 [Mission_Kramer AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Kramer Pkwy														
3	L2	265	2.0	265	2.0	0.384	11.3	LOS B	2.3	59.6	0.51	0.68	0.51	34.8
8	T1	20	3.0	20	3.0	0.384	5.4	LOS A	2.3	59.6	0.51	0.68	0.51	34.7
18	R2	120	2.0	120	2.0	0.384	5.4	LOS A	2.3	59.6	0.51	0.68	0.51	33.7
Approach		405	2.0	405	2.0	0.384	9.3	LOS A	2.3	59.6	0.51	0.68	0.51	34.5
East: Mission Ave														
1	L2	105	6.0	105	6.0	0.378	11.7	LOS B	2.3	60.3	0.55	0.63	0.55	35.5
6	T1	215	6.0	215	6.0	0.378	5.7	LOS A	2.3	60.3	0.55	0.63	0.55	35.5
16	R2	50	3.0	50	3.0	0.378	5.7	LOS A	2.3	60.3	0.55	0.63	0.55	34.5
Approach		370	5.6	370	5.6	0.378	7.4	LOS A	2.3	60.3	0.55	0.63	0.55	35.3
North: Kramer Pkwy														
7	L2	30	3.0	30	3.0	0.081	13.2	LOS B	0.5	11.7	0.64	0.70	0.64	34.6
4	T1	25	3.0	25	3.0	0.081	7.3	LOS A	0.5	11.7	0.64	0.70	0.64	34.5
14	R2	10	3.0	10	3.0	0.081	7.3	LOS A	0.5	11.7	0.64	0.70	0.64	33.5
Approach		65	3.0	65	3.0	0.081	10.0	LOS B	0.5	11.7	0.64	0.70	0.64	34.4
West: Mission Ave														
5	L2	10	3.0	10	3.0	0.473	10.9	LOS B	3.2	83.1	0.46	0.53	0.46	36.7
2	T1	210	6.0	210	6.0	0.473	5.1	LOS A	3.2	83.1	0.46	0.53	0.46	36.6
12	R2	305	3.0	305	3.0	0.473	5.1	LOS A	3.2	83.1	0.46	0.53	0.46	35.5
Approach		525	4.2	525	4.2	0.473	5.2	LOS A	3.2	83.1	0.46	0.53	0.46	35.9
All Vehicles		1365	3.9	1365	3.9	0.473	7.2	LOS A	3.2	83.1	0.51	0.61	0.51	35.2

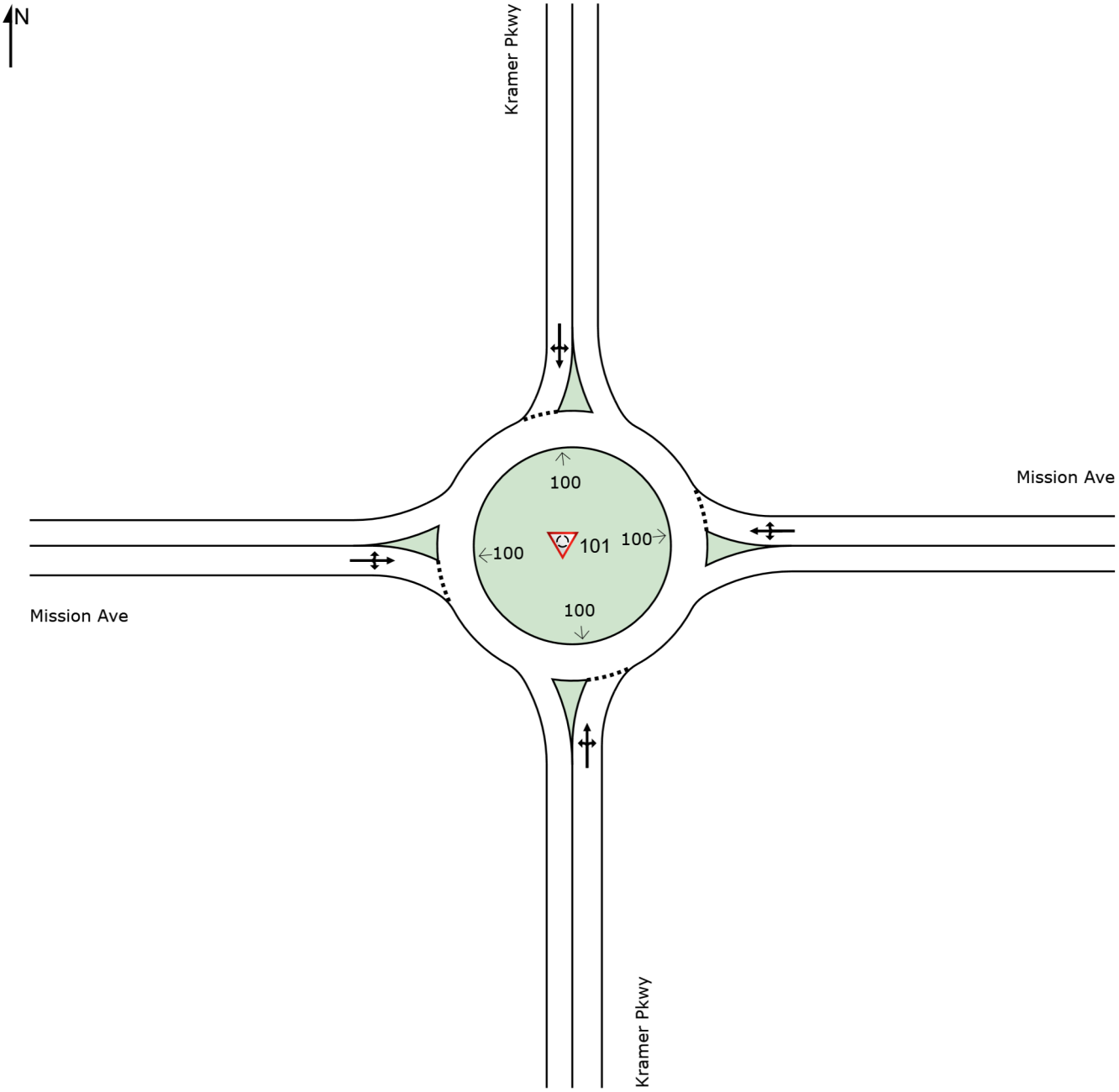
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

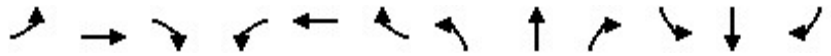
SITE LAYOUT

Site: 101 [Mission_Kramer AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	10	55	60	10	20	30	395	40	50	730	60
Future Volume (veh/h)	35	10	55	60	10	20	30	395	40	50	730	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1781	1411	1900	1900	1856	1826	1900	1841	1767
Adj Flow Rate, veh/h	41	12	64	70	12	23	35	459	47	58	849	70
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	8	33	0	0	3	5	0	4	9
Cap, veh/h	65	17	91	90	36	68	387	1416	144	565	1483	122
Arrive On Green	0.04	0.07	0.07	0.05	0.08	0.08	0.03	0.44	0.44	0.05	0.45	0.45
Sat Flow, veh/h	1810	261	1389	1697	433	829	1810	3230	329	1810	3271	270
Grp Volume(v), veh/h	41	0	76	70	0	35	35	250	256	58	454	465
Grp Sat Flow(s),veh/h/ln	1810	0	1650	1697	0	1262	1810	1763	1796	1810	1749	1792
Q Serve(g_s), s	1.0	0.0	1.9	1.7	0.0	1.1	0.4	4.0	4.0	0.7	8.2	8.2
Cycle Q Clear(g_c), s	1.0	0.0	1.9	1.7	0.0	1.1	0.4	4.0	4.0	0.7	8.2	8.2
Prop In Lane	1.00		0.84	1.00		0.66	1.00		0.18	1.00		0.15
Lane Grp Cap(c), veh/h	65	0	108	90	0	104	387	773	788	565	793	812
V/C Ratio(X)	0.63	0.00	0.70	0.78	0.00	0.34	0.09	0.32	0.33	0.10	0.57	0.57
Avail Cap(c_a), veh/h	253	0	673	316	0	574	962	1829	1864	734	1447	1483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	19.6	20.1	0.0	18.6	6.8	7.9	7.9	6.1	8.7	8.7
Incr Delay (d2), s/veh	9.6	0.0	11.0	13.7	0.0	2.7	0.1	0.3	0.3	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	1.8	1.7	0.0	0.7	0.2	2.1	2.2	0.4	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	0.0	30.7	33.7	0.0	21.2	6.9	8.2	8.2	6.2	9.6	9.6
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		117			105			541			977	
Approach Delay, s/veh		30.4			29.6			8.1			9.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	23.9	5.5	8.0	6.0	23.3	6.3	7.3
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.0	35.5	6.0	19.5	6.0	44.5	8.0	17.5
Max Q Clear Time (g_c+I1), s	2.4	10.2	3.0	3.1	2.7	6.0	3.7	3.9
Green Ext Time (p_c), s	0.0	9.2	0.0	0.1	0.0	5.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 20 [Harvard_Wellington AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	15	0.0	16	0.0	0.178	8.7	LOS A	1.0	24.7	0.18	0.34	0.18	34.1
8	T1	405	3.0	445	3.0	0.178	2.9	LOS A	1.0	24.9	0.18	0.33	0.18	33.9
18	R2	30	0.0	33	0.0	0.178	3.4	LOS A	1.0	24.9	0.18	0.32	0.18	33.0
Approach		450	2.7	495	2.7	0.178	3.1	LOS A	1.0	24.9	0.18	0.33	0.18	33.9
East: Wellington Pkwy														
1	L2	50	0.0	55	0.0	0.099	10.0	LOS A	0.3	7.9	0.39	0.66	0.39	32.3
6	T1	20	0.0	22	0.0	0.099	4.1	LOS A	0.3	7.9	0.39	0.66	0.39	32.0
16	R2	10	0.0	11	0.0	0.099	4.5	LOS A	0.3	7.9	0.39	0.66	0.39	31.2
Approach		80	0.0	88	0.0	0.099	7.8	LOS A	0.3	7.9	0.39	0.66	0.39	32.1
North: Harvard Rd														
7	L2	15	0.0	16	0.0	0.341	10.2	LOS B	2.2	55.6	0.31	0.43	0.31	37.1
4	T1	780	4.0	857	4.0	0.341	4.3	LOS A	2.2	56.0	0.30	0.42	0.30	37.0
14	R2	15	0.0	16	0.0	0.341	4.5	LOS A	2.2	56.0	0.30	0.41	0.30	35.9
Approach		810	3.9	890	3.9	0.341	4.4	LOS A	2.2	56.0	0.30	0.42	0.30	37.0
West: Wellington Pkwy														
5	L2	10	0.0	11	0.0	0.061	11.0	LOS B	0.2	5.0	0.51	0.67	0.51	32.8
2	T1	20	0.0	22	0.0	0.061	5.1	LOS A	0.2	5.0	0.51	0.67	0.51	32.5
12	R2	10	0.0	11	0.0	0.061	5.5	LOS A	0.2	5.0	0.51	0.67	0.51	31.6
Approach		40	0.0	44	0.0	0.061	6.7	LOS A	0.2	5.0	0.51	0.67	0.51	32.3
All Vehicles		1380	3.1	1516	3.1	0.341	4.2	LOS A	2.2	56.0	0.27	0.41	0.27	35.5

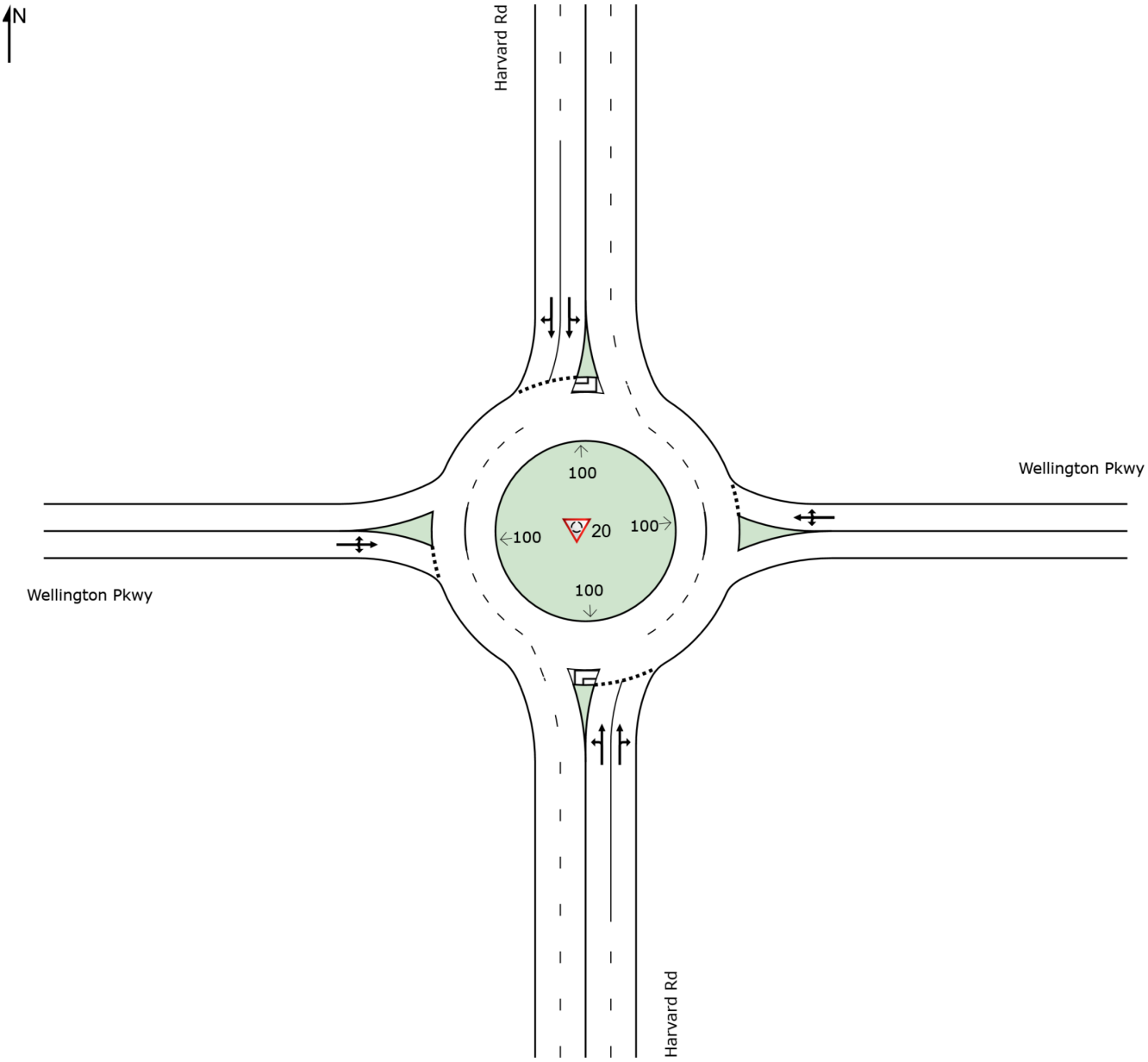
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

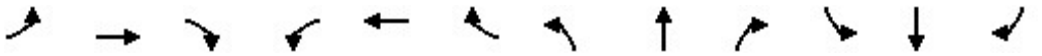
SITE LAYOUT

Site: 20 [Harvard_Wellington AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	20	10	50	20	10	15	405	30	15	780	15
Future Volume (veh/h)	10	20	10	50	20	10	15	405	30	15	780	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1856	1900	1900	1841	1900
Adj Flow Rate, veh/h	11	22	11	55	22	11	16	445	33	16	857	16
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	3	0	0	4	0
Cap, veh/h	359	116	58	359	116	58	473	1579	117	643	1667	31
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.47	0.47	0.02	0.47	0.47
Sat Flow, veh/h	1390	1193	597	1390	1193	597	1810	3327	246	1810	3512	66
Grp Volume(v), veh/h	11	0	33	55	0	33	16	235	243	16	427	446
Grp Sat Flow(s),veh/h/ln	1390	0	1790	1390	0	1790	1810	1763	1811	1810	1749	1829
Q Serve(g_s), s	0.2	0.0	0.5	1.1	0.0	0.5	0.1	2.4	2.4	0.1	4.9	5.0
Cycle Q Clear(g_c), s	0.7	0.0	0.5	1.6	0.0	0.5	0.1	2.4	2.4	0.1	4.9	5.0
Prop In Lane	1.00		0.33	1.00		0.33	1.00		0.14	1.00		0.04
Lane Grp Cap(c), veh/h	359	0	175	359	0	175	473	837	859	643	830	868
V/C Ratio(X)	0.03	0.00	0.19	0.15	0.00	0.19	0.03	0.28	0.28	0.02	0.51	0.51
Avail Cap(c_a), veh/h	1462	0	1594	1462	0	1594	939	4470	4591	1108	4434	4637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	12.1	12.8	0.0	12.1	4.2	4.6	4.7	3.9	5.3	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.2	0.0	0.5	0.0	0.2	0.2	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.3	0.5	0.0	0.3	0.0	0.7	0.8	0.0	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	12.6	13.0	0.0	12.6	4.3	4.8	4.8	3.9	5.8	5.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		44			88			494			889	
Approach Delay, s/veh		12.6			12.9			4.8			5.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	17.9		6.8	4.5	17.9		6.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	74.0		26.0	8.0	74.0		26.0				
Max Q Clear Time (g_c+I1), s	2.1	7.0		2.7	2.1	4.4		3.6				
Green Ext Time (p_c), s	0.0	6.9		0.1	0.0	3.2		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			6.1									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	20.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	370	15	10	350	215	25	55	15	125	15	15
Future Vol, veh/h	35	370	15	10	350	215	25	55	15	125	15	15
Conflicting Peds, #/hr	0	0	7	7	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	2	0	0	3	1	0	0	0	7	0	11
Mvmt Flow	38	402	16	11	380	234	27	60	16	136	16	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	614	0	0	425	0	0	1030	1129	417	1043	1020	499
Stage 1	-	-	-	-	-	-	493	493	-	519	519	-
Stage 2	-	-	-	-	-	-	537	636	-	524	501	-
Critical Hdwy	4.18	-	-	4.1	-	-	7.1	6.5	6.2	7.17	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.17	5.5	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.3	3.563	4	3.399
Pot Cap-1 Maneuver	937	-	-	1145	-	-	214	206	640	203	239	554
Stage 1	-	-	-	-	-	-	562	550	-	531	536	-
Stage 2	-	-	-	-	-	-	532	475	-	527	546	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	937	-	-	1138	-	-	187	194	636	145	226	553
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	194	-	145	226	-
Stage 1	-	-	-	-	-	-	536	524	-	509	531	-
Stage 2	-	-	-	-	-	-	495	470	-	436	520	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	36.1	138.6
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	937	-	-	1138	-	-	162
HCM Lane V/C Ratio	0.478	0.041	-	-	0.01	-	-	1.04
HCM Control Delay (s)	36.1	9	-	-	8.2	-	-	138.6
HCM Lane LOS	E	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.4	0.1	-	-	0	-	-	8.4

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	385	485	10	15	15
Future Vol, veh/h	40	385	485	10	15	15
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	4	2	0	17	0
Mvmt Flow	45	438	551	11	17	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	565	0	-	0	1089	560
Stage 1	-	-	-	-	560	-
Stage 2	-	-	-	-	529	-
Critical Hdwy	4.1	-	-	-	6.57	6.2
Critical Hdwy Stg 1	-	-	-	-	5.57	-
Critical Hdwy Stg 2	-	-	-	-	5.57	-
Follow-up Hdwy	2.2	-	-	-	3.653	3.3
Pot Cap-1 Maneuver	1017	-	-	-	223	532
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1014	-	-	-	212	531
Mov Cap-2 Maneuver	-	-	-	-	342	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	561	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1014	-	-	-	416
HCM Lane V/C Ratio	0.045	-	-	-	0.082
HCM Control Delay (s)	8.7	-	-	-	14.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Lane Configurations							
Traffic Volume (vph)	510	270	95	700	205	100	
Future Volume (vph)	510	270	95	700	205	100	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		75	100		100	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	
Frt	0.948					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	3252	0	1805	3343	1787	1615	
Flt Permitted			0.950		0.950		
Satd. Flow (perm)	3252	0	1805	3343	1787	1615	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	76					135	
Link Speed (mph)	30			30	30		
Link Distance (ft)	425			3165	712		
Travel Time (s)	9.7			71.9	16.2		
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	
Heavy Vehicles (%)	8%	0%	0%	8%	1%	0%	
Adj. Flow (vph)	689	365	128	946	277	135	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1054	0	128	946	277	135	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane	Yes			Yes	Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2		1	2	1	1	
Detector Template	Thru		Left	Thru	Left	Right	
Leading Detector (ft)	100		20	100	20	20	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	6		20	6	20	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94			
Detector 2 Size(ft)	6			6			
Detector 2 Type	Cl+Ex			Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)	0.0			0.0			
Turn Type	NA		Prot	NA	Prot	Perm	
Protected Phases	2		1	6	8		14



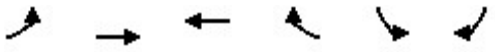
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Permitted Phases						8	
Detector Phase	2		1	6	8	8	
Switch Phase							
Minimum Initial (s)	7.0		4.0	4.0	7.0	7.0	4.0
Minimum Split (s)	26.5		9.5	36.5	21.5	21.5	25.0
Total Split (s)	40.0		30.0	70.0	30.0	30.0	25.0
Total Split (%)	32.0%		24.0%	56.0%	24.0%	24.0%	20%
Maximum Green (s)	34.5		24.5	64.5	26.0	26.0	21.0
Yellow Time (s)	4.5		4.5	4.5	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	4.0	
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None	Ped
Walk Time (s)							6.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							2
Act Effct Green (s)	34.7		12.1	52.3	20.5	20.5	
Actuated g/C Ratio	0.32		0.11	0.49	0.19	0.19	
v/c Ratio	0.96		0.63	0.58	0.81	0.32	
Control Delay	53.1		60.8	22.0	61.3	8.6	
Queue Delay	0.0		0.0	0.0	0.0	0.0	
Total Delay	53.1		60.8	22.0	61.3	8.6	
LOS	D		E	C	E	A	
Approach Delay	53.1			26.6	44.0		
Approach LOS	D			C	D		
Queue Length 50th (ft)	354		86	240	183	0	
Queue Length 95th (ft)	375		124	247	231	26	
Internal Link Dist (ft)	345			3085	632		
Turn Bay Length (ft)			100		100		
Base Capacity (vph)	1101		413	2018	434	495	
Starvation Cap Reductn	0		0	0	0	0	
Spillback Cap Reductn	0		0	0	0	0	
Storage Cap Reductn	0		0	0	0	0	
Reduced v/c Ratio	0.96		0.31	0.47	0.64	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 107.5			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 40.4		Intersection LOS: D	
Intersection Capacity Utilization 51.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Ridgeline HS & Country Vista Dr



PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	205	1160	815	60	70	340
Future Volume (veh/h)	205	1160	815	60	70	340
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1856	1826	1870	1900	1900	1870
Adj Flow Rate, veh/h	209	1184	832	61	71	347
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	5	2	0	0	2
Cap, veh/h	444	1974	1281	94	490	430
Arrive On Green	0.11	0.57	0.38	0.38	0.27	0.27
Sat Flow, veh/h	1767	3561	3450	246	1810	1585
Grp Volume(v), veh/h	209	1184	440	453	71	347
Grp Sat Flow(s),veh/h/ln	1767	1735	1777	1826	1810	1585
Q Serve(g_s), s	3.2	11.2	10.2	10.2	1.5	10.2
Cycle Q Clear(g_c), s	3.2	11.2	10.2	10.2	1.5	10.2
Prop In Lane	1.00			0.13	1.00	1.00
Lane Grp Cap(c), veh/h	444	1974	678	697	490	430
V/C Ratio(X)	0.47	0.60	0.65	0.65	0.14	0.81
Avail Cap(c_a), veh/h	1031	5411	1847	1899	1411	1236
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	7.1	12.7	12.7	13.8	17.0
Incr Delay (d2), s/veh	0.8	0.3	1.1	1.0	0.1	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	5.2	6.4	6.5	0.9	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.3	7.3	13.8	13.7	14.0	20.7
LnGrp LOS	A	A	B	B	B	C
Approach Vol, veh/h		1393	893		418	
Approach Delay, s/veh		7.6	13.8		19.5	
Approach LOS		A	B		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	32.5	17.6	9.4	23.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	78.0	39.0	22.0	52.0
Max Q Clear Time (g_c+I1), s	13.2	12.2	5.2	12.2
Green Ext Time (p_c), s	12.6	1.3	0.5	6.9

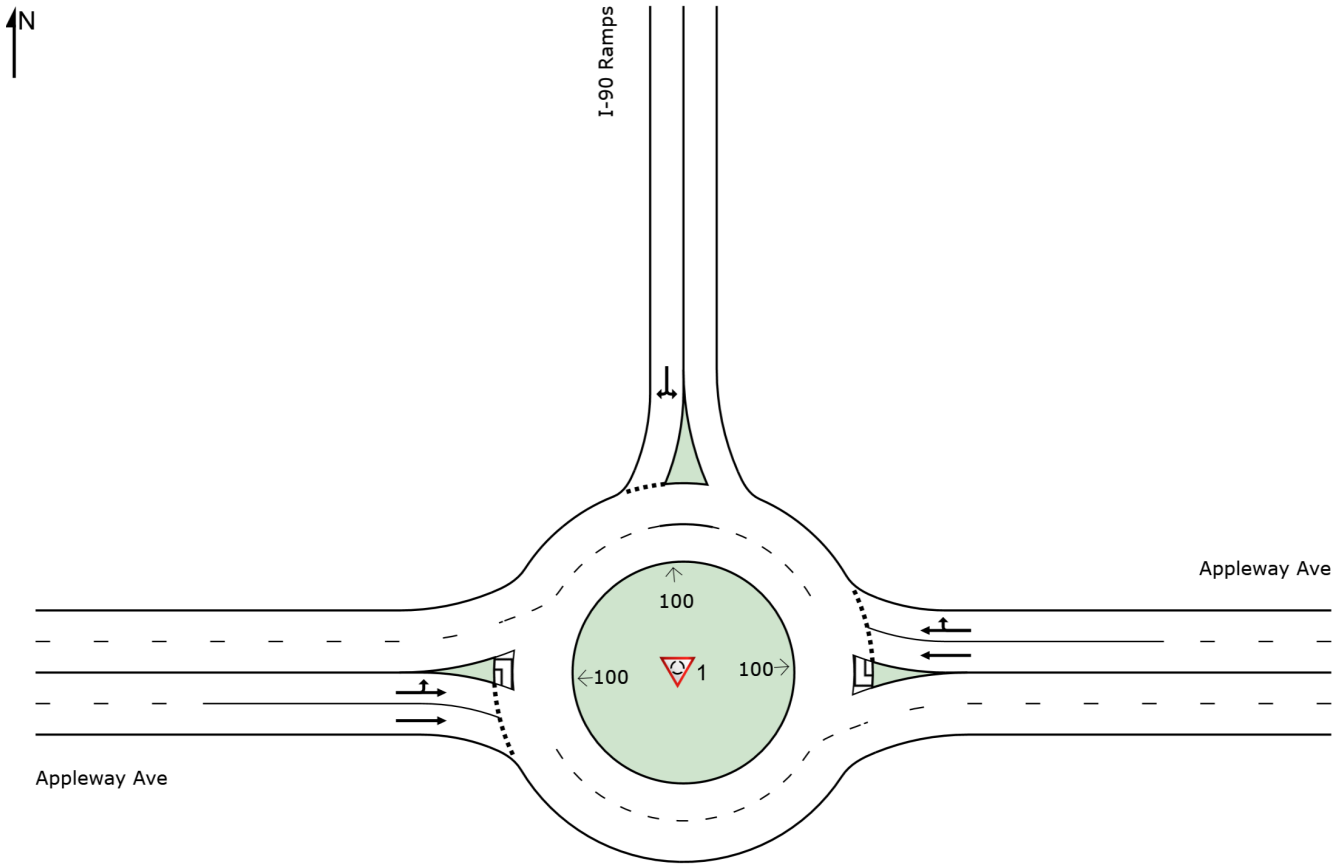
Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

SITE LAYOUT

Site: 1 [I-90 Ramps_Appleway PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 1 [I-90 Ramps_Appleway PM 2046 (Site Folder: General)]

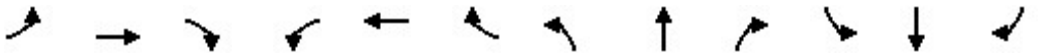
New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Appleway Ave														
6	T1	815	2.0	832	2.0	0.365	5.8	LOS A	2.4	60.4	0.46	0.54	0.46	39.2
16	R2	60	0.0	61	0.0	0.365	5.8	LOS A	2.4	60.4	0.46	0.54	0.46	36.7
Approach		875	1.9	893	1.9	0.365	5.8	LOS A	2.4	60.4	0.46	0.54	0.46	39.0
North: I-90 Ramps														
7	L2	70	0.0	71	0.0	0.585	14.3	LOS B	3.3	82.9	0.70	0.92	0.89	36.0
14	R2	340	2.0	347	2.0	0.585	8.6	LOS A	3.3	82.9	0.70	0.92	0.89	34.8
Approach		410	1.7	418	1.7	0.585	9.5	LOS A	3.3	82.9	0.70	0.92	0.89	35.0
West: Appleway Ave														
5	L2	205	3.0	209	3.0	0.525	11.3	LOS B	4.8	123.6	0.38	0.52	0.38	37.4
2	T1	1160	5.0	1184	5.0	0.525	5.1	LOS A	4.8	125.5	0.37	0.47	0.37	38.7
Approach		1365	4.7	1393	4.7	0.525	6.0	LOS A	4.8	125.5	0.37	0.48	0.37	38.5
All Vehicles		2650	3.3	2704	3.3	0.585	6.5	LOS A	4.8	125.5	0.45	0.57	0.48	38.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	995	70	305	760	260	60	100	220	315	175	110
Future Volume (veh/h)	155	995	70	305	760	260	60	100	220	315	175	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1885	1870	1885	1900	1856	1870	1870	1900	1900
Adj Flow Rate, veh/h	160	1026	72	314	784	268	62	103	227	325	180	113
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	1	0	1	2	1	0	3	2	2	0	0
Cap, veh/h	270	1028	72	310	894	306	360	120	266	352	349	219
Arrive On Green	0.08	0.30	0.30	0.12	0.34	0.34	0.04	0.23	0.23	0.12	0.32	0.32
Sat Flow, veh/h	1810	3395	238	1795	2599	888	1810	515	1136	1781	1091	685
Grp Volume(v), veh/h	160	541	557	314	536	516	62	0	330	325	0	293
Grp Sat Flow(s),veh/h/ln	1810	1791	1842	1795	1777	1710	1810	0	1651	1781	0	1777
Q Serve(g_s), s	5.0	25.4	25.4	10.5	23.8	23.9	2.2	0.0	16.1	10.5	0.0	11.3
Cycle Q Clear(g_c), s	5.0	25.4	25.4	10.5	23.8	23.9	2.2	0.0	16.1	10.5	0.0	11.3
Prop In Lane	1.00		0.13	1.00		0.52	1.00		0.69	1.00		0.39
Lane Grp Cap(c), veh/h	270	543	558	310	611	589	360	0	386	352	0	568
V/C Ratio(X)	0.59	1.00	1.00	1.01	0.88	0.88	0.17	0.00	0.85	0.92	0.00	0.52
Avail Cap(c_a), veh/h	344	543	558	310	611	589	516	0	500	352	0	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	29.3	29.3	22.3	25.9	25.9	23.2	0.0	30.9	23.4	0.0	23.3
Incr Delay (d2), s/veh	2.9	38.0	37.5	54.5	13.9	14.4	0.3	0.0	12.2	29.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	22.7	23.2	13.8	17.6	17.1	1.7	0.0	12.0	11.9	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	67.3	66.8	76.8	39.8	40.3	23.5	0.0	43.1	52.9	0.0	24.4
LnGrp LOS	C	E	E	F	D	D	C	A	D	D	A	C
Approach Vol, veh/h		1258			1366			392			618	
Approach Delay, s/veh		61.5			48.5			40.0			39.4	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	30.0	7.8	31.4	11.5	33.5	15.0	24.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	10.5	25.5	10.5	25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s	12.5	27.4	4.2	13.3	7.0	25.9	12.5	18.1
Green Ext Time (p_c), s	0.0	0.0	0.1	1.8	0.2	0.0	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	1135	120	230	1235	75	80	10	135	80	10	70
Future Volume (veh/h)	70	1135	120	230	1235	75	80	10	135	80	10	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1870	1900	1885	1870	1900	1870	1900	1870	1870	1870
Adj Flow Rate, veh/h	74	1207	128	245	1314	80	85	11	144	85	11	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	2	0	1	2	0	2	0	2	2	2
Cap, veh/h	302	1651	175	371	1932	117	310	22	290	243	41	275
Arrive On Green	0.04	0.51	0.51	0.10	0.56	0.56	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3268	346	1810	3430	208	1333	114	1489	1232	209	1408
Grp Volume(v), veh/h	74	660	675	245	685	709	85	0	155	85	0	85
Grp Sat Flow(s),veh/h/ln	1781	1791	1823	1810	1791	1848	1333	0	1602	1232	0	1617
Q Serve(g_s), s	1.3	19.1	19.2	3.9	17.9	18.0	3.8	0.0	5.7	4.4	0.0	3.0
Cycle Q Clear(g_c), s	1.3	19.1	19.2	3.9	17.9	18.0	6.8	0.0	5.7	10.1	0.0	3.0
Prop In Lane	1.00		0.19	1.00		0.11	1.00		0.93	1.00		0.87
Lane Grp Cap(c), veh/h	302	905	921	371	1009	1041	310	0	313	243	0	315
V/C Ratio(X)	0.25	0.73	0.73	0.66	0.68	0.68	0.27	0.00	0.50	0.35	0.00	0.27
Avail Cap(c_a), veh/h	518	1098	1117	486	1098	1132	564	0	618	487	0	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	12.8	12.8	12.0	10.2	10.2	25.5	0.0	23.7	28.2	0.0	22.6
Incr Delay (d2), s/veh	0.6	2.4	2.4	2.9	1.8	1.8	0.7	0.0	1.7	1.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	11.4	11.7	3.5	10.3	10.6	2.2	0.0	3.9	2.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	15.2	15.2	15.0	12.0	12.0	26.1	0.0	25.4	29.4	0.0	23.2
LnGrp LOS	A	B	B	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1409			1639			240			170	
Approach Delay, s/veh		14.9			12.4			25.7			26.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	37.9		17.4	7.0	41.7		17.4
Change Period (Y+Rc), s	4.5	4.5		* 4.5	4.0	4.5		4.5
Max Green Setting (Gmax), s	10.5	40.5		* 26	11.0	40.5		25.5
Max Q Clear Time (g_c+I1), s	5.9	21.2		12.1	3.3	20.0		8.8
Green Ext Time (p_c), s	0.4	12.2		0.8	0.1	13.3		1.5

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

MOVEMENT SUMMARY

Site: 101 [Mission_Harvard PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	315	2.0	315	2.0	0.742	12.5	LOS B	9.4	238.1	0.80	0.70	0.85	34.7
8	T1	560	2.0	560	2.0	0.742	6.5	LOS A	9.4	238.1	0.80	0.70	0.85	34.6
Approach		875	2.0	875	2.0	0.742	8.7	LOS A	9.4	238.1	0.80	0.70	0.85	34.6
East: I-90 Off-ramp														
1	L2	235	1.0	235	1.0	1.176	129.5	LOS F	47.0	1183.8	1.00	2.45	4.90	12.5
6	T1	205	1.0	205	1.0	1.176	123.5	LOS F	47.0	1183.8	1.00	2.45	4.90	12.4
16	R2	130	1.0	130	1.0	1.176	123.6	LOS F	47.0	1183.8	1.00	2.45	4.90	12.3
Approach		570	1.0	570	1.0	1.176	126.0	LOS F	47.0	1183.8	1.00	2.45	4.90	12.4
North: Harvard Rd														
4	T1	715	1.0	715	1.0	1.076	63.4	LOS F	44.5	1122.0	1.00	2.26	4.12	19.0
14	R2	170	1.0	170	1.0	1.076	63.4	LOS F	44.5	1122.0	1.00	2.26	4.12	18.7
Approach		885	1.0	885	1.0	1.076	63.4	LOS E	44.5	1122.0	1.00	2.26	4.12	18.9
West: Mission Ave														
5	L2	220	1.0	220	1.0	1.014	59.7	LOS F	28.9	731.3	1.00	1.85	3.18	20.3
12	R2	420	2.0	420	2.0	1.014	53.9	LOS F	28.9	731.3	1.00	1.85	3.18	20.0
Approach		640	1.7	640	1.7	1.014	55.9	LOS E	28.9	731.3	1.00	1.85	3.18	20.1
All Vehicles		2970	1.4	2970	1.4	1.176	57.7	LOS E	47.0	1183.8	0.94	1.75	3.10	19.8

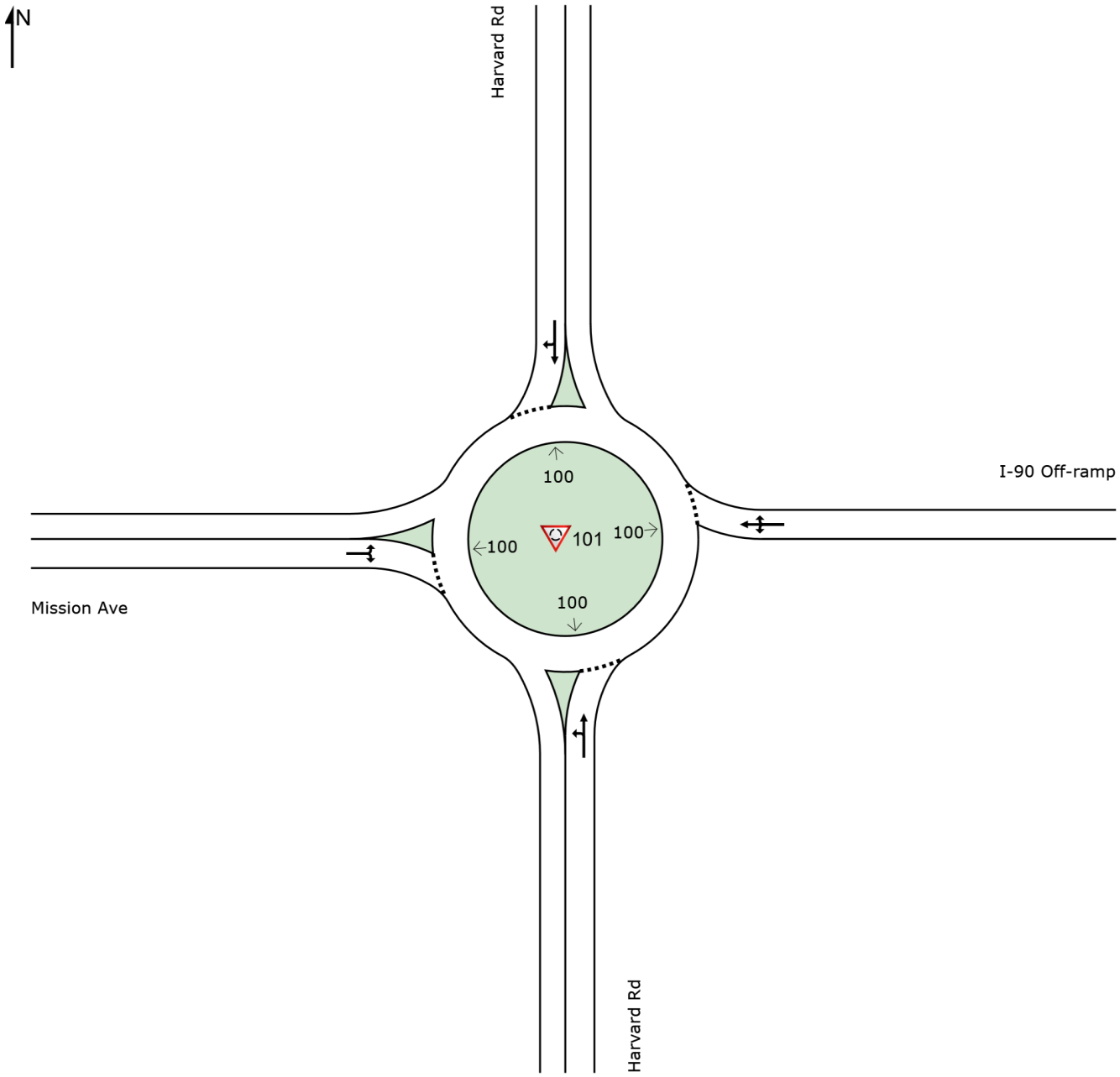
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvard PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	430	370	340	55	815	200	780	300	345	525	130
Future Volume (veh/h)	180	430	370	340	55	815	200	780	300	345	525	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1856	1900	1870	1885	1885	1870	1885	1885	1885
Adj Flow Rate, veh/h	196	467	402	370	60	886	217	848	326	375	571	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	3	0	2	1	1	2	1	1	1
Cap, veh/h	224	974	434	299	601	1356	250	867	384	304	946	
Arrive On Green	0.13	0.27	0.27	0.17	0.32	0.32	0.14	0.24	0.24	0.17	0.26	0.00
Sat Flow, veh/h	1767	3554	1585	1767	1900	2790	1795	3582	1585	1795	3582	1598
Grp Volume(v), veh/h	196	467	402	370	60	886	217	848	326	375	571	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1585	1767	1900	1395	1795	1791	1585	1795	1791	1598
Q Serve(g_s), s	13.5	13.6	30.6	21.0	2.8	29.7	14.7	29.2	24.3	21.0	17.3	0.0
Cycle Q Clear(g_c), s	13.5	13.6	30.6	21.0	2.8	29.7	14.7	29.2	24.3	21.0	17.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	974	434	299	601	1356	250	867	384	304	946	
V/C Ratio(X)	0.87	0.48	0.93	1.24	0.10	0.65	0.87	0.98	0.85	1.23	0.60	
Avail Cap(c_a), veh/h	299	1003	447	299	601	1356	362	867	384	304	946	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.1	37.6	43.8	51.5	29.9	24.0	52.2	46.7	44.8	51.5	39.9	0.0
Incr Delay (d2), s/veh	19.1	0.5	25.2	131.6	0.1	1.1	16.5	25.3	16.9	130.1	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	10.0	21.3	30.4	2.3	15.0	12.3	22.5	16.8	30.7	12.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.3	38.1	69.0	183.1	30.0	25.1	68.8	72.0	61.7	181.6	41.0	0.0
LnGrp LOS	E	D	E	F	C	C	E	E	E	F	D	
Approach Vol, veh/h		1065			1316			1391			946	
Approach Delay, s/veh		56.1			69.8			69.1			96.8	
Approach LOS		E			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	35.0	25.0	39.0	22.3	37.7	19.7	44.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	21.0	30.0	21.0	35.0	25.0	25.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	23.0	31.2	23.0	32.6	16.7	19.3	15.5	31.7
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.6	1.8	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	685	730	225	50	685	160	145	180	25	265	200	535
Future Volume (veh/h)	685	730	225	50	685	160	145	180	25	265	200	535
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1900	1870	1870	1885	1856	1900	1856	1885	1870
Adj Flow Rate, veh/h	729	777	239	53	729	170	154	191	27	282	213	569
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	2	0	2	2	1	3	0	3	1	2
Cap, veh/h	680	1078	332	214	678	158	209	870	121	564	591	527
Arrive On Green	0.20	0.40	0.40	0.03	0.24	0.24	0.08	0.28	0.28	0.13	0.33	0.33
Sat Flow, veh/h	3483	2697	830	1810	2860	667	1795	3107	433	1767	1791	1598
Grp Volume(v), veh/h	729	516	500	53	453	446	154	107	111	282	213	569
Grp Sat Flow(s),veh/h/ln	1742	1791	1736	1810	1777	1750	1795	1763	1778	1767	1791	1598
Q Serve(g_s), s	21.0	26.1	26.1	2.4	25.5	25.5	6.5	5.0	5.2	11.7	9.7	35.5
Cycle Q Clear(g_c), s	21.0	26.1	26.1	2.4	25.5	25.5	6.5	5.0	5.2	11.7	9.7	35.5
Prop In Lane	1.00		0.48	1.00		0.38	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	680	716	694	214	421	415	209	493	497	564	591	527
V/C Ratio(X)	1.07	0.72	0.72	0.25	1.07	1.08	0.74	0.22	0.22	0.50	0.36	1.08
Avail Cap(c_a), veh/h	680	716	694	509	421	415	418	582	587	680	591	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	27.2	27.2	29.9	41.0	41.0	28.4	29.7	29.7	21.2	27.4	36.0
Incr Delay (d2), s/veh	55.3	3.1	3.2	0.2	65.2	65.7	1.9	0.1	0.1	0.3	0.1	62.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.1	17.1	16.7	1.9	26.8	26.5	5.1	3.8	4.0	8.4	7.5	31.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.6	30.3	30.4	30.1	106.3	106.7	30.2	29.8	29.8	21.5	27.5	98.2
LnGrp LOS	F	C	C	C	F	F	C	C	C	C	C	F
Approach Vol, veh/h		1745			952			372			1064	
Approach Delay, s/veh		58.9			102.2			30.0			63.7	
Approach LOS		E			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	34.6	7.5	47.5	12.5	40.0	25.0	30.0
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	21.0	35.5	21.0	25.5	21.0	35.5	21.0	25.5
Max Q Clear Time (g_c+I1), s	13.7	7.2	4.4	28.1	8.5	37.5	23.0	27.5
Green Ext Time (p_c), s	0.3	0.8	0.0	0.0	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.5
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	425	520	320	20	0	515
Future Vol, veh/h	425	520	320	20	0	515
Conflicting Peds, #/hr	7	0	0	7	5	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	17	2
Mvmt Flow	457	559	344	22	0	554

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	373	0	-	0	1561	190
Stage 1	-	-	-	-	362	-
Stage 2	-	-	-	-	1199	-
Critical Hdwy	4.14	-	-	-	7.14	6.94
Critical Hdwy Stg 1	-	-	-	-	6.14	-
Critical Hdwy Stg 2	-	-	-	-	6.14	-
Follow-up Hdwy	2.22	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	1182	-	-	-	89	820
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	220	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1175	-	-	-	54	815
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	219	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	18.2
HCM LOS			C

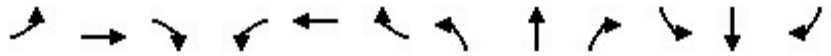
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1175	-	-	-	-	815
HCM Lane V/C Ratio	0.389	-	-	-	-	0.679
HCM Control Delay (s)	10	-	-	-	0	18.2
HCM Lane LOS	B	-	-	-	A	C
HCM 95th %tile Q(veh)	1.9	-	-	-	-	5.5



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	880	160	35	895	200	50
Future Volume (veh/h)	880	160	35	895	200	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1856	1900	1856
Adj Flow Rate, veh/h	989	180	39	1006	225	56
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	0	3	0	3
Cap, veh/h	1374	250	326	2153	319	277
Arrive On Green	0.46	0.46	0.03	0.61	0.18	0.18
Sat Flow, veh/h	3097	546	1810	3618	1810	1572
Grp Volume(v), veh/h	585	584	39	1006	225	56
Grp Sat Flow(s),veh/h/ln	1777	1772	1810	1763	1810	1572
Q Serve(g_s), s	11.2	11.3	0.4	6.6	4.9	1.3
Cycle Q Clear(g_c), s	11.2	11.3	0.4	6.6	4.9	1.3
Prop In Lane		0.31	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	813	811	326	2153	319	277
V/C Ratio(X)	0.72	0.72	0.12	0.47	0.71	0.20
Avail Cap(c_a), veh/h	1053	1050	907	3760	1115	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	9.3	6.8	4.5	16.4	14.9
Incr Delay (d2), s/veh	1.7	1.7	0.2	0.2	2.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	6.1	0.2	2.2	3.6	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	11.0	7.0	4.6	19.2	15.2
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h	1169			1045	281	
Approach Delay, s/veh	11.0			4.7	18.4	
Approach LOS	B			A	B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.5	24.3		11.4		30.8
Change Period (Y+Rc), s	5.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	25.0		26.0		45.0
Max Q Clear Time (g_c+I1), s	2.4	13.3		6.9		8.6
Green Ext Time (p_c), s	0.0	6.0		0.8		9.0

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	850	20	20	745	30	50	15	35	55	15	105
Future Volume (veh/h)	65	850	20	20	745	30	50	15	35	55	15	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1752	1900	1841	1900	1856	1737	1900	1841	1900	1885
Adj Flow Rate, veh/h	78	1024	24	24	898	36	60	18	42	66	18	127
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	10	0	4	0	3	11	0	4	0	1
Cap, veh/h	356	1549	36	307	1352	54	188	44	63	474	56	397
Arrive On Green	0.05	0.44	0.44	0.02	0.39	0.39	0.13	0.13	0.13	0.05	0.28	0.28
Sat Flow, veh/h	1781	3549	83	1810	3427	137	556	334	479	1753	204	1438
Grp Volume(v), veh/h	78	513	535	24	458	476	120	0	0	66	0	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1810	1749	1816	1370	0	0	1753	0	1641
Q Serve(g_s), s	1.2	10.8	10.8	0.4	10.2	10.2	2.9	0.0	0.0	1.4	0.0	3.3
Cycle Q Clear(g_c), s	1.2	10.8	10.8	0.4	10.2	10.2	3.8	0.0	0.0	1.4	0.0	3.3
Prop In Lane	1.00		0.04	1.00		0.08	0.50		0.35	1.00		0.88
Lane Grp Cap(c), veh/h	356	776	810	307	690	716	295	0	0	474	0	454
V/C Ratio(X)	0.22	0.66	0.66	0.08	0.66	0.66	0.41	0.00	0.00	0.14	0.00	0.32
Avail Cap(c_a), veh/h	1032	1333	1392	1069	1312	1363	846	0	0	1148	0	1769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	10.6	10.6	9.0	11.7	11.7	19.4	0.0	0.0	14.8	0.0	13.6
Incr Delay (d2), s/veh	0.3	1.0	0.9	0.1	1.1	1.1	0.9	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	6.2	6.5	0.2	6.0	6.3	2.1	0.0	0.0	0.9	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	11.5	11.5	9.1	12.9	12.8	20.3	0.0	0.0	14.9	0.0	14.0
LnGrp LOS	A	B	B	A	B	B	C	A	A	B	A	B
Approach Vol, veh/h		1126			958			120			211	
Approach Delay, s/veh		11.3			12.7			20.3			14.3	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	25.1		17.1	7.1	23.2	6.8	10.3
Change Period (Y+Rc), s	4.0	4.5		4.0	4.5	4.5	4.5	4.0
Max Green Setting (Gmax), s	21.0	35.5		51.0	20.5	35.5	20.5	26.0
Max Q Clear Time (g_c+I1), s	12.4	12.8		5.3	3.2	12.2	3.4	5.8
Green Ext Time (p_c), s	0.0	7.4		1.0	0.1	6.5	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	965	145	95	575	20	175	25	190	50	35	65
Future Volume (veh/h)	20	965	145	95	575	20	175	25	190	50	35	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1885	1841	1900	1856	1900	1856	1900	1900	1841
Adj Flow Rate, veh/h	22	1060	159	104	632	22	192	27	209	55	38	71
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	0	1	4	0	3	0	3	0	0	4
Cap, veh/h	381	1122	168	257	1398	49	451	343	284	311	176	145
Arrive On Green	0.02	0.36	0.36	0.06	0.41	0.41	0.12	0.18	0.18	0.04	0.09	0.09
Sat Flow, veh/h	1810	3099	464	1795	3448	120	1767	1900	1572	1810	1900	1560
Grp Volume(v), veh/h	22	607	612	104	320	334	192	27	209	55	38	71
Grp Sat Flow(s),veh/h/ln	1810	1777	1787	1795	1749	1819	1767	1900	1572	1810	1900	1560
Q Serve(g_s), s	0.4	17.4	17.5	1.9	7.0	7.0	4.8	0.6	6.6	1.4	1.0	2.3
Cycle Q Clear(g_c), s	0.4	17.4	17.5	1.9	7.0	7.0	4.8	0.6	6.6	1.4	1.0	2.3
Prop In Lane	1.00		0.26	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	643	647	257	709	738	451	343	284	311	176	145
V/C Ratio(X)	0.06	0.94	0.95	0.40	0.45	0.45	0.43	0.08	0.74	0.18	0.22	0.49
Avail Cap(c_a), veh/h	714	643	647	510	709	738	585	688	569	607	688	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	16.2	16.3	12.7	11.4	11.4	16.4	17.9	20.3	20.5	22.0	22.6
Incr Delay (d2), s/veh	0.1	22.6	23.0	1.0	0.6	0.6	0.6	0.1	5.2	0.3	0.9	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	15.1	15.3	1.2	4.3	4.5	3.2	0.5	4.7	1.0	0.8	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	38.8	39.3	13.7	12.0	12.0	17.1	18.0	25.6	20.8	22.9	26.3
LnGrp LOS	B	D	D	B	B	B	B	B	C	C	C	C
Approach Vol, veh/h		1241			758			428			164	
Approach Delay, s/veh		38.5			12.2			21.3			23.7	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	14.5	5.3	26.3	11.0	9.9	7.6	24.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	10.5	19.0	10.5	19.0	10.5	19.0	10.5	19.0
Max Q Clear Time (g_c+I1), s	3.4	8.6	2.4	9.0	6.8	4.3	3.9	19.5
Green Ext Time (p_c), s	0.0	0.9	0.0	3.8	0.2	0.4	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

MOVEMENT SUMMARY

Site: 101 [Mission_Molter PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Molter Rd														
3	L2	80	2.0	80	2.0	0.300	12.6	LOS B	1.8	44.8	0.64	0.72	0.64	35.3
8	T1	135	1.0	135	1.0	0.300	6.6	LOS A	1.8	44.8	0.64	0.72	0.64	35.2
18	R2	50	1.0	50	1.0	0.300	6.7	LOS A	1.8	44.8	0.64	0.72	0.64	34.2
Approach		265	1.3	265	1.3	0.300	8.4	LOS A	1.8	44.8	0.64	0.72	0.64	35.0
East: Mission Ave														
1	L2	45	2.0	45	2.0	0.432	11.6	LOS B	2.8	71.1	0.56	0.59	0.56	36.0
6	T1	335	2.0	335	2.0	0.432	5.6	LOS A	2.8	71.1	0.56	0.59	0.56	35.9
16	R2	65	2.0	65	2.0	0.432	5.7	LOS A	2.8	71.1	0.56	0.59	0.56	34.8
Approach		445	2.0	445	2.0	0.432	6.2	LOS A	2.8	71.1	0.56	0.59	0.56	35.8
North: Molter Rd														
7	L2	95	2.0	95	2.0	0.323	12.4	LOS B	1.9	48.8	0.63	0.71	0.63	35.3
4	T1	125	2.0	125	2.0	0.323	6.5	LOS A	1.9	48.8	0.63	0.71	0.63	35.2
14	R2	70	2.0	70	2.0	0.323	6.5	LOS A	1.9	48.8	0.63	0.71	0.63	34.1
Approach		290	2.0	290	2.0	0.323	8.4	LOS A	1.9	48.8	0.63	0.71	0.63	34.9
West: Mission Ave														
5	L2	70	3.0	70	3.0	0.451	11.5	LOS B	3.0	77.0	0.56	0.60	0.56	35.9
2	T1	325	3.0	325	3.0	0.451	5.6	LOS A	3.0	77.0	0.56	0.60	0.56	35.8
12	R2	70	3.0	70	3.0	0.451	5.7	LOS A	3.0	77.0	0.56	0.60	0.56	34.7
Approach		465	3.0	465	3.0	0.451	6.5	LOS A	3.0	77.0	0.56	0.60	0.56	35.6
All Vehicles		1465	2.2	1465	2.2	0.451	7.2	LOS A	3.0	77.0	0.59	0.64	0.59	35.4

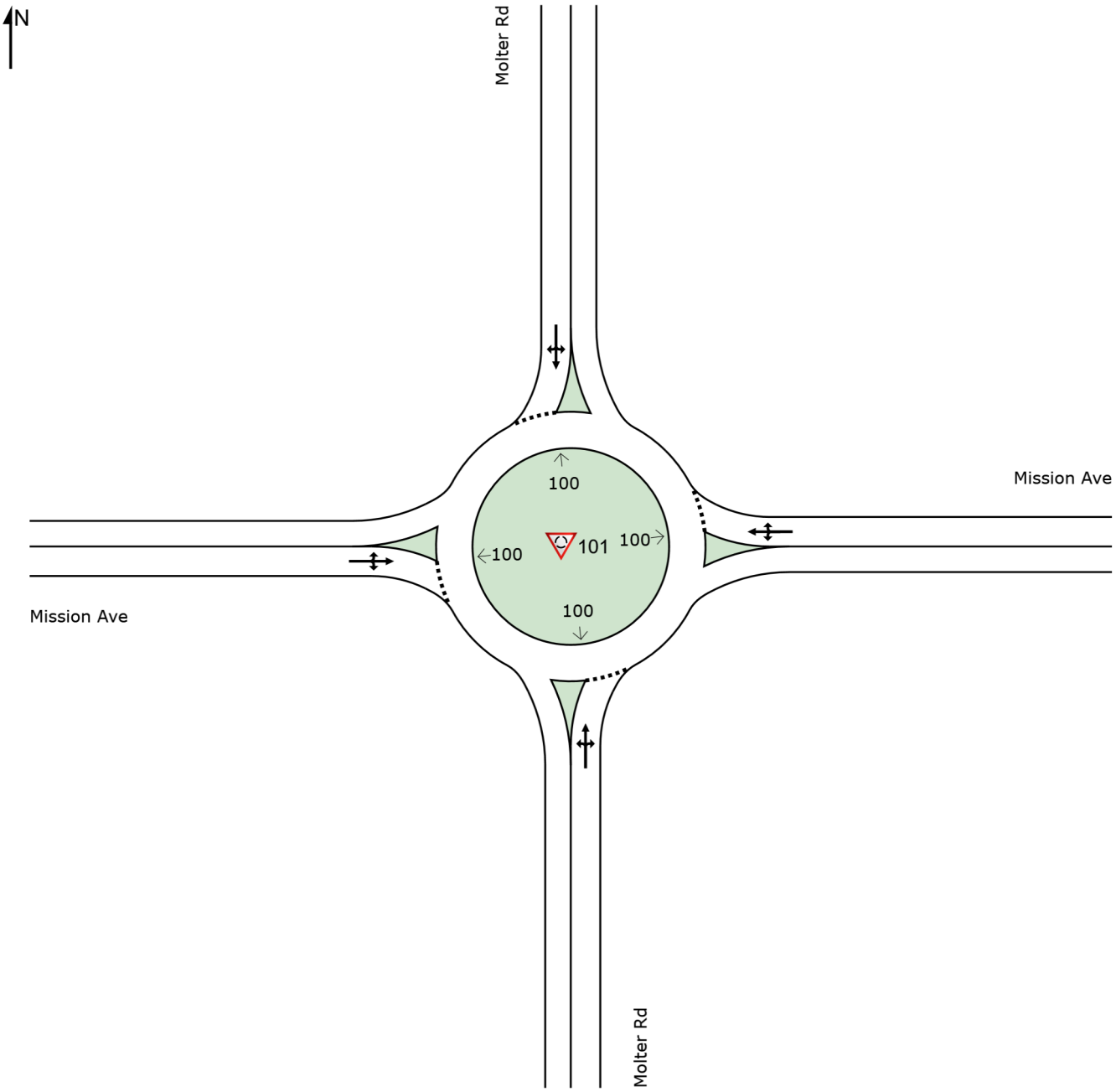
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Molter PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Harvest PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvest Pkwy														
3	L2	85	3.0	85	3.0	0.440	13.4	LOS B	2.9	73.6	0.71	0.80	0.73	35.2
8	T1	40	2.0	40	2.0	0.440	7.4	LOS A	2.9	73.6	0.71	0.80	0.73	35.2
18	R2	250	2.0	250	2.0	0.440	7.5	LOS A	2.9	73.6	0.71	0.80	0.73	34.1
Approach		375	2.2	375	2.2	0.440	8.8	LOS A	2.9	73.6	0.71	0.80	0.73	34.5
East: Mission Ave														
1	L2	110	3.0	110	3.0	0.519	11.2	LOS B	3.8	97.3	0.53	0.57	0.53	35.9
6	T1	345	3.0	345	3.0	0.519	5.2	LOS A	3.8	97.3	0.53	0.57	0.53	35.9
16	R2	115	3.0	115	3.0	0.519	5.3	LOS A	3.8	97.3	0.53	0.57	0.53	34.8
Approach		570	3.0	570	3.0	0.519	6.4	LOS A	3.8	97.3	0.53	0.57	0.53	35.7
North: Harvest Pkwy														
7	L2	150	1.0	150	1.0	0.331	13.0	LOS B	2.0	50.4	0.68	0.79	0.68	34.6
4	T1	40	1.0	40	1.0	0.331	7.0	LOS A	2.0	50.4	0.68	0.79	0.68	34.5
14	R2	90	1.0	90	1.0	0.331	7.1	LOS A	2.0	50.4	0.68	0.79	0.68	33.5
Approach		280	1.0	280	1.0	0.331	10.2	LOS B	2.0	50.4	0.68	0.79	0.68	34.2
West: Mission Ave														
5	L2	60	3.0	60	3.0	0.415	11.7	LOS B	2.6	66.9	0.56	0.61	0.56	35.9
2	T1	310	4.0	310	4.0	0.415	5.8	LOS A	2.6	66.9	0.56	0.61	0.56	35.8
12	R2	45	3.0	45	3.0	0.415	5.8	LOS A	2.6	66.9	0.56	0.61	0.56	34.7
Approach		415	3.7	415	3.7	0.415	6.6	LOS A	2.6	66.9	0.56	0.61	0.56	35.7
All Vehicles		1640	2.7	1640	2.7	0.519	7.7	LOS A	3.8	97.3	0.60	0.67	0.61	35.1

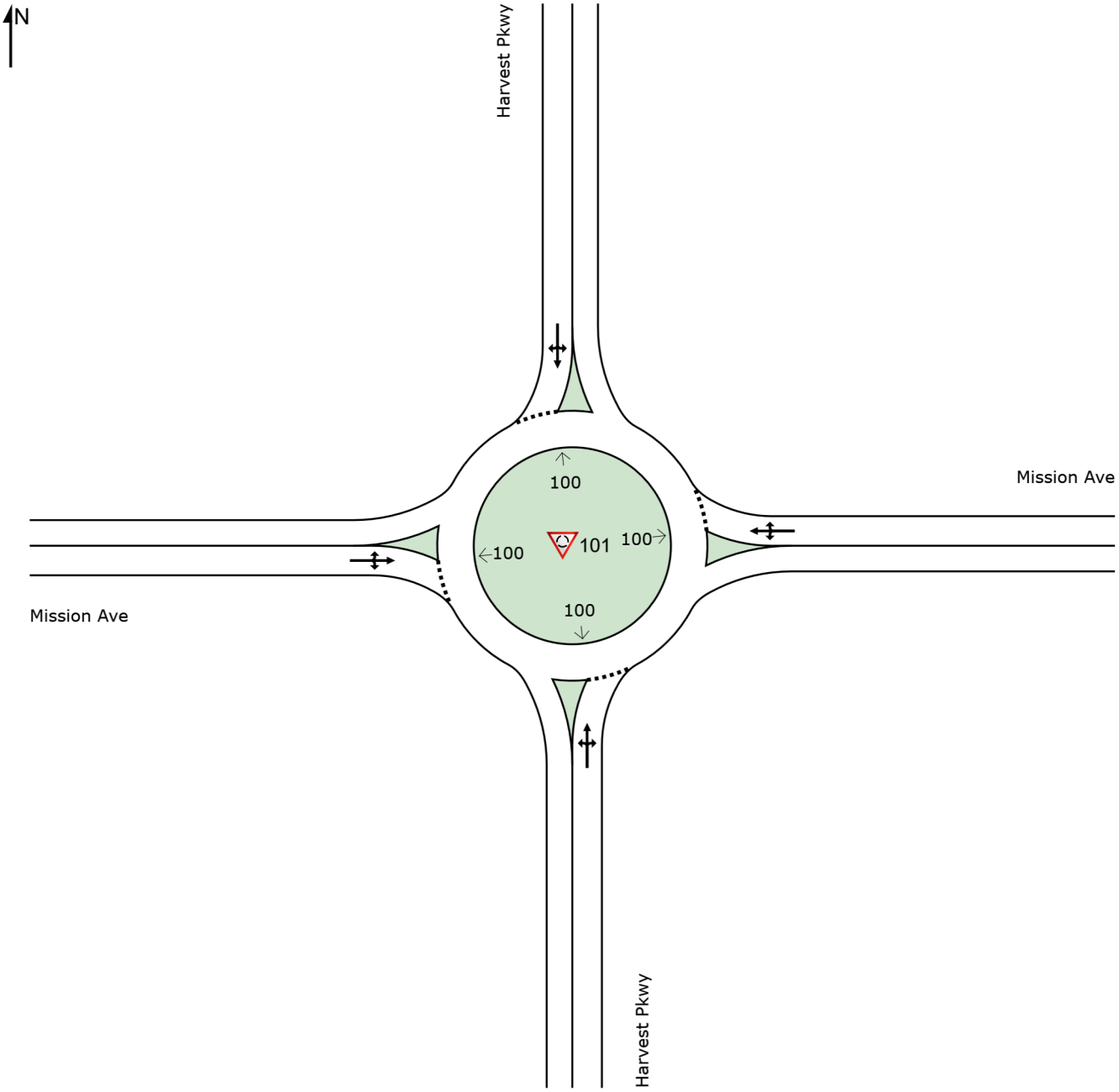
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Harvest PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection	
Int Delay, s/veh	8.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1095	170	95	550	125	95
Future Vol, veh/h	1095	170	95	550	125	95
Conflicting Peds, #/hr	0	4	4	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	0	5	1	2
Mvmt Flow	1190	185	103	598	136	103

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1379	0	2091	1288
Stage 1	-	-	-	-	1287	-
Stage 2	-	-	-	-	804	-
Critical Hdwy	-	-	4.1	-	6.41	6.22
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.318
Pot Cap-1 Maneuver	-	-	504	-	~ 58	200
Stage 1	-	-	-	-	260	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	502	-	~ 46	199
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	351	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	73.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	199	-	-	502	-
HCM Lane V/C Ratio	0.871	0.519	-	-	0.206	-
HCM Control Delay (s)	98.5	41.1	-	-	14	-
HCM Lane LOS	F	E	-	-	B	-
HCM 95th %tile Q(veh)	6	2.6	-	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	190	140	30	15	80	20	25	35	15	15	40	155
Future Vol, veh/h	190	140	30	15	80	20	25	35	15	15	40	155
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	1	0	0	0	0	0	0	3	0	0	0	5
Mvmt Flow	229	169	36	18	96	24	30	42	18	18	48	187
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	11.9	10	9.8	11
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	7%
Vol Thru, %	47%	0%	82%	0%	80%	19%
Vol Right, %	20%	0%	18%	0%	20%	74%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	190	170	15	100	210
LT Vol	25	190	0	15	0	15
Through Vol	35	0	140	0	80	40
RT Vol	15	0	30	0	20	155
Lane Flow Rate	90	229	205	18	120	253
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.144	0.392	0.314	0.033	0.198	0.36
Departure Headway (Hd)	5.744	6.167	5.519	6.556	5.906	5.121
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	623	584	651	546	607	706
Service Time	3.788	3.898	3.249	4.296	3.645	3.121
HCM Lane V/C Ratio	0.144	0.392	0.315	0.033	0.198	0.358
HCM Control Delay	9.8	12.8	10.8	9.5	10.1	11
HCM Lane LOS	A	B	B	A	B	B
HCM 95th-tile Q	0.5	1.9	1.3	0.1	0.7	1.6

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	180	110	100	15	80	25	75	115	20	30	115	115
Future Vol, veh/h	180	110	100	15	80	25	75	115	20	30	115	115
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	1	1	0	0	0	2	1	0	0	0	0
Mvmt Flow	202	124	112	17	90	28	84	129	22	34	129	129
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	20.7	11.4	12	14
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	46%	12%	100%	0%
Vol Thru, %	0%	85%	28%	67%	0%	50%
Vol Right, %	0%	15%	26%	21%	0%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	135	390	120	30	230
LT Vol	75	0	180	15	30	0
Through Vol	0	115	110	80	0	115
RT Vol	0	20	100	25	0	115
Lane Flow Rate	84	152	438	135	34	258
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.173	0.285	0.691	0.239	0.068	0.46
Departure Headway (Hd)	7.394	6.757	5.789	6.372	7.275	6.405
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	487	534	627	565	496	566
Service Time	5.114	4.477	3.789	4.402	4.975	4.105
HCM Lane V/C Ratio	0.172	0.285	0.699	0.239	0.069	0.456
HCM Control Delay	11.7	12.2	20.7	11.4	10.5	14.4
HCM Lane LOS	B	B	C	B	B	B
HCM 95th-tile Q	0.6	1.2	5.5	0.9	0.2	2.4

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	85	10	10	65	35	15	30	10	40	50	15
Future Vol, veh/h	15	85	10	10	65	35	15	30	10	40	50	15
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	18	101	12	12	77	42	18	36	12	48	60	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.2	8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	14%	9%	38%
Vol Thru, %	55%	77%	59%	48%
Vol Right, %	18%	9%	32%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	110	110	105
LT Vol	15	15	10	40
Through Vol	30	85	65	50
RT Vol	10	10	35	15
Lane Flow Rate	65	131	131	125
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.162	0.157	0.158
Departure Headway (Hd)	4.583	4.462	4.321	4.557
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	804	830	788
Service Time	2.61	2.485	2.344	2.581
HCM Lane V/C Ratio	0.083	0.163	0.158	0.159
HCM Control Delay	8	8.4	8.2	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.6	0.6

MOVEMENT SUMMARY

Site: 101 [Mission_Kramer PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Kramer Pkwy														
3	L2	320	1.0	320	1.0	0.538	12.6	LOS B	4.2	106.2	0.70	0.78	0.74	34.5
8	T1	30	3.0	30	3.0	0.538	6.8	LOS A	4.2	106.2	0.70	0.78	0.74	34.4
18	R2	165	2.0	165	2.0	0.538	6.8	LOS A	4.2	106.2	0.70	0.78	0.74	33.4
Approach		515	1.4	515	1.4	0.538	10.4	LOS B	4.2	106.2	0.70	0.78	0.74	34.1
East: Mission Ave														
1	L2	200	2.0	200	2.0	0.598	13.6	LOS B	5.3	134.8	0.76	0.82	0.85	34.6
6	T1	320	3.0	320	3.0	0.598	7.7	LOS A	5.3	134.8	0.76	0.82	0.85	34.5
16	R2	35	3.0	35	3.0	0.598	7.8	LOS A	5.3	134.8	0.76	0.82	0.85	33.5
Approach		555	2.6	555	2.6	0.598	9.9	LOS A	5.3	134.8	0.76	0.82	0.85	34.4
North: Kramer Pkwy														
7	L2	25	3.0	25	3.0	0.134	15.8	LOS B	0.9	21.9	0.81	0.80	0.81	33.8
4	T1	45	3.0	45	3.0	0.134	9.9	LOS A	0.9	21.9	0.81	0.80	0.81	33.8
14	R2	10	3.0	10	3.0	0.134	9.9	LOS A	0.9	21.9	0.81	0.80	0.81	32.8
Approach		80	3.0	80	3.0	0.134	11.7	LOS B	0.9	21.9	0.81	0.80	0.81	33.7
West: Mission Ave														
5	L2	35	3.0	35	3.0	0.667	13.1	LOS B	6.6	169.5	0.73	0.73	0.80	35.7
2	T1	295	3.0	295	3.0	0.667	7.2	LOS A	6.6	169.5	0.73	0.73	0.80	35.7
12	R2	355	2.0	355	2.0	0.667	7.2	LOS A	6.6	169.5	0.73	0.73	0.80	34.6
Approach		685	2.5	685	2.5	0.667	7.5	LOS A	6.6	169.5	0.73	0.73	0.80	35.1
All Vehicles		1835	2.3	1835	2.3	0.667	9.2	LOS A	6.6	169.5	0.73	0.78	0.80	34.6

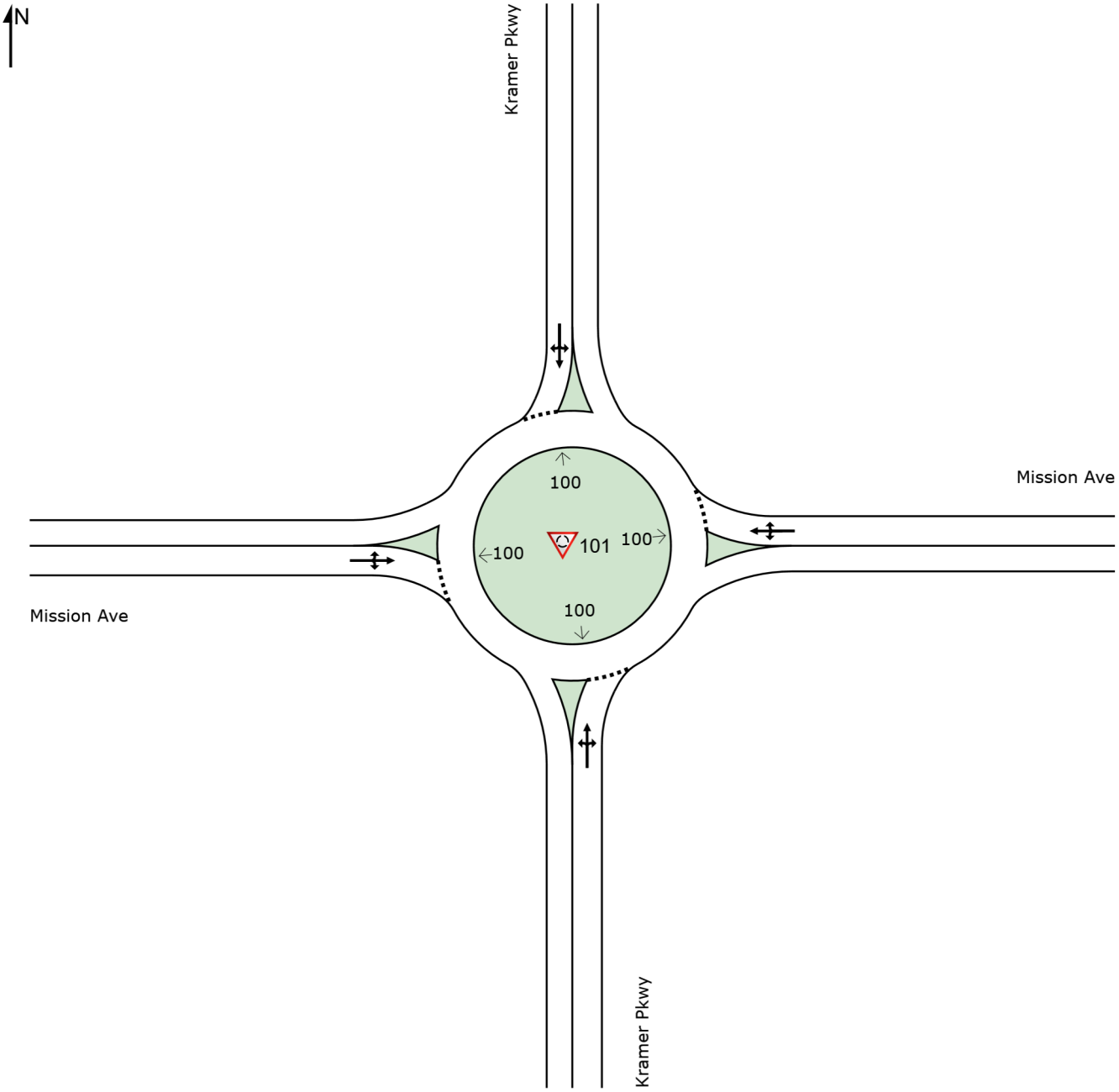
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

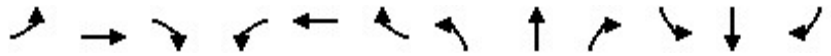
SITE LAYOUT

Site: 101 [Mission_Kramer PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	10	75	50	10	10	65	780	65	55	760	35
Future Volume (veh/h)	30	10	75	50	10	10	65	780	65	55	760	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1530	1826	1811	1900	1159	1900	1870	1900	1900	1870	1900
Adj Flow Rate, veh/h	33	11	82	55	11	11	71	857	71	60	835	38
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	25	5	6	0	50	0	2	0	0	2	0
Cap, veh/h	54	13	99	76	86	86	428	1517	126	404	1563	71
Arrive On Green	0.03	0.09	0.09	0.04	0.10	0.10	0.05	0.46	0.46	0.05	0.45	0.45
Sat Flow, veh/h	1810	156	1164	1725	872	872	1810	3322	275	1810	3461	158
Grp Volume(v), veh/h	33	0	93	55	0	22	71	458	470	60	429	444
Grp Sat Flow(s),veh/h/ln	1810	0	1320	1725	0	1743	1810	1777	1821	1810	1777	1842
Q Serve(g_s), s	0.8	0.0	3.2	1.5	0.0	0.5	0.9	8.7	8.7	0.8	8.1	8.1
Cycle Q Clear(g_c), s	0.8	0.0	3.2	1.5	0.0	0.5	0.9	8.7	8.7	0.8	8.1	8.1
Prop In Lane	1.00		0.88	1.00		0.50	1.00		0.15	1.00		0.09
Lane Grp Cap(c), veh/h	54	0	112	76	0	173	428	812	832	404	802	832
V/C Ratio(X)	0.61	0.00	0.83	0.73	0.00	0.13	0.17	0.56	0.56	0.15	0.53	0.53
Avail Cap(c_a), veh/h	235	0	500	299	0	735	922	1711	1753	555	1365	1415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.8	21.8	0.0	19.0	6.7	9.2	9.2	6.9	9.2	9.2
Incr Delay (d2), s/veh	10.6	0.0	19.0	12.5	0.0	0.5	0.2	0.9	0.9	0.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	2.7	1.4	0.0	0.4	0.5	4.9	5.0	0.4	4.5	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	39.8	34.3	0.0	19.5	6.9	10.1	10.1	7.1	10.0	9.9
LnGrp LOS	C	A	D	C	A	B	A	B	B	A	A	A
Approach Vol, veh/h		126			77			999			933	
Approach Delay, s/veh		38.0			30.1			9.8			9.8	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	25.4	5.4	9.1	6.1	25.6	6.0	8.4
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.6	35.5	6.0	19.5	6.0	44.5	8.0	17.5
Max Q Clear Time (g_c+I1), s	2.9	10.1	2.8	2.5	2.8	10.7	3.5	5.2
Green Ext Time (p_c), s	0.1	8.6	0.0	0.1	0.0	10.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

MOVEMENT SUMMARY

Site: 20 [Harvard_Wellington PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	35	0.0	39	0.0	0.324	8.7	LOS A	2.1	52.7	0.18	0.34	0.18	34.1
8	T1	715	2.0	803	2.0	0.324	2.8	LOS A	2.1	52.9	0.17	0.33	0.17	34.0
18	R2	70	0.0	79	0.0	0.324	3.4	LOS A	2.1	52.9	0.17	0.32	0.17	33.0
Approach		820	1.7	921	1.7	0.324	3.1	LOS A	2.1	52.9	0.17	0.33	0.17	33.9
East: Wellington Pkwy														
1	L2	35	8.0	39	8.0	0.093	11.3	LOS B	0.3	7.7	0.49	0.75	0.49	31.9
6	T1	10	0.0	11	0.0	0.093	5.0	LOS A	0.3	7.7	0.49	0.75	0.49	31.7
16	R2	15	0.0	17	0.0	0.093	5.4	LOS A	0.3	7.7	0.49	0.75	0.49	30.9
Approach		60	4.7	67	4.7	0.093	8.8	LOS A	0.3	7.7	0.49	0.75	0.49	31.6
North: Harvard Rd														
7	L2	10	9.0	11	9.0	0.348	9.2	LOS A	2.2	56.0	0.30	0.37	0.30	33.7
4	T1	795	2.0	893	2.0	0.348	3.2	LOS A	2.2	56.2	0.30	0.36	0.30	33.7
14	R2	20	0.0	22	0.0	0.348	3.7	LOS A	2.2	56.2	0.29	0.36	0.29	32.6
Approach		825	2.0	927	2.0	0.348	3.2	LOS A	2.2	56.2	0.30	0.36	0.30	33.6
West: Wellington Pkwy														
5	L2	10	0.0	11	0.0	0.066	12.2	LOS B	0.2	5.6	0.52	0.74	0.52	35.7
2	T1	10	0.0	11	0.0	0.066	6.2	LOS A	0.2	5.6	0.52	0.74	0.52	35.6
12	R2	20	9.0	22	9.0	0.066	6.8	LOS A	0.2	5.6	0.52	0.74	0.52	34.4
Approach		40	4.5	45	4.5	0.066	8.0	LOS A	0.2	5.6	0.52	0.74	0.52	35.0
All Vehicles		1745	2.0	1961	2.0	0.348	3.5	LOS A	2.2	56.2	0.25	0.37	0.25	33.7

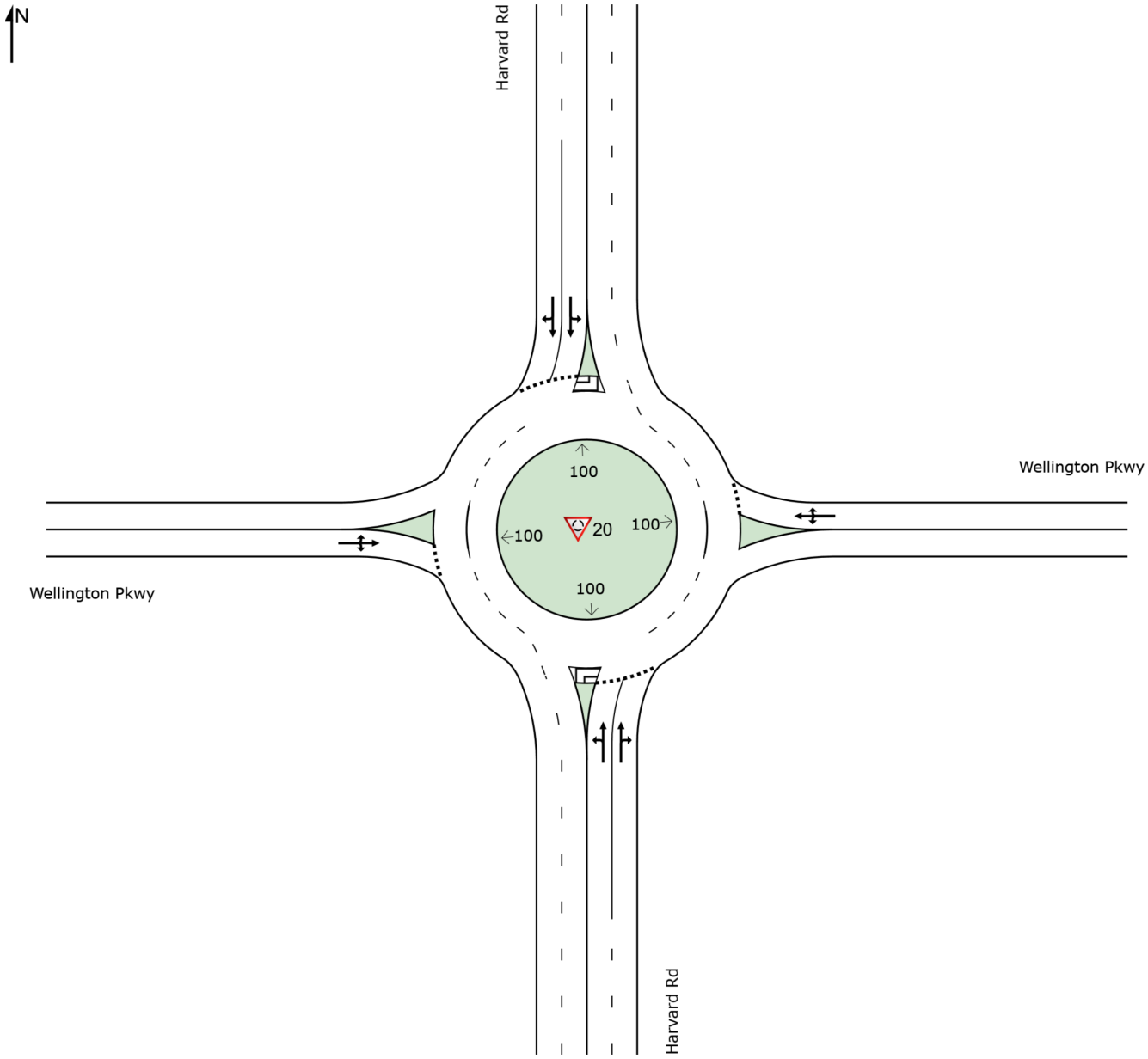
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

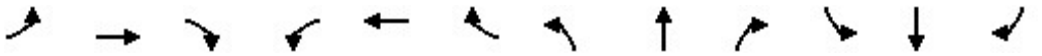
SITE LAYOUT

Site: 20 [Harvard_Wellington PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	20	35	10	15	35	715	70	10	795	20
Future Volume (veh/h)	10	10	20	35	10	15	35	715	70	10	795	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1767	1781	1900	1900	1900	1870	1900	1900	1870	1767
Adj Flow Rate, veh/h	11	11	22	39	11	17	39	803	79	11	893	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	9	8	0	0	0	2	0	0	2	9
Cap, veh/h	337	49	99	327	59	91	493	1656	163	479	1707	42
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.04	0.51	0.51	0.01	0.48	0.48
Sat Flow, veh/h	1396	564	1127	1303	671	1037	1810	3268	321	1810	3544	87
Grp Volume(v), veh/h	11	0	33	39	0	28	39	437	445	11	448	467
Grp Sat Flow(s),veh/h/ln	1396	0	1691	1303	0	1708	1810	1777	1812	1810	1777	1855
Q Serve(g_s), s	0.2	0.0	0.6	0.9	0.0	0.5	0.3	4.9	4.9	0.1	5.3	5.3
Cycle Q Clear(g_c), s	0.7	0.0	0.6	1.4	0.0	0.5	0.3	4.9	4.9	0.1	5.3	5.3
Prop In Lane	1.00		0.67	1.00		0.61	1.00		0.18	1.00		0.05
Lane Grp Cap(c), veh/h	337	0	148	327	0	150	493	900	918	479	856	893
V/C Ratio(X)	0.03	0.00	0.22	0.12	0.00	0.19	0.08	0.48	0.49	0.02	0.52	0.52
Avail Cap(c_a), veh/h	1269	0	1277	1197	0	1290	961	4492	4581	933	4434	4627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	12.9	13.6	0.0	12.9	4.1	4.9	4.9	4.2	5.5	5.5
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.2	0.0	0.6	0.1	0.4	0.4	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.4	0.4	0.0	0.3	0.1	1.5	1.6	0.0	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	13.7	13.8	0.0	13.5	4.2	5.3	5.3	4.2	6.0	6.0
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		44			67			921			926	
Approach Delay, s/veh		13.6			13.6			5.3			5.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	18.7		6.7	4.4	19.4		6.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	9.0	76.0		23.0	8.0	77.0		23.0				
Max Q Clear Time (g_c+I1), s	2.3	7.3		2.7	2.1	6.9		3.4				
Green Ext Time (p_c), s	0.0	7.3		0.1	0.0	7.0		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		6.1	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	75

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	390	25	10	490	185	15	20	15	175	40	45
Future Vol, veh/h	50	390	25	10	490	185	15	20	15	175	40	45
Conflicting Peds, #/hr	4	0	7	7	0	4	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	3	5	0	1	0	0	7	0	1	0	6
Mvmt Flow	53	415	27	11	521	197	16	21	16	186	43	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	722	0	0	449	0	0	1230	1286	436	1199	1201	625
Stage 1	-	-	-	-	-	-	542	542	-	646	646	-
Stage 2	-	-	-	-	-	-	688	744	-	553	555	-
Critical Hdwy	4.15	-	-	4.1	-	-	7.1	6.57	6.2	7.11	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.57	-	6.11	5.5	-
Follow-up Hdwy	2.245	-	-	2.2	-	-	3.5	4.063	3.3	3.509	4	3.354
Pot Cap-1 Maneuver	866	-	-	1122	-	-	156	161	625	~ 163	186	478
Stage 1	-	-	-	-	-	-	528	512	-	462	470	-
Stage 2	-	-	-	-	-	-	440	414	-	519	516	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	863	-	-	1115	-	-	107	148	621	~ 133	171	476
Mov Cap-2 Maneuver	-	-	-	-	-	-	107	148	-	~ 133	171	-
Stage 1	-	-	-	-	-	-	493	478	-	432	464	-
Stage 2	-	-	-	-	-	-	356	409	-	453	481	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	36.3	$ 412.2
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	167	863	-	-	1115	-	-	158
HCM Lane V/C Ratio	0.319	0.062	-	-	0.01	-	-	1.751
HCM Control Delay (s)	36.3	9.4	-	-	8.3	-	-	$ 412.2
HCM Lane LOS	E	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0	-	-	20

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	495	560	10	20	60
Future Vol, veh/h	10	495	560	10	20	60
Conflicting Peds, #/hr	2	0	0	2	9	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	11	532	602	11	22	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	615	0	-	0	1173	610
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	563	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	974	-	-	-	214	498
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	972	-	-	-	211	497
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	573	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	972	-	-	-	450
HCM Lane V/C Ratio	0.011	-	-	-	0.191
HCM Control Delay (s)	8.7	-	-	-	14.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Lane Configurations							
Traffic Volume (vph)	1170	60	20	825	50	55	
Future Volume (vph)	1170	60	20	825	50	55	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)		75	100		100	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00	
Frt	0.993					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	3422	0	1805	3505	1805	1615	
Flt Permitted			0.950		0.950		
Satd. Flow (perm)	3422	0	1805	3505	1805	1615	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	4					56	
Link Speed (mph)	30			30	30		
Link Distance (ft)	425			3165	712		
Travel Time (s)	9.7			71.9	16.2		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	5%	0%	0%	3%	0%	0%	
Adj. Flow (vph)	1194	61	20	842	51	56	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1255	0	20	842	51	56	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane	Yes			Yes	Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors	2		1	2	1	1	
Detector Template	Thru		Left	Thru	Left	Right	
Leading Detector (ft)	100		20	100	20	20	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	6		20	6	20	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94			94			
Detector 2 Size(ft)	6			6			
Detector 2 Type	Cl+Ex			Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)	0.0			0.0			
Turn Type	NA		Prot	NA	Prot	Perm	
Protected Phases	2		1	6	8		14



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø14
Permitted Phases						8	
Detector Phase	2		1	6	8	8	
Switch Phase							
Minimum Initial (s)	7.0		4.0	4.0	7.0	7.0	4.0
Minimum Split (s)	26.5		9.5	36.5	21.5	21.5	25.0
Total Split (s)	40.0		30.0	70.0	30.0	30.0	25.0
Total Split (%)	32.0%		24.0%	56.0%	24.0%	24.0%	20%
Maximum Green (s)	34.5		24.5	64.5	26.0	26.0	21.0
Yellow Time (s)	4.5		4.5	4.5	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5		5.5	5.5	4.0	4.0	
Lead/Lag	Lag		Lead				
Lead-Lag Optimize?	Yes		Yes				
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None	Ped
Walk Time (s)							6.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							4
Act Effct Green (s)	35.0		5.5	39.3	7.7	7.7	
Actuated g/C Ratio	0.44		0.07	0.50	0.10	0.10	
v/c Ratio	0.83		0.16	0.49	0.29	0.27	
Control Delay	27.8		41.0	14.8	40.9	14.6	
Queue Delay	0.0		0.0	0.0	0.0	0.0	
Total Delay	27.8		41.0	14.8	40.9	14.6	
LOS	C		D	B	D	B	
Approach Delay	27.8			15.4	27.1		
Approach LOS	C			B	C		
Queue Length 50th (ft)	256		9	143	23	0	
Queue Length 95th (ft)	#515		33	201	63	35	
Internal Link Dist (ft)	345			3085	632		
Turn Bay Length (ft)			100		100		
Base Capacity (vph)	1513		566	2894	600	574	
Starvation Cap Reductn	0		0	0	0	0	
Spillback Cap Reductn	0		0	0	0	0	
Storage Cap Reductn	0		0	0	0	0	
Reduced v/c Ratio	0.83		0.04	0.29	0.09	0.10	

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 79.3			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 23: Ridgeline HS & Country Vista Dr



Appendix H

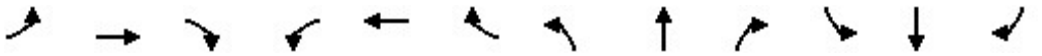
Long-Term Mitigated Analysis Results (2046)

Intersection 2:

N Kramer Pkwy / E Country Vista Dr

HCM 6th Signalized Intersection Summary
2: N Kramer Pkwy & Country Vista Dr

09/17/2025



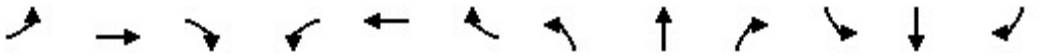
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	730	40	125	795	205	140	110	205	160	75	200
Future Volume (veh/h)	90	730	40	125	795	205	140	110	205	160	75	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1900	1870	1841	1900	1900	1856	1885	1856	1856	1870
Adj Flow Rate, veh/h	117	948	52	162	1032	266	182	143	266	208	97	260
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	7	0	2	4	0	0	3	1	3	3	2
Cap, veh/h	193	1330	73	284	1156	296	301	156	290	260	122	326
Arrive On Green	0.06	0.40	0.40	0.07	0.42	0.42	0.09	0.27	0.27	0.09	0.27	0.27
Sat Flow, veh/h	1767	3290	180	1781	2755	707	1810	581	1080	1767	446	1195
Grp Volume(v), veh/h	117	492	508	162	653	645	182	0	409	208	0	357
Grp Sat Flow(s),veh/h/ln	1767	1706	1764	1781	1749	1714	1810	0	1661	1767	0	1640
Q Serve(g_s), s	4.3	26.8	26.8	5.8	38.5	38.9	8.0	0.0	26.6	9.5	0.0	22.5
Cycle Q Clear(g_c), s	4.3	26.8	26.8	5.8	38.5	38.9	8.0	0.0	26.6	9.5	0.0	22.5
Prop In Lane	1.00		0.10	1.00		0.41	1.00		0.65	1.00		0.73
Lane Grp Cap(c), veh/h	193	690	713	284	734	719	301	0	445	260	0	447
V/C Ratio(X)	0.61	0.71	0.71	0.57	0.89	0.90	0.61	0.00	0.92	0.80	0.00	0.80
Avail Cap(c_a), veh/h	261	745	770	325	763	748	309	0	486	260	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	27.7	27.7	21.4	29.9	30.0	28.1	0.0	39.5	29.4	0.0	37.6
Incr Delay (d2), s/veh	4.3	3.3	3.2	2.6	12.7	13.7	3.9	0.0	22.2	17.0	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	16.9	17.3	4.6	25.3	25.3	6.7	0.0	19.4	8.9	0.0	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	31.1	31.0	23.9	42.6	43.7	32.0	0.0	61.7	46.3	0.0	46.9
LnGrp LOS	C	C	C	C	D	D	C	A	E	D	A	D
Approach Vol, veh/h		1117			1460			591			565	
Approach Delay, s/veh		30.9			41.0			52.5			46.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	49.4	14.5	34.8	10.7	51.1	15.0	34.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	48.5	10.5	32.5	10.5	48.5	10.5	32.5
Max Q Clear Time (g_c+I1), s	7.8	28.8	10.0	24.5	6.3	40.9	11.5	28.6
Green Ext Time (p_c), s	0.2	9.0	0.0	1.8	0.1	5.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
2: N Kramer Pkwy & Country Vista Dr

09/17/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	995	70	305	760	260	60	100	220	315	175	110
Future Volume (veh/h)	155	995	70	305	760	260	60	100	220	315	175	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1885	1870	1885	1900	1856	1870	1870	1900	1900
Adj Flow Rate, veh/h	160	1026	72	314	784	268	62	103	227	325	180	113
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	1	0	1	2	1	0	3	2	2	0	0
Cap, veh/h	285	1193	84	341	1065	364	335	113	250	332	346	218
Arrive On Green	0.08	0.35	0.35	0.13	0.41	0.41	0.04	0.22	0.22	0.14	0.32	0.32
Sat Flow, veh/h	1810	3395	238	1795	2599	888	1810	515	1136	1781	1091	685
Grp Volume(v), veh/h	160	541	557	314	536	516	62	0	330	325	0	293
Grp Sat Flow(s),veh/h/ln	1810	1791	1842	1795	1777	1710	1810	0	1651	1781	0	1777
Q Serve(g_s), s	6.3	31.9	31.9	13.2	29.0	29.0	3.0	0.0	22.2	15.5	0.0	15.3
Cycle Q Clear(g_c), s	6.3	31.9	31.9	13.2	29.0	29.0	3.0	0.0	22.2	15.5	0.0	15.3
Prop In Lane	1.00		0.13	1.00		0.52	1.00		0.69	1.00		0.39
Lane Grp Cap(c), veh/h	285	629	647	341	728	701	335	0	363	332	0	564
V/C Ratio(X)	0.56	0.86	0.86	0.92	0.74	0.74	0.19	0.00	0.91	0.98	0.00	0.52
Avail Cap(c_a), veh/h	394	685	705	345	728	701	512	0	399	332	0	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	34.3	34.3	27.8	28.3	28.4	32.5	0.0	43.3	30.8	0.0	31.7
Incr Delay (d2), s/veh	2.5	10.6	10.4	29.6	4.2	4.4	0.4	0.0	23.9	43.4	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	22.0	22.5	13.0	18.8	18.3	2.4	0.0	16.9	16.1	0.0	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	44.9	44.7	57.4	32.6	32.7	32.8	0.0	67.2	74.2	0.0	32.9
LnGrp LOS	C	D	D	E	C	C	C	A	E	E	A	C
Approach Vol, veh/h		1258			1366			392			618	
Approach Delay, s/veh		42.4			38.3			61.7			54.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	44.5	8.9	40.6	13.1	51.1	20.0	29.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	43.5	15.5	27.5	15.5	43.5	15.5	27.5
Max Q Clear Time (g_c+I1), s	15.2	33.9	5.0	17.3	8.3	31.0	17.5	24.2
Green Ext Time (p_c), s	0.0	6.0	0.1	1.6	0.4	7.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Intersection 4:

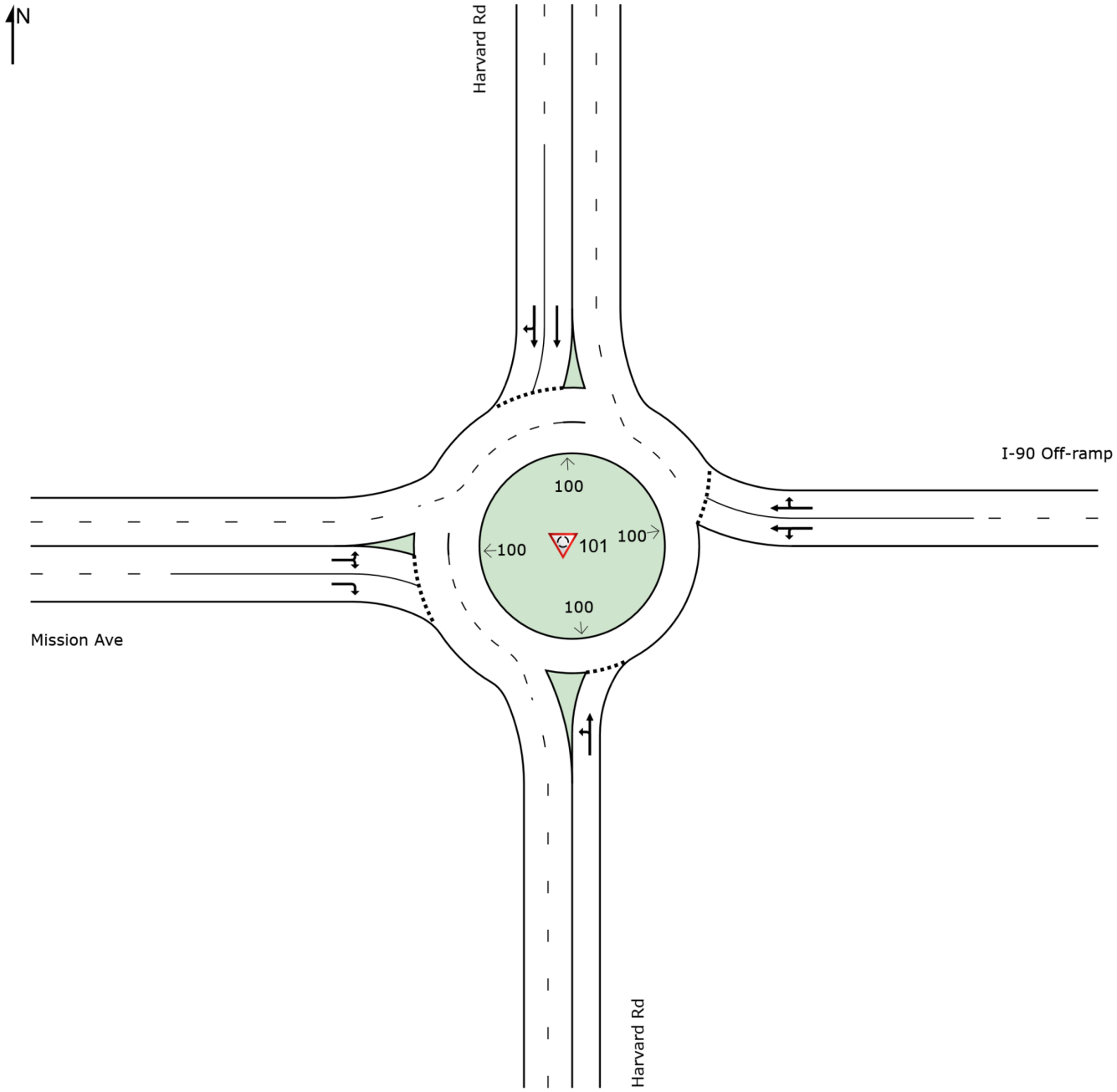
E Mission Ave / N Harvard Rd

SITE LAYOUT

Site: 101 [Mit Mission_Harvard AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mit Mission_Harvard AM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Harvard Rd														
3	L2	270	5.0	270	5.0	0.428	10.4	LOS B	3.1	79.8	0.37	0.56	0.37	35.4
8	T1	275	3.0	275	3.0	0.428	4.5	LOS A	3.1	79.8	0.37	0.56	0.37	35.4
Approach		545	4.0	545	4.0	0.428	7.4	LOS A	3.1	79.8	0.37	0.56	0.37	35.4
East: I-90 Off-ramp														
1	L2	200	2.0	200	2.0	0.244	12.6	LOS B	1.6	40.9	0.68	0.75	0.68	34.1
6	T1	175	4.0	175	4.0	0.244	7.1	LOS A	1.6	40.9	0.68	0.74	0.68	35.0
16	R2	85	4.0	85	4.0	0.227	7.8	LOS A	1.3	34.3	0.68	0.73	0.68	34.5
Approach		460	3.1	460	3.1	0.244	9.6	LOS A	1.6	40.9	0.68	0.74	0.68	34.5
North: Harvard Rd														
4	T1	645	3.0	645	3.0	0.456	6.2	LOS A	2.6	66.3	0.63	0.68	0.67	36.2
14	R2	200	5.0	200	5.0	0.456	6.6	LOS A	2.6	66.3	0.63	0.71	0.67	34.9
Approach		845	3.5	845	3.5	0.456	6.3	LOS A	2.6	66.3	0.63	0.69	0.67	35.9
West: Mission Ave														
5	L2	105	4.0	105	4.0	0.421	12.4	LOS B	2.2	58.0	0.66	0.85	0.71	35.4
12	R2	350	4.0	350	4.0	0.421	6.8	LOS A	2.2	58.0	0.65	0.83	0.69	34.3
Approach		455	4.0	455	4.0	0.421	8.1	LOS A	2.2	58.0	0.65	0.84	0.69	34.6
All Vehicles		2305	3.6	2305	3.6	0.456	7.6	LOS A	3.1	79.8	0.58	0.70	0.61	35.2

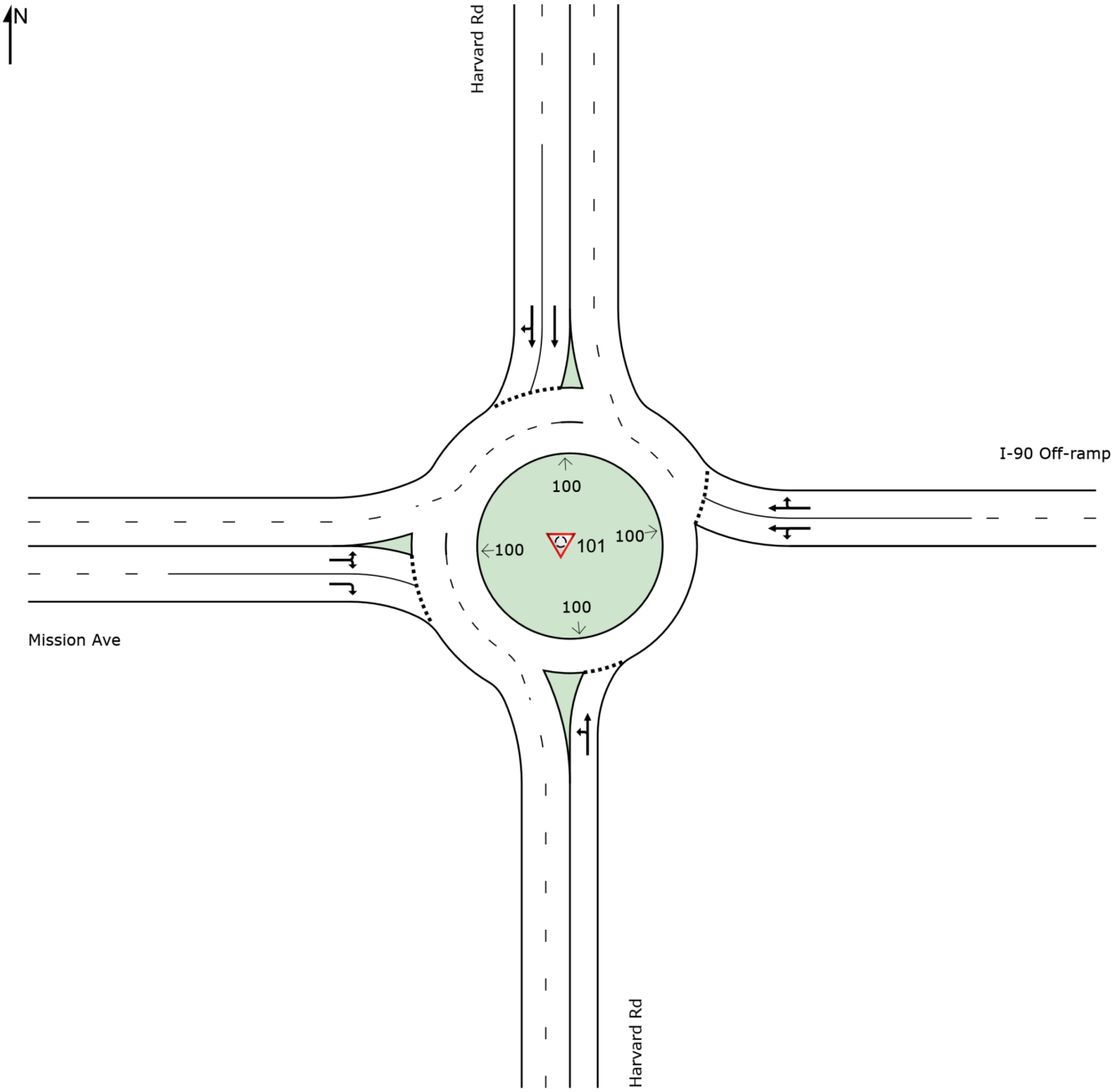
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mit Mission_Harvard PM 2046 (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Intersection 6:

Liberty Lake Road / Appleway Ave

HCM 6th Signalized Intersection Summary
6: Appleway Ave & Liberty Lake Rd

09/03/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	650	275	190	30	575	135	500	200	300	345	115
Future Volume (veh/h)	165	650	275	190	30	575	135	500	200	300	345	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1826	1707	1470	1811	1811	1856	1811	1856	1870	1781
Adj Flow Rate, veh/h	183	722	306	211	33	639	150	556	222	333	383	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	5	5	13	29	6	6	3	6	3	2	8
Cap, veh/h	225	1093	487	293	411	1114	191	850	370	456	894	
Arrive On Green	0.13	0.31	0.31	0.09	0.28	0.28	0.11	0.24	0.24	0.13	0.25	0.00
Sat Flow, veh/h	1753	3469	1547	3155	1470	2701	1725	3526	1535	3428	3554	1510
Grp Volume(v), veh/h	183	722	306	211	33	639	150	556	222	333	383	0
Grp Sat Flow(s),veh/h/ln	1753	1735	1547	1577	1470	1351	1725	1763	1535	1714	1777	1510
Q Serve(g_s), s	8.4	14.9	14.0	5.4	1.4	15.0	7.0	11.7	10.6	7.7	7.5	0.0
Cycle Q Clear(g_c), s	8.4	14.9	14.0	5.4	1.4	15.0	7.0	11.7	10.6	7.7	7.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	1093	487	293	411	1114	191	850	370	456	894	
V/C Ratio(X)	0.81	0.66	0.63	0.72	0.08	0.57	0.79	0.65	0.60	0.73	0.43	
Avail Cap(c_a), veh/h	488	1679	749	534	552	1373	417	1408	613	830	1376	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.0	24.5	24.2	36.4	21.9	18.7	35.8	28.2	27.8	34.4	25.9	0.0
Incr Delay (d2), s/veh	6.9	1.0	1.9	3.3	0.1	0.5	9.7	1.2	2.2	3.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.1	10.0	8.9	3.9	0.8	8.0	6.1	8.6	7.2	6.0	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	25.5	26.1	39.7	22.0	19.2	45.5	29.5	30.0	37.6	26.3	0.0
LnGrp LOS	D	C	C	D	C	B	D	C	C	D	C	
Approach Vol, veh/h		1211			883			928			716	
Approach Delay, s/veh		28.1			24.2			32.2			31.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	24.9	11.7	31.0	14.1	25.8	14.6	28.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	20.0	33.0	14.0	40.0	20.0	32.0	23.0	31.0
Max Q Clear Time (g_c+I1), s	9.7	13.7	7.4	16.9	9.0	9.5	10.4	17.0
Green Ext Time (p_c), s	1.3	6.2	0.4	9.1	0.4	2.5	0.4	2.6

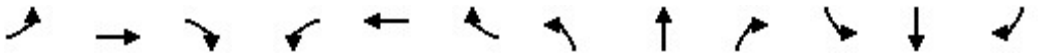
Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Appleway Ave & Liberty Lake Rd

09/03/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	430	370	340	55	815	200	780	300	345	525	130
Future Volume (veh/h)	180	430	370	340	55	815	200	780	300	345	525	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1856	1900	1870	1885	1885	1870	1885	1885	1885
Adj Flow Rate, veh/h	196	467	402	370	60	886	217	848	326	375	571	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	3	0	2	1	1	2	1	1	1
Cap, veh/h	229	1023	456	440	545	1164	255	1044	462	454	970	
Arrive On Green	0.13	0.29	0.29	0.13	0.29	0.29	0.14	0.29	0.29	0.13	0.27	0.00
Sat Flow, veh/h	1767	3554	1585	3428	1900	2790	1795	3582	1585	3483	3582	1598
Grp Volume(v), veh/h	196	467	402	370	60	886	217	848	326	375	571	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1585	1714	1900	1395	1795	1791	1585	1742	1791	1598
Q Serve(g_s), s	12.1	12.0	26.9	11.7	2.6	30.1	13.1	24.4	20.4	11.7	15.4	0.0
Cycle Q Clear(g_c), s	12.1	12.0	26.9	11.7	2.6	30.1	13.1	24.4	20.4	11.7	15.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	1023	456	440	545	1164	255	1044	462	454	970	
V/C Ratio(X)	0.86	0.46	0.88	0.84	0.11	0.76	0.85	0.81	0.71	0.83	0.59	
Avail Cap(c_a), veh/h	366	1119	499	555	545	1164	404	1160	513	564	970	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.4	32.4	37.8	47.3	29.2	27.7	46.6	36.5	35.1	47.1	35.1	0.0
Incr Delay (d2), s/veh	11.0	0.5	16.4	9.1	0.1	3.0	12.4	4.4	4.5	9.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	8.9	18.1	9.4	2.2	15.6	10.9	16.7	13.1	9.5	11.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	32.9	54.1	56.4	29.3	30.7	58.9	41.0	39.6	56.2	36.1	0.0
LnGrp LOS	E	C	D	E	C	C	E	D	D	E	D	
Approach Vol, veh/h		1065			1316			1391			946	
Approach Delay, s/veh		45.6			37.8			43.5			44.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	37.4	18.3	37.0	20.8	35.1	18.4	36.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	18.0	36.0	18.0	35.0	25.0	28.0	23.0	30.0
Max Q Clear Time (g_c+I1), s	13.7	26.4	13.7	28.9	15.1	17.4	14.1	32.1
Green Ext Time (p_c), s	0.8	6.0	0.6	3.1	0.7	2.8	0.3	0.0

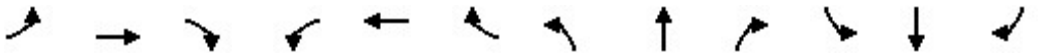
Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection 7:

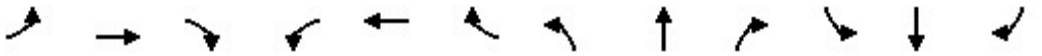
N Liberty Lake Rd / E Country Vista Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	390	515	105	25	545	145	195	195	25	140	110	455
Future Volume (veh/h)	390	515	105	25	545	145	195	195	25	140	110	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1796	1811	1856	1841	1841	1870	1900	1856	1826	1826
Adj Flow Rate, veh/h	433	572	117	28	606	161	217	217	28	156	122	506
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	3	7	6	3	4	4	2	0	3	5	5
Cap, veh/h	516	1137	232	291	714	189	459	1024	131	529	544	698
Arrive On Green	0.15	0.39	0.39	0.02	0.26	0.26	0.11	0.32	0.32	0.08	0.30	0.30
Sat Flow, veh/h	3374	2916	595	1725	2756	731	1753	3170	404	1767	1826	1547
Grp Volume(v), veh/h	433	345	344	28	387	380	217	120	125	156	122	506
Grp Sat Flow(s),veh/h/ln	1687	1763	1748	1725	1763	1724	1753	1777	1798	1767	1826	1547
Q Serve(g_s), s	11.6	13.8	13.8	1.1	19.3	19.4	7.7	4.6	4.7	5.6	4.7	24.7
Cycle Q Clear(g_c), s	11.6	13.8	13.8	1.1	19.3	19.4	7.7	4.6	4.7	5.6	4.7	24.7
Prop In Lane	1.00		0.34	1.00		0.42	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	516	687	682	291	456	446	459	574	581	529	544	698
V/C Ratio(X)	0.84	0.50	0.50	0.10	0.85	0.85	0.47	0.21	0.21	0.30	0.22	0.73
Avail Cap(c_a), veh/h	801	923	915	365	618	605	575	623	630	690	640	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	21.4	21.5	24.4	32.6	32.6	18.7	22.8	22.8	19.6	24.5	20.8
Incr Delay (d2), s/veh	2.7	0.2	0.2	0.1	6.3	6.6	0.3	0.1	0.1	0.1	0.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	9.4	9.4	0.8	13.7	13.5	5.5	3.4	3.5	4.0	3.6	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	21.7	21.7	24.4	38.9	39.2	19.0	22.8	22.9	19.7	24.5	23.1
LnGrp LOS	D	C	C	C	D	D	B	C	C	B	C	C
Approach Vol, veh/h		1122			795			462			784	
Approach Delay, s/veh		29.1			38.6			21.0			22.7	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	34.4	6.1	40.6	13.9	32.1	18.2	28.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	16.0	32.5	6.0	48.5	16.0	32.5	22.0	32.5
Max Q Clear Time (g_c+I1), s	7.6	6.7	3.1	15.8	9.7	26.7	13.6	21.4
Green Ext Time (p_c), s	0.1	0.9	0.0	3.0	0.2	0.9	0.6	2.6

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	685	730	225	50	685	160	145	180	25	265	200	535
Future Volume (veh/h)	685	730	225	50	685	160	145	180	25	265	200	535
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1900	1870	1870	1885	1856	1900	1856	1885	1870
Adj Flow Rate, veh/h	729	777	239	53	729	170	154	191	27	282	213	569
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	2	0	2	2	1	3	0	3	1	2
Cap, veh/h	779	1231	378	254	756	176	343	703	98	505	526	797
Arrive On Green	0.22	0.46	0.46	0.03	0.26	0.26	0.08	0.23	0.23	0.14	0.28	0.28
Sat Flow, veh/h	3483	2697	830	1810	2860	667	1795	3107	433	1767	1885	1585
Grp Volume(v), veh/h	729	516	500	53	453	446	154	107	111	282	213	569
Grp Sat Flow(s),veh/h/ln	1742	1791	1736	1810	1777	1750	1795	1763	1778	1767	1885	1585
Q Serve(g_s), s	23.3	24.9	24.9	2.4	28.5	28.5	7.3	5.7	5.8	13.3	10.4	31.5
Cycle Q Clear(g_c), s	23.3	24.9	24.9	2.4	28.5	28.5	7.3	5.7	5.8	13.3	10.4	31.5
Prop In Lane	1.00		0.48	1.00		0.38	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	779	817	792	254	469	462	343	399	402	505	526	797
V/C Ratio(X)	0.94	0.63	0.63	0.21	0.96	0.97	0.45	0.27	0.28	0.56	0.40	0.71
Avail Cap(c_a), veh/h	785	817	792	293	469	462	448	492	496	515	526	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	23.5	23.5	29.0	41.1	41.1	29.7	36.1	36.1	26.3	33.2	21.8
Incr Delay (d2), s/veh	18.0	1.2	1.2	0.1	32.3	32.7	0.3	0.1	0.1	0.8	0.2	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.5	15.9	15.5	1.9	23.2	22.9	5.8	4.4	4.6	9.6	8.4	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	24.7	24.8	29.1	73.4	73.8	30.0	36.2	36.3	27.0	33.3	24.4
LnGrp LOS	E	C	C	C	E	E	C	D	D	C	C	C
Approach Vol, veh/h		1745			952			372			1064	
Approach Delay, s/veh		39.9			71.1			33.7			26.9	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	30.1	7.6	56.1	13.4	36.1	29.3	34.4
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	16.0	31.6	6.0	49.4	16.0	31.6	25.5	29.9
Max Q Clear Time (g_c+I1), s	15.3	7.8	4.4	26.9	9.3	33.5	25.3	30.5
Green Ext Time (p_c), s	0.0	0.8	0.0	4.7	0.1	0.0	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Intersection 14:

N Country Vista Blvd / E Appleway Ave



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	555	80	50	590	170	100
Future Volume (veh/h)	555	80	50	590	170	100
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1811	1781	1811	1781	1856	1841
Adj Flow Rate, veh/h	597	86	54	634	183	108
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	8	6	8	3	4
Cap, veh/h	829	690	413	1089	306	270
Arrive On Green	0.46	0.46	0.05	0.61	0.17	0.17
Sat Flow, veh/h	1811	1508	1725	1781	1767	1560
Grp Volume(v), veh/h	597	86	54	634	183	108
Grp Sat Flow(s),veh/h/ln	1811	1508	1725	1781	1767	1560
Q Serve(g_s), s	9.9	1.2	0.5	8.0	3.5	2.3
Cycle Q Clear(g_c), s	9.9	1.2	0.5	8.0	3.5	2.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	829	690	413	1089	306	270
V/C Ratio(X)	0.72	0.12	0.13	0.58	0.60	0.40
Avail Cap(c_a), veh/h	3515	2927	613	3938	1429	1262
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.1	5.8	5.8	4.3	14.2	13.6
Incr Delay (d2), s/veh	1.2	0.1	0.1	0.5	1.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	0.5	0.2	2.3	2.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.3	5.9	5.9	4.8	16.0	14.6
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h	683			688	291	
Approach Delay, s/veh	8.9			4.9	15.5	
Approach LOS	A			A	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		10.4	5.7	21.0		26.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		30.0	6.0	72.0		82.0
Max Q Clear Time (g_c+I1), s		5.5	2.5	11.9		10.0
Green Ext Time (p_c), s		0.9	0.0	5.1		5.2

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
14: N. Country Vista Blvd & Appleway Ave

09/04/2025



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1095	170	95	550	125	95
Future Volume (veh/h)	1095	170	95	550	125	95
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1900	1826	1885	1870
Adj Flow Rate, veh/h	1190	185	103	598	136	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	5	1	2
Cap, veh/h	1340	1132	249	1470	183	162
Arrive On Green	0.72	0.72	0.04	0.81	0.10	0.10
Sat Flow, veh/h	1870	1581	1810	1826	1795	1585
Grp Volume(v), veh/h	1190	185	103	598	136	103
Grp Sat Flow(s),veh/h/ln	1870	1581	1810	1826	1795	1585
Q Serve(g_s), s	42.8	3.2	1.1	8.2	6.3	5.4
Cycle Q Clear(g_c), s	42.8	3.2	1.1	8.2	6.3	5.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1340	1132	249	1470	183	162
V/C Ratio(X)	0.89	0.16	0.41	0.41	0.74	0.64
Avail Cap(c_a), veh/h	1844	1558	298	2012	354	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	3.9	17.8	2.4	37.6	37.2
Incr Delay (d2), s/veh	4.4	0.1	1.1	0.2	5.8	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.6	1.5	2.5	3.0	5.5	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.9	4.0	18.9	2.6	43.4	41.3
LnGrp LOS	B	A	B	A	D	D
Approach Vol, veh/h	1375			701	239	
Approach Delay, s/veh	12.6			5.0	42.5	
Approach LOS	B			A	D	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		12.8	7.7	65.8		73.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		17.0	6.0	85.0		95.0
Max Q Clear Time (g_c+I1), s		8.3	3.1	44.8		10.2
Green Ext Time (p_c), s		0.5	0.1	17.0		4.8

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

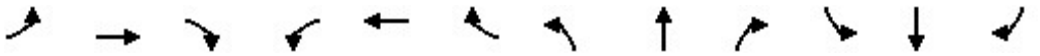
User approved pedestrian interval to be less than phase max green.

Intersection 21:

E Mission Ave/N Signal Dr

HCM 6th Signalized Intersection Summary
21: Signal Dr & Mission Ave

09/03/2025



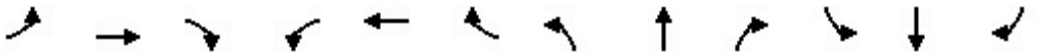
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	370	15	10	350	215	25	55	15	125	15	15
Future Volume (veh/h)	35	370	15	10	350	215	25	55	15	125	15	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1870	1900	1900	1856	1885	1900	1900	1900	1796	1900	1737
Adj Flow Rate, veh/h	38	402	16	11	380	234	27	60	16	136	16	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	2	0	0	3	1	0	0	0	7	0	11
Cap, veh/h	427	913	36	602	548	337	529	320	85	478	193	193
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	768	1786	71	981	1072	660	1393	1444	385	1266	869	869
Grp Volume(v), veh/h	38	0	418	11	0	614	27	0	76	136	0	32
Grp Sat Flow(s),veh/h/ln	768	0	1857	981	0	1731	1393	0	1829	1266	0	1739
Q Serve(g_s), s	1.2	0.0	4.3	0.2	0.0	8.1	0.5	0.0	1.0	2.9	0.0	0.4
Cycle Q Clear(g_c), s	9.2	0.0	4.3	4.5	0.0	8.1	0.9	0.0	1.0	3.9	0.0	0.4
Prop In Lane	1.00		0.04	1.00		0.38	1.00		0.21	1.00		0.50
Lane Grp Cap(c), veh/h	427	0	950	602	0	885	529	0	406	478	0	386
V/C Ratio(X)	0.09	0.00	0.44	0.02	0.00	0.69	0.05	0.00	0.19	0.28	0.00	0.08
Avail Cap(c_a), veh/h	1468	0	3468	1932	0	3234	1428	0	1586	1295	0	1508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	4.6	6.0	0.0	5.5	9.6	0.0	9.5	11.1	0.0	9.2
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	1.0	0.0	0.0	0.2	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.7	0.0	0.0	1.4	0.1	0.0	0.3	0.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	0.0	4.9	6.0	0.0	6.5	9.6	0.0	9.7	11.4	0.0	9.3
LnGrp LOS	A	A	A	A	A	A	A	A	A	B	A	A
Approach Vol, veh/h		456			625			103			168	
Approach Delay, s/veh		5.3			6.5			9.7			11.0	
Approach LOS		A			A			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.7		19.3		10.7		19.3				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		56.0		26.0		56.0				
Max Q Clear Time (g_c+I1), s		5.9		11.2		3.0		10.1				
Green Ext Time (p_c), s		0.5		3.3		0.4		5.2				

Intersection Summary												
HCM 6th Ctrl Delay			6.9									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
21: Signal Dr & Mission Ave

09/03/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	390	25	10	490	185	15	20	15	175	40	45
Future Volume (veh/h)	50	390	25	10	490	185	15	20	15	175	40	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1826	1900	1885	1900	1900	1796	1900	1885	1900	1811
Adj Flow Rate, veh/h	53	415	27	11	521	197	16	21	16	186	43	48
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	3	5	0	1	0	0	7	0	1	0	6
Cap, veh/h	377	938	61	589	709	268	449	215	164	494	186	208
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	715	1722	112	960	1301	492	1324	945	720	1379	819	914
Grp Volume(v), veh/h	53	0	442	11	0	718	16	0	37	186	0	91
Grp Sat Flow(s),veh/h/ln	715	0	1835	960	0	1793	1324	0	1665	1379	0	1733
Q Serve(g_s), s	2.1	0.0	5.1	0.2	0.0	10.7	0.4	0.0	0.6	4.3	0.0	1.5
Cycle Q Clear(g_c), s	12.8	0.0	5.1	5.3	0.0	10.7	1.9	0.0	0.6	4.9	0.0	1.5
Prop In Lane	1.00		0.06	1.00		0.27	1.00		0.43	1.00		0.53
Lane Grp Cap(c), veh/h	377	0	1000	589	0	977	449	0	379	494	0	395
V/C Ratio(X)	0.14	0.00	0.44	0.02	0.00	0.74	0.04	0.00	0.10	0.38	0.00	0.23
Avail Cap(c_a), veh/h	1126	0	2921	1594	0	2855	1127	0	1231	1200	0	1281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	4.8	6.4	0.0	6.1	11.8	0.0	10.7	12.7	0.0	11.1
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.0	0.0	1.1	0.0	0.0	0.1	0.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.0	0.0	0.0	2.2	0.1	0.0	0.2	1.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	5.1	6.4	0.0	7.2	11.9	0.0	10.8	13.2	0.0	11.4
LnGrp LOS	B	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		495			729			53			277	
Approach Delay, s/veh		5.8			7.2			11.1			12.6	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.0		23.2		12.0		23.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		56.0		26.0		56.0				
Max Q Clear Time (g_c+I1), s		6.9		14.8		3.9		12.7				
Green Ext Time (p_c), s		1.0		3.7		0.2		6.5				

Intersection Summary												
HCM 6th Ctrl Delay			7.8									
HCM 6th LOS			A									

MOVEMENT SUMMARY

Site: 101 [Mission_Signal AM 2046 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Signal Dr														
3	L2	25	0.0	27	0.0	0.122	8.3	LOS A	0.6	16.2	0.61	0.56	0.61	25.1
8	T1	55	0.0	60	0.0	0.122	3.1	LOS A	0.6	16.2	0.61	0.56	0.61	24.6
18	R2	15	0.0	16	0.0	0.122	4.0	LOS A	0.6	16.2	0.61	0.56	0.61	24.0
Approach		95	0.0	103	0.0	0.122	4.6	LOS A	0.6	16.2	0.61	0.56	0.61	24.7
East: Mission Ave														
1	L2	10	0.0	11	0.0	0.534	8.1	LOS A	4.1	104.2	0.45	0.38	0.45	29.9
6	T1	350	3.0	380	3.0	0.534	2.5	LOS A	4.1	104.2	0.45	0.38	0.45	29.4
16	R2	215	1.0	234	1.0	0.534	3.1	LOS A	4.1	104.2	0.45	0.38	0.45	28.6
Approach		575	2.2	625	2.2	0.534	2.8	LOS A	4.1	104.2	0.45	0.38	0.45	29.1
North: Signal Dr														
7	L2	125	7.0	136	7.0	0.192	12.1	LOS B	1.0	26.5	0.55	0.73	0.55	34.1
4	T1	15	0.0	16	0.0	0.192	5.9	LOS A	1.0	26.5	0.55	0.73	0.55	34.2
14	R2	15	11.0	16	11.0	0.192	6.4	LOS A	1.0	26.5	0.55	0.73	0.55	33.0
Approach		155	6.7	168	6.7	0.192	11.0	LOS B	1.0	26.5	0.55	0.73	0.55	34.0
West: Mission Ave														
5	L2	35	8.0	38	8.0	0.407	8.4	LOS A	2.7	67.7	0.45	0.37	0.45	29.7
2	T1	370	2.0	402	2.0	0.407	2.6	LOS A	2.7	67.7	0.45	0.37	0.45	29.3
12	R2	15	0.0	16	0.0	0.407	3.1	LOS A	2.7	67.7	0.45	0.37	0.45	28.5
Approach		420	2.4	457	2.4	0.407	3.1	LOS A	2.7	67.7	0.45	0.37	0.45	29.3
All Vehicles		1245	2.7	1353	2.7	0.534	4.1	LOS A	4.1	104.2	0.47	0.43	0.47	29.3

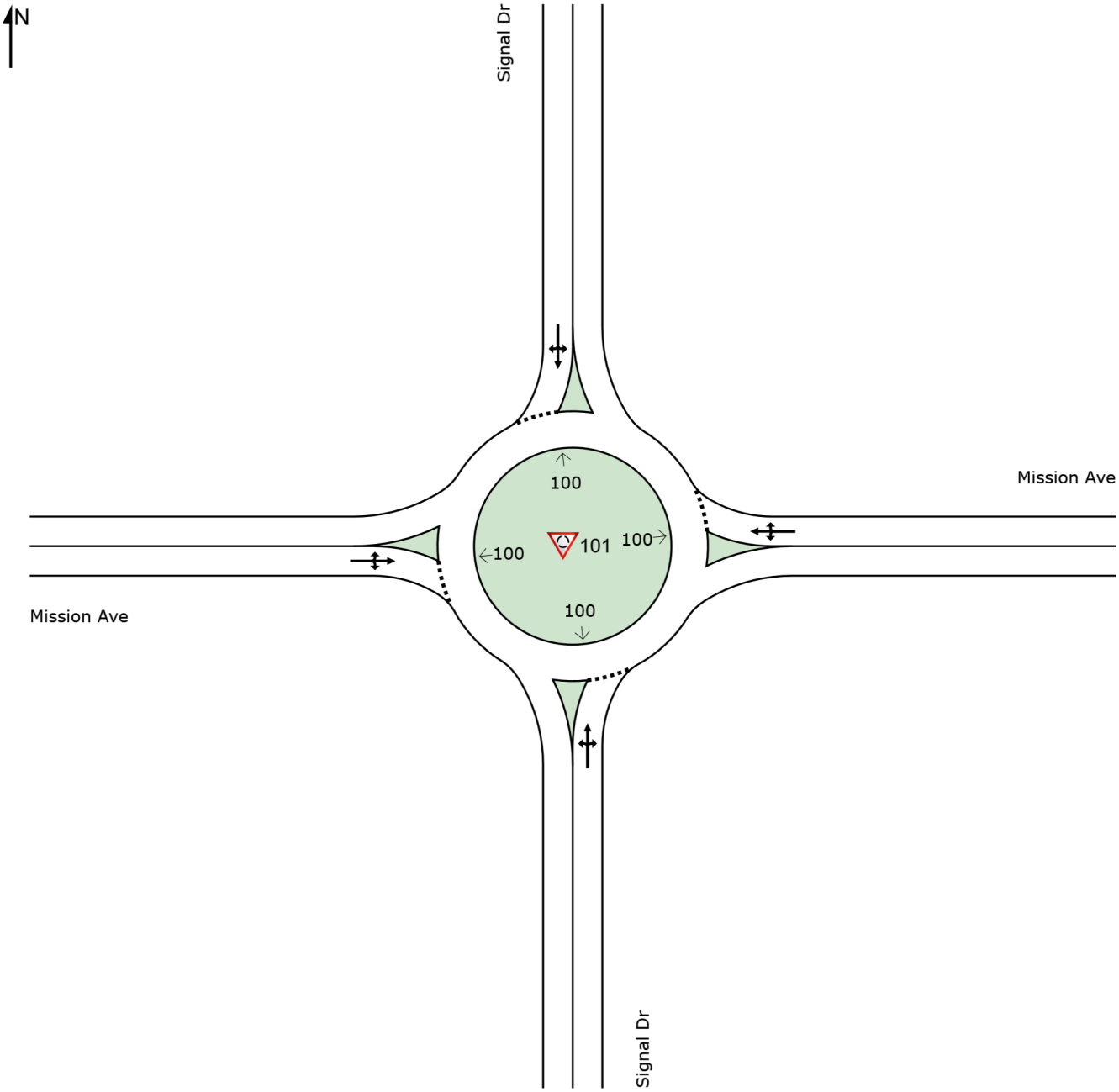
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Signal AM 2046 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Mission_Signal PM 2046 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Signal Dr														
3	L2	15	0.0	16	0.0	0.068	8.6	LOS A	0.4	9.2	0.64	0.59	0.64	25.0
8	T1	20	0.0	21	0.0	0.068	3.4	LOS A	0.4	9.2	0.64	0.59	0.64	24.5
18	R2	15	0.0	16	0.0	0.068	4.4	LOS A	0.4	9.2	0.64	0.59	0.64	23.9
Approach		50	0.0	53	0.0	0.068	5.3	LOS A	0.4	9.2	0.64	0.59	0.64	24.5
East: Mission Ave														
1	L2	10	0.0	11	0.0	0.604	7.9	LOS A	5.2	133.3	0.43	0.34	0.43	29.9
6	T1	490	3.0	521	3.0	0.604	2.4	LOS A	5.2	133.3	0.43	0.34	0.43	29.5
16	R2	185	0.0	197	0.0	0.604	2.9	LOS A	5.2	133.3	0.43	0.34	0.43	28.7
Approach		685	2.1	729	2.1	0.604	2.6	LOS A	5.2	133.3	0.43	0.34	0.43	29.3
North: Signal Dr														
7	L2	175	0.0	186	0.0	0.323	13.0	LOS B	1.9	48.6	0.67	0.79	0.67	34.2
4	T1	40	0.0	43	0.0	0.323	7.0	LOS A	1.9	48.6	0.67	0.79	0.67	34.1
14	R2	45	0.0	48	0.0	0.323	7.1	LOS A	1.9	48.6	0.67	0.79	0.67	33.2
Approach		260	0.0	277	0.0	0.323	11.0	LOS B	1.9	48.6	0.67	0.79	0.67	34.0
West: Mission Ave														
5	L2	50	5.0	53	5.0	0.474	8.8	LOS A	3.3	85.6	0.56	0.45	0.56	29.4
2	T1	390	3.0	415	3.0	0.474	3.1	LOS A	3.3	85.6	0.56	0.45	0.56	29.0
12	R2	25	5.0	27	5.0	0.474	3.8	LOS A	3.3	85.6	0.56	0.45	0.56	28.2
Approach		465	3.3	495	3.3	0.474	3.8	LOS A	3.3	85.6	0.56	0.45	0.56	29.0
All Vehicles		1460	2.1	1553	2.1	0.604	4.6	LOS A	5.2	133.3	0.52	0.46	0.52	29.7

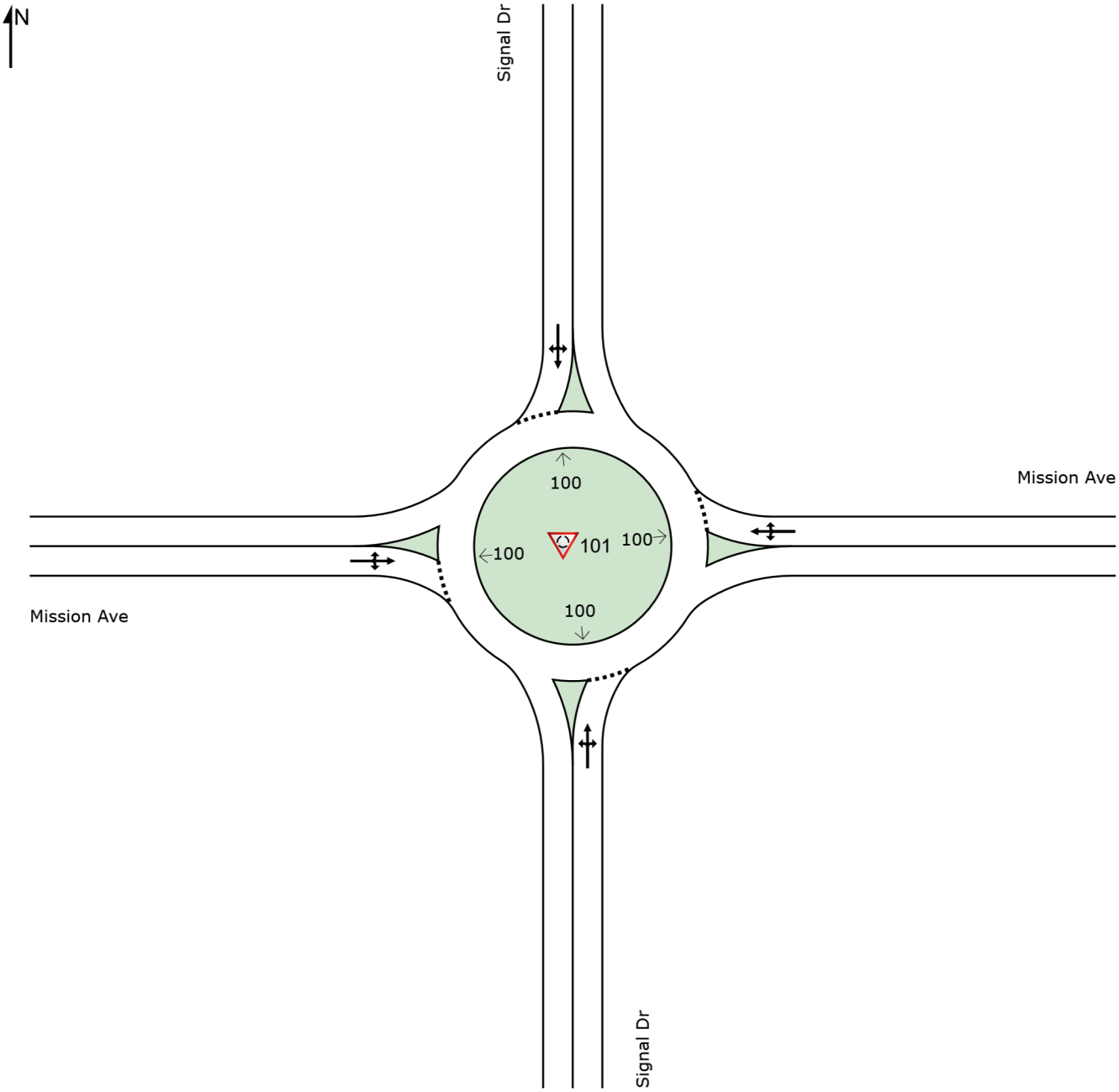
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Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Mission_Signal PM 2046 Mit (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Appendix I

Cost Estimates

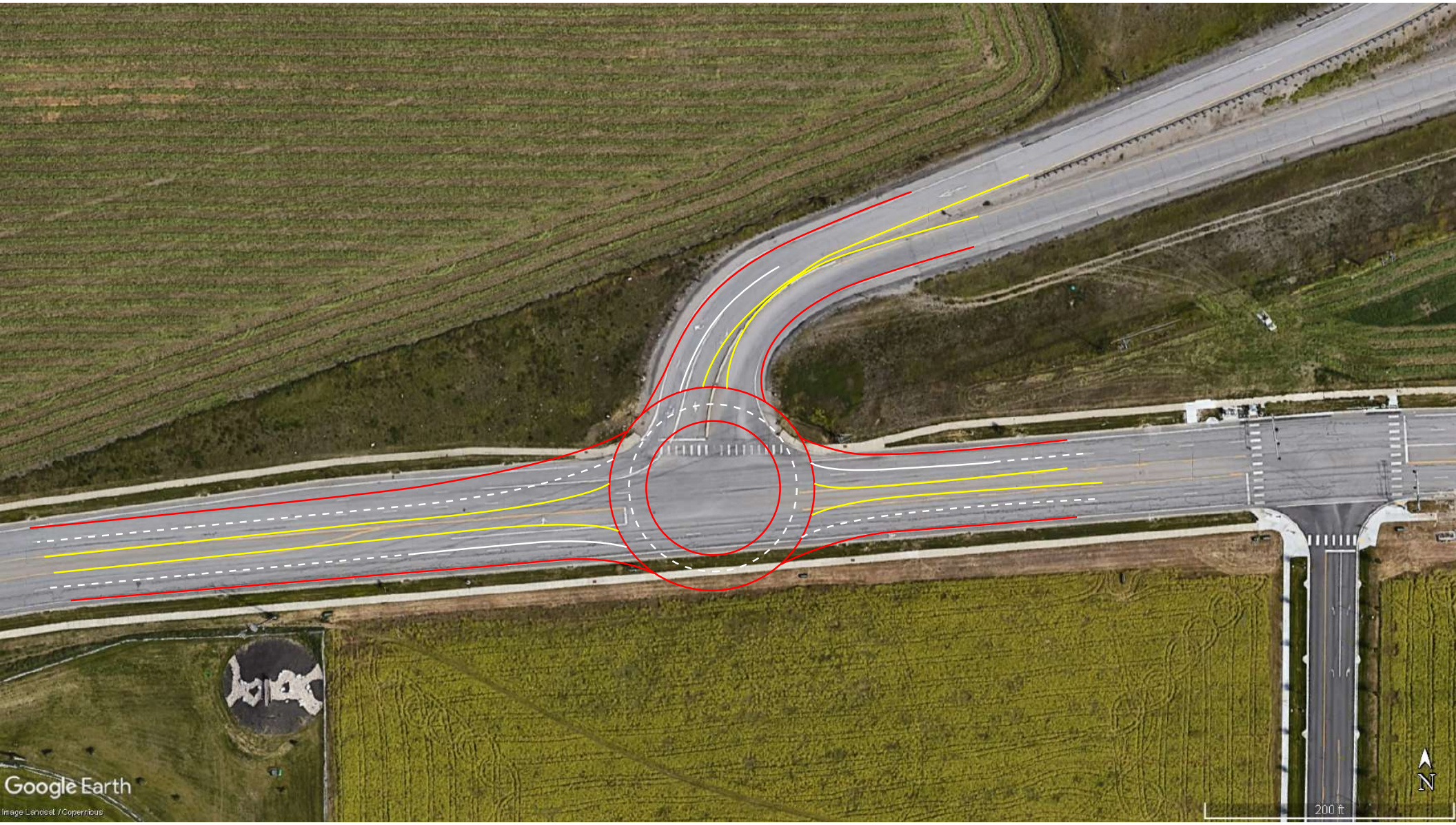
Time Frame	#	Intersection	Alternative	*Cost Estimate	*Rounded Cost Estimate
Short-Term (2028)	1	I-90 WB Off Ramp / E Country Vista Dr	Roundabout	$ 2,862,373	$ 2,863,000
			Signal	$ 1,179,549	$ 1,180,000
	6	N Liberty Lake Rd / Appleway Ave	WBR Overlap Phase	$ 12,000	$ 12,000
	7	N Liberty Lake Rd / E Country Vista Dr	Dual EBL Turn Lanes	$ 931,221	$ 932,000
	8	E Mission Ave / E Country Vista Dr	Restrict SBL Turns	$ 6,000	$ 6,000
	20	E Mission Ave / N Signal Dr	Roundabout	$ 2,445,186	$ 2,446,000
			Signal	$ 1,401,905	$ 1,402,000
	21	20 N Harvard Rd / E Wellington Pkwy	Roundabout	$ 2,101,073	$ 2,102,000
			Signal	$ 1,560,236	$ 1,561,000
Long-Term (2046)	2	N Kramer Pkwy / E Country Vista Dr	Signal Timing Updates	$ 12,000	$ 12,000
	4	E Mission Ave / N Harvard Rd	Expand Roundabout	$ 2,057,590	$ 2,058,000
	6	N Liberty Lake Rd / Appleway Ave	Dual SBL and Dual WBL Turn Lanes	$ 1,157,230	$ 1,158,000
	7	N Liberty Lake Rd / E Country Vista Dr	Separate SBR Turn Lane and SBR Overlap Phase	$ 303,512	$ 304,000
	14	N Country Vista Blvd / E Appleway Ave	Signal	$ 1,192,247	$ 1,193,000
	21	20 N Harvard Rd / E Wellington Pkwy	Roundabout	$ 2,101,073	$ 2,102,000
			Signal	$ 1,560,236	$ 1,561,000

*Cost Estimates in 2025 Dollars

Intersection 1:

I-90 WB Off Ramp / E Country Vista Dr

Short-Term (2028)


Google Earth
Image Landsat / Copernicus
200 ft
N

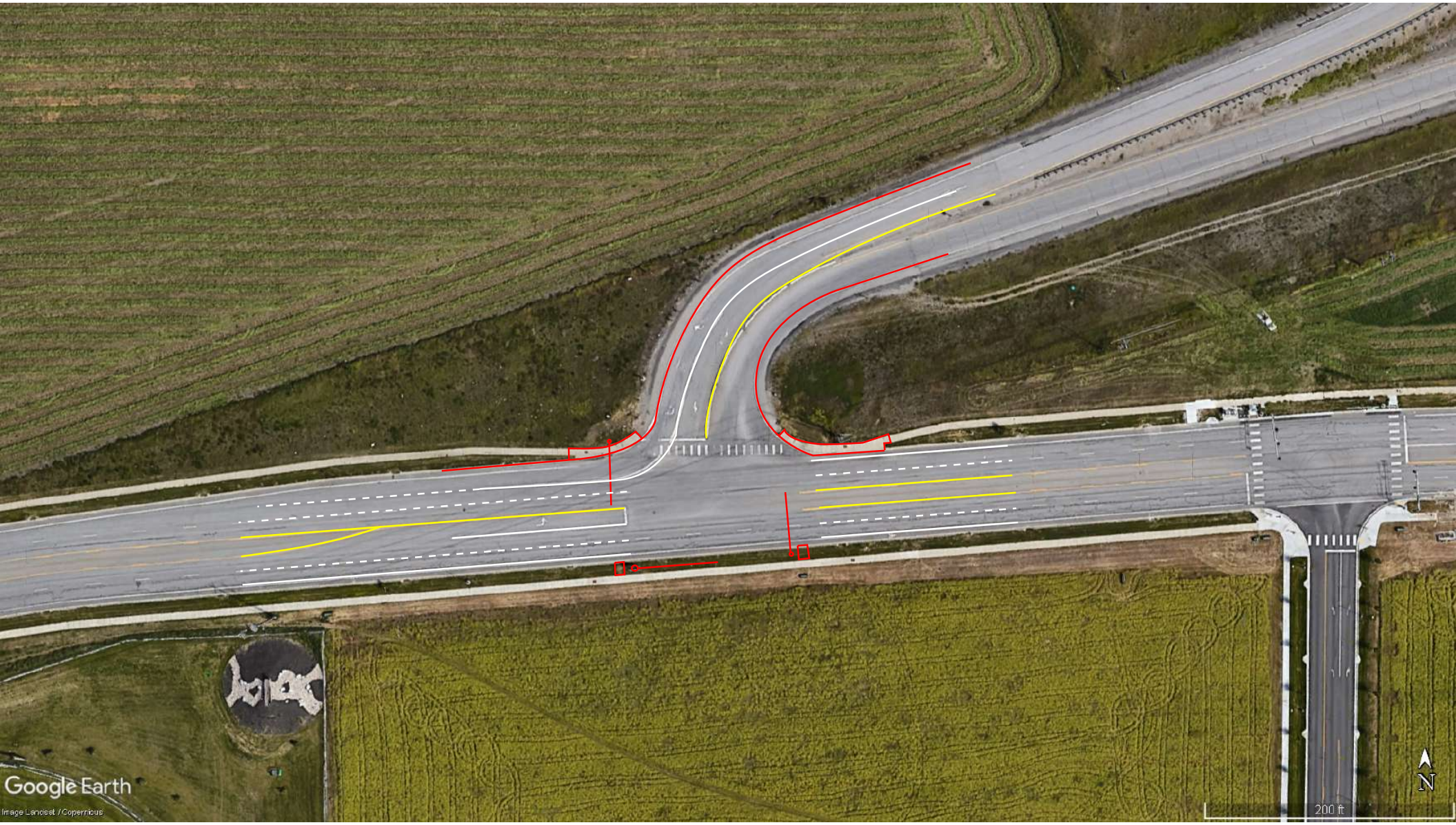
CITY OF LIBERTY LAKE
I-90 RAMP AND APPLEWAY AVE - ROUNDABOUT
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$140,000.00	$140,000.00
102	CONSTRUCTION SURVEYING	LS	1	$35,000.00	$35,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$50,000.00	$50,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$100,000.00	$100,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	EA	1	$10,000.00	$10,000.00
110	SAWCUT CEMENT CONCRETE CURB	EA	2	$35.00	$70.00
111	REMOVE CEMENT CONC. CURB	LF	2,000	$10.00	$20,000.00
112	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	1,000	$30.00	$30,000.00
113	SAWCUT ASPHALT PAVEMENT	LF	225	$5.00	$1,125.00
114	ROADWAY EXCAVATION INCLUDING HAUL	CY	3,500	$40.00	$140,000.00
115	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
116	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
117	CRUSHED SURFACING TOP COURSE	CY	4,000	$50.00	$200,000.00
118	ROUNDABOUT SPLITTER ISLAND NOSING CURB	EA	3	$5,000.00	$15,000.00
119	ROUNDABOUT CONCRETE TRUCK ARPON	SY	2,000	$100.00	$200,000.00
120	HMA CL. 3/8" PG 64H-28	TN	2,750	$115.00	$316,250.00
121	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
122	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
123	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
124	DRYWELL TYPE A	EA	4	$5,000.00	$20,000.00
125	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	3	$1,000.00	$3,000.00
126	CEMENT CONC. CURB AND GUTTER	LF	2,400	$55.00	$132,000.00
127	CEMENT CONC. SIDEWALK	SY	1,400	$75.00	$105,000.00
128	DETECTABLE WARNING SURFACE	SF	120	$50.00	$6,000.00
129	ESC LEAD	LS	1	$3,000.00	$3,000.00
130	WATTLE	LF	2,150	$10.00	$21,500.00
131	INLET PROTECTION	EA	6	$150.00	$900.00
132	STREET CLEANING	HR	48	$200.00	$9,600.00
133	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	1,750	$30.00	$52,500.00
134	CONSTRUCT BIO-INFILTRATION SWALE	SY	1,750	$10.00	$17,500.00
135	CURB DROP INLET	EA	12	$220.00	$2,640.00
136	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
137	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
138	PLASTIC TRAFFIC ARROW	EA	14	$500.00	$7,000.00
139	PAINT LINE	LF	6,500	$2.00	$13,000.00
140	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
141	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$1,762,138.00
Contingency (20%)	$352,427.60
Construction Total	**$2,114,565.60**
Design (12%)	$253,747.87
City Project Management (8%)	$169,165.25
Construction Management (13%)	$274,893.53
Design & Management Total	**$697,806.65**
R/W Acquisition	**$50,000.00**
TOTAL	**$2,862,373.00**


Google Earth
Image Landsat / Copernicus
200 ft
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CITY OF LIBERTY LAKE
I-90 RAMP AND APPLEWAY - SIGNALIZE
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$55,000.00	$55,000.00
102	CONSTRUCTION SURVEYING	LS	1	$13,000.00	$13,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$30,000.00	$30,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$55,000.00	$55,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	SAWCUT CEMENT CONCRETE CURB	EA	6	$35.00	$210.00
110	REMOVE CEMENT CONC. CURB	LF	250	$10.00	$2,500.00
111	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	150	$30.00	$4,500.00
112	SAWCUT ASPHALT PAVEMENT	LF	225	$5.00	$1,125.00
113	ROADWAY EXCAVATION INCLUDING HAUL	CY	50	$40.00	$2,000.00
114	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
115	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
116	CRUSHED SURFACING TOP COURSE	CY	50	$80.00	$4,000.00
117	HMA CL. 3/8" PG 64H-28	TN	25	$140.00	$3,500.00
118	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
119	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
120	CEMENT CONC. CURB AND GUTTER	LF	200	$75.00	$15,000.00
121	CEMENT CONC. SIDEWALK	SY	150	$95.00	$14,250.00
122	DETECTABLE WARNING SURFACE	SF	48	$50.00	$2,400.00
123	ESC LEAD	LS	1	$3,000.00	$3,000.00
124	WATTLE	LF	200	$10.00	$2,000.00
125	INLET PROTECTION	EA	4	$150.00	$600.00
126	STREET CLEANING	HR	48	$200.00	$9,600.00
127	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
128	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
129	PLASTIC TRAFFIC ARROW	EA	8	$500.00	$4,000.00
130	PAINT LINE	LF	5,000	$2.00	$10,000.00
131	TRAFFIC SIGNAL SYSTEM	LS	1	$365,000.00	$365,000.00
132	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
133	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$707,737.00
Contingency (20%)	$141,547.40
Construction Total	**$849,284.40**
Design (12%)	$101,914.13
City Project Management (8%)	$67,942.75
Construction Management (13%)	$110,406.97
Design & Management Total	**$280,263.85**
R/W Acquisition	**$50,000.00**
TOTAL	**$1,179,549.00**

Intersection 6:

Liberty Lake Road / Appleway Ave

Short-Term (2028)

CITY OF LIBERTY LAKE
N LIBERTY LAKE RD / APPLEWAY AVE WBR - OVERLAP PHASE
ENGINEER'S CONCEPTUAL ESTIMATE
BY PARAMETRIX
Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	TRAFFIC SIGNAL MODIFICATIONS	LS	1	$10,000.00	$10,000.00

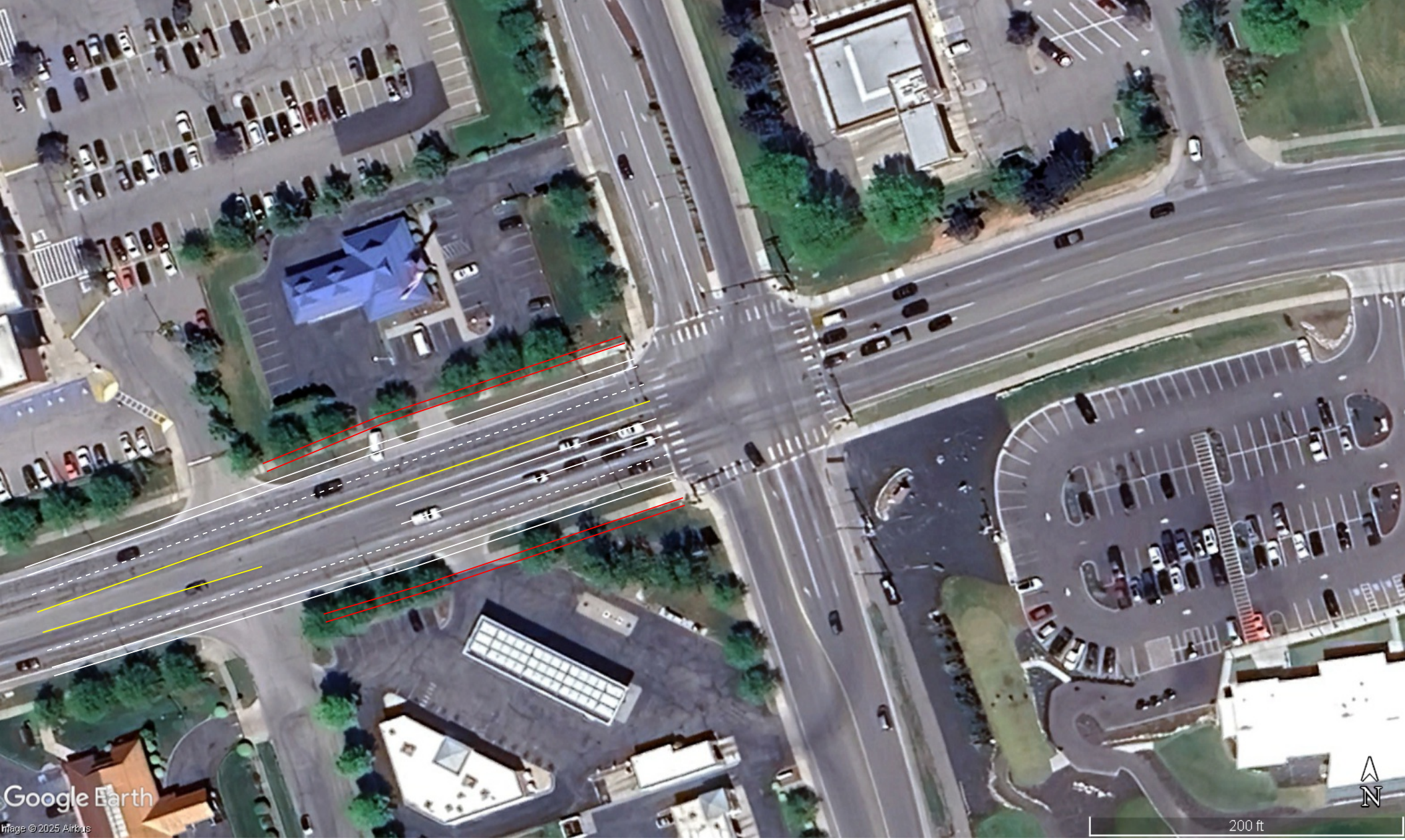
Construction Subtotal	$10,000.00
Contingency (20%)	$2,000.00
Construction Total	**$12,000.00**

TOTAL **$12,000.00**

Intersection 7:

N Liberty Lake Rd / E Country Vista Dr

Short-Term (2028)


Google Earth
Image © 2025 Airbus
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CITY OF LIBERTY LAKE
N LIBERTY LAKE RD / E COUNTRY VISTA DR - DUAL EASTBOUND LEFT TURN LANES
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$45,000.00	$45,000.00
102	CONSTRUCTION SURVEYING	LS	1	$10,000.00	$10,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$25,000.00	$25,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$45,000.00	$45,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	SAWCUT CEMENT CONCRETE CURB	EA	6	$35.00	$210.00
110	REMOVE CEMENT CONC. CURB	LF	1,000	$10.00	$10,000.00
111	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	550	$30.00	$16,500.00
112	SAWCUT ASPHALT PAVEMENT	LF	500	$5.00	$2,500.00
113	ROADWAY EXCAVATION INCLUDING HAUL	CY	200	$40.00	$8,000.00
114	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
115	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
116	CRUSHED SURFACING TOP COURSE	CY	200	$75.00	$15,000.00
117	HMA CL. 3/8" PG 64H-28	TN	150	$140.00	$21,000.00
118	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
119	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
120	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
121	DRYWELL TYPE A	EA	2	$5,000.00	$10,000.00
122	CEMENT CONC. CURB WALL	LF	250	$100.00	$25,000.00
123	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	4	$1,000.00	$4,000.00
124	CEMENT CONC. CURB AND GUTTER	LF	1,100	$55.00	$60,500.00
125	CEMENT CONC. DRIVEWAY	SY	250	$105.00	$26,250.00
126	CEMENT CONC. SIDEWALK	SY	300	$85.00	$25,500.00
127	DETECTABLE WARNING SURFACE	SF	40	$75.00	$3,000.00
128	ESC LEAD	LS	1	$3,000.00	$3,000.00
129	WATTLE	LF	100	$10.00	$1,000.00
130	INLET PROTECTION	EA	6	$150.00	$900.00
131	STREET CLEANING	HR	48	$200.00	$9,600.00
132	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	700	$25.00	$17,500.00
133	CONSTRUCT BIO-INFILTRATION SWALE	SY	700	$10.00	$7,000.00
134	CURB DROP INLET	EA	8	$220.00	$1,760.00
135	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
136	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
137	PLASTIC TRAFFIC ARROW	EA	4	$500.00	$2,000.00
138	GROOVED PLASTIC LINE	LF	350	$7.00	$2,450.00
139	PAINT LINE	LF	1,500	$2.00	$3,000.00
140	FLEXIBLE GUIDE POST	EA	6	$70.00	$420.00
141	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
142	TRAFFIC SIGNAL MODIFICATIONS	LS	1	$40,000.00	$40,000.00
143	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$552,143.00
Contingency (20%)	$110,428.60
Construction Total	**$662,571.60**
Design (12%)	$79,508.59
City Project Management (8%)	$53,005.73
Construction Management (13%)	$86,134.31
Design & Management Total	**$218,648.63**
R/W Acquisition	**$50,000.00**
TOTAL	**$931,221.00**

Intersection 8:

E Mission Ave / E Country Vista Dr

Short-Term (2028)

CITY OF LIBERTY LAKE
E MISSION AVE / E COUNTRY VISTA DR - SIGNING
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00

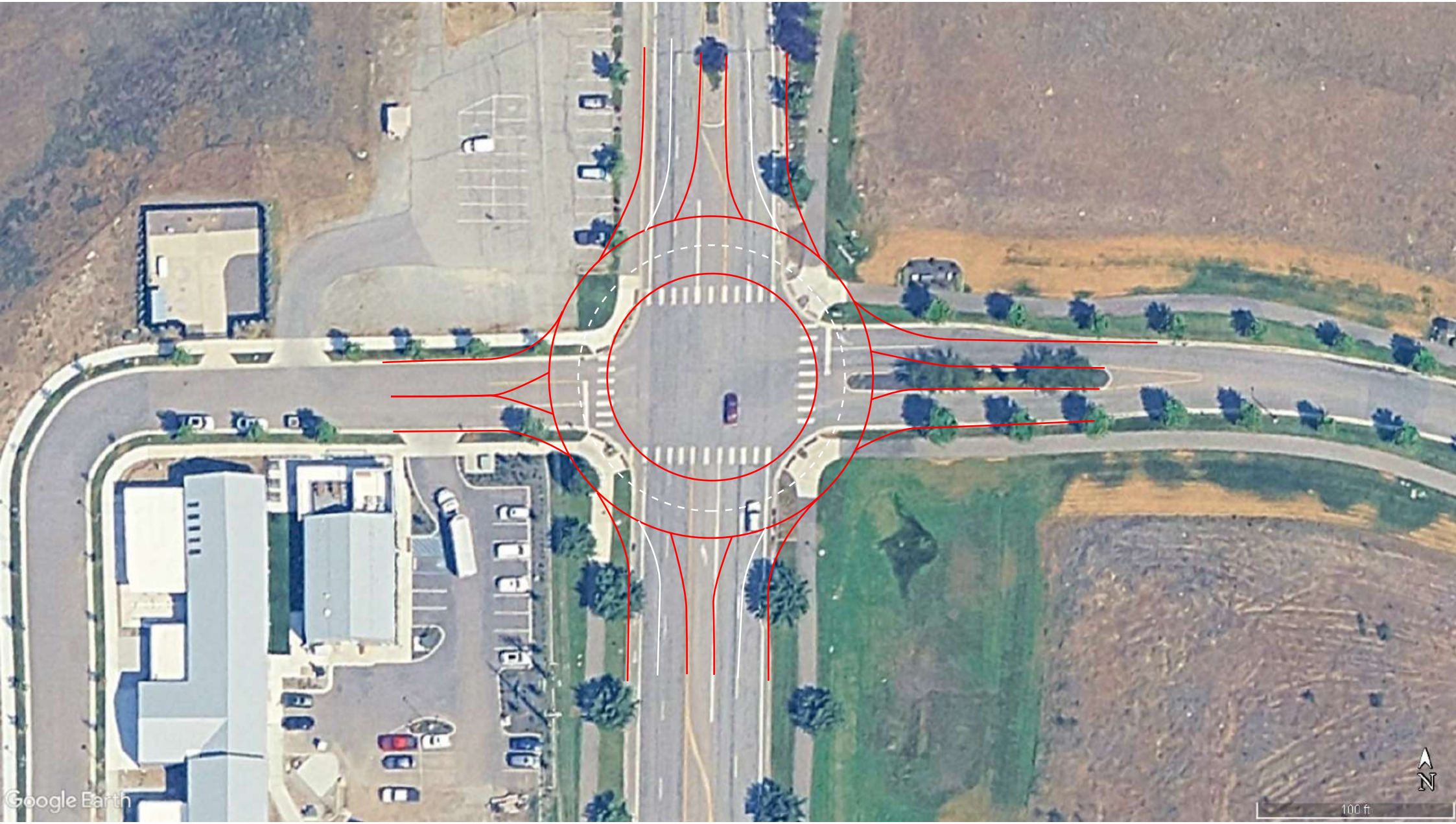
Construction Subtotal	$5,000.00
Contingency (20%)	$1,000.00
Construction Total	**$6,000.00**

TOTAL **$6,000.00**

Intersection 20:

N Harvard Rd/E Wellington Pkwy

Short-Term (2028)


Google Earth
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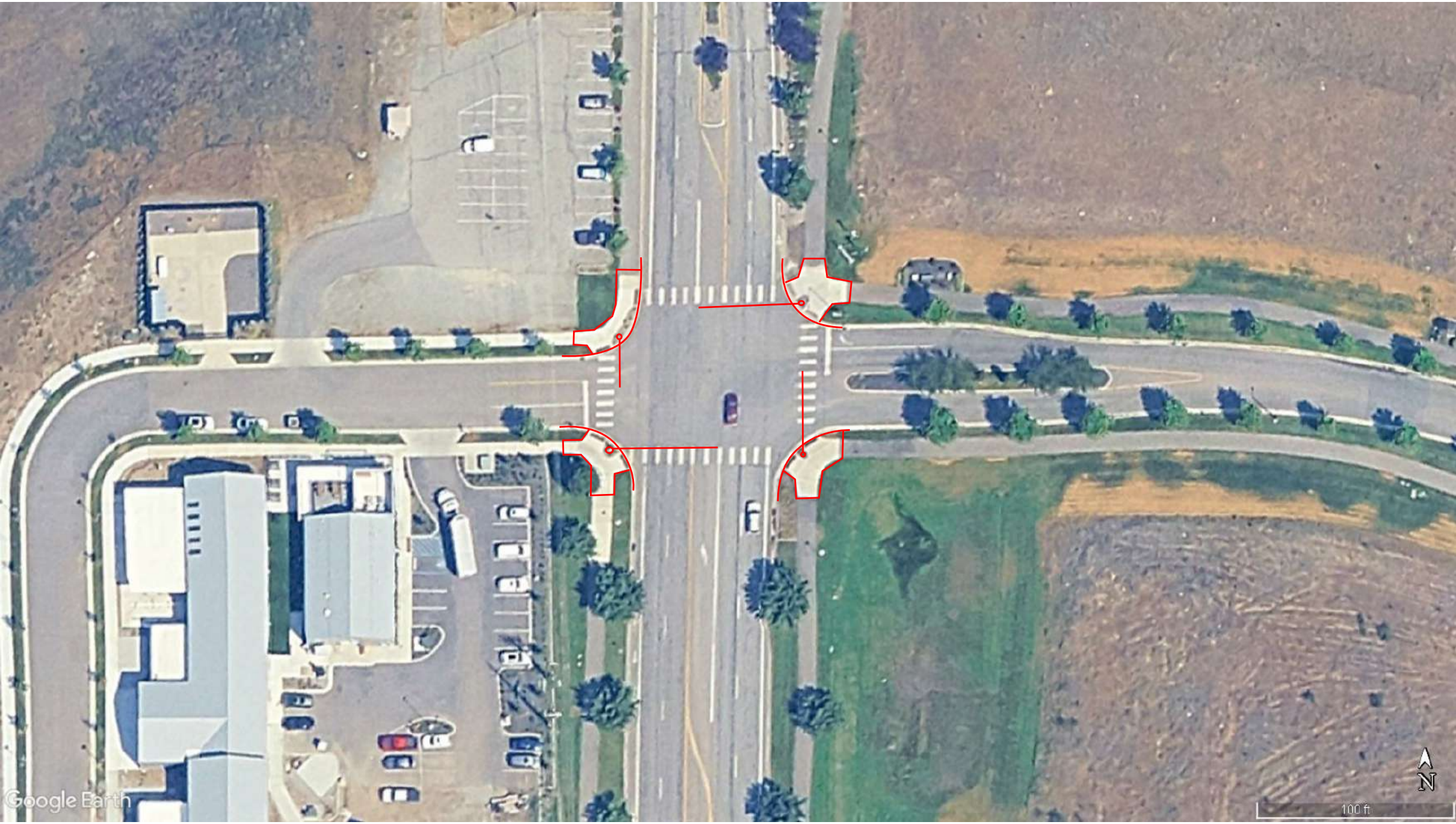
CITY OF LIBERTY LAKE
HARVARD ROAD AND WELLINGTON PARKWAY - ROUNDABOUT
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$110,000.00	$110,000.00
102	CONSTRUCTION SURVEYING	LS	1	$25,000.00	$25,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$40,000.00	$40,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$85,000.00	$85,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	REMOVAL OF STRUCTURES AND OBSTUCTIONS	LS	1	$15,000.00	$15,000.00
110	SAWCUT CEMENT CONCRETE CURB	EA	8	$35.00	$280.00
111	REMOVE CEMENT CONC. CURB	LF	1,650	$10.00	$16,500.00
112	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	1,300	$30.00	$39,000.00
113	SAWCUT ASPHALT PAVEMENT	LF	220	$5.00	$1,100.00
114	ROADWAY EXCAVATION INCLUDING HAUL	CY	2,000	$40.00	$80,000.00
115	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	100	$70.00	$7,000.00
116	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	100	$70.00	$7,000.00
117	CRUSHED SURFACING TOP COURSE	CY	2,250	$75.00	$168,750.00
118	ROUNDABOUT SPLITTER ISLAND NOSING CURB	EA	4	$5,000.00	$20,000.00
119	ROUNDABOUT CONCRETE TRUCK ARPON	SY	2,000	$100.00	$200,000.00
120	HMA CL. 3/8" PG 64H-28	TN	1,300	$125.00	$162,500.00
121	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
122	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
123	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
124	CATCH BASIN TYPE 1	EA	8	$3,500.00	$28,000.00
125	DRYWELL TYPE A	EA	4	$5,000.00	$20,000.00
126	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	6	$1,000.00	$6,000.00
127	CEMENT CONC. CURB AND GUTTER	LF	2,350	$55.00	$129,250.00
128	CEMENT CONC. SIDEWALK	SY	1,300	$75.00	$97,500.00
129	CEMENT CONC. DRIVEWAY	SY	100	$125.00	$12,500.00
130	DETECTABLE WARNING SURFACE	SF	320	$40.00	$12,800.00
131	ESC LEAD	LS	1	$3,000.00	$3,000.00
132	WATTLE	LF	2,500	$10.00	$25,000.00
133	INLET PROTECTION	EA	8	$150.00	$1,200.00
134	STREET CLEANING	HR	48	$200.00	$9,600.00
135	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	1,300	$30.00	$39,000.00
136	CONSTRUCT BIO-INFILTRATION SWALE	SY	1,300	$10.00	$13,000.00
137	CURB DROP INLET	EA	8	$220.00	$1,760.00
138	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
139	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
140	PLASTIC TRAFFIC ARROW	EA	14	$500.00	$7,000.00
141	PAINT LINE	LF	5,500	$2.00	$11,000.00
142	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
143	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$1,500,743.00
Contingency (20%)	$300,148.60
Construction Total	**$1,800,891.60**
Design (12%)	$216,106.99
City Project Management (8%)	$144,071.33
Construction Management (13%)	$234,115.91
Design & Management Total	**$594,294.23**
R/W Acquisition	**$50,000.00**
TOTAL	**$2,445,186.00**


Google Earth
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CITY OF LIBERTY LAKE
HARVARD ROAD AND WELLINGTON PARKWAY - SIGNAL
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

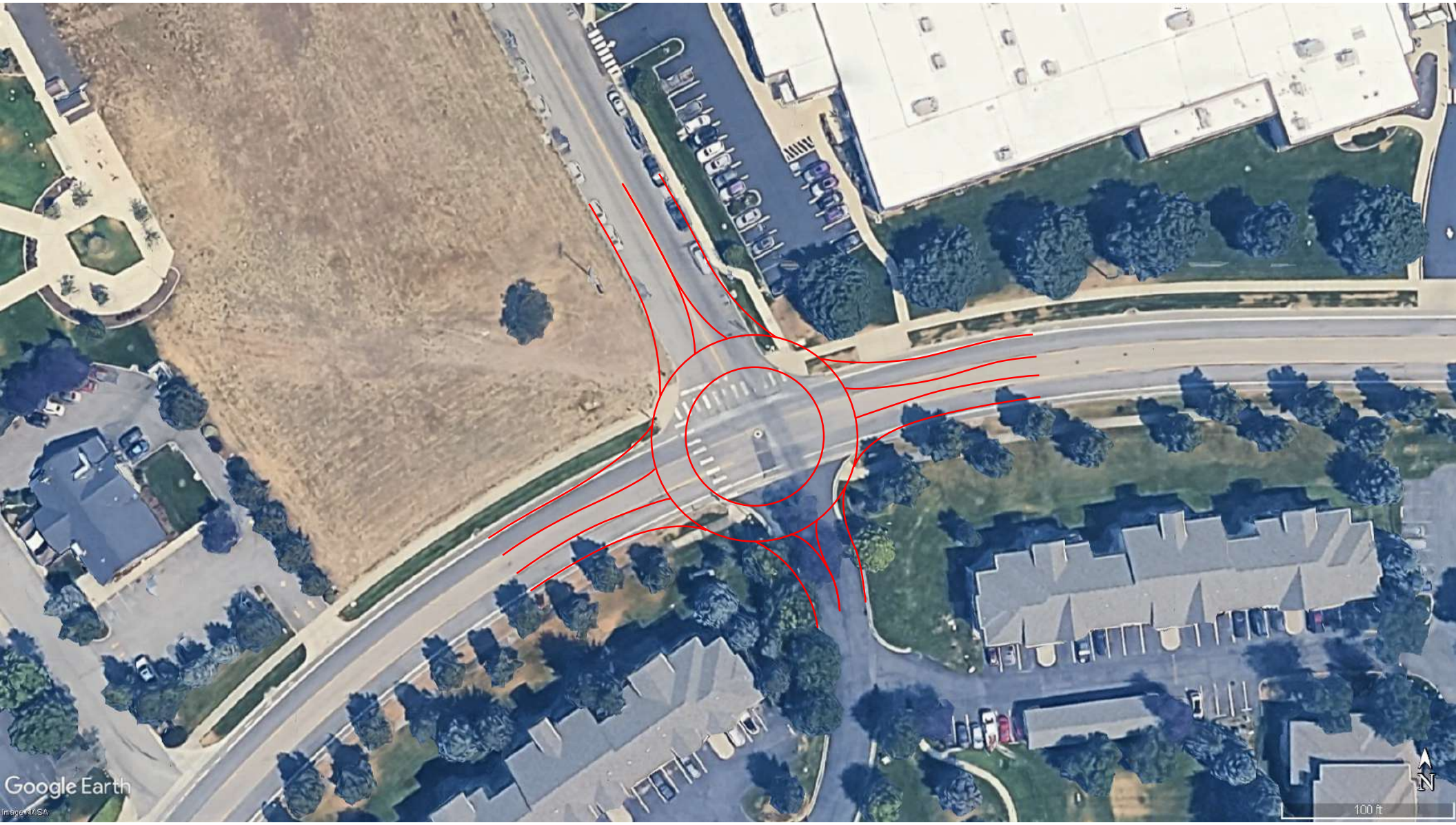
Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$65,000.00	$65,000.00
102	CONSTRUCTION SURVEYING	LS	1	$15,000.00	$15,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$35,000.00	$35,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$65,000.00	$65,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	SAWCUT CEMENT CONCRETE CURB	EA	8	$35.00	$280.00
110	REMOVE CEMENT CONC. CURB	LF	400	$10.00	$4,000.00
111	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	350	$30.00	$10,500.00
112	SAWCUT ASPHALT PAVEMENT	LF	425	$5.00	$2,125.00
113	ROADWAY EXCAVATION INCLUDING HAUL	CY	50	$40.00	$2,000.00
114	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	10	$60.00	$600.00
115	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	10	$75.00	$750.00
116	CRUSHED SURFACING TOP COURSE	CY	100	$80.00	$8,000.00
117	HMA CL. 3/8" PG 64H-28	TN	50	$140.00	$7,000.00
118	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
119	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
120	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
121	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	4	$500.00	$2,000.00
122	CEMENT CONC. CURB AND GUTTER	LF	400	$70.00	$28,000.00
123	CEMENT CONC. SIDEWALK	SY	350	$90.00	$31,500.00
124	DETECTABLE WARNING SURFACE	SF	160	$50.00	$8,000.00
125	ESC LEAD	LS	1	$3,000.00	$3,000.00
126	WATTLE	LF	450	$10.00	$4,500.00
127	INLET PROTECTION	EA	8	$150.00	$1,200.00
128	STREET CLEANING	HR	48	$200.00	$9,600.00
129	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
130	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
131	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
132	TRAFFIC SIGNAL SYSTEM	LS	1	$487,000.00	$487,000.00

Construction Subtotal	$847,058.00
Contingency (20%)	$169,411.60
Construction Total	**$1,016,469.60**
Design (12%)	$121,976.35
City Project Management (8%)	$81,317.57
Construction Management (13%)	$132,141.05
Design & Management Total	**$335,434.97**
R/W Acquisition	**$50,000.00**
TOTAL	**$1,401,905.00**

Intersection 21:

E Mission Ave/N Signal Dr

Short-Term (2028)


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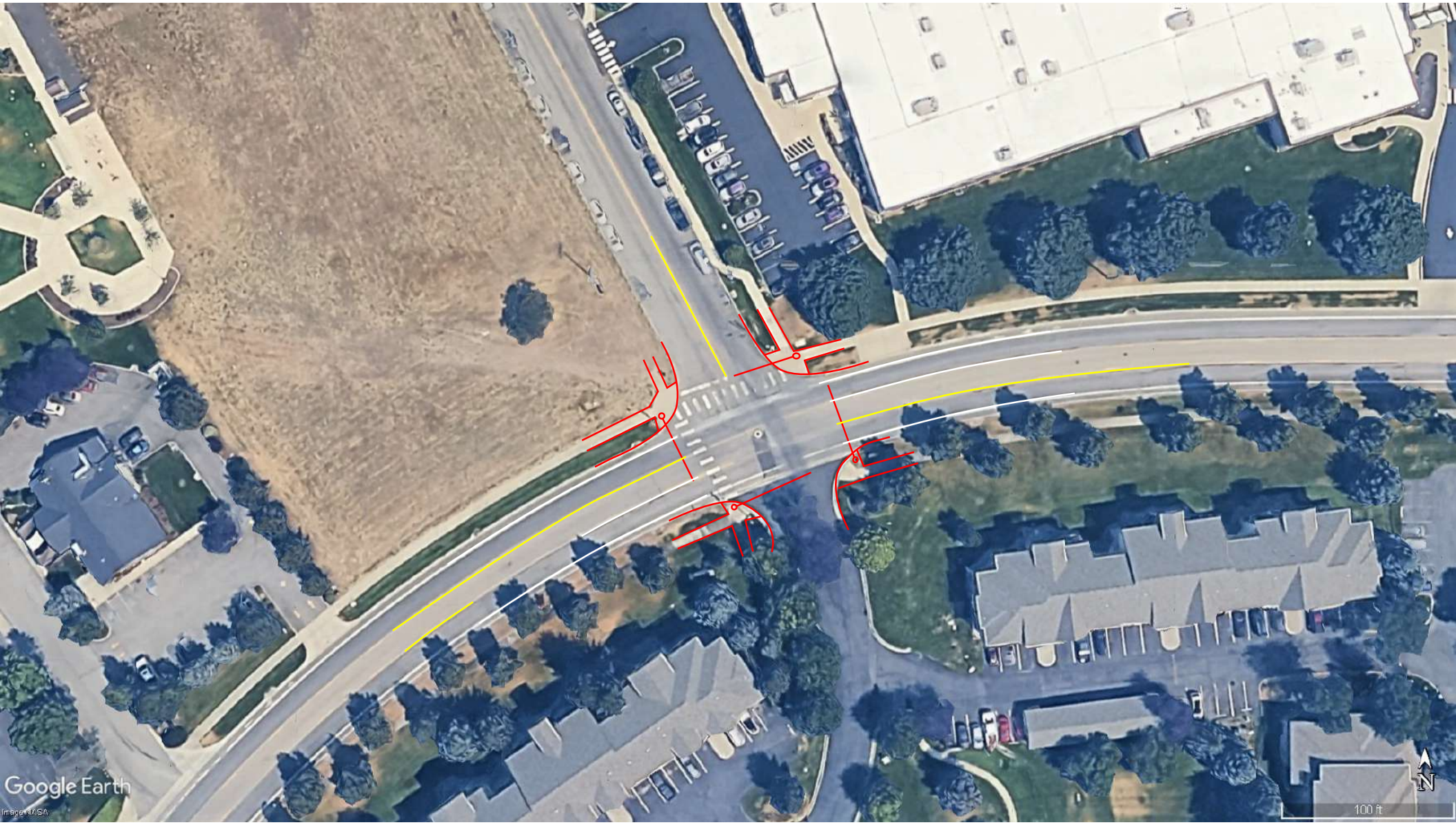
CITY OF LIBERTY LAKE
E MISSION AVE / N SIGNAL DR - ROUNDABOUT
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$95,000.00	$95,000.00
102	CONSTRUCTION SURVEYING	LS	1	$25,000.00	$25,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$35,000.00	$35,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$75,000.00	$75,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	REMOVAL OF STURCTURES AND OBSTRUCTIONS	LS	1	$10,000.00	$10,000.00
110	SAWCUT CEMENT CONCRETE CURB	EA	8	$35.00	$280.00
111	REMOVE CEMENT CONC. CURB	LF	1,250	$10.00	$12,500.00
112	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	500	$30.00	$15,000.00
113	SAWCUT ASPHALT PAVEMENT	LF	200	$5.00	$1,000.00
114	ROADWAY EXCAVATION INCLUDING HAUL	CY	1,500	$40.00	$60,000.00
115	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
116	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
117	CRUSHED SURFACING TOP COURSE	CY	1,500	$80.00	$120,000.00
118	ROUNDABOUT SPLITTER ISLAND NOSING CURB	EA	4	$5,000.00	$20,000.00
119	ROUNDABOUT CONCRETE TRUCK ARPON	SY	2,750	$100.00	$275,000.00
120	HMA CL. 3/8" PG 64H-28	TN	1,000	$120.00	$120,000.00
121	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
122	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
123	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
124	DRYWELL TYPE A	EA	4	$5,000.00	$20,000.00
125	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	4	$1,000.00	$4,000.00
126	CEMENT CONC. CURB AND GUTTER	LF	1,800	$60.00	$108,000.00
127	CEMENT CONC. SIDEWALK	SY	700	$90.00	$63,000.00
128	DETECTABLE WARNING SURFACE	SF	192	$50.00	$9,600.00
129	ESC LEAD	LS	1	$3,000.00	$3,000.00
130	WATTLE	LF	2,000	$10.00	$20,000.00
131	INLET PROTECTION	EA	6	$150.00	$900.00
132	STREET CLEANING	HR	48	$200.00	$9,600.00
133	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	1,200	$35.00	$42,000.00
134	CONSTRUCT BIO-INFILTRATION SWALE	SY	1,200	$15.00	$18,000.00
135	CURB DROP INLET	EA	10	$220.00	$2,200.00
136	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
137	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
138	PLASTIC TRAFFIC ARROW	EA	10	$500.00	$5,000.00
139	PAINT LINE	LF	2,500	$2.00	$5,000.00
140	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
141	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$1,285,133.00
Contingency (20%)	$257,026.60
Construction Total	**$1,542,159.60**
Design (12%)	$185,059.15
City Project Management (8%)	$123,372.77
Construction Management (13%)	$200,480.75
Design & Management Total	**$508,912.67**
R/W Acquisition	**$50,000.00**
TOTAL	**$2,101,073.00**


Google Earth
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CITY OF LIBERTY LAKE
E MISSION AVE / N SIGNAL DR - SIGNAL
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$75,000.00	$75,000.00
102	CONSTRUCTION SURVEYING	LS	1	$20,000.00	$20,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$40,000.00	$40,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$75,000.00	$75,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	SAWCUT CEMENT CONCRETE CURB	EA	8	$35.00	$280.00
110	REMOVE CEMENT CONC. CURB	LF	400	$10.00	$4,000.00
111	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	250	$30.00	$7,500.00
112	SAWCUT ASPHALT PAVEMENT	LF	450	$5.00	$2,250.00
113	ROADWAY EXCAVATION INCLUDING HAUL	CY	50	$40.00	$2,000.00
114	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
115	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
116	CRUSHED SURFACING TOP COURSE	CY	75	$80.00	$6,000.00
117	HMA CL. 3/8" PG 64H-28	TN	50	$150.00	$7,500.00
118	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
119	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
120	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
121	CEMENT CONC. CURB AND GUTTER	LF	400	$70.00	$28,000.00
122	CEMENT CONC. SIDEWALK	SY	300	$85.00	$25,500.00
123	DETECTABLE WARNING SURFACE	SF	192	$50.00	$9,600.00
124	ESC LEAD	LS	1	$3,000.00	$3,000.00
125	WATTLE	LF	400	$10.00	$4,000.00
126	INLET PROTECTION	EA	8	$150.00	$1,200.00
127	STREET CLEANING	HR	48	$200.00	$9,600.00
128	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	350	$35.00	$12,250.00
129	CONSTRUCT BIO-INFILTRATION SWALE	SY	350	$15.00	$5,250.00
130	CURB DROP INLET	EA	4	$220.00	$880.00
131	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
132	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
133	PLASTIC TRAFFIC ARROW	EA	10	$500.00	$5,000.00
134	GROOVED PLASTIC LINE	LF	200	$7.00	$1,400.00
135	PAINT LINE	LF	1,500	$2.00	$3,000.00
136	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
137	TRAFFIC SIGNAL SYSTEM	LS	1	$487,000.00	$487,000.00
138	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$946,263.00
Contingency (20%)	$189,252.60
Construction Total	**$1,135,515.60**
Design (12%)	$136,261.87
City Project Management (8%)	$90,841.25
Construction Management (13%)	$147,617.03
Design & Management Total	**$374,720.15**
R/W Acquisition	**$50,000.00**
TOTAL	**$1,560,236.00**

Intersection 2:

N Kramer Pkwy / E Country Vista Dr

Long-Term (2046)

CITY OF LIBERTY LAKE
N KRAMER PKWY / E COUNTRY VISTA DR - SIGNAL TIMING UPDATES
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	TRAFFIC SIGNAL MODIFICATIONS	LS	1	$10,000.00	$10,000.00

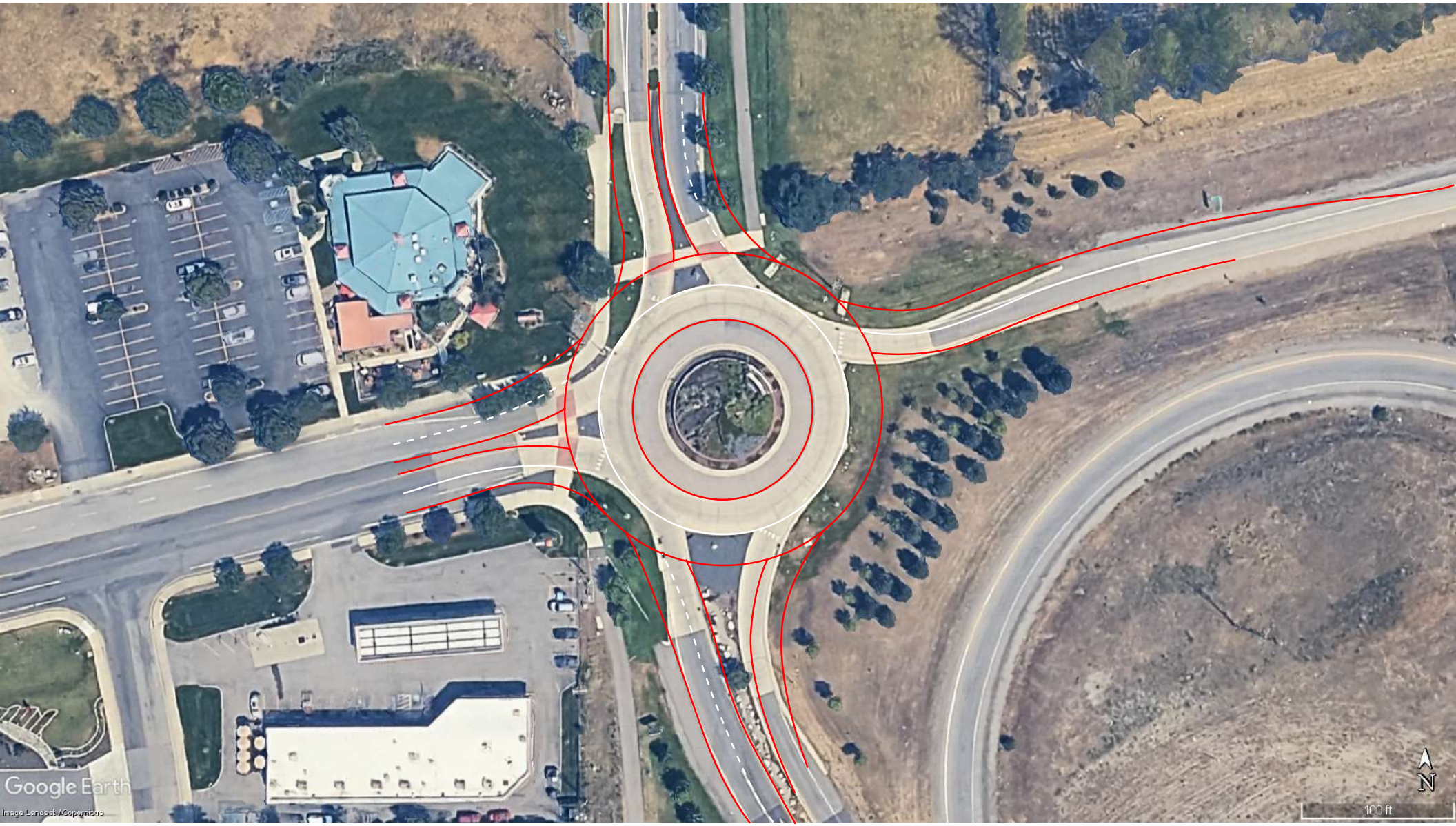
Construction Subtotal	$10,000.00
Contingency (20%)	$2,000.00
Construction Total	**$12,000.00**

TOTAL **$12,000.00**

Intersection 4:

E Mission Ave / N Harvard Rd

Long-Term (2046)


Google Earth
Image Landsat / Copernicus
N
100 ft

CITY OF LIBERTY LAKE
E MISSION AVE / N HARVARD RD EXPAND ROUNDABOUT
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$100,000.00	$100,000.00
102	CONSTRUCTION SURVEYING	LS	1	$22,500.00	$22,500.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$30,000.00	$30,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$75,000.00	$75,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	REMOVAL OF STRUCTURES AND OBSTURCTIONS	LS	1	$15,000.00	$15,000.00
109	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
110	SAWCUT CEMENT CONCRETE CURB	EA	2	$35.00	$70.00
111	REMOVE CEMENT CONC. CURB	LF	2,000	$10.00	$20,000.00
112	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	1,000	$30.00	$30,000.00
113	SAWCUT ASPHALT PAVEMENT	LF	225	$5.00	$1,125.00
114	ROADWAY EXCAVATION INCLUDING HAUL	CY	2,000	$40.00	$80,000.00
115	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
116	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
117	CRUSHED SURFACING TOP COURSE	CY	1,800	$80.00	$144,000.00
118	ROUNDABOUT SPLITTER ISLAND NOSING CURB	EA	3	$5,000.00	$15,000.00
119	HMA CL. 3/8" PG 64H-28	TN	1,500	$130.00	$195,000.00
120	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
121	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
122	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
123	DRYWELL TYPE A	EA	4	$5,000.00	$20,000.00
124	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	3	$1,000.00	$3,000.00
125	CEMENT CONC. CURB AND GUTTER	LF	2,400	$60.00	$144,000.00
126	CEMENT CONC. SIDEWALK	SY	1,400	$90.00	$126,000.00
127	DETECTABLE WARNING SURFACE	SF	120	$50.00	$6,000.00
128	ESC LEAD	LS	1	$3,000.00	$3,000.00
129	WATTLE	LF	2,150	$10.00	$21,500.00
130	INLET PROTECTION	EA	6	$150.00	$900.00
131	STREET CLEANING	HR	48	$200.00	$9,600.00
132	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	1,250	$35.00	$43,750.00
133	CONSTRUCT BIO-INFILTRATION SWALE	SY	1,250	$15.00	$18,750.00
134	CURB DROP INLET	EA	12	$220.00	$2,640.00
135	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
136	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
137	PLASTIC TRAFFIC ARROW	EA	14	$500.00	$7,000.00
138	PAINT LINE	LF	6,500	$2.00	$13,000.00
139	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
140	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$1,257,888.00
Contingency (20%)	$251,577.60
Construction Total	**$1,509,465.60**
Design (12%)	$181,135.87
City Project Management (8%)	$120,757.25
Construction Management (13%)	$196,230.53
Design & Management Total	**$498,123.65**
R/W Acquisition	**$50,000.00**
TOTAL	**$2,057,590.00**

Intersection 6:

Liberty Lake Road / Appleway Ave

Long-Term (2046)


Google Earth
Image © 2025 Airbus
200 ft
N

CITY OF LIBERTY LAKE
N LIBERTY LAKE/APPLEWAY AVE DUAL SBL AND DUAL WBL TURN LANES
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$55,000.00	$55,000.00
102	CONSTRUCTION SURVEYING	LS	1	$15,000.00	$15,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$30,000.00	$30,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$55,000.00	$55,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	SAWCUT CEMENT CONCRETE CURB	EA	2	$35.00	$70.00
110	REMOVE CEMENT CONC. CURB	LF	1,730	$10.00	$17,300.00
111	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	350	$30.00	$10,500.00
112	SAWCUT ASPHALT PAVEMENT	LF	650	$5.00	$3,250.00
113	ROADWAY EXCAVATION INCLUDING HAUL	CY	700	$40.00	$28,000.00
114	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
115	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
116	CRUSHED SURFACING TOP COURSE	CY	700	$80.00	$56,000.00
117	HMA CL. 3/8" PG 64H-28	TN	560	$140.00	$78,400.00
118	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
119	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
120	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
121	DRYWELL TYPE A	EA	2	$5,000.00	$10,000.00
122	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	2	$1,000.00	$2,000.00
123	CEMENT CONC. CURB AND GUTTER	LF	750	$80.00	$60,000.00
124	CEMENT CONC. DRIVEWAY	SY	50	$125.00	$6,250.00
125	CEMENT CONC. SIDEWALK	SY	450	$115.00	$51,750.00
126	DETECTABLE WARNING SURFACE	SF	20	$75.00	$1,500.00
127	ESC LEAD	LS	1	$3,000.00	$3,000.00
128	WATTLE	LF	100	$10.00	$1,000.00
129	INLET PROTECTION	EA	6	$150.00	$900.00
130	STREET CLEANING	HR	48	$200.00	$9,600.00
131	TOPSOIL FOR BIO-INFILTRATION SWALE	SY	350	$50.00	$17,500.00
132	CONSTRUCT BIO-INFILTRATION SWALE	SY	350	$20.00	$7,000.00
133	CURB DROP INLET	EA	8	$220.00	$1,760.00
134	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
135	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
136	PLASTIC TRAFFIC ARROW	EA	14	$500.00	$7,000.00
137	GROOVED PLASTIC LINE	LF	1,500	$7.00	$10,500.00
138	PAINT LINE	LF	2,000	$2.00	$4,000.00
139	FLEXIBLE GUIDE POST	EA	6	$70.00	$420.00
140	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
141	TRAFFIC SIGNAL MODIFICATIONS	LS	1	$40,000.00	$40,000.00
142	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

Construction Subtotal	$693,753.00
Contingency (20%)	$138,750.60
Construction Total	**$832,503.60**
Design (12%)	$99,900.43
City Project Management (8%)	$66,600.29
Construction Management (13%)	$108,225.47
Design & Management Total	**$274,726.19**
R/W Acquisition	**$50,000.00**
TOTAL	**$1,157,230.00**

Intersection 7:

N Liberty Lake Rd / E Country Vista Dr

Long-Term (2046)


Google Earth
Image Landsat / Copernicus
N
200 ft

CITY OF LIBERTY LAKE
N LIBERTY LAKE/COUNTRY VISTA DR - SEPARATE SBR TURN LANE
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

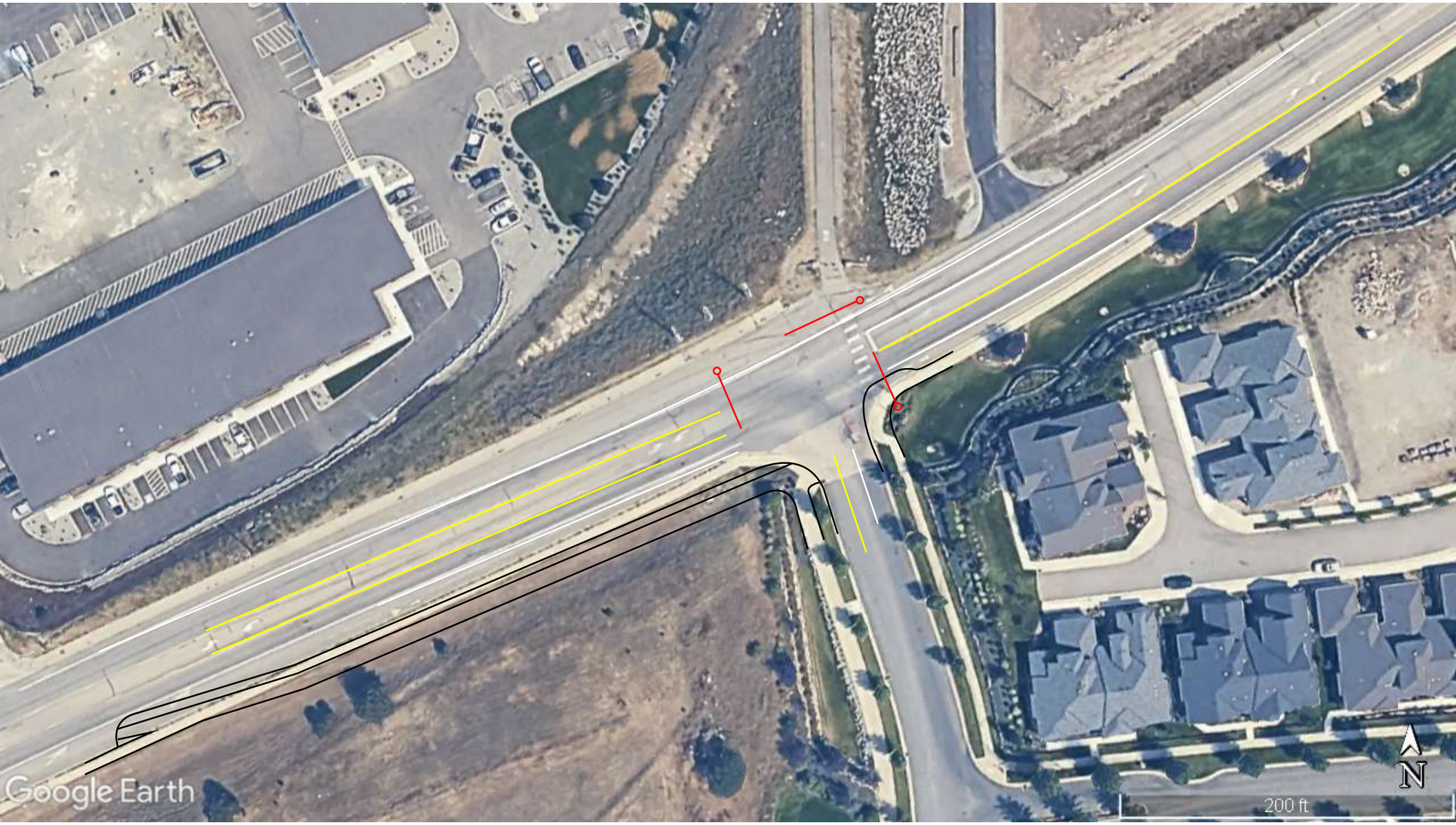
Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$90,000.00	$90,000.00
102	CONSTRUCTION SURVEYING	LS	1	$2,500.00	$2,500.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$10,000.00	$10,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$10,000.00	$10,000.00
106	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
107	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
108	ESC LEAD	LS	1	$3,000.00	$3,000.00
109	INLET PROTECTION	EA	6	$150.00	$900.00
110	STREET CLEANING	HR	48	$200.00	$9,600.00
111	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
112	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
113	PLASTIC TRAFFIC ARROW	EA	4	$500.00	$2,000.00
114	GROOVED PLASTIC LINE	LF	610	$7.00	$4,270.00
115	PAINT LINE	LF	450	$2.00	$900.00
116	TRAFFIC SIGNAL MODIFICATIONS	LS	1	$40,000.00	$40,000.00

Construction Subtotal	$190,170.00
Contingency (20%)	$38,034.00
Construction Total	**$228,204.00**
Design (12%)	$27,384.48
City Project Management (8%)	$18,256.32
Construction Management (13%)	$29,666.52
Design & Management Total	**$75,307.32**
TOTAL	**$303,512.00**

Intersection 14:

N Country Vista Blvd / E Appleway Ave

Long-Term (2046)


Google Earth
N
200 ft

CITY OF LIBERTY LAKE
N COUNTRY VISTA BLVD/E APPLEWAY AVE - SIGNAL
ENGINEER'S CONCEPTUAL ESTIMATE

BY PARAMETRIX

Monday, November 10, 2025

Item #	DESCRIPTION	UNITS	ESTIMATED QUANTITY	ESTIMATED PRICE/UNIT	TOTAL COST
101	MOBILIZATION	LS	1	$60,000.00	$60,000.00
102	CONSTRUCTION SURVEYING	LS	1	$15,000.00	$15,000.00
103	PROJECT QUALITY CONTROL TESTING	LS	1	$30,000.00	$30,000.00
104	SPCC PLAN	LS	1	$1,000.00	$1,000.00
105	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	$55,000.00	$55,000.00
106	CLEARING AND GRUBBING	LS	1	$10,000.00	$10,000.00
107	PUBLIC LIASON REPRESENTATIVE	LS	1	$5,000.00	$5,000.00
108	FIELD VERIFY EXISTING UTILITIES	EA	5	$800.00	$4,000.00
109	SAWCUT CEMENT CONCRETE CURB	EA	2	$35.00	$70.00
110	REMOVE CEMENT CONC. CURB	LF	100	$10.00	$1,000.00
111	REMOVE CEMENT CONC. SIDEWALK AND DRIVEWAY	SY	150	$30.00	$4,500.00
112	SAWCUT ASPHALT PAVEMENT	LF	100	$5.00	$500.00
113	ROADWAY EXCAVATION INCLUDING HAUL	CY	20	$40.00	$800.00
114	REMOVE UNSUITABLE FOUNDATION MATERIAL	CY	30	$60.00	$1,800.00
115	REPLACE UNSUITABLE FOUNDATION MATERIAL	CY	30	$75.00	$2,250.00
116	CRUSHED SURFACING TOP COURSE	CY	70	$120.00	$8,400.00
117	HMA CL. 3/8" PG 64H-28	TN	10	$250.00	$2,500.00
118	COMPACTION PRICE ADJUSTMENT	CALC	1	$1.00	$1.00
119	HMA SURFACE SMOOTHNESS COMPLIANCE	CALC	1	$1.00	$1.00
120	UTILITY CASTING DEPTH COMPLIANCE	CALC	1	$1.00	$1.00
121	ADJUST EXISTING MH, CB, DW, OR INLET IN ASPHALT	EA	2	$1,000.00	$2,000.00
122	CEMENT CONC. CURB AND GUTTER	LF	100	$100.00	$10,000.00
123	CEMENT CONC. SIDEWALK	SY	150	$125.00	$18,750.00
124	DETECTABLE WARNING SURFACE	SF	60	$75.00	$4,500.00
125	ESC LEAD	LS	1	$3,000.00	$3,000.00
126	WATTLE	LF	100	$10.00	$1,000.00
127	INLET PROTECTION	EA	6	$150.00	$900.00
128	STREET CLEANING	HR	48	$200.00	$9,600.00
129	CLASSIFICATION AND PROTECTION OF SURVEY MONUMENT	LS	1	$2,000.00	$2,000.00
130	SIGNING, PERMANENT	LS	1	$5,000.00	$5,000.00
131	PLASTIC TRAFFIC ARROW	EA	6	$500.00	$3,000.00
132	GROOVED PLASTIC LINE	LF	600	$7.00	$4,200.00
133	PAINT LINE	LF	2,250	$2.00	$4,500.00
134	FLEXIBLE GUIDE POST	EA	6	$70.00	$420.00
135	LANDSCAPE AND IRRIGATION REPAIR	LS	1	$30,000.00	$30,000.00
136	TRAFFIC SIGNAL SYSTEM	LS	1	$365,000.00	$365,000.00
137	ELECTRICAL AND ILLUMINATION SYSTEMS	LS	1	$50,000.00	$50,000.00

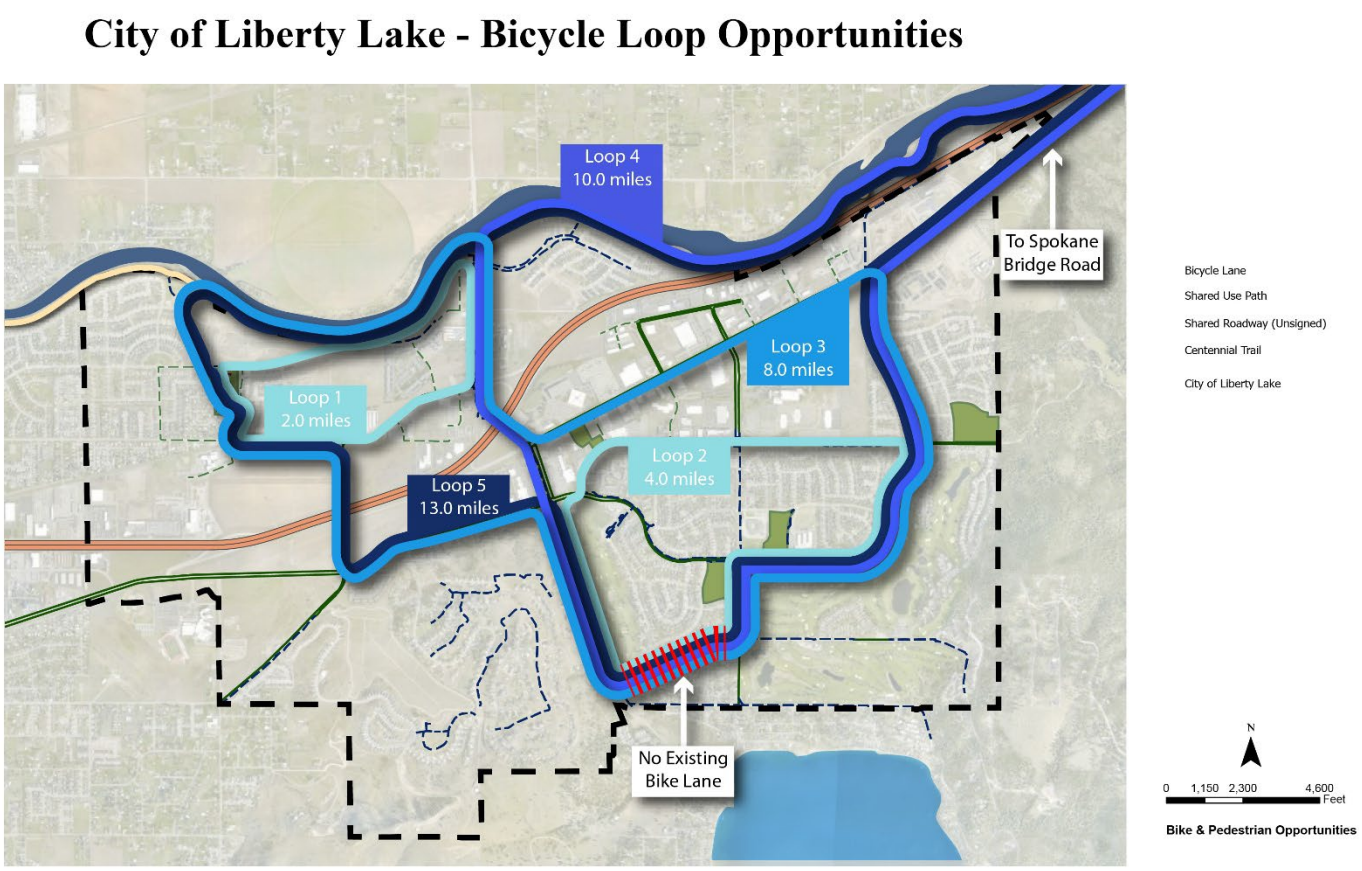
Construction Subtotal	$715,693.00
Contingency (20%)	$143,138.60
Construction Total	**$858,831.60**
Design (12%)	$103,059.79
City Project Management (8%)	$68,706.53
Construction Management (13%)	$111,648.11
Design & Management Total	**$283,414.43**
R/W Acquisition	**$50,000.00**
TOTAL	**$1,192,247.00**

Intersection 21:

E Mission Ave/N Signal Dr

Long-Term (2046)

Same as Intersection 21
Short-Term (2028)



City of Liberty Lake – Bicycle Loop Opportunities

This diagram illustrates potential bicycle loop opportunities within the City of Liberty Lake, showing how a connected system of routes could promote active transportation, healthy living, and sustainability. At a broad level, the map highlights four conceptual loop routes that would create safe, continuous paths for residents to circulate through the city and connect to the regional Centennial Trail. These loops are not existing formal routes but represent an aspirational framework for how Liberty Lake could strengthen its local bicycle network and improve recreation and mobility options.

The proposed loops range in length from two to thirteen miles, using a combination of existing shared-use paths and bicycle lanes. Together, they would form a network that allows riders of varying skill levels to experience the community's parks, neighborhoods, and trail connections minimizing the reliance on major arterials. With added signage and wayfinding, these loops could become a defining feature of Liberty Lake's identity, encouraging recreation, exercise, and low-impact travel while advancing the city's sustainability and livability goals.

One short segment between Liberty Lake Road and North Molter Road on East Valleyway Avenue currently lacks a shared-use path or dedicated bicycle lane. While this residential street could function

as a shared roadway if painted properly, the city could also consider extending sidewalks or the shared-use path to improve comfort and safety for all users.

City of Liberty Lake – Recreational Trail System Signage and Wayfinding

The bicycle loop concept illustrated for the City of Liberty Lake identifies a series of interconnected routes that together form a coherent, citywide system for active transportation. While the physical network of shared-use paths, bike lanes, and shared roadways largely exists or is planned, the effectiveness of this system is currently limited by the absence of a coordinated wayfinding and branding strategy.

A dedicated wayfinding signage study is needed to translate the conceptual loop system into a legible, intuitive, and user-friendly network that can be easily navigated by residents of all ages and abilities. Without consistent wayfinding, users may be unaware of loop options, uncertain about route continuity, or unable to confidently follow a complete loop without frequent reference to maps or digital tools. This can reduce participation, particularly among less experienced cyclists, families, and pedestrians who rely on clear visual cues and reassurance while traveling through unfamiliar or complex segments of the network.

The proposed study would evaluate and recommend a coordinated suite of wayfinding methods, including directional signage, distance markers, loop identifiers, trailhead kiosks, and pavement markings where appropriate. These elements would work together to clearly identify each loop, communicate loop lengths and destinations, and provide reassurance at key decision points such as intersections, transitions between facility types, and connections to parks, schools, and neighborhoods. A consistent naming, numbering, or color-coding system would reinforce the identity of each loop and help users select routes that match their desired distance, time commitment, and comfort level.

The need for a wayfinding study is particularly important given the diversity of facilities that make up the loop network. Routes include shared-use paths, on-street bicycle lanes, signed shared roadways, and segments of the Centennial Trail, each with different design characteristics and user expectations. Wayfinding can help unify these varied facilities into a single, recognizable system, reducing confusion where facility types change and clarifying how on-street segments fit within the broader loop experience.

In addition, the study would address key gaps and discontinuities in the network that affect access to parks and recreational destinations. One notable example is Rocky Hill Park, which is currently disconnected from the shared-use path system. While the park lies in close proximity to the proposed bicycle loops, a lack of wayfinding and safe crossing infrastructure limits practical and perceived access.

A specific project location at East Mission Avenue and North Winrock Street presents an opportunity to improve connectivity to Rocky Hill Park through a combination of targeted wayfinding signage and/or the installation of a marked pedestrian and bicycle crossing.

At present, pedestrians and cyclists traveling west along the south sidewalk of East Mission Avenue have no formal or intuitive route to access Rocky Hill Park. Users must traverse a grassy median and cross travel lanes in an informal and unsafe manner, creating a barrier to park access and discouraging use by families, youth, and less confident riders. A wayfinding signage study would assess how directional signage, advance warning signs, and park identification could guide users to a safe and visible access point, while also evaluating whether a formal crossing treatment is warranted to support safe movement across East Mission Avenue. Coordinating signage with any future crossing improvements would ensure that the park is clearly integrated into the loop system rather than remaining an isolated destination.

Wayfinding improvements also represent a relatively low-cost and near-term strategy for maximizing the return on investment in Liberty Lake's existing shared-use path and bicycle infrastructure. Compared to constructing new trails, bridges, or roadway facilities, coordinated wayfinding signage can be implemented incrementally and at a fraction of the cost, while still delivering meaningful improvements in system usability and public awareness.

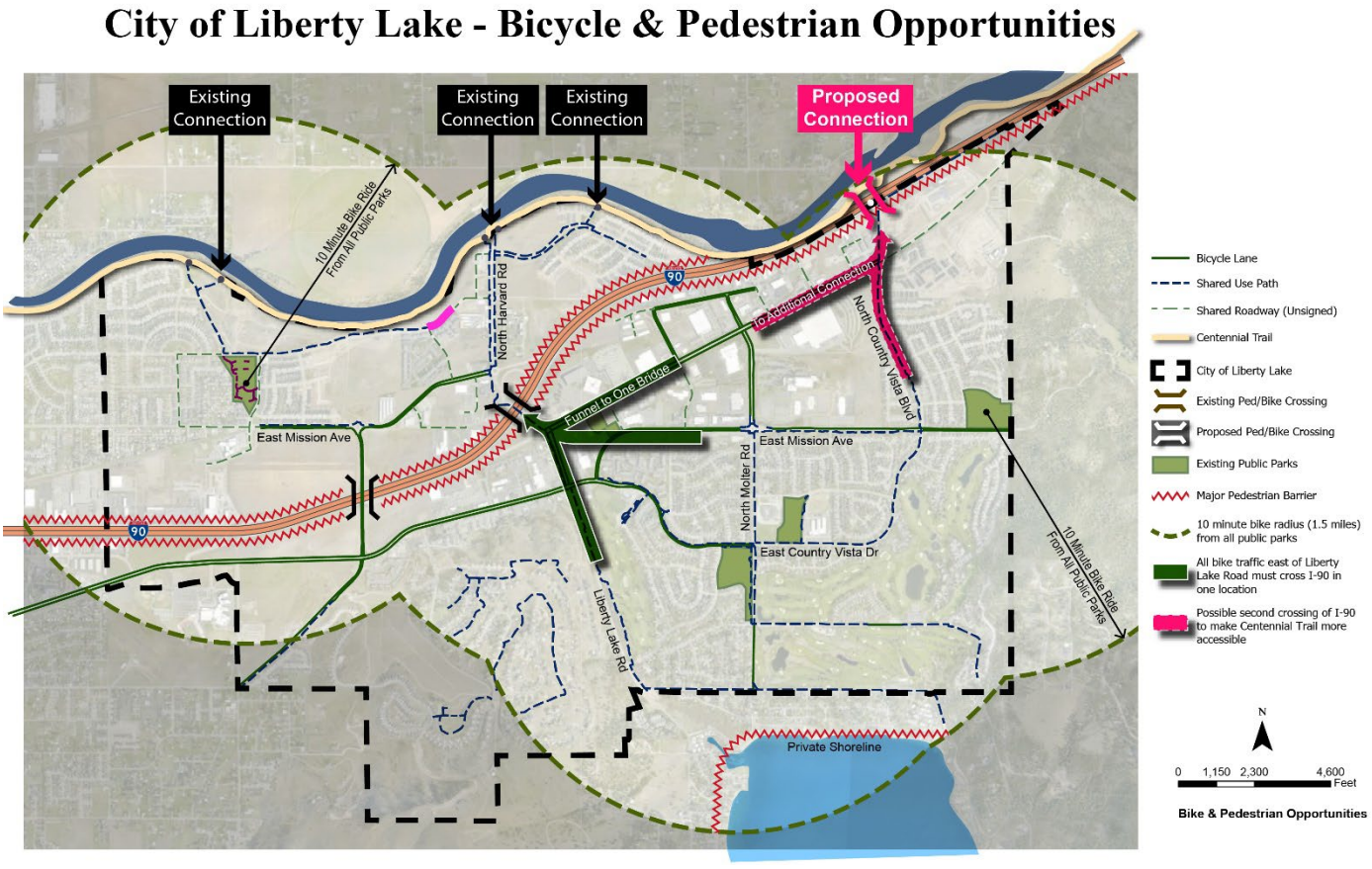
By branding the loop system and reinforcing it through consistent wayfinding, the City can shift perceptions of the shared-use path network from a collection of isolated segments into a cohesive, citywide amenity. This approach allows Liberty Lake to leverage existing infrastructure to its fullest potential while strategically laying the groundwork for long-term expansion. In this way, a wayfinding signage study not only improves current navigation and safety but also functions as a cost-effective catalyst for broader community engagement, increased active transportation participation, and future trail system growth.

Suggested Future Bike Trail Projects

1. **Paint striping and signage** for dedicated bike lanes on East Valleyway Boulevard between North Liberty Lake Road and North Molter Road, and along the section of East Settler Drive connecting to East Valleyway Boulevard. This wide residential segment would be the only section of the proposed bike loop system not currently marked in some way as a bike path, whether as a shared use path, dedicated bike lane, or sharrow.
2. **Widen and develop E Valleyway Ave and E Settler Dr connection**. The existing narrow concrete connection could be expanded and enhanced with marked bike lanes, wayfinding, and potential signage.
3. **Exploration study for Liberty Lake bike/pedestrian loops and wayfinding.** These would consist of coordinated wayfinding methods to identify a series of dedicated bike loops that promote

healthy living and provide routes of varying lengths around and through the city. Loop distances could range from approximately 2.0 miles to 9.0 miles if a bicycle and pedestrian bridge over I-90 is constructed, or up to 13.0 miles if a bridge is not built.

4. **Aspirational and long-range: Bicycle and pedestrian bridge over I-90.** This represents a larger infrastructure investment but is a logical and regionally consistent connection. Crossings over I-90 that accommodate bicycles are typically spaced approximately 1.0 to 1.5 miles apart, while the distance between North Liberty Lake Road and Spokane Bridge Road is approximately 4.0 miles. A crossing at the terminus of the north/south bike lane along Country Club Boulevard would significantly improve access to the Centennial Trail for much of Liberty Lake and close a major gap in the active transportation network.



City of Liberty Lake – Aspirational Bicycle & Pedestrian Opportunities

This diagram illustrates the bicycle and pedestrian system within the City of Liberty Lake and identifies opportunities to improve connectivity across the community. At a broad level, the map highlights the

relationship between the city's local active transportation network and the regional Centennial Trail, as well as the barriers that currently limit access between key destinations.

The primary constraint shaping this system is Interstate 90, which cuts east to west through the center of Liberty Lake and creates a significant obstacle for north–south bicycle movement. The existing system includes on-street bicycle lanes and shared-use paths connecting major streets, parks, and neighborhoods, but nearly all northbound movement is funneled through a single crossing at North Liberty Lake Road. To the west, the Kramer Bridge overpass opened in September 2023, creating a new, vital connection between developing areas. The two-lane bridge has a sidewalk and bike lane on both sides. Existing conditions limit access for those who are located east of Liberty Lake Road, concentrating traffic at one location and leaving the Centennial Trail more than a ten-minute ride away for many residents even though it may be physically close.

If one looks at a larger map of the area, crossings over I-90 occur approximately every 1.0 to 1.5 miles. The distance between the crossing at North Liberty Lake Road and Spokane Bridge Road is approximately 4.0 miles. Based on the layout of existing bike trails and the street system, a bicycle and pedestrian crossing over I-90 would logically be placed at the terminus of North Country Club Boulevard. This location represents the midpoint between the two existing crossings and serves as a logical extension of an existing north south bikeway that could benefit from a connection to the Centennial Trail.



A proposed connection to the east would introduce a second crossing of Interstate 90 near North Country Vista Boulevard, linking the existing shared-use path directly to the Centennial Trail. This new connection would provide an alternate route to the trail, distribute bicycle traffic more evenly across the network, and open the Centennial Trail to the entire eastern half of Liberty Lake. By addressing these barriers, the city can create a more complete and resilient active transportation system that better supports regional mobility and local access.

Additional funding for developed loop improvements which integrate with the Centennial Trail could be coordinated with Washington State Parks.

Parametrix
let's create tomorrow, together

Technical Memorandum

DATE: February 11, 2026
TO: City of Liberty Lake
FROM: Parametrix
SUBJECT: Transportation Resiliency Plan
PROJECT NUMBER: 374-7878-022
PROJECT NAME: Climate Resiliency Planning

1.0 Introduction

The Transportation Resiliency Plan (TRP) for the City of Liberty Lake (City) establishes a strategic framework to help the City's transportation system withstand, adapt to, and recover from climate-related disruptions. Developed as part of the Climate Element of the Liberty Lake 2046 Comprehensive Plan, the TRP builds upon the findings of the 2025 Climate Vulnerability and Risk Assessment Report (CVAR) and the Hazard Mitigation Plan (HMP) Annex (2025 Update). Together, these documents provide the scientific and policy foundation for identifying transportation vulnerabilities and developing pathways toward long-term resilience.

Climate change is expected to have growing and interconnected effects on the City's infrastructure, environment, and community well-being. Increasing temperatures, changing precipitation patterns, and more frequent extreme weather events will place new demands on the transportation system, both City-maintained facilities and those managed by partner agencies that connect through the community. These conditions highlight the need to integrate climate adaptation and risk reduction into transportation planning and investment decisions.

The HMP Annex identifies several hazards that are highly relevant to transportation reliability and safety, particularly wildfire, severe weather, smoke, excessive heat, and drought. Addressing these hazards in the transportation context requires understanding where infrastructure intersects with climate-driven risks and how the system can be designed or managed to remain functional during disruptive events.

The Climate Vulnerability Index (CVI) developed for the City takes into account social and economic factors, such as income level, housing cost burden, and access to resources, that affect a community's ability to adapt to climate hazards. The TRP seeks to ensure that resilience strategies also support populations that may be disproportionately impacted by climate-related disruptions or have fewer mobility options during emergencies.

Liberty Lake is part of the Spokane River Valley regional system and sits directly along the I-90 corridor, serving as a key connector for commuters and freight and as an access to regional jobs and services. Because many trips and emergency routes rely on corridors that pass through Liberty Lake, especially during evacuation events, the transportation network plays an important regional role beyond City limits. The City also relies on the Spokane Valley–Rathdrum Prairie Aquifer (SVRP Aquifer) as its sole water source, underscoring the need for coordinated infrastructure planning across jurisdictions. As the community continues to grow, ensuring that transportation infrastructure is both reliable and climate-ready will be key to supporting public safety, economic activity, and sustainability goals.

The TRP builds upon the City's existing resilience initiatives—including the 2025 Stormwater Master Plan, Comprehensive Emergency Management Plan, and participation in FEMA's National Flood Insurance Program (NFIP)—and integrates them within a transportation-focused framework. The plan aligns with the Federal Highway Administration (FHWA) Resilience in Transportation Planning Framework, which emphasizes the following iterative steps:

- Identify climate hazards relevant to transportation, with an emphasis on wildfire and related stressors.
- Evaluate transportation criticality and vulnerability to understand where disruptions would have the greatest impacts.
- Identify priority corridors where high system importance and hazard exposure overlap.
- Develop resilience strategies that can be integrated into planning, design, operations, and emergency preparedness.
- Support implementation and future updates through coordination, capital planning, and ongoing monitoring.

Through coordination with regional and state partners and by leveraging the analyses completed in the CVAR and HMP, the TRP serves as both a technical and policy guide. It positions the City to proactively address climate impacts, promote equitable access, and align transportation investments with the broader Climate Element goals of a safe, sustainable, and resilient community.

2.0 Climate Hazards and Stressors

2.1 Overview of Projected Climate Trends

The City is expected to experience increasingly variable and extreme climate conditions throughout the coming decades. These changes will influence infrastructure design, operations, and maintenance needs across the transportation network.

Based on projections from the 2025 CVAR, climate models indicate that Liberty Lake will experience warmer annual temperatures, more frequent heat extremes, and shifts in seasonal precipitation patterns. Using the University of Washington Climate Impacts Group (CIG) data and CMIP5/CMIP6 models under the high emissions scenario (RCP 8.5), **Table 1** summarizes the projected trends for the 2050s and 2080s.

Table 1. Key Climate Projections

Climate Indicator	2050s Projection	2080s Projection	Key Implications for Transportation
Total annual precipitation	+8%	+15%	Increased stress on drainage and stormwater systems.
Late-summer precipitation	–10%	–8%	Drier summers, elevated drought, and wildfire risk.
Change in heavy precipitation (25-year storm)	+9%	+18%	Greater runoff volumes and potential localized flooding.
Days over 100°F	6 days (2–10 range)	24 days (12–40 range)	Pavement softening, bridge expansion, and heat stress for users.

Climate Indicator	2050s Projection	2080s Projection	Key Implications for Transportation
Nights with high humidex (>65°F)	+13 days	+37 days	Reduced cooling at night and higher heat stress on materials.
High-fire-danger days	+10 days	—	Increased wildfire and smoke exposure for roadways.

Overall, Liberty Lake's climate is projected to become warmer, with wetter winters and drier summers, increasing both hydrologic variability and heat exposure. While these trends introduce uncertainty into infrastructure performance, they also provide a clear signal for incorporating climate resilience into transportation planning and design.

The CVAR emphasizes that future conditions should be viewed through a range-based approach due to uncertainty in emission trajectories and natural climate variability. By referencing this existing modeling, the TRP will build on established data to assess exposure and vulnerability in subsequent chapters rather than performing new modeling.

2.2 Primary Hazards Relevant to Transportation

Wildfire is identified as a high-priority hazard for the City in both the CVAR and the HMP Annex, driven by warmer temperatures, drier summers, and increased drought conditions. Although wildfire risk is often regional in nature, its impacts on transportation systems are highly localized, particularly where roadways intersect wildland-urban interface (WUI) areas or serve as access routes for evacuation and emergency response.

Climate projections indicate that high fire danger days are expected to increase by approximately 10 days by mid-century, extending the duration and intensity of wildfire season. While projected fire danger metrics show limited variation across Liberty Lake due to its small geographic size, the presence of WUI areas creates meaningful spatial differences in exposure. Transportation corridors adjacent to forested lands or steep slopes may face higher risk of fire encroachment, smoke accumulation, debris fall, and postfire erosion.

Wildfire impacts to transportation infrastructure are typically indirect but disruptive. Roadways and bridges are rarely damaged directly by fire; however, wildfire events can lead to the following:

- Temporary or prolonged road closures due to active fire behavior or emergency response needs.
- Reduced visibility and degraded air quality from smoke, affecting travel safety and operations.
- Increased debris and sediment on roadways following fire suppression or vegetation loss.
- Elevated risk of postfire flooding and slope instability during subsequent rain events.

In addition, smoke impacts disproportionately affect pedestrians, cyclists, transit users, and outdoor workers, limiting mobility and increasing health risks during wildfire events. Maintaining reliable transportation access during wildfire conditions is therefore essential not only for evacuation and emergency response, but also for sustaining daily travel and access to essential services.

Given these considerations, wildfire and smoke are treated in this plan as system-level stressors with localized exposure driven primarily by land cover, WUI conditions, and transportation asset characteristics rather than fine-scale variation in climate projections.

2.3 Implications for the Transportation System

The City's transportation system supports daily mobility, regional connectivity along the I-90 corridor, access to employment and services, and emergency responses during hazard events. Projected climate trends and wildfire-related stressors introduce several key implications for how the transportation network is planned, designed, operated, and maintained.

2.3.1 Infrastructure Performance and Durability

Rising temperatures and prolonged heat exposure can accelerate pavement deterioration, soften asphalt surfaces, and increase stress on bridge expansion joints. While wildfire rarely causes direct structural damage to transportation assets, postfire conditions—such as debris accumulation, erosion, and flooding—can compromise roadway stability and drainage infrastructure.

2.3.2 Operations and Maintenance

More frequent heat extremes and wildfire events may require changes to maintenance practices, including increased inspection frequency, vegetation management near roadways, and enhanced coordination during emergency conditions. Smoke-related visibility issues may also necessitate operational adjustments such as temporary speed reductions, closures, or rerouting.

2.3.3 Safety and Emergency Access

Transportation corridors play a critical role during wildfire events by supporting evacuation, emergency response, and access to healthcare and public safety facilities. Disruptions caused by smoke, debris, or closures can limit emergency response effectiveness and isolate neighborhoods, particularly in areas near WUI zones.

2.3.4 Equity and Community Resilience

Wildfire and smoke impacts do not affect all users equally. Communities with lower adaptive capacity, as identified in the CVAR's Climate Vulnerability Index, may have fewer travel options, limited access to private vehicles, or greater reliance on outdoor travel. Transportation disruptions during wildfire events can therefore exacerbate existing inequities by reducing access to work, healthcare, and emergency services.

2.3.5 Planning and Investment Considerations

These implications underscore the importance of integrating wildfire resilience into transportation planning through corridor prioritization, asset design, emergency preparedness, and long-term capital investment. Addressing wildfire-related risks requires a combination of infrastructure strategies, operational planning, and coordination with land use, emergency management, and environmental programs.

The climate trends and wildfire-related stressors described in this chapter establish the basis for evaluating transportation system criticality and vulnerability in Liberty Lake.

3.0 Transportation Vulnerability and Criticality Analysis

This chapter describes the analytical framework used to evaluate the criticality and vulnerability of the City's transportation system under wildfire-related stressors. The methodology is primarily based

on the Southern New Hampshire Planning Commission (SNHPC) Transportation Resilience Improvement Plan (TRIP), which was developed in coordination with the New Hampshire Department of Transportation and the FHWA under the PROTECT program.

Elements of this approach are also consistent with other peer transportation resiliency efforts, including the Space Coast Transportation Resiliency Master Plan (Florida) and similar metropolitan planning organization-led corridor-based resilience studies, which use GIS-based scoring to identify critical and vulnerable transportation corridors.

3.1 Study Area

The study area for the TRP includes the entire city of Liberty Lake, and adjacent development areas surrounding Liberty Lake and extending south to Quinnamose Creek.

These surrounding areas were included because they are expected to rely on City roadways for regional access and connectivity and are likely to pass through Liberty Lake during emergency evacuation events, particularly during wildfire incidents affecting the surrounding wildland.

Including these areas ensures that the analysis captures not only assets within the city limits, but also regional pass-through corridors that are critical for evacuation, emergency response, and access to services during hazard events.

3.2 Analytical Approach Overview

Consistent with similar projects framework, the analysis evaluates transportation corridors using two complementary but distinct concepts:

- Criticality: How important a corridor is to the overall transportation system and community function.
- Vulnerability: The degree to which a corridor is exposed to wildfire-related hazards.

3.3 Criticality Assessment

Criticality reflects the relative importance of transportation corridors in supporting mobility, economic activity, and access to services. The criticality framework applied in this study follows the usage/operational and socioeconomic scoring approach used in the Southern New Hampshire Transportation Resilience Improvement Plan (SNHPC TRIP), adapted to Liberty Lake conditions.

To ensure consistency and balance across factors, percentile-based classification was used for all numeric inputs. For each of the two main criticality categories, Usage and Operational Importance and Socioeconomic Importance, the maximum possible score was set at 9 points. Individual factors within each category were classified using percentile thresholds based on the number of score classes assigned to that factor. Specifically, percentile breakpoints of 0.33 and 0.67 (for three-class factors) or 0.25, 0.50, and 0.75 (for four-class factors) were used.

This approach ensures that transportation corridors are distributed relatively evenly across classifications, rather than clustering most corridors into a single category due to skewed data distributions. Using percentiles is particularly appropriate for a small study area like Liberty Lake, where absolute differences in values (such as traffic volumes or density) may be limited, but relative differences between corridors remain meaningful for prioritization.

3.3.1 Usage and Operational Importance

Usage and operational importance capture how heavily a corridor is used and its role in the transportation network. Three components are evaluated and the scoring methods are summarized in **Table 2**:

- **Trip Counts.**
  Data source: Replica Link Volume, Spring 2025.
- **Roadway Functional Classification.**
  Data source: Spokane County Public Streets GIS Layer, December 2026.
- **Transit Route.**
  Data source: Spokane Transit Authority GIS Route Layer, December 2025.

Table 2. Scoring Method for Usage and Operational Importance

Factor	Value Range	Score
Trip Count (average daily trips)	0–50	1
	50–159	2
	159–716	3
	> 716	4
Functional Classification	Local, Alley, Other	1
	Collector	2
	Major Arterial	3
	Freeway, Freeway Ramp	4
Transit Route	Corridor Serves a Transit Route	1
	Otherwise	0

3.3.2 Socioeconomic Importance

Socioeconomic importance captures how a corridor supports people, jobs, and socially vulnerable communities. Three components are evaluated and the scoring methods are summarized in **Table 3**.

- **Population Density.**
  Data source: U.S. Census/American Community Survey 5-Year Census Block Group Estimates, 2022.
- **Employment Density.**
  Data source: Longitudinal Employer-Household Dynamics (LEHD)/regional employment datasets, Employment Data joined to census block groups, 2021.
- **Community Resilience.**
  Data source: U.S. Census Community Resilience Estimates Dataset for Census Tracts, 2023. Scoring based on percent of residences with 3+ components of vulnerability (as defined by census, including factors like income, education, and language).

Table 3. Scoring Method for Socioeconomic Importance

Factor	Value Range	Score
Population Density (population per square mile)	0–841	1
	841–1557	2
	> 1557	3
Employment Density (jobs per square mile)	0–129	1
	129–294	2
	> 294	3
Community Resilience	0%–12%	1
	12%–18%	2
	> 18%	3

3.3.3 Total Criticality Score

The Total Criticality Score is calculated as:

Total Criticality Score = Usage and Operational Importance + Socioeconomic Importance

Higher scores indicate corridors that are more critical to daily mobility, emergency access, and community functioning. **Figure 1** illustrates the corridors' criticality scores in the study area.

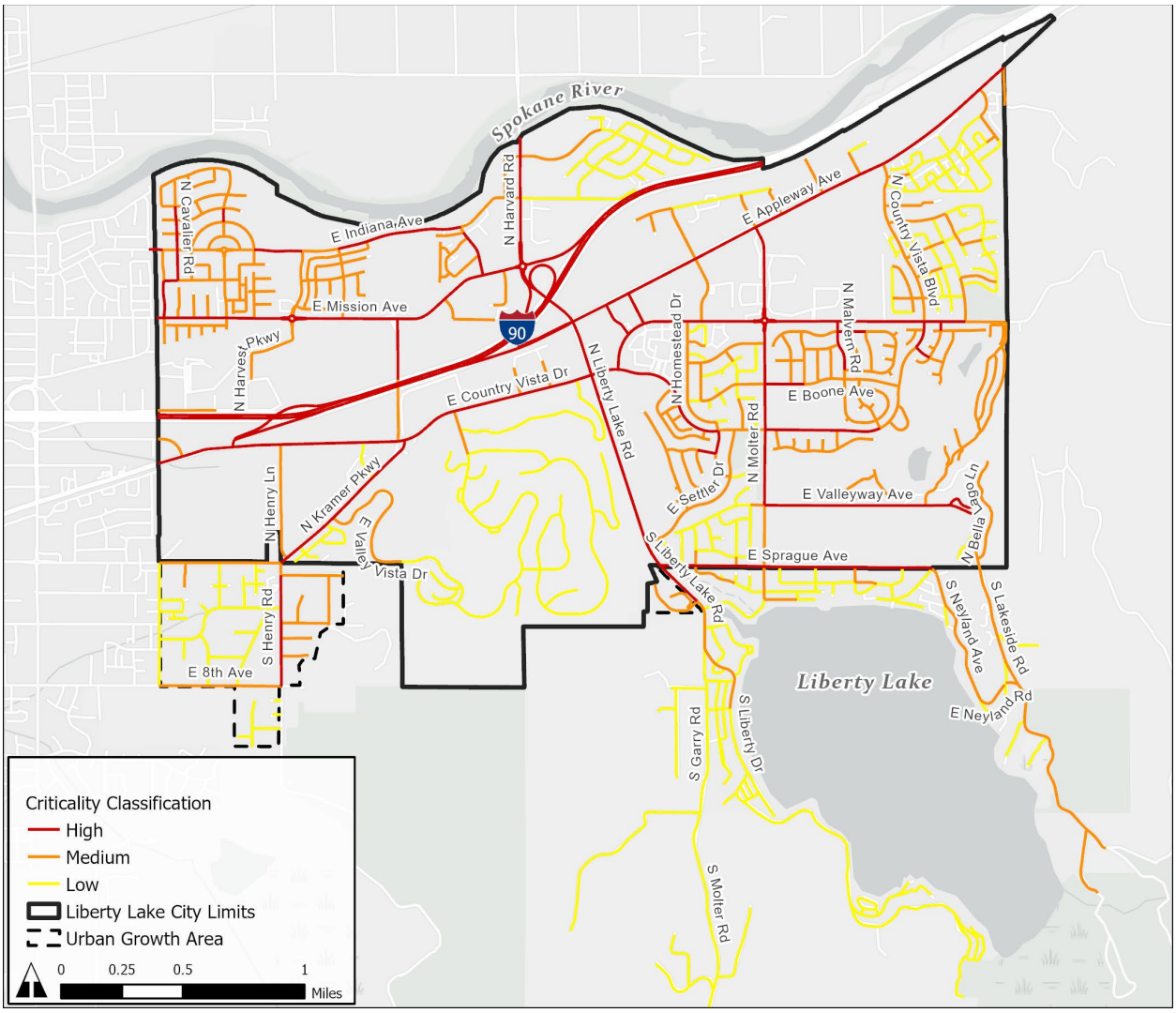


Figure 1. Criticality Scores

3.4 Vulnerability Assessment

Vulnerability represents a corridor's exposure to wildfire-related hazards, rather than how important it is to the system. Consistent with the scale and hazard context of Liberty Lake, vulnerability in this study focuses on WUI exposure.

3.4.1 Wildland–Urban Interface (WUI)

The WUI dataset identifies areas where developed land interfaces with, or is adjacent to, wildland vegetation, which are more susceptible to wildfire impacts.

- Data Source: Washington State Department of Natural Resources, Wildfire and Forest Health Divisions, 2019.
- Method: Transportation corridors intersecting WUI areas are identified using GIS overlay analysis.

Wildfire vulnerability is intended to represent physical exposure to burnable vegetation and potential fire behavior, rather than where people live. While population and equity considerations are captured separately in the criticality scoring, the vulnerability classification focuses on where wildfire impacts are most likely to occur due to fuel presence and landscape conditions. This approach is especially important in Liberty Lake and the surrounding south-of-city areas, where vegetated landscapes and wildfire exposure are widespread.

Accordingly, areas classified as WUI–Intermix are assigned High vulnerability because vegetation is interspersed with development, creating high exposure to flame spread, ember transport, and access/evacuation challenges. WUI–Interface areas are assigned Medium vulnerability because development borders vegetated lands; these locations remain at risk, but the vegetation is generally less interspersed within developed areas compared to intermix zones.

In addition, Vegetated Uninhabited areas are assigned High vulnerability because they represent fuel-rich landscapes that can ignite quickly and contribute to fire spread, even if they contain few or no residents. Finally, Non-Vegetated areas (inhabited or uninhabited) are assigned Low vulnerability because limited vegetation reduces wildfire ignition potential and spread, though these areas may still experience indirect impacts such as smoke or evacuation traffic. **Figure 2** illustrates the corridors' vulnerability scores in the study area.

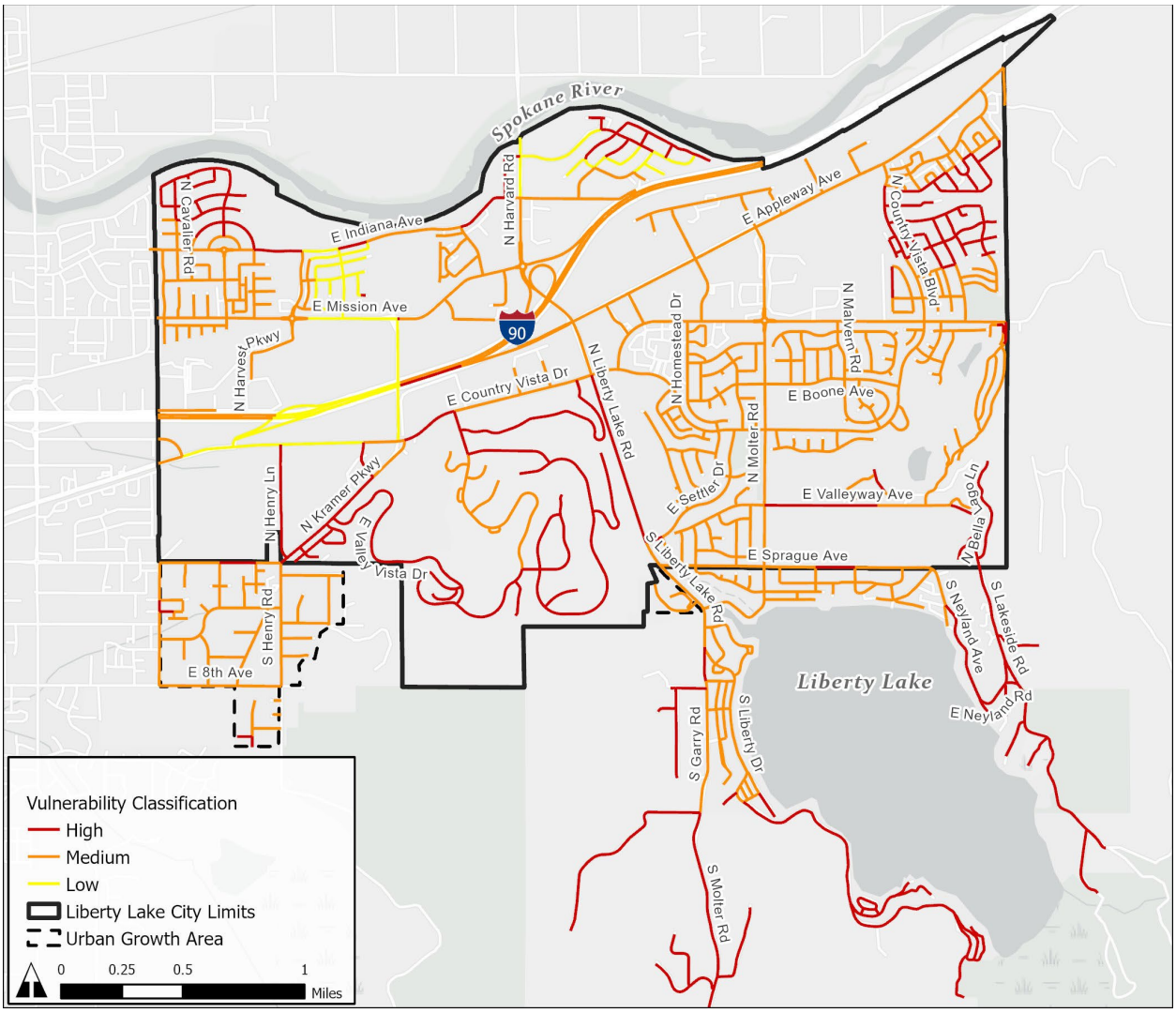


Figure 2. Vulnerability Scores

3.5 Priority Transportation Corridors

To identify transportation corridors of greatest concern, this study applies a mixed-based prioritization approach that evaluates criticality and vulnerability as complementary but distinct dimensions. This approach is consistent with methodologies used in peer transportation resiliency plans and aligns with FHWA guidance emphasizing transparency and interpretability in resilience screening.

Rather than combining criticality and vulnerability into a single composite score, corridors are categorized. This method avoids over-weighting any single metric and allows decision-makers to clearly understand whether a corridor is a priority because it is highly important to the transportation system, highly exposed to wildfire risk, or both.

3.5.1 Criticality Classification

Criticality scores were grouped into three relative categories to support clear interpretation and mapping. Consistent with the percentile-based approach described above, the category thresholds

were selected to create a relatively even distribution of corridor segments across classifications within the Liberty Lake study area.

- Low Criticality: Score below 8.
- Medium Criticality: Score ranges between 8 to 11.
- High Criticality: Score over 11.

3.5.2 Vulnerability Classification

Wildfire vulnerability was classified based on a corridor's exposure to the WUI. Corridors were grouped into three categories:

- Low Vulnerability: Non-Vegetated Inhabited and Non-Vegetated Uninhabited.
- Medium Vulnerability: WUI-Interface.
- High Vulnerability: WUI-Intermix and Vegetated Uninhabited.

3.5.3 Mixed-Based Prioritization

Each transportation corridor was assigned criticality and vulnerability classifications. This allows corridors to be screened and prioritized based on their combined characteristics.

As shown in **Table 4**, this framework categorizes:

- Corridors with high criticality and high vulnerability represent the **highest concern**, as disruptions would have both significant system-wide impacts and elevated wildfire exposure.
- Corridors with high criticality and medium vulnerability, or medium criticality and high vulnerability represent **high** concern corridors.
- Corridors with high criticality and low vulnerability, medium criticality and medium vulnerability, or low criticality and high vulnerability represent **medium** concern, meaning either system importance or wildfire exposure is elevated and should be monitored and addressed as opportunities arise.
- Corridors with low criticality and low vulnerability, low criticality and medium vulnerability, or medium criticality and low vulnerability represent **low** concern, as disruptions are less likely to result in widespread system impacts.

Table 4. Mixed-based Prioritization Classification

		Criticality		
		low	**medium**	**high**
Vulnerability	**low**	low	low	medium
	med	low	medium	high
	high	medium	high	highest

Figure 3 shows the corridors with their mixed-based prioritization classifications. Corridors identified as high or highest concern are considered priority corridors for further evaluation in the subsequent chapters, including mapping, qualitative review, and identification of potential resilience strategies.

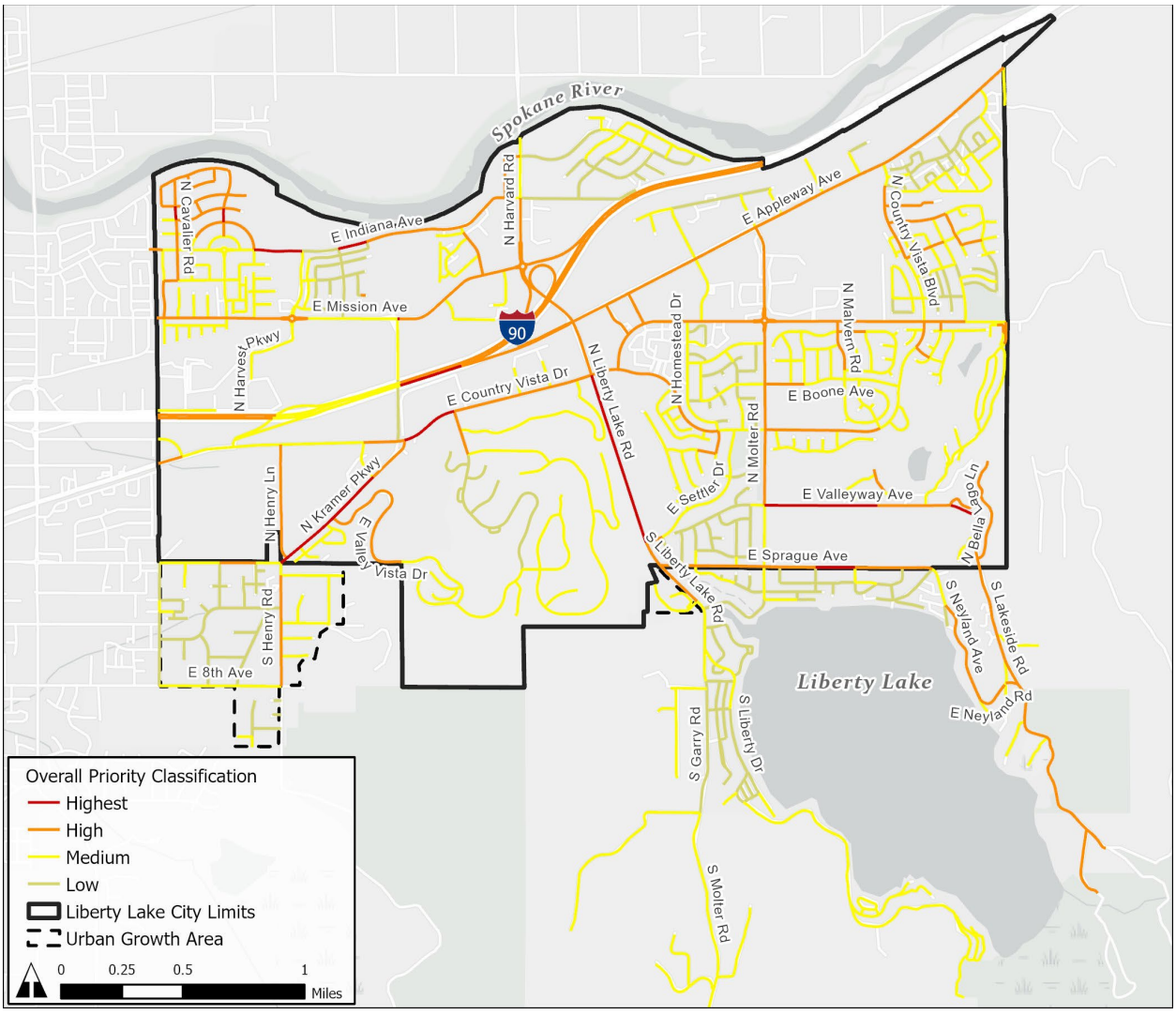


Figure 3. Priority Corridors

3.6 Future Priority Corridors

To reflect how corridor importance may change as Liberty Lake grows, the criticality assessment incorporates future traffic volume using the 2046 projected Average Daily Traffic (ADT) data from the transportation network analysis[1]. ADT values were used to develop segment-level growth rates for 11 roadway corridors where existing and forecast data were available and applicable to the study network. These growth factors were then applied to current Replica trip count values to estimate a future-volume-adjusted trip count. This approach allowed the analysis to test whether corridors that are expected to experience higher traffic (based on adopted 2046 projections) will shift into higher priority classification.

Overall, the future-volume adjustment resulted in few changes to corridor classifications, see **Figure 4**. Only one segment (N Molter Rd from E Sprague Ave to E Valleyway Ave) shifted in scoring from Medium to High. This reflects the fact that the available ADT data were primarily limited to

[1] Liberty Lake Transportation Network Analysis, 2026

major roadways, which already scored in the medium or high criticality range; as a result, incorporating projected volumes did not substantially alter the overall criticality distribution.

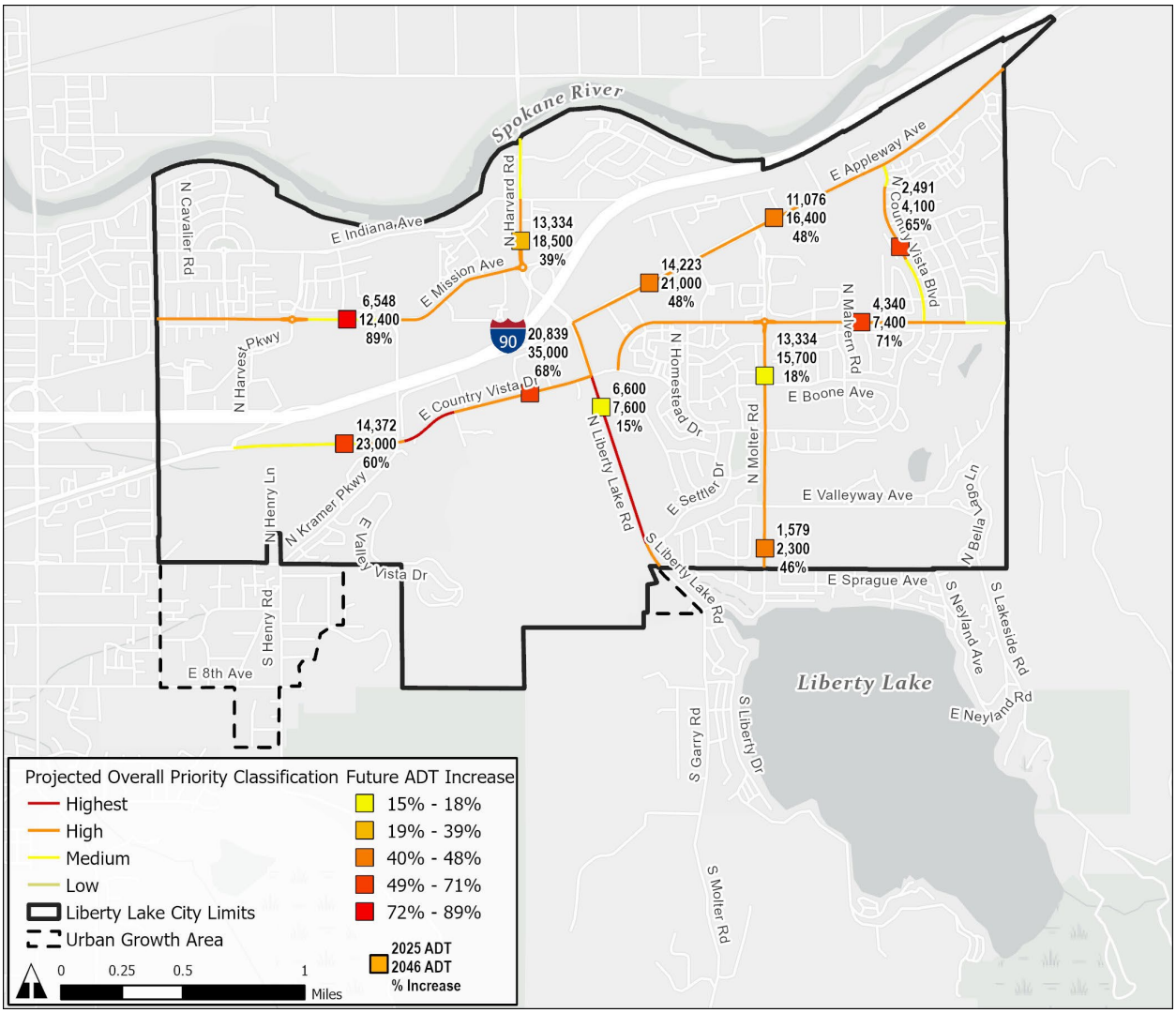


Figure 4. Future Priority Corridors

4.0 Resilience Strategies and Implementation

This chapter translates the findings from the transportation vulnerability, criticality, and priority corridor analysis into practical strategies that the City can use to strengthen transportation resilience to wildfire and related stressors. The strategies are intended to be flexible, scalable, and integrated into existing planning and implementation processes, rather than stand-alone projects.

4.1 Strategy Framework

Resilience strategies were developed using the following guiding principles:

- Focus on priority corridors identified in Chapter 3, where high criticality and wildfire vulnerability overlap.
- Leverage existing plans and programs, including the Transportation Element, Capital Improvement Program (CIP), emergency management plans, and land use regulations.
- Emphasize multibenefit actions that improve safety, reliability, and emergency access under both current and future conditions.
- Support equity and community resilience, recognizing that transportation disruptions may disproportionately affect populations with lower adaptive capacity.

The strategies below are organized by infrastructure, operations, and planning and coordination, reflecting common approaches used in peer transportation resiliency plans.

4.1.1 Corridor-Focused Infrastructure Strategies

For corridors identified as higher concern, the following infrastructure-focused strategies should be considered as projects are planned, designed, or reconstructed:

- Vegetation and roadside management to reduce wildfire exposure, improve sight distance, and limit debris accumulation during fire events.
- Enhanced roadway materials and design practices that improve durability under extreme heat and smoke conditions.
- Redundancy and access improvements where feasible, particularly for corridors that may serve evacuation or emergency response functions.
- Drainage and shoulder improvements to address postfire runoff, erosion, and debris flow risks.

These strategies are the most effective when incorporated into scheduled maintenance, resurfacing, or reconstruction projects, rather than pursued as isolated resilience projects.

4.1.2 Operations and Emergency Preparedness

Operational strategies can significantly improve resilience with relatively low capital cost:

- Coordination with emergency management and fire agencies to ensure priority corridors remain accessible during wildfire events.
- Pre-event planning for temporary closures, detours, and traffic control, particularly along corridors likely to experience smoke or debris impacts.
- Public communication and traveler information, including coordination on messaging related to smoke conditions, closures, and evacuation routes.
- Ongoing monitoring of wildfire conditions, with flexibility to adjust operations as conditions change.

These actions support faster response and recovery during wildfire events and reduce uncertainty for travelers.

4.1.3 Planning, Policy, and Program Integration

To ensure long-term effectiveness, transportation resilience should be embedded into routine City processes:

- Capital Planning: Use the priority corridor framework to inform project sequencing and CIP updates.
- Land Use Coordination: Consider wildfire exposure and access needs when reviewing development proposals near priority corridors.
- Grant Readiness: Use the analysis and maps from this plan to support applications for state and federal funding programs focused on resilience and safety.
- Interjurisdictional Coordination: Continue coordination with neighboring jurisdictions whose residents may rely on City corridors during evacuation events.

4.1.4 Monitoring and Future Updates

Transportation resilience is an iterative process. The City should periodically revisit this plan to:

- Update criticality and vulnerability inputs as conditions, development patterns, or transportation networks change.
- Refine priority corridors as new data or community input becomes available.
- Expand the analysis to additional hazards or transportation modes in future plan updates, as appropriate.

4.2 Summary

By focusing on priority corridors, integrating resilience into existing projects and policies, and maintaining flexibility in implementation, the City can strengthen the reliability of its transportation system under wildfire and climate-related stressors. The strategies outlined in this memorandum provide a practical roadmap for moving from analysis to action while remaining adaptable to future conditions.

APPENDIX "L"

City of Liberty Lake
Pavement Master Plan



2026

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1. Executive Summary

The City of Liberty Lake's Pavement Management Plan (PMP) provides a data-driven framework for maintaining, preserving, and improving the City's 54 centerline miles of public streets. The PMP supports the City's Strategic Plan Goal #4 — *Planned Growth and Infrastructure* — by prioritizing well-planned investment in reliable, functional, and resilient transportation infrastructure that meets current and future community needs.

Purpose

The primary purpose of the PMP is to ensure that Liberty Lake's street network remains safe, efficient, and cost-effective through proactive maintenance and rehabilitation. By using objective pavement condition data, the PMP helps guide funding decisions, optimize repair timing, and extend the life of existing assets — protecting the City's substantial investment in its roadway system.

Program Overview

Liberty Lake utilizes a combination of in-house staff and contracted services to deliver a comprehensive pavement maintenance program:

- In-House Crews perform minor repairs such as crack sealing, cold mix patching, mastic applications, and small HMA patches.
- Contracted Services are used for larger HMA patching and overlay projects, leveraging local contractors for efficiency and cost control.
- Condition Assessments are conducted by City engineers, technicians, and maintenance staff through visual analysis and periodic data collection to evaluate pavement condition index (PCI) values across the network.

Condition Summary

Initial pavement assessments indicate that Liberty Lake's overall pavement network is in good condition, reflecting consistent investment in preservation and timely rehabilitation. Preventative maintenance strategies, such as crack sealing and mastic treatments, have proven effective in extending pavement life and minimizing costly reconstruction.

Strategic Alignment

The PMP directly supports the City's Strategic Plan Goal #4: Planned Growth and Infrastructure, with measurable results that include:

- Key Result 4.1: Planned facilities that keep pace with expected growth.
- Key Result 4.2: Infrastructure preserved in good condition through proactive maintenance.
- Key Result 4.3: Ongoing public engagement in comprehensive infrastructure planning.

Satisfaction survey data underscores this alignment — nearly half (48%) of residents indicated that *well-maintained roads and infrastructure* contribute to their satisfaction with living and working in Liberty Lake, and 40% identified infrastructure as a top priority area for city focus.

Outcomes

The PMP enables Liberty Lake to:

- Maintain a balanced, lifecycle-based approach to pavement investment.
- Reduce long-term costs through preventative maintenance rather than reactive repair.
- Prioritize projects using transparent, data-supported methods.
- Support Complete Streets principles, integrating multimodal safety and accessibility in all projects.
- Strengthening fiscal stewardship and community trust by linking pavement investments to measurable performance outcomes.

Overview of citywide pavement conditions (average PCI, % good/fair/poor).

- Overall, the city street inventory contains approximately 55 miles of pavement with an average PCI of 77.28, which is considered in good condition. Much of this can be attributed to the age of the city and the number of local streets that have been constructed through new residential developments over the past few years. These local streets (PCI: 80.12) make up roughly 54% by mileage of the city's total inventory. Despite the high average PCI found in the local streets, there are pockets of the city that will require significant investment in the coming years due to age and condition.
- The city's larger arterial and collector streets average a slightly lower PCI than the local streets (PCI:70 – 75) due to their age and increased traffic usage, often by much larger freight vehicles than seen on local streets. In recent years these sections of the city have been given increased focus on local funding as well as state and federal grant programs.

Connection to City Council goals (infrastructure stewardship, mobility, sustainability).

- The Pavement Management Plan (PMP) directly supports the City Council's Strategic Plan Goal #4: Planned Growth and Infrastructure, which emphasizes well-planned growth and strategic investment in public infrastructure to preserve Liberty Lake's unique character and ensure long-term community resilience.
- By establishing a data-driven framework for roadway maintenance, repair, and capital investment, the PMP provides the foundation for achieving several of the City's key strategic outcomes:
    - **Goal 4.1 – Planned facilities keep pace with expected growth**
      The PMP ensures that roadway infrastructure planning and investment are synchronized with Liberty Lake's growth trajectory. By incorporating pavement condition data, traffic

volumes, and network expansion needs, the plan helps anticipate infrastructure demands associated with new development and maintain a balanced, sustainable transportation system.

- **Goal 4.2 – Infrastructure is preserved in good condition**
  The PMP establishes a systematic approach to preserve and extend the life of existing roadways. Through routine maintenance, timely rehabilitation, and the prioritization of preservation treatments, the City can maintain a high average Pavement Condition Index (PCI) while minimizing costly reconstruction. This aligns with the City's commitment to reliable, functional, and resilient infrastructure.

- **Goal 4.3 – Comprehensive planning engagement is growing each year**
  The PMP process promotes community engagement and transparency by using easily understood pavement condition data and mapping tools. Residents can see how their feedback and survey responses influence priorities for roadway investment, helping to build trust and increase participation in broader infrastructure planning efforts such as the Comprehensive Plan and development code updates.

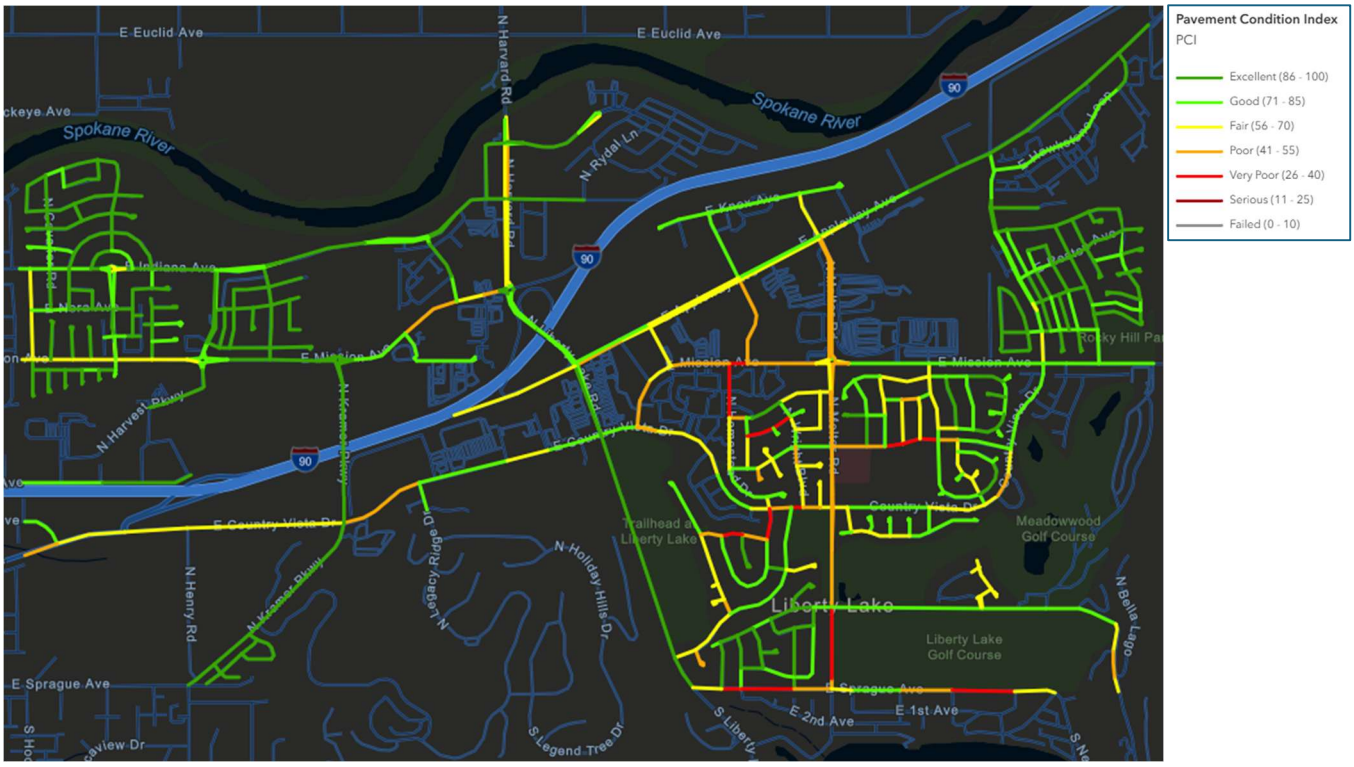
- The City's Community Satisfaction Survey further reinforces the importance of pavement management to residents. Nearly half of respondents (48%) indicated that *well-maintained roads and infrastructure* contribute to their satisfaction with living and working in Liberty Lake, and 40% listed *city facilities and infrastructure* among their top five focus areas for improvement. These results demonstrate that maintaining a high-quality roadway network is not only a technical objective but also a key driver of community satisfaction and livability.
- By aligning the PMP with Council priorities and resident feedback, the City ensures that investments in roadway infrastructure are strategic, transparent, and responsive to community values—providing a durable foundation for future growth and long-term quality of life in Liberty Lake.

Major funding needs and recommended investment levels.

- Increased funding is required to maintain City streets at current service levels, generally corresponding to a Pavement Condition Index (PCI) between 70 and 80. Achieving this performance level will require several million dollars in capital investment across both arterial and local streets. While some may assume roadways are designed to last indefinitely, most pavement structures are typically designed for an average service life of approximately **20 years**, assuming timely maintenance and rehabilitation. As a result, a significant portion of the City's street network will require pavement surface replacement over the next 20 years to maintain conditions in the "good" range (PCI greater than 70).
- At current funding levels, including available tax revenues and grant funding, the City will be unable to address these capital replacement needs. Without increased investment, pavement conditions are projected to decline from "good" to "fair" within the next 10 to 15 years, leading to accelerated deterioration and substantially higher future costs. This funding shortfall is expected to result in a growing backlog of unfunded roadway

improvement needs exceeding **$60 million** over the same timeframe, further compounding maintenance challenges and limiting the City's ability to preserve safe and reliable streets.

- The below pavement condition heat map indicates that most of our city streets, both arterial, collector, and local, are in good overall condition, except for a few older sections of town that have or will soon reach the end of their useful life. Most of the streets shown below in "poor" or "very poor" condition have been included in previous capital facility plans for repair and will remain a high priority for replacement in the next few years. As a relatively new city, many of the streets were found to be in good or excellent condition and are associated with newer development occurring since the city incorporation in 2001.



The table below reflects the number of miles by road classification and the condition of each. While the city maintains a relatively overall healthy PCI in the "good" range; there are several sections of road within the city that are in serious disrepair.

Classification	Excellent (86-100)	Good (71-85)	Fair (56-70)	Poor (41-55)	Very Poor (26-40)	N/A	Total
Major Arterial	1.24	2.20	2.91	0.69	0.00	0.00	**7.25**
Minor Arterial	2.00	1.62	1.02	2.41	0.06	0.00	**7.11**
Collector	2.91	3.35	1.30	1.23	0.78	0.00	**9.57**
Local	14.05	10.10	4.09	0.84	0.54	0.00	**29.62**
Future Road	0.00	0.00	0.00	0.00	0.00	1.12	**1.12**
Total	**20.2**	**17.26**	**9.72**	**5.18**	**1.38**	**1.12**	**54.86**

15-year forecast of condition vs. funding level.

- The below table reflects maintenance scenarios developed using the CityLogix Budget Planner tool to analyze the strategic effect of different PCI goals and the funding levels required for capital projects to maintain levels of service (LOS), as well as the current Streets Fund Operating Costs developed by Public Works. The operating costs shown below do not contribute to activities that increase PCI scores. Each PCI Scenario indicates the funding required to maintain that PCI (i.e. 60-80) by the end of the 15-yr study period. The data below the PCI scenarios indicates the current proposed budget and the difference in additional funding required to maintain that PCI. In some scenarios it is less financially advantageous to lower PCI goals due to deferred maintenance resulting in higher repair costs (i.e. Local streets at PCIs below 70)

Pavement Condition Index Maintenance Scenarios (15-yr)							
Functional Class	**Total Miles**	**2026 PCI**	**PCI:60**	**PCI:65**	**PCI:70**	**PCI:75**	**PCI:80**	**Maintain Current PCI by Functional Class**
Major Arterial	7.25	71.5	$ 8,570,529	$ 10,094,607	**$ 12,306,098**	$ 14,068,877	$ 16,115,432	
Minor Arterial	7.11	70.9	$ 6,522,150	$ 7,799,733	**$ 8,727,282**	$ 9,570,912	$ 9,586,624	
Collector	9.57	74.6	$ 5,930,048	$ 6,538,971	$ 7,274,416	**$ 7,594,285**	$ 8,284,553	
Local	29.79	81.2	$ 14,289,787	$ 14,155,063	$ 13,897,713	$ 14,670,536	**$ 17,786,199**	
15-yr Total (2027-2041)			**$ 35,312,514**	**$ 38,588,374**	**$ 42,205,509**	**$ 45,904,610**	**$ 51,772,808**	**$ 46,413,864**
Annual Funding Required (2026$)			**$ 2,354,168**	**$ 2,572,558**	**$ 2,813,701**	**$ 3,060,307**	**$ 3,451,521**	**$ 3,094,258**
Operating Costs (2026)			**$ 1,294,020**	**$ 1,294,020**	**$ 1,294,020**	**$ 1,294,020**	**$ 1,294,020**	**$ 1,294,020**
Total Funding Required			**$ 3,648,188**	**$ 3,866,578**	**$ 4,107,721**	**$ 4,354,327**	**$ 4,745,541**	**$ 4,388,278**
Total Revenue (Sales/Gas Tax)			**$ 1,155,600**	**$ 1,155,600**	**$ 1,155,600**	**$ 1,155,600**	**$ 1,155,600**	**$ 1,155,600**
Real Estate Excise Tax (REET2)			**$ 620,000**	**$ 620,000**	**$ 620,000**	**$ 620,000**	**$ 620,000**	**$ 620,000**
Grants (Not Guaranteed)			**$ 1,000,000**	**$ 1,000,000**	**$ 1,000,000**	**$ 1,000,000**	**$ 1,000,000**	**$ 1,000,000**
Remaining Funding Required			**$ 872,588**	**$ 1,090,978**	**$ 1,332,121**	**$ 1,578,727**	**$ 1,969,941**	**$ 1,612,678**

A budget scenario was also run through CityLogix Software using the $1.62M/yr CFP budget (REET2 projection + $1M grant/yr). This scenario resulted in the overall PCI decreasing from 77 (2025) to 57 (2041). This scenario also resulted in a maintenance backlog of $64M (2026$) in 2041.

2. Introduction

Purpose:

The purpose of the Pavement Master Plan (PMP) is to provide a data-driven, transparent framework for managing and investing in the City's pavement assets in a manner that supports safe, reliable, and accessible transportation for all users. The PMP evaluates the condition and performance of the street network and establishes prioritized maintenance and rehabilitation strategies that maximize the life of pavement(s), optimize limited resources, and reduce long-term costs.

The Pavement Master Plan is an integral component of Liberty Lake's broader mobility and infrastructure strategy. It aligns with the City's goals for multimodal transportation, economic vitality, and sustainable asset management by ensuring that streets function as complete corridors supporting vehicles, pedestrians, bicyclists, emergency services, freight, and transit. By coordinating pavement investments with planned utility work, capital projects, and development activity, the PMP promotes efficient project delivery and minimizes disruptions to the community.

Through this plan, Liberty Lake commits to proactive, strategic investments that preserve existing infrastructure, improve safety and ride quality, and maintain equitable access across neighborhoods. The PMP serves as a decision-making tool that helps guide annual budgeting, capital planning, and policy discussions, ensuring that investments in the street network are consistent, defensible, and aligned with the City's long-term mobility and infrastructure objectives.

Relationship with other plans:

The Pavement Master Plan (PMP) is designed to complement and support Liberty Lake's broader suite of planning documents by providing a focused, implementation-oriented framework for managing the City's street pavement assets. While the PMP concentrates specifically on pavement condition, preservation strategies, and investment prioritization, it functions in coordination with other adopted and forthcoming City plans to ensure consistency across land use, mobility, and capital investment decisions.

The PMP aligns with the Comprehensive Master Plan by supporting transportation and land use policies that promote safe, efficient, and connected street networks. By preserving roadway infrastructure in areas targeted for growth, redevelopment, and multimodal use, the PMP helps ensure that pavement conditions do not become a barrier to achieving the City's long-term land use vision and transportation goals.

PMP informs and is informed by the Transportation Improvement Plan (TIP) by identifying pavement preservation and rehabilitation needs that can be incorporated into near- and mid-term transportation programming. This coordination helps balance system preservation with capacity, safety, and multimodal improvements, and supports strategic sequencing of projects.

PMP also serves as a foundational input to the Capital Improvement Plan (CIP) by providing objective condition data, treatment recommendations, and cost projections that guide capital budgeting and investment decisions. Integrating PMP priorities into the CIP promotes fiscal responsibility, extends pavement life, and reduces long-term maintenance liabilities.

Coordination with the City's Parks Master Plan ensures that pavement investments support access to parks, trails, and recreational facilities. The PMP helps prioritize streets and corridors that serve key park assets, trail connections, and community destinations, reinforcing safe and accessible routes for pedestrians, bicyclists, and families.

Together, these plans form an integrated planning framework. The Pavement Master Plan plays a critical role by translating high-level policy goals into actionable pavement investment strategies that support Liberty Lake's mobility, infrastructure, and quality-of-life objectives.

Regional Coordination

The PMP was developed in coordination with regional transportation priorities and asset management practices established by the Washington State Department of Transportation (WSDOT), Spokane County, and the Spokane Regional Transportation Council (SRTC). The PMP supports regional goals for system preservation, safety, and mobility by prioritizing pavement investments that maintain the functionality and reliability of key corridors connecting Liberty Lake to the regional transportation network.

Coordination with WSDOT ensures that pavement strategies along state routes and connecting arterials are consistent with state preservation standards, safety initiatives, and freight and emergency response needs. The PMP also aligns with Spokane County priorities by supporting continuity of pavement conditions across jurisdictional boundaries and coordinating maintenance and rehabilitation efforts on shared and adjacent roadway corridors.

Through alignment with SRTC planning efforts, including the Metropolitan Transportation Plan and Transportation Improvement Program, the PMP helps ensure that Liberty Lake's pavement investments are consistent with regional performance measures, funding eligibility requirements, and long-range mobility objectives. This coordination strengthens the City's ability to compete for state and federal funding and supports efficient, integrated transportation system management across the region.

By aligning local pavement preservation strategies with regional planning frameworks, the PMP reinforces Liberty Lake's role as a connected and reliable component of the broader regional transportation system.

3. Existing Conditions Overview

Purpose: Establish a baseline for the City's street network and current management practices.

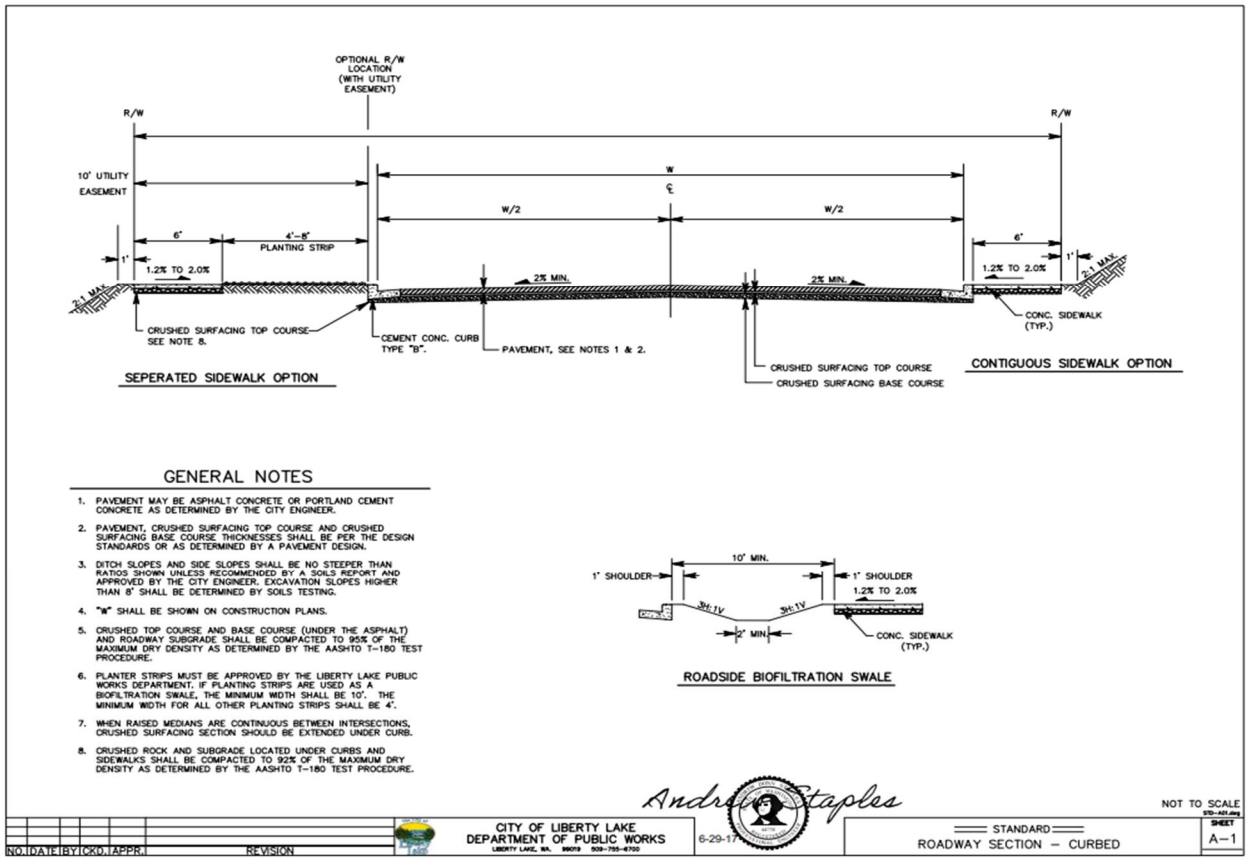
Inventory of total roadway miles by classification with estimated 2026 Repair Costs.

Classification	Road Miles	Average PCI	Estimated Repair Cost
Major Arterial	7.25	71.4	$6,750,039
Minor Arterial	7.11	70.2	$4,730494
Collector	9.57	75.5	$3,937,910
Local	29.79	80.12	$4,930,098
Future Road	1.12	N/A	N/A
Total	**54.86**	**77.28**	**$20,348,541**

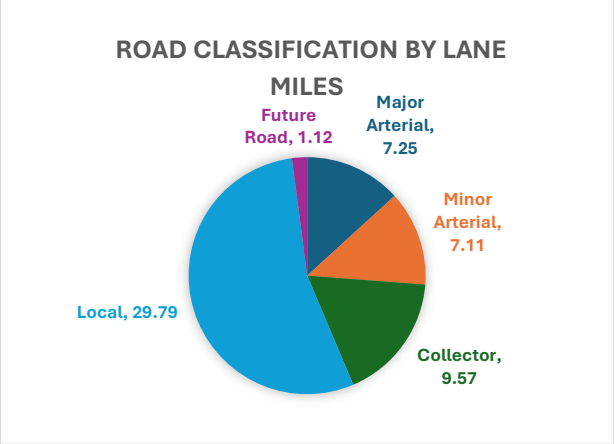
Description of current pavement management and maintenance programs.

- The City utilizes a combination of in-house staff and contracted services to perform a wide range of maintenance and repair activities:
    - In-House Maintenance Activities:
      City Public Works crews perform routine and preventive maintenance on local streets, including crack sealing, cold mix patching, mastic applications, and small hot mix asphalt (HMA) patches. These activities are prioritized annually based on pavement conditions, visual inspection, and available funding. Preventive maintenance efforts focus on sealing pavement surfaces to slow deterioration and reduce the need for costly rehabilitation in the future.
    - Contracted Maintenance and Repairs:
      Larger-scale pavement repairs and overlays requiring specialized equipment or higher production rates—such as major HMA patching or full-depth pavement restoration—are contracted to qualified local paving contractors. This approach allows the City to efficiently address high-priority or large-area needs while maintaining cost-effectiveness and flexibility in resource allocation.
    - Condition Assessment and Monitoring:
      Pavement condition is monitored through a combination of visual inspections conducted by City Public Works staff, engineers, and engineering technicians, along with advanced assessments performed through LiDAR-based pavement condition analysis on a five (5) year interval. These evaluations help identify surface distress, cracking, and other deficiencies to guide project selection, budget planning, and treatment timing.
- Together, these coordinated efforts support a data-driven and preservation-first approach to pavement management, maximizing the useful life of Liberty Lake's roadway assets and ensuring that maintenance investments provide the greatest long-term value to the community.

Existing design standards and materials used (asphalt, chip seal, etc.).



Pie charts of network by classification with cost distributions for each.



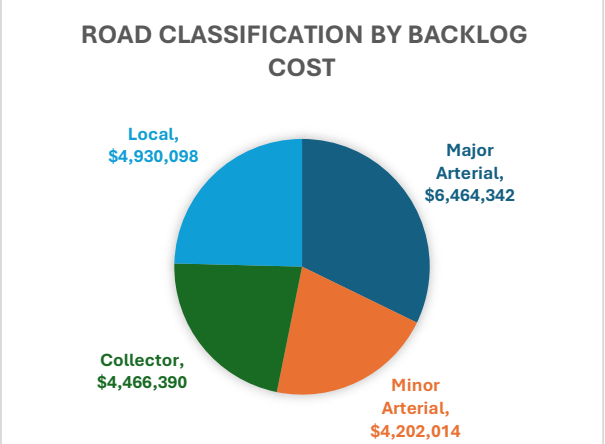


Photo examples of typical street cross-sections

Major Arterial



Figure 1-E Country Vista Dr (PCI:55)

Minor Arterial



Figure 2-E Mission Ave (PCI:77)

Collector



Figure 3-N Country Vista Dr (PCI:80)

Local



Figure 4-N Winrock St (PCI:93)

4. Pavement Condition Assessment

Purpose: Present the LIDAR-based analysis results and interpret the data.

Description of LIDAR survey methodology (date, coverage, data parameters).

The pavement condition survey was performed by CityLogix in July 2025 using a mobile vehicle-mounted LIDAR and high-definition imagery system. The vehicle traversed the entire street network at typical operating speeds, collecting continuous 3D point-cloud and 360° photographic data. The resulting dataset was processed using AI-driven algorithms and human QA/QC to identify pavement surface distresses including cracking, rutting, potholes, and utility-cut failures. Each roadway segment was scored on a 0-100 scale (where 100 indicates near-ideal condition) based on the severity and extent of observed distresses. The condition scores and associated metadata were delivered via a GIS platform, enabling network-wide mapping, scenario modelling, and prioritization of treatments. The data is fully compatible with the City's pavement management system and will be used to inform treatment selection, budget modelling, and integration with our Complete Streets policy objectives

PCI scoring system explanation (0–100 scale).

The pavement condition for each road segment was scored on a 0 to 100 scale using the CityLogix pavement condition assessment platform. A score of 100 represents a roadway in near-ideal condition (minimal distress and deformities), while a score of 0 represents a roadway in failed condition.
Using high-definition LiDAR and 360° imagery, surface distresses (such as cracking, rutting, potholes, utility cut failures, and patches) are detected and mapped. An algorithm then converts these surface distresses into a deducted value from the maximum condition, resulting in the PCI score. The resulting score is then associated with each segment and used in the asset management system for prioritization, budgeting, and forecasting.

For our network, the following categories apply:

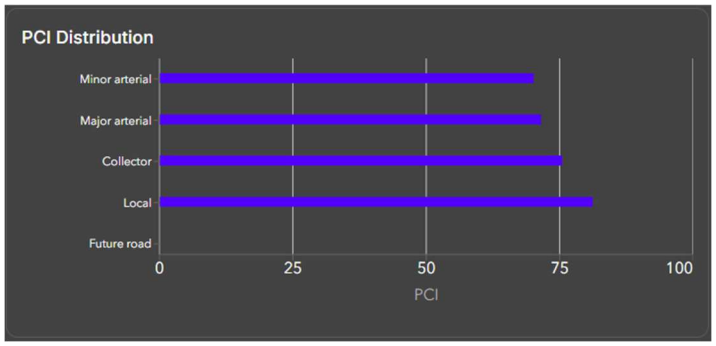
- Excellent = 86-100
- Good = 71-85
- Fair = 56-70
- Poor = 41-55
- Very Poor = 26-40
- Serious = 11-25
- Failed = 0-10

These thresholds will be reviewed annually as part of our pavement management process.

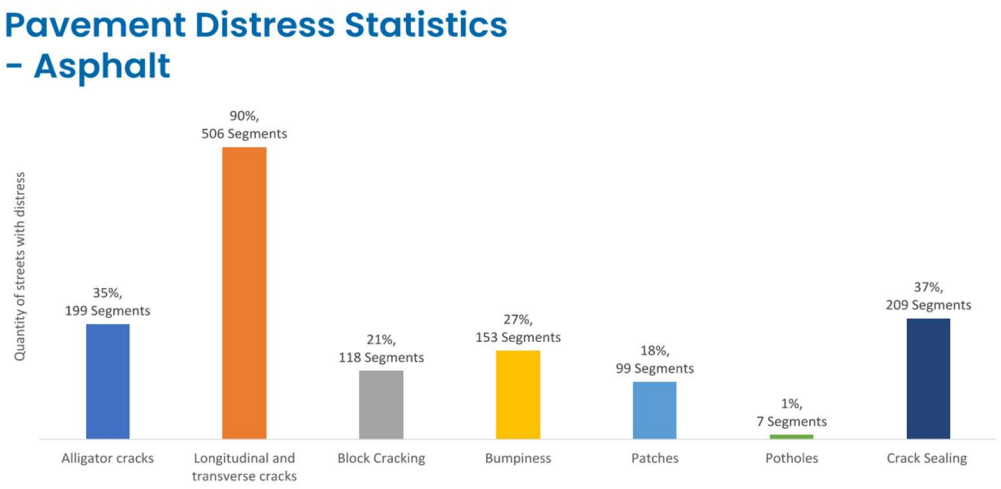
Summary of condition findings:

- **Miles by classification with average PCI**

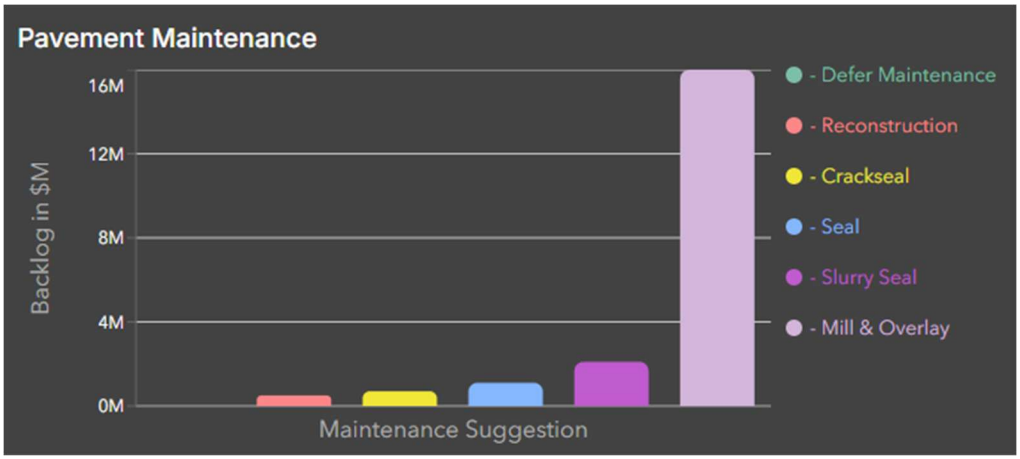
Classification	Road Miles	Average PCI
Major Arterial	7.25	71.4
Minor Arterial	7.11	70.2
Collector	9.57	75.5
Local	29.79	80.12
Future Road	1.12	N/A
Total	**54.86**	**77.28**



- **Common distresses identified (cracking, rutting, oxidation).**



- **Recommended Maintenance Suggestion Chart**



5. Pavement Management Framework

Purpose: The Pavement Management Framework establishes a consistent, data-driven system for evaluating pavement conditions, selecting appropriate treatments, and prioritizing maintenance and rehabilitation investments across the City's street network. The framework is based on the typical pavement life cycle, recognizing that most roadways are designed for an average service life of approximately 20 years when timely maintenance is performed. Early, low-cost preservation treatments can significantly extend pavement life, while deferred maintenance accelerates deterioration and leads to costly reconstruction. By applying life-cycle principles, condition data, and performance targets, the Pavement Management Framework supports proactive decision-making that maximizes the value of public investment, maintains safe and reliable streets, and aligns pavement needs with available funding.

Pavement life cycle overview and deterioration curve.

The pavement life cycle represents the stages a roadway goes through from construction to the end of its serviceable life:

- **Construction / New Pavement**
  - Pavement is built to design specifications.
  - Condition is at its peak (PCI = 100).
- **Initial Service Life**
  - Minimal deterioration occurs.
  - Routine maintenance (e.g., sealing small cracks) keeps pavement in "good" condition.
- **Preventive Maintenance Stage**
  - Small distresses appear (cracks, minor rutting, surface wear).
  - Preventive treatments (crack sealing, thin overlays) slow deterioration.
  - Maintenance costs are low relative to the value preserved.
- **Rehabilitation / Corrective Maintenance Stage**
  - Significant deterioration occurs (potholes, surface cracking, structural issues).
  - Requires more intensive repair (mill & overlay, partial reconstruction).
  - Costs increase as pavement has declined further.
- **End-of-Life / Reconstruction Stage**
  - Pavement fails structurally.
  - Full reconstruction is required.
  - Cost is highest; pavement may no longer be usable for some period.

Pavement Deterioration Curve

The deterioration curve is a graphical representation of pavement condition (e.g., PCI or ride quality) versus time:

- Y-Axis: Pavement condition index (PCI 0–100)
- X-Axis: Time (years)
- Shape of the curve: Typically, a gradually sloping line at first, then steeply declines:
  - Flat segment: Early life; condition stays high with routine maintenance.

- Mild slope: Preventive maintenance can slow decline.
- Steep slope: Deferred maintenance leads to rapid deterioration.
- End-of-life: PCI drops sharply toward failure.

Key insight:

- Early investment in maintenance preserves PCI and reduces long-term costs.
- Delaying maintenance accelerates deterioration and exponentially increases repair costs.

Definition of maintenance and rehabilitation treatments:

- Preventive (mastic patching, crack seal, slurry seal)
- Corrective (mill and overlay, patching)
- Reconstruction (full replacement of existing asphalt and base courses)

Recommended treatment selection matrix (based on PCI range).

	Arterial/Collector	**Local**
Repair Type	**PCI Range**	**PCI Range**
Reconstruction	0-45	0-30
Mill and Overlay	45-65	30-65
Chip/Slurry Seal	65-75	65-75
Crack Seal	75-90	75-90
Defer Maintenance	90+	90+

Service level and performance targets

To support effective asset management and recognize the differing roles of Liberty Lake's roadway network, pavement performance targets may be established by functional classification. These targets balance safety, mobility, and fiscal responsibility while prioritizing higher-volume and higher-risk corridors.

Arterial Streets

- **Target PCI:** ≥ **75**
- **Rationale:** Arterials carry the highest traffic volumes, support freight and emergency response, and serve as key regional and local connectors. Maintaining a higher condition standard minimizes disruptions, enhances safety, and supports economic activity.
- **Treatment Focus:** Preventive maintenance and timely rehabilitation to avoid service disruptions and costly reconstruction.

Collector Streets

- **Target PCI:** ≥ **70**
- **Rationale:** Collectors connect neighborhoods to arterial corridors and serve moderate traffic volumes. Maintaining good pavement conditions supports mobility, access, and neighborhood safety.
- **Treatment Focus:** Preservation treatments and periodic rehabilitation to extend pavement life.

Local Streets

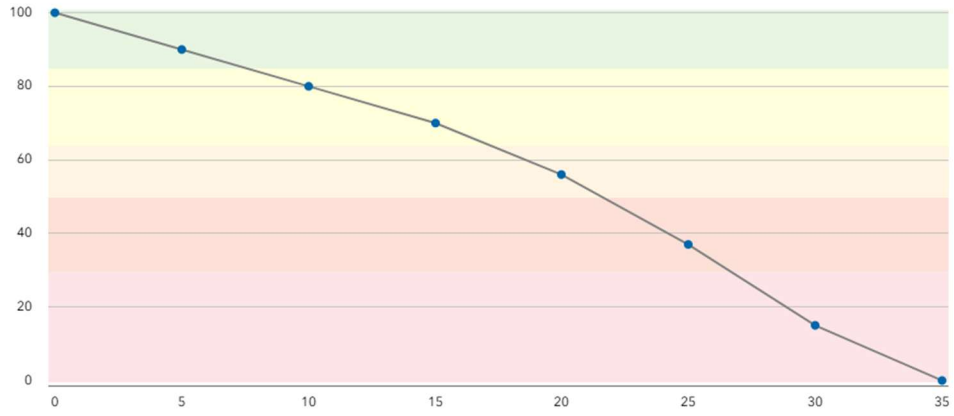
- **Target PCI:** ≥ **70**
- **Rationale:** Local streets primarily serve residential access and experience lower traffic volumes. A slightly lower target balances service expectations with available funding while maintaining safe and functional conditions.
- **Treatment Focus:** Cost-effective preservation strategies and targeted rehabilitation as conditions decline.

Systemwide Target

- **Citywide Average PCI:** ≥ **70**

This tiered approach allows the City to strategically allocate resources, prioritize critical corridors, and maintain equitable service levels across the network. Performance targets will be monitored through routine condition assessments, and targets may be adjusted over time to reflect funding availability, community priorities, and observed system performance.

- **Pavement life cycle curve diagram.** The diagram below reflects a complete degradation (100 to 0) over a 35-year period with no road maintenance being conducted.

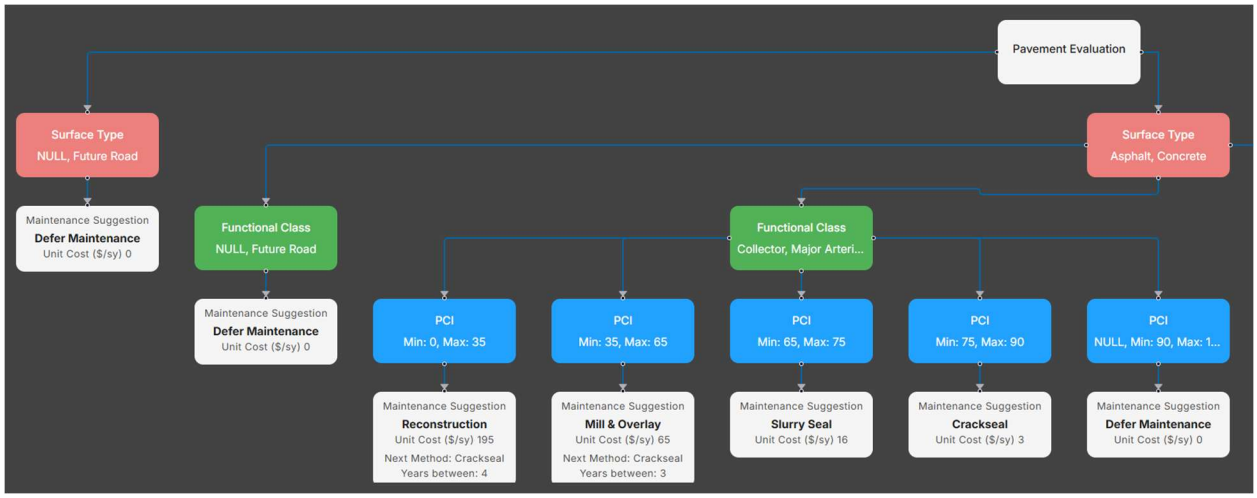


- **Treatment selection matrix table.**

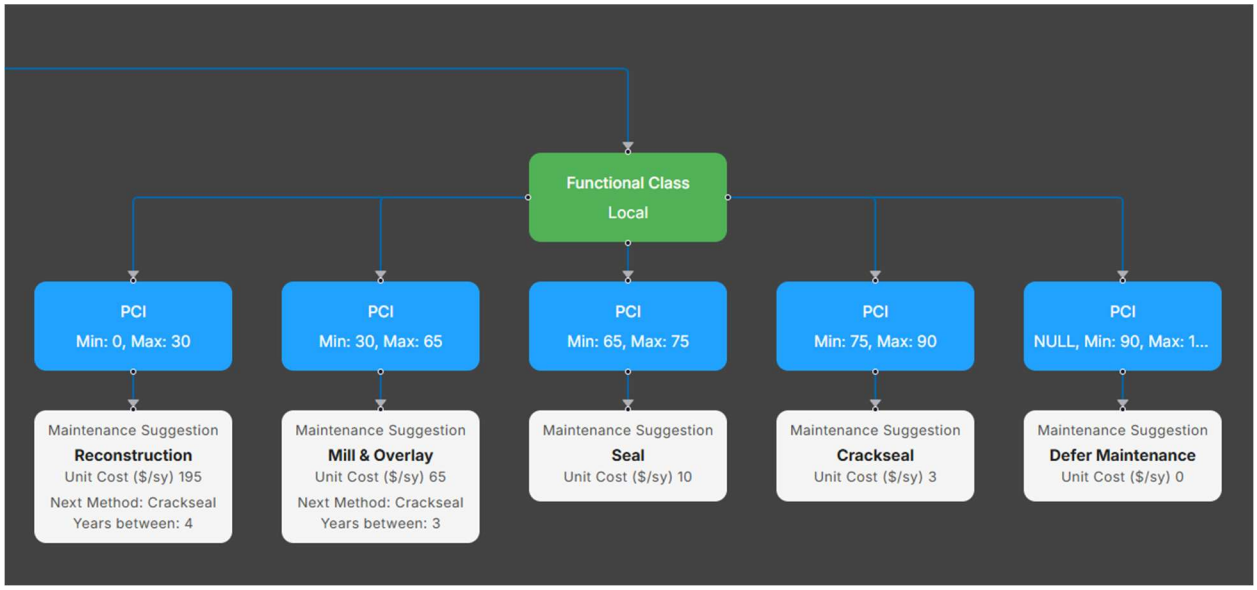
Repair Type	PCI Point Improvement	($) Cost per SY	($) Cost per SY/PCI point	Miles in each Repair Type
Reconstruction	+70 (avg 30 PCI)	$195	$2.79	0.11
Mill and Overlay	+60	$65	$1.08	12.79
Chip/Slurry Seal	+19	$10	$0.53	12.00
Crack Seal	+6	$3	$0.50	14.24
Defer Maintenance	0	$0	$0.00	15.79

- **Pavement Evaluation Decision Tree**

Arterials and Collectors



Locals



6. Project Prioritization and Ranking

Purpose: Repair and rehabilitation projects will be prioritized through a transparent, data-driven ranking process designed to ensure limited resources are invested where they provide the greatest benefit. The prioritization framework considers multiple factors, including pavement condition as measured by the Pavement Condition Index (PCI), roadway functional classification and traffic volumes, and documented safety considerations such as collision history and proximity to school routes. Additional weight is given to projects that enhance network connectivity, support Complete Streets objectives, and provide opportunities to coordinate with planned utility work. Together, these criteria allow the City to strategically prioritize pavement repair projects that improve safety, preserve infrastructure, and maximize the overall value of each investment. Scoring matrix and weightings.

Project Scoring Matrix and Weighted Prioritization Methodology

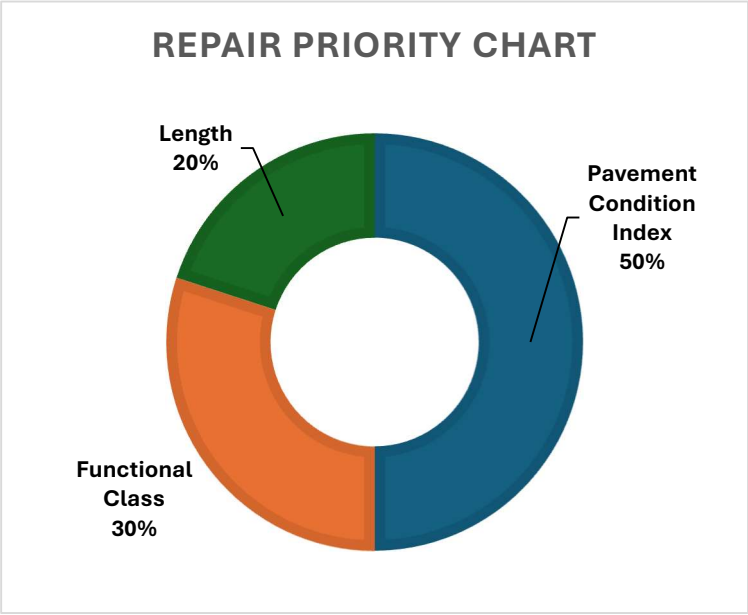
- To ensure that pavement maintenance and rehabilitation projects are prioritized objectively and transparently, the City of Liberty Lake uses a **weighted scoring matrix** based on key engineering and operational factors. This approach enables the City to allocate limited funding to projects that provide the greatest benefit to the roadway network and the traveling public.

Scoring Overview

- Each roadway segment is evaluated using a set of quantifiable criteria that reflect both pavement condition and functional importance. The scoring model assigns a weighted value to each criterion, producing a composite score that ranks segments for potential inclusion in the annual maintenance or capital improvement program.

Prioritization and Programming

- Segments are ranked by Weighted Total Score, then reviewed by City engineering and public works staff to ensure coordination with:
    - Utility projects or future development,
    - Complete Streets opportunities (e.g., bike lanes, crossings, ADA ramps),
    - Available budget and annual funding constraints.



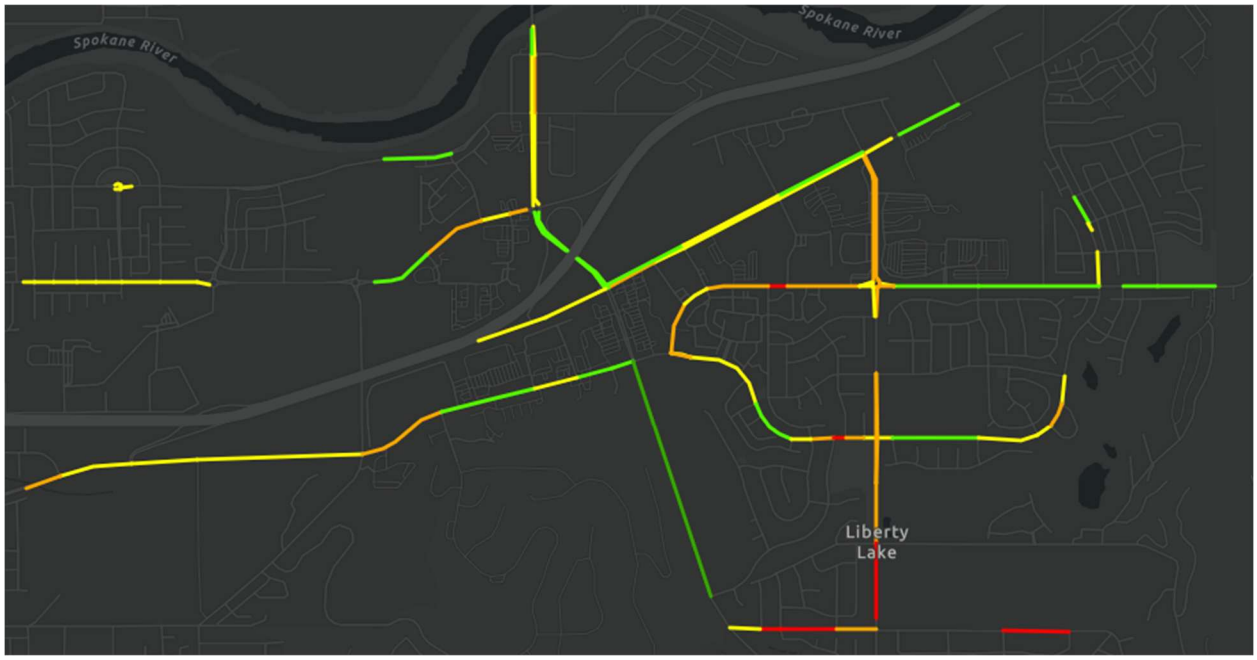
- This process balances technical data with practical field knowledge, ensuring that Liberty Lake's pavement investment decisions are both cost-effective and aligned with the City's strategic infrastructure goals.

Example cumulative scoring table with large project segments.

Street Section	Classification	AVG Repair Priority	AVG PCI	Length (ft)	Est Cost ($)
E Valleyway Ave	Minor Arterial	65.73	70.00	456	$237,120
E Indiana Ave (Eastbound)	Collector	52.49	78.60	3,783	$473,801
E Indiana Ave (Westbound)	Collector	49.72	81.50	3,480	$236,640
E Mission Ave (South)	Minor Arterial	49.67	51.80	19,323	$3,205,168
E Country Vista Dr	Minor Arterial	48.46	51.81	8,814	$1,911,831
E Country Vista Dr	Collector	45.12	67.25	18,918	$1,251,058
E Mission Ave	Minor Arterial	44.77	77.54	23,017	$3,031,840
N Molter Rd	Minor Arterial	44.31	52.37	14,750	$1,635,316
N Country Vista Blvd	Collector	42.15	77.87	9,536	$602,397
E Sprague Ave	Collector	41.97	40.20	8,371	$1,930,844
E Indiana Ave	Collector	41.09	86.37	12,486	$771,241
E Appleway Ave	Major Arterial	17.82	91.00	23,402	$423,200
E Appleway Ave (Eastbound)	Major Arterial	35.01	56.89	18,710	$1,808,826
E Appleway Ave (Westbound)	Major Arterial	21.99	79.90	6,113	$222,978
E Country Vista Dr	Major Arterial	41.11	64.06	14,170	$6,542,650
N Harvard Rd (Northbound)	Major Arterial	35.43	56.33	4,436	$505,418
N Harvard Rd (Southbound)	Major Arterial	35.82	67.50	7,262	$634,524
N Liberty Lake Rd (Northbound)	Major Arterial	28.59	74.13	2,702	$883,871

Project scoring summary. See Appendix (E) for full list of streets by repair priority

Map: Individual street segments by composite score.(>50 Repair Priority)



7. Financial Plan

Purpose: Translate the goals and recommendations of the Pavement Master Plan into a realistic, achievable funding strategy. It evaluates anticipated revenue sources against projected pavement preservation and rehabilitation needs to determine how effectively current and future funding levels support the City's objectives. By comparing desired performance outcomes with available resources, the Financial Plan identifies funding gaps, clarifies tradeoffs, and establishes a clear basis for informed policy and budget decisions. This approach allows the City to align long-term pavement condition goals with fiscal realities while providing transparency around the investments required to sustain safe, reliable, and cost-effective streets.

Unit cost assumptions for treatments (e.g., $/SY for overlay, seal coat).

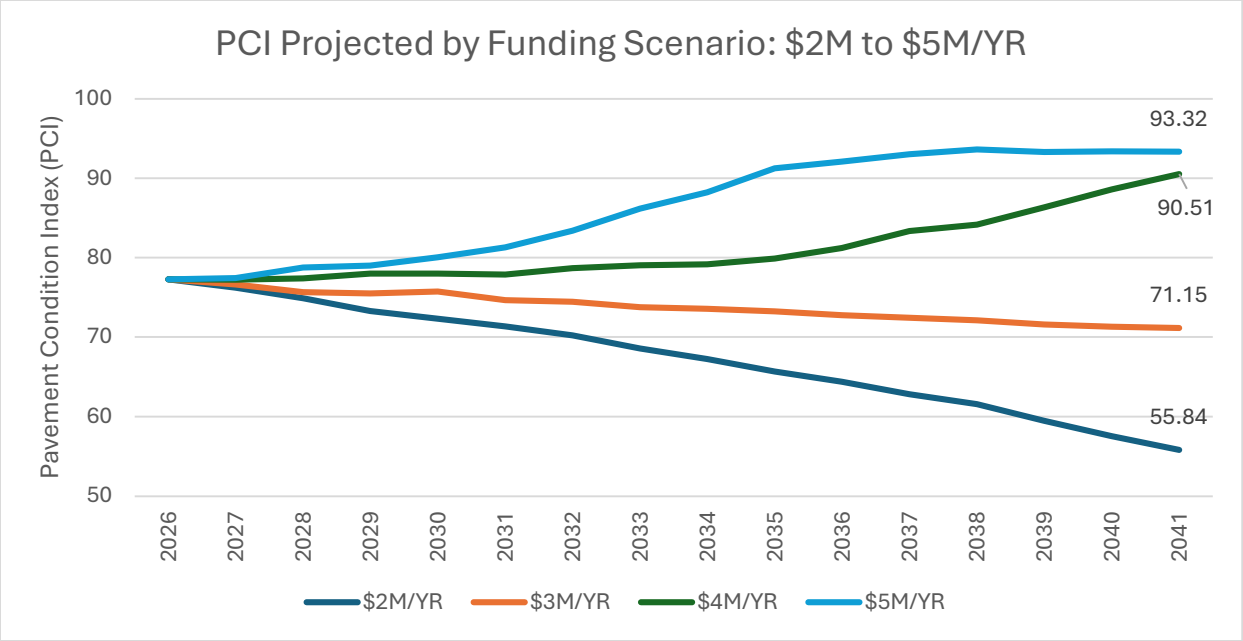
Repair Type	PCI Point Improvement	($) Cost per SY	($) Cost per SY/PCI point
Reconstruction	+70 (avg 30 PCI)	$195	$2.79
Mill and Overlay	+60	$65	$1.08
Chip/Slurry Seal	+19	$10	$0.53
Crack Seal	+6	$3	$0.50
Defer Maintenance	0	$0	$0.00

Funding scenarios modeled (2025$)

- **Baseline: Current funding levels (2026-$1.62M)**
    - Real Estate Excise Tax (REET2): $0.62M
    - Proposed Grant Funding (not guaranteed): $1.00M
    - An additional $1.16M is collected from Gas/Sales Tax Revenue
        - This revenue source funds day-to-day public works operations such as snow plowing, signage replacement, traffic control maintenance, street striping, roadside mowing/landscaping, and other operational functions that do not contribute directly to maintaining pavement condition.
- **Optimal: Funding needed to maintain or improve PCI. ($2.8-3.5M/YR)**
    - PCI-70: $2.81M
    - PCI-75: $3.06M
    - PCI-80: $3.45M
- **Deferred: Consequences of underfunding.**
    - $1.62M/yr CFP budget planning scenario (REET2 + $1M Grant)
        - Overall PCI decreases from 77.28 (2025) to 57.29 (2041)
        - Backlog increases from $20M in 2026 to $64M (2026$) in 2041

- **Funding sources:**
    - Local (Sales Tax, Gas Tax, REET, Transportation Benefit District, Streets Capital Fund).
    - Grants (TIB, FHWA, SRTC, Complete Streets).
    - Utility cost sharing and developer impact fees
        - Utility Tax was eliminated in 2023 resulting in an approximate 20% reduction in revenue when replaced by a combination of sales and gas taxes.

Graph: PCI projection under different funding scenarios.



Sustained and predictable funding is critical to preserving Liberty Lake's pavement network and avoiding the escalating costs and risks associated with deferred maintenance. When routine preservation is delayed, pavement deterioration accelerates, leading to significantly higher long-term repair costs, increased safety hazards, and greater disruption to the community. Proactive investment allows the City to address issues early—when treatments are most cost-effective—while maintaining safe travel conditions, reducing vehicle operating costs for residents, supporting economic activity, and minimizing environmental impacts. Consistent funding also strengthens the City's competitiveness for state and federal grants by demonstrating sound asset management practices and maintaining infrastructure performance standards. By prioritizing timely pavement preservation, the Pavement Master Plan provides a fiscally responsible strategy that protects public investment, enhances quality of life, and ensures the long-term reliability of Liberty Lake's transportation system.

8. Implementation Plan

Next Steps

The City will continue to refine the PMP through regular updates to condition assessments, coordination with the Capital Improvement Program (CIP), and alignment with regional transportation plans. The next update will incorporate pavement performance modeling to forecast future funding needs and optimize maintenance schedules.

Deliverables:

- 5-Year and 10-Year project lists with estimated costs and scope types.
- Annual work plan template (for updates to TIP and budget).
- Coordination process for utilities and development.
    - Regional Pavement Cut Policy
    - Updated Engineering standards
- Recommended timeline for plan updates (every 3 years).
- Rescanning of city streets (every 5 years).
- Year-by-year pavement program. See Appendix D.
- Map: 6-year project plan.

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9. Complete Streets Integration (Pending; to be completed post-2026)

Purpose: Embed multimodal and accessibility improvements into pavement planning.
Include:

- Overview of Liberty Lake's Complete Streets policy goals.
- Crosswalk of Complete Streets and pavement objectives (e.g., smooth surfaces → safer cycling).
- Corridor design standards: lane widths, bike facilities, ADA ramps, and crossings.
- Integration strategy:
    - Identify pavement projects where multimodal upgrades can be added.
    - Prioritize locations with schools, parks, or missing sidewalk links.
- Include a Complete Streets "checklist" to be used during project scoping.
- Example cross-sections (before/after Complete Streets integration).
- Map highlighting candidate corridors for multimodal upgrades.

10. Policy and Program Recommendations

Purpose: Identify supporting policies and procedures for long-term success.
Include:

- Pavement preservation policy (“fix good roads first”).
- Complete Streets implementation checklist and training. (pending completion of Complete Streets Program in 2026)
- Standard details for utility trench restoration. Pavement cut policy
- Pavement management software recommendations (e.g., StreetSaver, Cartegraph).
- Annual performance reporting methods (public dashboard, council briefings).

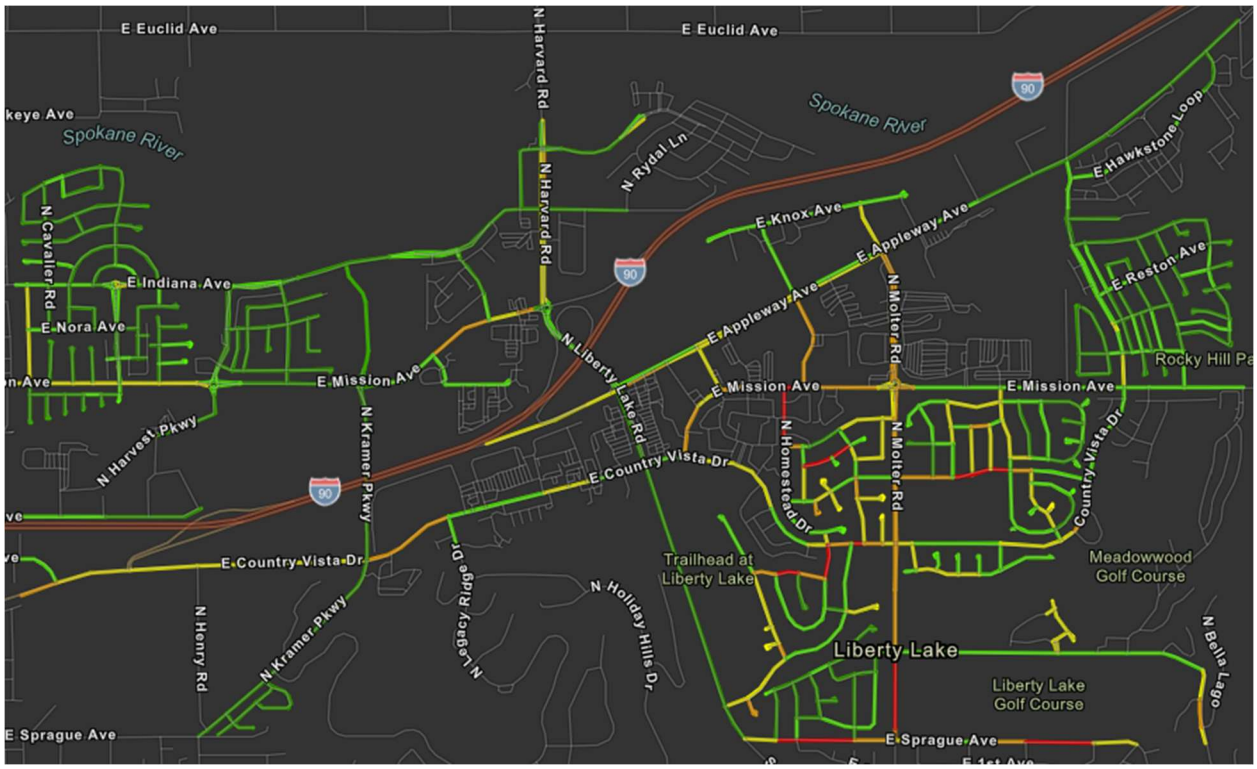
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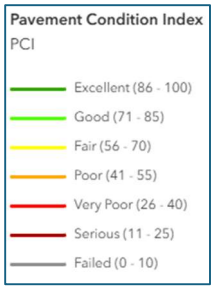
11. Appendices

- **Appendix A: Pavement Condition Maps**
- **Appendix B: Functional Classification Map**
- **Appendix C: Average Repair Priority/PCI Tables by Street (2026)**
- **Appendix D: Street Segment Data with 2026 Maintenance Suggestion**
- **Appendix E: 2026 Capital Facilities Plan (6-yr Transportation Improvements)**
- **Appendix F: Funding Program Summaries (TIB, WSDOT, FHWA)**
- **Appendix G: Glossary and Acronyms**

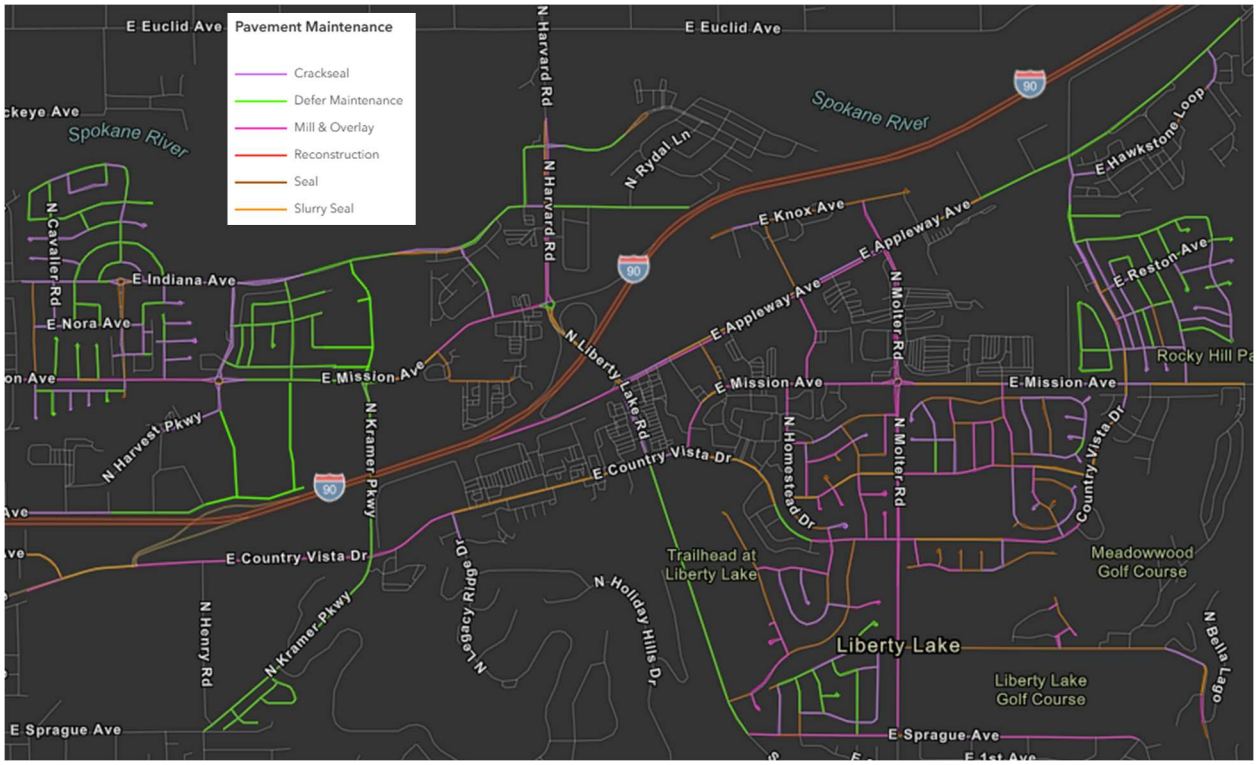
Appendix A: Pavement Condition Maps and Segment Data

Pavement Condition Index





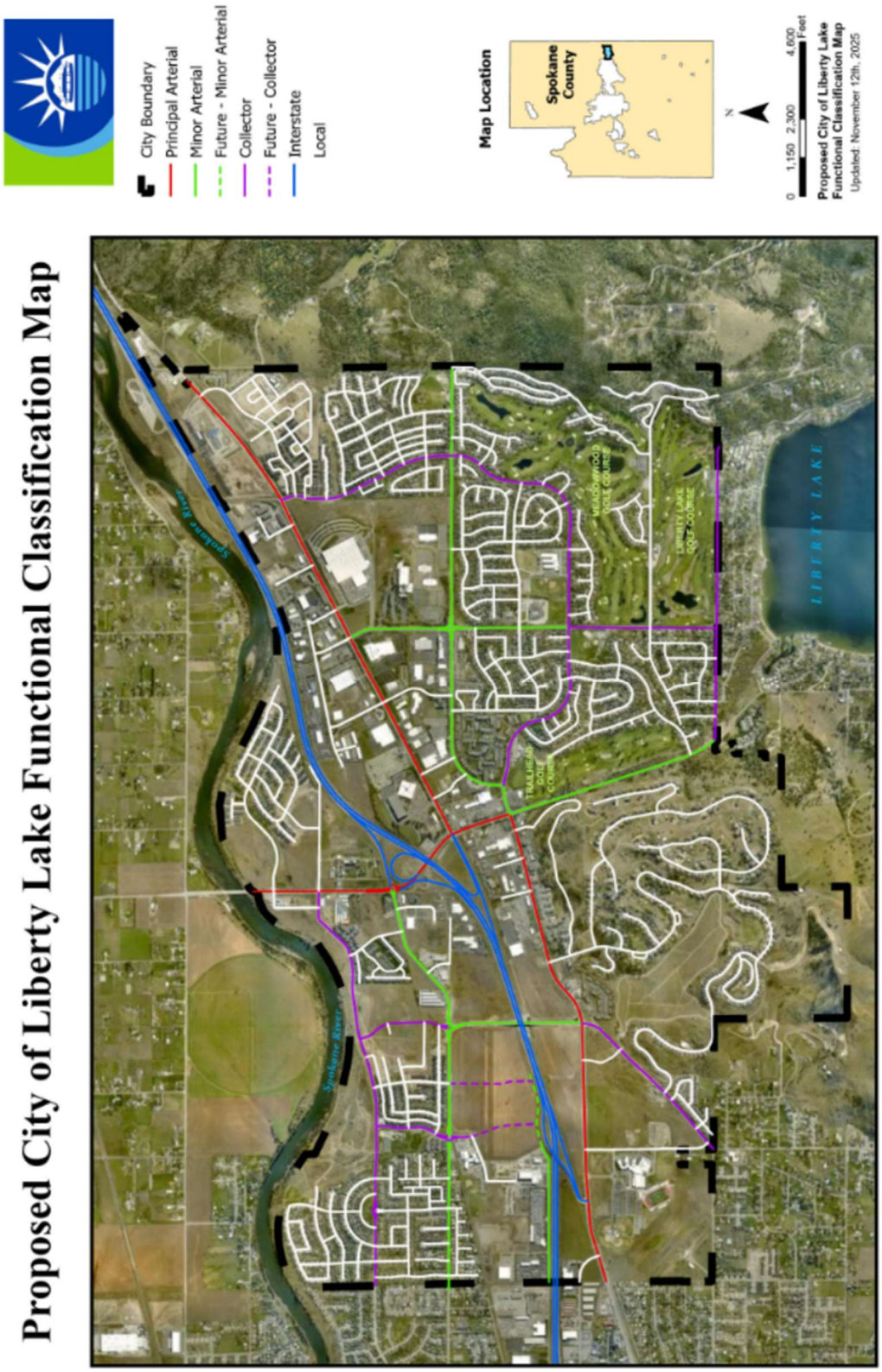
Pavement Maintenance Suggestions (2026)



Pavement Distress Sample Map (Country Vista/Molter)



Appendix B: Functional Classification Map



Appendix C: Average Repair Priority/PCI Tables by Street (2026)

Major Arterial

Street Name	Average Repair Priority	Avg of PCI	Length (ft)
E Appleway Ave	17.82	91.00	23,402
E Appleway Ave (Eastbound)	35.01	56.89	18,710
E Appleway Ave (Westbound)	21.99	79.90	6,113
E Country Vista Dr	41.11	64.06	14,170
N Harvard Rd (Northbound)	35.43	56.33	4,436
N Harvard Rd (Southbound)	35.82	67.50	7,262
N Liberty Lake Rd (Northbound)	28.59	74.13	2,702
N Liberty Lake Rd (Southbound)	21.36	87.50	8,478
Roundabout (Harvard/Mission)	11.01	92.80	2,271

Minor Arterial

Street Name	Average Repair Priority	Avg of PCI	Length (ft)
E Country Vista Dr	61.39	83.00	593
E Mission Ave	44.77	77.54	23,017
E Mission Ave (South)	49.67	51.80	19,323
E Valleyway Ave	65.73	70.00	456
Kramer Pkwy	39.07	100.00	2,972
N Liberty Lake Rd	39.73	96.00	2,875
N Molter Rd	44.31	52.37	14,750
Roundabout (Harvest/Mission)	40.43	80.43	1,236
Roundabout (Kramer/Mission)	35.94	100.00	1,390
Roundabout (Molter/Mission)	43.78	58.71	1,364

Collector

Street Name	Average Repair Priority	Avg of PCI	Length (ft)
E Country Vista Dr	46.31	60.27	27,139
E Indiana Ave	41.09	86.37	12,486
E Indiana Ave (Eastbound)	52.49	78.60	3,783
E Indiana Ave (Westbound)	49.72	81.50	3,480
E Sprague Ave	41.97	40.20	8,371
N Country Vista Blvd	42.15	77.87	9,536
N Harvest Pkwy	27.10	83.00	129
N Henry Rd	37.30	96.00	1,010
N Kramer Pkwy	50.73	96.78	14,098
N Kramer Rd	37.07	94.00	820
N Molter Rd	43.34	47.38	14,194
Roundabout (Holl/Indiana)	39.39	67.71	1,369

Local

Street Name	Average Repair Priority	Avg of PCI	Length (ft)
Cornerstone Way	51.08	74.00	555
E Alki Ln	19.72	62.00	444
E Autumn Crossing Ave	16.88	79.00	1,071
E Bergamot Ave	33.95	86.00	145
E Bitterroot St	13.12	79.00	742
E Boone Ave	16.60	33.00	1,565
E Broadway Ave	23.67	52.88	8,817
E Cataldo Ave	52.28	77.00	1,273
E Cataldo Ct	27.61	66.00	442
E Colony Ct	19.15	61.00	2,328
E Desmet Ct	19.52	56.00	2,044
E Desmet Rd	29.68	71.00	1,242
E George Gee Ave	31.78	73.00	2,106
E Hawkstone Loop	34.31	76.67	2,193
E Kalama Ave	20.12	91.00	1,372
E Knox Ave	23.16	74.17	8,038
E Maxwell Ave	29.20	67.63	3,373
E Maxwell Dr	24.69	68.00	2,451
E Olive Ln	16.36	59.33	2,356
E Prestwick Pl	20.00	64.00	489
E Riverwalk Ave	23.23	93.00	1,782
E Schniedmiller Ct	20.97	64.00	831
E Settler Dr	26.79	68.20	8,124

Street Name	Average Repair Priority	Avg of PCI	Length (ft)
E Shannon Ave	18.17	77.00	3,336
E Sharp Ave	20.84	82.75	2,906
E Sharp Dr	21.72	66.00	1,206
E Sinto Ave	19.45	46.50	6,010
E Sinto Ct	18.64	85.00	2,106
E Valleyway Ave	43.03	74.98	38,247
E Wellington Pkwy	24.79	68.60	2,482
Malvern St	22.78	63.73	4,741
Maxwell Ave	19.26	60.00	1,370
N Aladdin Rd	26.26	67.60	3,618
N Drury Ct	21.86	60.67	2,204
N Eagle Rd	24.33	64.00	2,013
N Etta Ct	51.05	72.00	221
N Fairway Ct	50.53	73.00	394
N Fairway Rd	24.39	62.80	1,661
N Garry Dr	23.01	65.90	14,057
N Harvard Rd	26.42	70.00	462
N Holl Blvd	50.10	74.00	187
N Holl Rd	23.64	70.40	5,072
N Homestead Dr	18.25	39.20	8,687
N Kelsea Ct	18.00	48.00	1,520
N Knudson Ct	18.53	42.00	1,220
N Knudson St	22.12	50.33	3,565
N Lakeside Rd	19.62	42.00	1,732
N Madson St	22.55	69.81	11,688
N Malvern Rd	21.47	62.00	2,120
N Mitchell Ct	23.01	61.00	1,494
N Mitchell Rd	19.53	58.00	2,356
N Molter Rd	20.63	61.00	3,024
N Oakland Rd	17.54	81.00	2,030
N Ormond Ct	28.40	72.00	684
N Signal Rd	23.61	67.00	2,178
N Simpson Rd	22.12	63.64	4,744
N Stevenson Ct	51.49	74.00	350
N Stevenson Rd	20.34	59.00	2,840
N Swing St	18.50	58.00	1,624
N Village Ln	21.80	64.50	2,250
N Winchester St	21.83	95.00	652
N Winchester St	49.99	75.00	644
N Wright Blvd	25.97	61.00	5,038

Appendix D: Street Segment Data with 2026 Maintenance Suggestion

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
504	Cornerstone Way	E Mission Ave	E George Gee Ave	Local	74	Seal	21.45
583	E Alki Ln	End	N Village Ln	Local	62	Mill & Overlay	27.99
496	E Appleway Ave	N Fairway Ln	N Swing Ln	Major Arterial	74	Slurry Seal	53.92
497	E Appleway Ave	E Appleway Ave	E Appleway Ave	Major Arterial	100	Defer	34.39
498	E Appleway Ave	N Country Vista Dr	N Eagle Ln	Major Arterial	100	Defer	32.65
499	E Appleway Ave	E Appleway Ave	E Country Vista Dr	Major Arterial	99	Defer	34.22
500	E Appleway Ave	N Village Way	N Village Way	Major Arterial	100	Defer	36.12
501	E Appleway Ave	Hawkstone Loop	N Village Way	Major Arterial	100	Defer	33.47
502	E Appleway Ave	N Rocky Hill Ln	N Rocky Hill Ln	Major Arterial	98	Defer	34.74
12	E Appleway Ave (Eastbound)	N Madson St	N Signal Rd	Major Arterial	58	Mill & Overlay	68.85
27	E Appleway Ave (Eastbound)	N Signal Rd	N Meadowwood Ln	Major Arterial	58	Mill & Overlay	62.94
355	E Appleway Ave (Eastbound)	N Swing Ln	N Molter Rd	Major Arterial	60	Mill & Overlay	61.36
550	E Appleway Ave (Eastbound)	N Molter Rd	N Madson St	Major Arterial	56	Mill & Overlay	69.24
554	E Appleway Ave (Eastbound)	N Meadowwood Ln	E Appleway Ave	Major Arterial	54	Mill & Overlay	67.20
354	E Appleway Ave (Westbound)	N Swing Ln	N Molter Rd	Major Arterial	82	Crackseal	46.08
356	E Appleway Ave (Westbound)	E Appleway Ave	E Appleway Ave	Major Arterial	75	Slurry Seal	50.73
551	E Appleway Ave (Westbound)	N Molter Rd	N Madson St	Major Arterial	80	Crackseal	51.92
552	E Appleway Ave (Westbound)	N Madson St	E Appleway Ave	Major Arterial	68	Slurry Seal	61.58
555	E Appleway Ave (Westbound)	E Appleway Ave	E Appleway Ave	Major Arterial	76	Crackseal	51.21
109	E Augusta Ave	N Willamette Rd	N Marne Ln	Local	86	Crackseal	10.56
363	E Augusta Ave	N Holl Blvd	End	Local	83	Crackseal	12.87
463	E Augusta Ave	N Marne Ln	N Holl Blvd	Local	76	Crackseal	17.95
137	E Augusta Ct	End	N Glenbrook Rd	Local	82	Crackseal	15.35
409	E Augusta Ln	End	N Willamette Rd	Local	93	Defer	5.38
84	E Autumn Crossing Ave	E Autumn Crossing Ave	N Wolfe Penn St	Local	79	Crackseal	15.70
85	E Autumn Crossing Ave	N Winrock St	N Winchester St	Local	85	Crackseal	12.13
130	E Autumn Crossing Ave	E Autumn Crossing Ave	N Country Vista Blvd	Local	87	Crackseal	9.87
161	E Autumn Crossing Ave	N Oakland St	N Carson Range St	Local	91	Defer	8.42
162	E Autumn Crossing Ave	N Country Vista Blvd	N Oakland Rd	Local	83	Crackseal	13.22
315	E Autumn Crossing Ave	N Winchester St	N Wolfe Penn - Winchester Aly	Local	84	Crackseal	12.05
427	E Autumn Crossing Ave	N Wolfe Penn St	N Country Vista - Wolfe Penn A	Local	84	Crackseal	12.08
132	E Baldwin Ave	End	N Glenbrook Rd	Local	90	Crackseal	9.65
437	E Bergamot - Ludlow Aly	N Forest Ridge St	N Winrock St	Local	85	Crackseal	14.88
86	E Bergamot Ave	N Winrock St	N Winchester St	Local	100	Defer	1.24
87	E Bergamot Ave	E Autumn Crossing Ave	N Wolfe Penn St	Local	100	Defer	0.48
89	E Bergamot Ave	E Reston Ave	E Country Vista Dr	Local	90	Crackseal	7.65
316	E Bergamot Ave	N Winchester St	N Wolfe Penn - Winchester Aly	Local	86	Crackseal	10.58
317	E Bergamot Ave	N Wolfe Penn St	N Country Vista - Wolfe	Local	87	Crackseal	9.88

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
171	E Bergamot Ct	N Forest Ridge St	End	Local	90	Crackseal	10.42
404	E Bitterroot St	E Indiana Ave	Courtyard Ln	Local	89	Crackseal	8.16
405	E Bitterroot St	E Indiana Ave	Courtyard Ln	Local	79	Crackseal	15.45
406	E Bitterroot St	Courtyard Ln	E Bitterroot St	Local	87	Crackseal	9.94
165	E Blue Ridge Ave	E Reston Ave	E Country Vista Dr	Local	92	Defer	6.40
208	E Blue Ridge Ave	N Winrock St	N Country Vista - Wolfe Penn A	Local	98	Defer	5.34
217	E Blue Ridge Ave	N Forest Ridge St	N Smt Ct	Local	95	Defer	5.91
312	E Blue Ridge Ave	N Wilmington St	N Winrock St	Local	91	Defer	7.73
313	E Blue Ridge Ave	N Smt Ct	N Wilmington St	Local	95	Defer	4.88
36	E Boone Ave	N Molter Rd	N Wright Blvd	Collector	71	Slurry Seal	23.88
66	E Boone Ave	E Country Vista Dr	N Simpson Rd	Collector	73	Slurry Seal	23.87
99	E Boone Ave	N Ormond Rd	N Molter Rd	Collector	51	Mill & Overlay	38.16
172	E Boone Ave	N Simpson Rd	Malvern St	Collector	42	Mill & Overlay	43.38
233	E Boone Ave	Malvern St	N Eagle Rd	Collector	34	Reconstruction	49.06
234	E Boone Ave	N Knudson St	N Madson St	Collector	72	Slurry Seal	20.90
238	E Boone Ave	N Madson St	N Homestead Dr	Collector	74	Slurry Seal	20.04
248	E Boone Ave	N Wright Blvd	N Drury Ct	Collector	74	Slurry Seal	20.89
267	E Boone Ave	N Eagle Rd	N Stevenson Rd	Collector	37	Mill & Overlay	46.81
276	E Boone Ave	N Stevenson Rd	N Fairway Rd	Local	33	Mill & Overlay	49.88
277	E Boone Ave	N Fairway Rd	N Ormond Dr	Collector	46	Mill & Overlay	40.34
471	E Boone Ave	N Drury Ave	E Boone Ave	Collector	61	Mill & Overlay	29.31
219	E Broadway Ave	E Broadway Ave	E Appleway Ave	Minor Arterial	73	Slurry Seal	23.01
303	E Broadway Ave	N Eagle Rd	N Stevenson Ct	Local	76	Crackseal	18.89
304	E Broadway Ave	End	N Eagle Rd	Local	75	Seal	22.57
305	E Broadway Ave	N Knudson St	N Madson Ct	Local	44	Mill & Overlay	42.42
306	E Broadway Ave	N Ormond Ct	N Swing St	Local	63	Mill & Overlay	28.11
307	E Broadway Ave	N Stevenson Ct	N Fairway Ct	Local	66	Seal	25.95
308	E Broadway Ave	N Madson Ct	N Homestead Dr	Local	34	Mill & Overlay	49.32
309	E Broadway Ave	N Homestead Dr	N Garry Dr	Local	48	Mill & Overlay	39.18
310	E Broadway Ave	N Fairway Ct	N Ormond Ct	Local	62	Mill & Overlay	29.04
492	E Broadway Ave	N Swing St	End	Local	73	Seal	20.55
447	E Cataldo Ave	E Cataldo Ave	E Cataldo Ave	Local	77	Crackseal	23.09
565	E Cataldo Ave	E Cataldo Ave	E Cataldo Ave	Local	98	Defer	8.96
103	E Cataldo Ct	N Simpson Rd	End	Local	76	Crackseal	18.19
104	E Cataldo Ct	End	N Simpson Rd	Local	66	Seal	25.48
167	E Caufield Ave	N Holl Blvd	E Shannon Ave	Local	93	Defer	8.61
522	E Caufield Ave	E Caufield Ave	E Indiana Ave	Local	95	Defer	4.78
177	E Cirque Ln	N Cirque Ln	N Willamette Rd	Local	90	Crackseal	7.65
41	E Colleen Ct	End	N Knudson St	Local	93	Defer	6.69

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
474	E Colony Ct	End	E Settler Dr	Local	61	Mill & Overlay	31.02
246	E Colony St	E Settler Dr	N Homestead Dr	Local	86	Crackseal	11.42
25	E Country Vista Dr	E Mission Ave	N Liberty Lake Rd	Minor Arterial	83	Crackseal	45.13
44	E Country Vista Dr	E Appleway Ave	E Hawkstone Loop	Collector	82	Crackseal	44.36
52	E Country Vista Dr	N Kramer Rd	N Henry Ln	Major Arterial	64	Mill & Overlay	69.28
74	E Country Vista Dr	N Molter Rd	N Mitchell Ct	Collector	58	Mill & Overlay	61.07
75	E Country Vista Dr	E Mission Ave	Maxwell Ln	Collector	75	Slurry Seal	48.75
100	E Country Vista Dr	N Swing St	N Molter Rd	Collector	59	Mill & Overlay	60.64
158	E Country Vista Dr	E Country Vista Dr	E Eaglebend Ln	Collector	70	Slurry Seal	58.75
191	E Country Vista Dr	N Legacy Ridge Dr	E Kramer Rd	Major Arterial	55	Mill & Overlay	69.84
230	E Country Vista Dr	Eagle St	N Swing St	Collector	72	Slurry Seal	56.96
244	E Country Vista Dr	E Settler Dr	E Colony Ct	Collector	52	Mill & Overlay	66.30
245	E Country Vista Dr	E Eaglebend Ln	N Doral Ln	Collector	72	Slurry Seal	54.31
255	E Country Vista Dr	N Wright Blvd	E Settler Dr	Collector	36	Mill & Overlay	77.02
279	E Country Vista Dr	N Knudson St	N Doral Ln	Collector	63	Mill & Overlay	58.08
297	E Country Vista Dr	N Mitchell Ct	N Wright Blvd	Collector	45	Mill & Overlay	71.07
299	E Country Vista Dr	E Pinehurst Ln	N Simpson Rd	Collector	58	Mill & Overlay	61.43
300	E Country Vista Dr	E Boone Ave	E Pinehurst Ln	Collector	60	Mill & Overlay	60.92
301	E Country Vista Dr	N Simpson Rd	N Eagle Rd	Collector	61	Mill & Overlay	62.92
444	E Country Vista Dr	N Henry Ln	E Appleway Ave	Major Arterial	65	Mill & Overlay	60.49
445	E Country Vista Dr	I-90 Flyover	E Broadway Ave	Major Arterial	69	Slurry Seal	58.11
446	E Country Vista Dr	E Broadway Ave	West City Limits	Major Arterial	55	Mill & Overlay	65.16
475	E Country Vista Dr	E Mission Ave	E Country Vista Dr	Collector	68	Slurry Seal	54.60
476	E Country Vista Dr	E Mission Ave	E Country Vista Dr	Collector	42	Mill & Overlay	73.40
478	E Country Vista Dr	N Liberty Heights Ln	N Stanford Ln	Major Arterial	72	Slurry Seal	53.00
479	E Country Vista Dr	N Whitman Ln	N Legacy Ridge Dr	Major Arterial	72	Slurry Seal	57.77
480	E Country Vista Dr	N Stanford Ln	N Whitman Ln	Major Arterial	68	Slurry Seal	56.48
481	E Country Vista Dr	N Liberty Lake Rd	N Liberty Heights Ln	Major Arterial	72	Slurry Seal	51.78
489	E Country Vista Dr	E Maxwell Ln	E Sharp Ln	Collector	76	Crackseal	49.28
490	E Country Vista Dr	Sharp Ln	E Boone Ave	Collector	72	Slurry Seal	55.05
491	E Country Vista Dr	Pinehurst Ln	Pinehurst Ln	Collector	55	Mill & Overlay	64.29
145	E Deschutes Ave	E Deschutes Ave	E Nora Ave	Local	91	Defer	9.55
179	E Deschutes Ave	End	N Glenbrook Ave	Local	87	Crackseal	11.11
199	E Deschutes Ave	N Meyers Rd	N Caufield Rd	Local	96	Defer	4.62
226	E Deschutes Ave	N Snoqualmie Rd	E Nora Ave	Local	92	Defer	10.23
572	E Deschutes Ave	Undefined	Undefined	Local	100	Defer	2.62
254	E Desmet Ct	End	N Wright Blvd	Local	56	Mill & Overlay	34.26
485	E Desmet Ct	End	E Desmet Rd	Local	77	Crackseal	17.08
483	E Desmet Rd	N Simpson Rd	E Desmet Rd	Local	71	Seal	23.98
484	E Desmet Rd	E Desmet Rd	N Simpson Rd	Local	88	Crackseal	11.80

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
364	E Domrese Ave	N Wichester St	N Wolfe Penn St	Local	95	Defer	4.95
505	E George Gee Ave	End	Cornerstone Way	Local	73	Seal	24.82
525	E Glenbrook Ave	N Holl Blvd	E Indiana Ave	Local	92	Defer	10.79
33	E Hawkstone Loop	E Pinnacle Ct	N Osprey Ln	Local	82	Crackseal	14.77
34	E Hawkstone Loop	Talon Ln	N Village Way	Local	75	Seal	23.34
62	E Hawkstone Loop	N Osprey Ln	N Country Vista Blvd	Local	79	Crackseal	17.50
81	E Hawkstone Loop	N Village Way	N Red Tail Ln	Local	80	Crackseal	14.68
117	E Hawkstone Loop	N Red Tail Ln	N Swainson Ln	Local	81	Crackseal	14.68
123	E Hawkstone Loop	E Hawkstone Loop	Talon Ln	Local	86	Crackseal	13.26
156	E Hawkstone Loop	N Swainson Ln	E Pinnacle Ct	Local	80	Crackseal	15.75
59	E Indiana Ave	E Meyers Ave	E Caufield Ave	Collector	83	Crackseal	43.95
60	E Indiana Ave	E Indiana Ave	E Meyers Ave	Collector	96	Defer	33.39
133	E Indiana Ave	E Caufield Ave	N Cavalier Rd	Collector	83	Crackseal	43.64
136	E Indiana Ave	E Indiana Ave	Roundabout	Collector	81	Crackseal	44.38
168	E Indiana Ave	E Deschutes Ave	E Meyers Ave	Collector	86	Crackseal	41.47
192	E Indiana Ave	N Aladdin Rd	E Indiana Ave	Collector	77	Crackseal	47.18
195	E Indiana Ave	E Indiana Ave	N Aladdin Rd	Collector	79	Crackseal	46.57
212	E Indiana Ave	N Meyers Ave	E Indiana Ave	Collector	95	Defer	33.94
369	E Indiana Ave	E Indiana Ave	E Meyers Ave	Collector	78	Crackseal	46.36
370	E Indiana Ave	E Indiana Ave	E Meyers Ave	Collector	76	Crackseal	47.81
371	E Indiana Ave	E Indiana Ave	Roundabout	Collector	68	Slurry Seal	53.77
528	E Indiana Ave	N Harvest Pkwy	N Glenbrook Ave	Collector	90	Crackseal	42.41
529	E Indiana Ave	N Rydal Ln	N Harvard Rd	Local	96	Defer	9.18
538	E Indiana Ave	N Harvard Rd	E Wellington Pkwy	Collector	89	Crackseal	39.26
539	E Indiana Ave	E Wellington Pkwy	E Indiana Ave	Collector	100	Defer	32.70
544	E Indiana Ave	E Indiana Ave	E Indiana Ave	Collector	95	Defer	40.77
549	E Indiana Ave	E Indiana Ave	N Harvest Pkwy	Collector	85	Crackseal	41.03
540	E Indiana Ave (Eastbound)	E Indiana Ave	N Bitterroot St	Collector	98	Defer	34.50
543	E Indiana Ave (Eastbound)	N Bitterroot St	E Indiana Ave	Collector	74	Slurry Seal	54.03
545	E Indiana Ave (Eastbound)	E Indiana Ave	N Snoqualmie Rd	Collector	83	Crackseal	43.51
547	E Indiana Ave (Eastbound)	N Snoqualmie Rd	E Indiana Ave	Collector	81	Crackseal	47.19
541	E Indiana Ave (Westbound)	E Indiana Ave	N Bitteroot St	Collector	98	Defer	34.42
542	E Indiana Ave (Westbound)	N Bitterroot St	E Indiana Ave	Collector	82	Crackseal	48.22
546	E Indiana Ave (Westbound)	E Indiana Ave	N Snoqualmie Rd	Collector	86	Crackseal	41.35
548	E Indiana Ave (Westbound)	N Snoqualmie Rd	E Indiana Ave	Collector	81	Crackseal	47.16
511	E Kalama Ave	End	N Holl Blvd	Local	100	Defer	1.93
516	E Kalama Ave	N Cavalier Rd	N Aladdin Rd	Local	91	Defer	8.01
518	E Kalama Ave	N Salmon River St	N Cavalier Rd	Local	97	Defer	4.30
519	E Kalama Ave	N Holl Blvd	N Salmon River St	Local	96	Defer	6.35
6	E Knox Ave	End	N Molter Rd	Local	71	Seal	25.14

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
10	E Knox Ave	N McKinzie Ln	End	Local	75	Seal	19.99
30	E Knox Ave	E Appleway Ave	Madson	Local	74	Seal	26.58
111	E Knox Ave	N Cavalier Rd	End	Local	89	Crackseal	10.07
169	E Knox Ave	N Madson St	N McKinzie Ln	Local	78	Crackseal	18.26
521	E Knox Ave	N Salmon River St	N Cavalier Rd	Local	90	Crackseal	10.07
527	E Knox Ave	N Holl Blvd	E Kalama Ave	Local	97	Defer	4.46
186	E Knox Ct	End	N Holl Blvd	Local	90	Crackseal	9.60
326	E Legacy Flts Rd	E Mdw Spg Lp	E Legacy Spgs Ct	Local	100	Defer	2.13
327	E Legacy Flts Rd	E Legacy Spgs Ct	End	Local	100	Defer	1.19
451	E Legacy Flts Rd	E Mdw Spg Lp	E Mdw Spg Lp	Local	100	Defer	1.48
324	E Legacy Spgs Ct	N Kramer Pkwy	E Legacy Flts Rd	Local	100	Defer	0.58
325	E Legacy Spgs Ct	E Legacy Flts Rd	End	Local	100	Defer	1.39
106	E Ludlow Ave	N Forest Ridge St	N Winrock St	Local	93	Defer	9.48
139	E Main Ave	N Mitchell Dr	E Riverside Ave	Local	89	Crackseal	9.26
412	E Main Ave	E Main Ave	N Wright Blvd	Local	91	Defer	9.17
361	E Mallon Ct	N Malvern Rd	End	Local	75	Seal	18.55
5	E Marti Ct	N Oakland Rd	End	Local	85	Crackseal	12.31
2	E Maxwell Ave	N Meyers Ct	N Colonial Ct	Local	80	Crackseal	15.59
93	E Maxwell Ave	N Samantha Rd	Malvern St	Local	74	Seal	20.04
96	E Maxwell Ave	N Molter Rd	N Mitchell Rd	Local	64	Mill & Overlay	26.70
97	E Maxwell Ave	N Mitchell Rd	N Right Blvd	Local	67	Seal	27.31
124	E Maxwell Ave	N Simpson Rd	N Samantha Rd	Local	84	Crackseal	12.99
151	E Maxwell Ave	N Spencer Ct	N Simpson Rd	Local	89	Crackseal	10.92
188	E Maxwell Ave	N Holl Blvd	E Maxwell Ave	Local	91	Defer	7.62
189	E Maxwell Ave	N Colonial Ct	E Maxwell Ave	Local	90	Crackseal	8.34
190	E Maxwell Ave	N Caufield Ct	N Cavalier Ct	Local	88	Crackseal	9.81
298	E Maxwell Ave	N Fairway Rd	N Ormond Rd	Local	74	Seal	20.84
455	E Maxwell Ave	End	N Aladdin Rd	Local	100	Defer	1.08
487	E Maxwell Ct	N Ormond Rd	End	Local	76	Crackseal	19.57
269	E Maxwell Dr	Malvern St	N Fairway Rd	Local	68	Seal	27.19
328	E Mdw Spg Lp	N Henry Rd	E Legacy Flts Rd	Local	100	Defer	0.53
329	E Mdw Spg Lp	E Legacy Flts Rd	E Legacy Flts Rd	Local	100	Defer	2.43
452	E Mdw Spg Lp	E Legacy Flts Rd	E Legacy Flts Rd	Local	100	Defer	2.25
523	E Meyers Ave	N Holl Blvd	E Indiana Ave	Local	95	Defer	5.93
524	E Meyers Ave	N Holl Blvd	E Indiana Ave	Local	80	Crackseal	16.88
387	E Mica Peak Rd	End	N Country Vista Blvd	Local	98	Defer	5.11
31	E Mission Ave	N Pepper Ln	N Pepper Ln	Minor Arterial	60	Mill & Overlay	61.10
37	E Mission Ave	N Bitterroot St	Cornerstone Way	Minor Arterial	54	Mill & Overlay	68.36
55	E Mission Ave	N Aladdin Rd	End	Minor Arterial	65	Mill & Overlay	55.86
116	E Mission Ave	E Mission Ave	N Pepper Ln	Minor Arterial	53	Mill & Overlay	65.14

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
140	E Mission Ave	N Caufield Ct	N Cavalier Rd	Minor Arterial	61	Mill & Overlay	59.81
154	E Mission Ave	E Mission Ave	N Holl Blvd	Minor Arterial	62	Mill & Overlay	60.41
185	E Mission Ave	N Cavalier Rd	N Aladdin Rd	Minor Arterial	60	Mill & Overlay	60.24
210	E Mission Ave	N Meyers Ct	N Caufield Ct	Minor Arterial	68	Slurry Seal	54.44
319	E Mission Ave	E Mission Ave	N Snoqualmie Rd	Minor Arterial	100	Defer	34.03
320	E Mission Ave	N Snoqualmie Rd	E Mission Ave	Minor Arterial	100	Defer	33.34
340	E Mission Ave	Roundabout	E Mission Ave	Minor Arterial	90	Crackseal	38.22
341	E Mission Ave	Roundabout	E Mission Ave	Minor Arterial	93	Defer	35.99
342	E Mission Ave	E Mission Ave	Roundabout	Minor Arterial	100	Defer	31.05
343	E Mission Ave	E Mission Ave	Roundabout	Minor Arterial	100	Defer	31.07
348	E Mission Ave	E Mission Ave	Roundabout	Minor Arterial	85	Crackseal	42.36
349	E Mission Ave	E Mission Ave	Roundabout	Minor Arterial	85	Crackseal	42.38
350	E Mission Ave	Roundabout	E Mission Ave	Minor Arterial	77	Crackseal	47.40
351	E Mission Ave	Roundabout	E Mission Ave	Minor Arterial	62	Mill & Overlay	58.21
390	E Mission Ave	Roundabout	N Pepper Ln	Minor Arterial	86	Crackseal	40.36
391	E Mission Ave	Roundabout	N Pepper Ln	Minor Arterial	95	Defer	33.82
453	E Mission Ave	E Mission Ave	E Augusta Ct	Minor Arterial	63	Mill & Overlay	59.55
454	E Mission Ave	N Hall Blvd	N Hall Blvd	Minor Arterial	59	Mill & Overlay	61.48
503	E Mission Ave	E Mission Ave	E Mission Ave	Minor Arterial	73	Slurry Seal	54.29
14	E Mission Ave (South)	N Madson St	N Homestead Dr	Minor Arterial	40	Mill & Overlay	74.78
28	E Mission Ave (South)	E Mission Ave	E Mission Ave	Minor Arterial	41	Mill & Overlay	78.36
45	E Mission Ave (South)	N Meadowwood Ln	E Country Vista Dr	Minor Arterial	51	Mill & Overlay	69.45
67	E Mission Ave (South)	N King James Ln	N Winrock St	Minor Arterial	73	Slurry Seal	53.94
78	E Mission Ave (South)	N Homestead Dr	N Signal Dr	Minor Arterial	49	Mill & Overlay	71.67
82	E Mission Ave (South)	N Signal Dr	N Meadowwood Ln	Minor Arterial	66	Slurry Seal	56.46
125	E Mission Ave (South)	Malvern St	E Mission Ave	Minor Arterial	75	Slurry Seal	54.75
175	E Mission Ave (South)	N Winrock St	N Murray Ln	Minor Arterial	75	Slurry Seal	50.60
220	E Mission Ave (South)	E Mission Ave	Roundabout	Minor Arterial	63	Mill & Overlay	57.67
221	E Mission Ave (South)	E Mission Ave	Roundabout	Minor Arterial	43	Mill & Overlay	72.13
396	E Mission Ave (South)	Roundabout	E Mission Ave	Minor Arterial	64	Mill & Overlay	56.83
397	E Mission Ave (South)	Roundabout	E Mission Ave	Minor Arterial	61	Mill & Overlay	59.03
439	E Mission Ave (South)	N Country Vista Blvd	Malvern St	Minor Arterial	77	Crackseal	56.30
440	E Mission Ave (South)	Murray Ln	N Country Vista Blvd	Minor Arterial	76	Crackseal	48.98
54	E Nora Ave	End	N Glenbrook Rd	Local	79	Crackseal	18.14
58	E Nora Ave	N Caufield Rd	N Cavalier Rd	Local	81	Crackseal	15.05
144	E Nora Ave	N Willamette Rd	N Holl Blvd	Local	87	Crackseal	10.80
148	E Nora Ave	E Nora Ave	N Aladdin Rd	Local	82	Crackseal	14.35
182	E Nora Ave	N Holl Rd	N Meyers Rd	Local	89	Crackseal	9.36
200	E Nora Ave	N Meyers Rd	N Caufield Rd	Local	89	Crackseal	9.68
224	E Nora Ave	N Hood River Rd	N Hood River Rd	Local	100	Defer	0.54

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
323	E Nora Ave	N Malad Ct	N Hood River Rd	Local	91	Defer	7.79
365	E Nora Ave	N Umatilla St	N Snoqualmie Rd	Local	100	Defer	1.27
366	E Nora Ave	End	N Umatilla St	Local	100	Defer	0.58
418	E Nora Ave	N Snoqualmie Rd	N Malad Ct	Local	96	Defer	4.17
420	E Nora Ave	Deschutes Ave	E Nora Ave	Local	100	Defer	0.42
578	E Olive Ln	E Valleyway Ave	E Olive Ln	Local	61	Mill & Overlay	28.81
579	E Olive Ln	E Valleyway Ave	E Olive Ln	Local	58	Mill & Overlay	30.93
580	E Olive Ln	E Olive Ln	N Village Ln	Local	59	Mill & Overlay	30.79
434	E Pine Point Ct	End	N Forest Ridge St	Local	92	Defer	7.06
435	E Pine Point Ct	N Forest Ridge St	End	Local	92	Defer	6.82
357	E Prestwick Pl	N Garry Dr	End	Local	64	Mill & Overlay	26.62
11	E Reston Ave	N Winrock St	N Winchester St	Local	91	Defer	7.80
68	E Reston Ave	N Wolfe Penn St	N Country Vista - Wolfe Penn A	Local	80	Crackseal	14.95
69	E Reston Ave	N Winchester St	N Wolfe Penn St	Local	85	Crackseal	12.11
70	E Reston Ave	N Wilmington St	N Winrock St	Local	86	Crackseal	11.38
314	E Reston Ave	N Country Vista - Wolfe Penn A	E Country Vista Dr	Local	75	Seal	18.53
330	E Reston Ave	N Forest Ridge St	N Wilmington St	Local	92	Defer	9.11
430	E Reston Ct	N Forest Ridge St	N Forest Ridge St	Local	97	Defer	4.02
18	E Riverside Ave	E Main Ave	N Wright Blvd	Local	80	Crackseal	19.95
90	E Riverside Ave	N Knudson St	N Garry Dr	Local	89	Crackseal	9.60
143	E Riverside Ave	N Wright Blvd	N Knudson St	Local	82	Crackseal	15.53
512	E Riverwalk Ave	Kachess	N Colonial St	Local	93	Defer	7.89
513	E Riverwalk Ave	N Colonial St	N Cavalier Rd	Local	84	Crackseal	12.89
282	E Schniedmiller Ct	N Garry Dr	End	Local	64	Mill & Overlay	27.22
9	E Settler Dr	N Kelsea Ct	N Liberty Lake Rd	Local	66	Seal	26.26
274	E Settler Dr	E Country Vista Dr	E Colony Ct	Local	74	Seal	23.97
292	E Settler Dr	N Garry Dr	N Kelsea Ct	Local	64	Mill & Overlay	30.13
293	E Settler Dr	E Colony Ct	N Garry Dr	Local	72	Seal	26.55
88	E Shannon Ave	E Caufield Ave	N Cavalier Rd	Local	77	Crackseal	18.55
110	E Shannon Ave	N Cavalier Rd	End	Local	79	Crackseal	17.20
152	E Sharp Ave	N Simpson Rd	N Samantha Rd	Local	85	Crackseal	12.08
153	E Sharp Ave	N Samantha Rd	Malvern St	Local	70	Seal	22.94
164	E Sharp Ave	E Springdale Ct	N Simpson Rd	Local	87	Crackseal	11.15
242	E Sharp Ave	N Fairway Rd	N Ormond Rd	Local	76	Crackseal	18.60
243	E Sharp Ct	N Ormond Rd	End	Local	88	Crackseal	10.82
268	E Sharp Dr	N Mitchell Rd	N Wright Blvd	Local	66	Seal	26.44
249	E Sinto Ave	N Etta Ct	N Madson St	Local	32	Mill & Overlay	51.38
252	E Sinto Ave	Malvern St	N Eagle Rd	Local	71	Seal	21.77
260	E Sinto Ave	N Stevenson Rd	N Fairway Rd	Local	72	Seal	21.53
284	E Sinto Ave	N Eagle Rd	N Stevenson Rd	Local	54	Mill & Overlay	34.41

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
289	E Sinto Ave	N Wright Blvd	N Etta Ct	Local	35	Mill & Overlay	48.51
473	E Sinto Ct	End	N Wright Blvd	Local	85	Crackseal	12.40
205	E Snake River Ave	E Kachess Rd	N Colonial St	Local	86	Crackseal	13.21
20	E Spencer Ct	End	E Maxwell Ave	Local	80	Crackseal	15.46
121	E Sperling Ct	N Oakland Rd	End	Local	86	Crackseal	12.06
21	E Sprague Ave	N Garry Dr	N McKinzie Rd	Collector	31	Reconstruction	73.77
46	E Sprague Ave	S Hillview Rd	S Club House Rd	Collector	51	Mill & Overlay	39.72
47	E Sprague Ave	S Overlook Rd	S Hillview Rd	Collector	37	Mill & Overlay	50.77
65	E Sprague Ave	S Club House Rd	S Ward Rd	Collector	76	Crackseal	21.17
159	E Sprague Ave	E Gage St	S Overlook Rd	Collector	58	Mill & Overlay	33.57
174	E Sprague Ave	E Sprague Ave	N Garry Dr	Collector	40	Mill & Overlay	70.32
493	E Sprague Ave	N McKinzie Dr	N Liberty Lake Rd	Collector	60	Mill & Overlay	53.64
494	E Sprague Ave	N Molter Rd	N Wright Blvd	Collector	42	Mill & Overlay	67.38
495	E Sprague Ave	E Sprague Ave	N Molter Rd	Collector	66	Slurry Seal	26.09
8	E Springdale Ct	E Sharp Ave	End	Local	80	Crackseal	15.43
432	E Stonecrest Ave	N Forest Ridge St	N Wilmington St	Local	85	Crackseal	12.96
431	E Stonecrest Ct	N Forest Ridge St	N Forest Ridge St	Local	86	Crackseal	12.22
225	E Thompson Ave	N Harvest Pkwy	N Harvest Pkwy	Local	100	Defer	0.69
227	E Thompson Ave	N Hood River Rd	N Hood River Rd	Local	92	Defer	6.37
322	E Thompson Ave	N Snoqualmie Rd	N Hood River Rd	Local	98	Defer	4.60
426	E Thompson Ave	End	N Snoqualmie Rd	Local	100	Defer	3.80
163	E Thorton Ave	N Oakland Rd	E Autumn Crossing Ave	Local	93	Defer	7.43
17	E Valleyway Ave	N Dunbarton Oaks Ln	N Olive Ln	Local	72	Seal	48.02
26	E Valleyway Ave	N Mitchell Dr	N Mitchell Ct	Local	95	Defer	4.93
43	E Valleyway Ave	N Mitchell Ct	E Main Ave	Local	89	Crackseal	9.91
63	E Valleyway Ave	N Molter Rd	N Mitchell Dr	Local	73	Seal	20.83
64	E Valleyway Ave	E Main Ave	N Knudson St	Local	79	Crackseal	16.60
92	E Valleyway Ave	N Timberfield Ln	N Lindeblad Ln	Local	82	Crackseal	38.64
122	E Valleyway Ave	N McKinzie Rd	End	Local	74	Seal	19.27
410	E Valleyway Ave	N Garry Dr	N McKinzie Rd	Local	95	Defer	4.88
411	E Valleyway Ave	N Knudson St	N Garry Dr	Local	91	Defer	7.70
506	E Valleyway Ave	N Olive Ln	N Molter Rd	Local	75	Seal	53.25
507	E Valleyway Ave	N Timberfield Ln	N Dunbarton Oaks Ln	Local	73	Seal	44.61
508	E Valleyway Ave	E Valleyway Ave	N Lindeblad Ln	Minor Arterial	70	Slurry Seal	46.33
532	E Wellington Pkwy	E Wellington Pkwy	N Harvest Rd	Local	83	Crackseal	13.38
533	E Wellington Pkwy	E Wellington Pkwy	N Harvest Rd	Local	89	Crackseal	9.03
534	E Wellington Pkwy	E Wellington Pkwy	E Wellington Pkwy	Local	94	Defer	9.24
535	E Wellington Pkwy	N Courtenay Ln	E Wellington Pkwy	Local	67	Seal	26.20
536	E Wellington Pkwy	N Courtenay Ln	E Wellington Pkwy	Local	71	Seal	23.34
537	E Wellington Pkwy	N Harvard Rd	E Indiana Ave	Local	93	Defer	11.07

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
334	East Riverwalk Ave	N Holl Blvd	Kachess	Local	86	Crackseal	11.25
514	East Riverwalk Ave	N Cavalier Rd	N Aladdin Rd	Local	100	Defer	1.46
331	E Indiana Ave	Highway 90	N Rydal Ln	Local		Defer	4.34
332	E Kachess Rd	East Riverwalk Ave	E Snake River Ave	Local	91	Defer	7.58
441	N Kramer Pkwy	Kramer Pkwy	Kramer Pkwy	Minor Arterial	96	Defer	44.54
442	N Kramer Pkwy	Roundabout	Kramer Pkwy	Minor Arterial	100	Defer	31.62
443	N Kramer Pkwy	Roundabout	E Country Vista Dr	Minor Arterial	100	Defer	31.66
567	N Kramer Pkwy	Undefined	Roundabout	Collector	100	Defer	0.57
573	N Kramer Pkwy	Undefined	Roundabout	Collector	100	Defer	0.56
236	Malvern St	E Sharp Ave	E Boone Ave	Local	72	Seal	21.01
251	Malvern St	E Sinto Ave	E Sharp Ave	Local	61	Mill & Overlay	31.01
288	Malvern St	E Maxwell Ave	E Sinto Ave	Local	59	Mill & Overlay	30.91
486	Malvern St	E Boone Ave	E Mallon Ct	Local	77	Crackseal	20.95
247	Maxwell Ave	N Madson St	N Homestead Dr	Local	53	Mill & Overlay	35.26
286	Maxwell Ave	E Colt Ln	N Madson St	Local	74	Seal	19.07
400	Maxwell Ave	N Wright Blvd	E Colt Ln	Local	87	Crackseal	11.72
3	N Aladdin Rd	E Nora Ave	E Mission Ave	Local	70	Seal	25.67
105	N Aladdin Rd	E Indiana Ave	E Nora Ave	Local	66	Seal	27.86
183	N Aladdin Rd	E Maxwell Ave	End	Local	90	Crackseal	9.75
184	N Aladdin Rd	E Mission Ave	E Maxwell Ave	Local	87	Crackseal	9.97
515	N Aladdin Rd	E Riverwalk Ave	E Kalama Ave	Local	100	Defer	1.90
118	N Bitterroot St	E Rockrose Ln	E Mission Ave	Local	81	Crackseal	15.67
407	N Bitterroot St	N Bitterroot St	E Rockrose Ln	Local	92	Defer	8.02
32	N Carson Range St	N Oakland St	E Autumn Crossing Ave	Local	91	Defer	9.99
42	N Carson Range St	E Autumn Crossing Ave	E Thorton Ave	Local	95	Defer	4.92
1	N Caufield Ct	E Maxwell Ave	End	Local	90	Crackseal	8.94
141	N Caufield Ct	End	E Mission Ave	Local	95	Defer	6.78
149	N Caufield Rd	E Deschutes Ave	E Nora Ave	Local	92	Defer	7.20
150	N Caufield Rd	E Indiana Ave	E Deschutes Ave	Local	92	Defer	7.20
180	N Cavalier Ct	E Maxwell Ave	End	Local	94	Defer	6.42
53	N Cavalier Rd	E Shannon Ave	E Indiana Ave	Local	84	Crackseal	13.12
61	N Cavalier Rd	E Knox Ave	E Shannon Ave	Local	85	Crackseal	12.12
134	N Cavalier Rd	E Indiana Ave	E Nora Ave	Local	86	Crackseal	13.33
193	N Cavalier Rd	End	E Mission Ave	Local	96	Defer	6.56
206	N Cavalier Rd	E Riverwalk Ave	E Kalama Ave	Local	93	Defer	7.79
517	N Cavalier Rd	E Kalama Ave	E Knox Ave	Local	91	Defer	7.79
456	N Colonial Ct	E Maxwell Ave	End	Local	90	Crackseal	8.54
333	N Colonial St	East Riverwalk Ave	E Snake River Ave	Local	82	Crackseal	14.30
56	N Country Vista - Wolfe Penn A	E Reston Ave	E Bergamot Ave	Local	88	Crackseal	10.93
57	N Country Vista - Wolfe Penn A	E Bergamot Ave	E Autumn Crossing Ave	Local	86	Crackseal	12.55

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
157	N Country Vista - Wolfe Penn A	E Blue Ridge Ave	E Reston Ave	Local	78	Crackseal	19.90
160	N Country Vista Blvd	E Autumn Crossing Ave	E Mission Ave	Collector	67	Slurry Seal	56.31
311	N Country Vista Blvd	E Hawkstone Loop	E Goshawk Wy	Collector	78	Crackseal	46.48
372	N Country Vista Blvd	N Country Vista Blvd	E Autumn Crossing Ave	Collector	76	Crackseal	48.92
373	N Country Vista Blvd	E Bergamot Ave	N Country Vista Blvd	Collector	75	Slurry Seal	48.45
374	N Country Vista Blvd	E Reston Ave	E Bergamot Ave	Collector	74	Slurry Seal	50.97
375	N Country Vista Blvd	N Country Vista Blvd	Oakland Ln	Collector	80	Crackseal	46.02
376	N Country Vista Blvd	E Blue Ridge Ave	N Country Vista Blvd	Collector	76	Crackseal	48.68
377	N Country Vista Blvd	E Mica Peak Rd	E Blue Ridge Ave	Collector	94	Defer	36.11
378	N Country Vista Blvd	N Country Vista Blvd	E Mica Peak Rd	Collector	92	Defer	36.39
379	N Country Vista Blvd	N Country Vista Blvd	E Mica Peak Rd	Collector	92	Defer	36.40
380	N Country Vista Blvd	E Mica Peak Rd	E Blue Ridge Ave	Collector	96	Defer	34.72
381	N Country Vista Blvd	E Blue Ridge Ave	N Country Vista Blvd	Collector	84	Crackseal	42.89
382	N Country Vista Blvd	N Country Vista Blvd	Oakland Ln	Collector	83	Crackseal	43.84
383	N Country Vista Blvd	Oakland Ln	E Reston Ave	Collector	76	Crackseal	48.07
384	N Country Vista Blvd	E Reston Ave	E Bergamot Ave	Collector	76	Crackseal	49.57
385	N Country Vista Blvd	E Bergamot Ave	N Country Vista Blvd	Collector	62	Mill & Overlay	57.85
386	N Country Vista Blvd	E Goshawk Wy	N Country Vista Blvd	Collector	85	Crackseal	41.98
388	N Country Vista Blvd	Oakland Ln	E Reston Ave	Collector	75	Slurry Seal	48.81
257	N Drury Ct	End	E Boone Ave	Local	68	Seal	24.53
472	N Drury Ct	E Boone Ave	End	Local	57	Mill & Overlay	32.91
278	N Eagle Rd	E Country Vista Dr	E Broadway Ave	Local	78	Crackseal	17.71
488	N Eagle Rd	E Sinto Ave	E Boone Ave	Local	64	Mill & Overlay	29.32
358	N Etta Ct	E Sinto Ave	End	Local	72	Seal	21.13
295	N Fairway Ct	End	E Broadway Ave	Local	73	Seal	21.32
265	N Fairway Rd	E Maxwell Ave	E Sinto Ave	Local	60	Mill & Overlay	30.72
283	N Fairway Rd	E Sinto Ave	E Sharp Ave	Local	67	Seal	24.89
291	N Fairway Rd	E Sharp Ave	E Boone Ave	Local	81	Crackseal	16.16
38	N Forest Ridge St	E Reston Ct	E Stonecrest Ct	Local	84	Crackseal	13.37
48	N Forest Ridge St	N Forest Ridge St	E Pine Point Ct	Local	81	Crackseal	15.18
261	N Forest Ridge St	E Bergamot - Ludlow Aly	E Ludlow Ave	Local	88	Crackseal	9.41
302	N Forest Ridge St	E Bergamot Ct	E Bergamot - Ludlow Aly	Local	76	Crackseal	17.92
335	N Forest Ridge St	E Blue Ridge Ave	E Reston Ct	Local	96	Defer	4.41
436	N Forest Ridge St	E Pine Point Ct	E Bergamot Ct	Local	89	Crackseal	10.29
142	N Garry Dr	N Garry Dr	E Sprague Ave	Local	72	Seal	21.72
170	N Garry Dr	E Valleyway Ave	E Riverside Ave	Local	96	Defer	5.36
241	N Garry Dr	End	E Broadway Ave	Local	71	Seal	26.51
271	N Garry Dr	E Broadway Ave	E Prestwick Pl	Local	70	Seal	25.90
275	N Garry Dr	E Prestwick Pl	E Schniedmiller Ct	Local	61	Mill & Overlay	29.33
281	N Garry Dr	E Schniedmiller Ct	E Settler Dr	Local	53	Mill & Overlay	35.08

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
50	N Glenbrook Ave	E Indiana Ave	E Deschutes Ave	Local	85	Crackseal	12.22
131	N Glenbrook Rd	E Nora Ave	E Augusta Ct	Local	88	Crackseal	9.85
135	N Glenbrook Rd	E Augusta Ct	E Mission Ave	Local	87	Crackseal	10.69
194	N Glenbrook Rd	End	Baldwin Ave	Local	100	Defer	0.42
408	N Glenbrook Rd	E Baldwin Ave	E Nora Ave	Local	95	Defer	4.77
94	N Harvard Rd	N Bella Lago Ln	N Harvard Rd	Local	70	Seal	22.63
24	N Harvard Rd (Northbound)	N Harvard Rd	Roundabout	Major Arterial	65	Mill & Overlay	62.65
73	N Harvard Rd (Northbound)	E Wellington Ave	Indiana Ave	Major Arterial	54	Mill & Overlay	67.74
204	N Harvard Rd (Northbound)	N Harvard Rd	N Harvard Rd	Major Arterial	61	Mill & Overlay	60.22
389	N Harvard Rd (Southbound)	N Harvard Rd	Roundabout	Major Arterial	61	Mill & Overlay	65.56
530	N Harvard Rd (Southbound)	E Wellington Ave	Indiana Ave	Major Arterial	69	Slurry Seal	56.88
531	N Harvard Rd (Southbound)	N Harvard Rd	N Harvard Rd	Major Arterial	73	Slurry Seal	51.28
401	N Harvest Pkwy	Roundabout	N Harvest Pkwy	Collector	84	Crackseal	11.85
402	N Harvest Pkwy	Roundabout	N Harvest Pkwy	Collector	83	Crackseal	12.67
403	N Harvest Pkwy	N Harvest Pkwy	End	Collector	88	Crackseal	14.97
353	N Harvest Pkwy (Northbound)	E Thompson Ave	Roundabout	Collector	84	Crackseal	35.08
421	N Harvest Pkwy (Northbound)	E Indiana Ave	E Nora Ave	Collector	81	Crackseal	39.37
423	N Harvest Pkwy (Northbound)	E Thompson Ave	E Nora Ave	Collector	89	Crackseal	33.17
352	N Harvest Pkwy (Southbound)	E Thompson Ave	Roundabout	Collector	80	Crackseal	37.98
422	N Harvest Pkwy (Southbound)	E Indiana Ave	E Nora Ave	Collector	87	Crackseal	35.02
424	N Harvest Pkwy (Southbound)	E Nora Ave	E Thompson Ave	Collector	86	Crackseal	35.28
449	N Henry Rd	E Valley Vista Dr	E Mdw Spg Lp	Collector	96	Defer	33.64
178	N Holl Blvd	E Knox Ave	E Glenbrook Ave	Local	91	Defer	7.80
181	N Holl Blvd	E Glenbrook Ave	E Meyers Ave	Local	95	Defer	4.90
458	N Holl Blvd	E Maxwell Ave	N Meyers Ct	Local	74	Seal	19.50
510	N Holl Blvd	E Riverwalk Ave	E Kalama Ave	Local	100	Defer	2.64
526	N Holl Blvd	E Kalama Ave	E Knox Ct	Local	87	Crackseal	10.75
49	N Holl Rd	E Mission Ave	E Maxwell Ave	Local	85	Crackseal	11.40
147	N Holl Rd	E Augusta Ct	End	Local	86	Crackseal	10.51
367	N Holl Rd	N Holl Rd	E Nora Ave	Local	74	Seal	21.53
368	N Holl Rd	N Holl Rd	E Nora Ave	Local	73	Seal	22.52
459	N Holl Rd	E Augusta Ave	N Holl Rd	Local	69	Seal	23.38
460	N Holl Rd	E Augusta Ave	N Holl Rd	Local	71	Seal	22.71
461	N Holl Rd	E Nora Ave	E Augusta Ave	Local	73	Seal	21.22
462	N Holl Rd	E Nora Ave	E Augusta Ave	Local	88	Crackseal	10.83
13	N Homestead Dr	E Mission Ave	E Oldenburg Ln	Local	31	Mill & Overlay	50.87
77	N Homestead Dr	E Remington Ln	E Colt Ln	Local	32	Mill & Overlay	50.32
113	N Homestead Dr	E Colt Ln	Maxwell Ave	Local	34	Mill & Overlay	48.51
114	N Homestead Dr	E Oldenburg Ln	E Remington Ln	Local	32	Mill & Overlay	50.14
231	N Homestead Dr	E Boone Ave	N Knudson St	Local	73	Seal	23.80

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
270	N Homestead Dr	Maxwell Ave	E Boone Ave	Local	63	Mill & Overlay	30.83
287	N Homestead Dr	End	N Knudson St	Local	81	Crackseal	15.49
290	N Homestead Dr	E Broadway Ave	E Colony St	Local	83	Crackseal	19.80
419	N Hood River Rd	E Nora Ave	E Thompson Ave	Local	100	Defer	3.05
425	N Hood River Rd	E Nora Ave	E Thompson Ave	Local	100	Defer	3.02
239	N Kelsea Ct	E Settler Dr	End	Local	48	Mill & Overlay	39.36
240	N Knudson Ct	E Boone Ave	End	Local	42	Mill & Overlay	43.31
112	N Knudson St	E Valleyway Ave	Colleen Ct	Local	97	Defer	4.06
166	N Knudson St	E Colleen Ct	E Riverside Ave	Local	95	Defer	4.70
272	N Knudson St	E Broadway Ave	E Colony Ct	Local	73	Seal	21.65
280	N Knudson St	N Homestead Dr	E Country Vista Dr	Local	65	Mill & Overlay	26.09
285	N Knudson St	E Country Vista Dr	E Broadway Ave	Local	37	Mill & Overlay	47.98
203	N Kramer Pkwy	E Legacy Spgs Ct	N Henry Ln	Collector	100	Defer	31.63
448	N Kramer Pkwy	E Kramer Rd	E Country Vista Dr	Collector	95	Defer	45.05
562	N Kramer Pkwy	E Mdw Spg Lp	E Legacy Spgs Ct	Collector	99	Defer	34.41
568	N Kramer Pkwy	Undefined	Undefined	Collector	100	Defer	3.59
574	N Kramer Pkwy	Undefined	Undefined	Collector	100	Defer	1.26
575	N Kramer Pkwy	Undefined	Undefined	Collector	100	Defer	4.56
450	N Kramer Pkwy	N Henry Ln	E Sprague Ave	Collector	94	Defer	34.88
509	N Lakeside Rd	N Lindeblad Ln	N Bella Lago Ln	Local	42	Mill & Overlay	43.99
577	N Legacy Ridge Dr	E Country Vista Dr	N Legacy Ridge Dr	Local	77	Crackseal	18.73
115	N Liberty Lake Rd	E Settler Dr	E Sprague Ave	Minor Arterial	96	Defer	35.62
561	N Liberty Lake Rd	N Kelsea Ct	E Settler Dr	Minor Arterial	99	Defer	50.72
392	N Liberty Lake Rd (Northbound)	Roundabout	N Liberty Lake Rd	Major Arterial	71	Slurry Seal	54.74
477	N Liberty Lake Rd (Northbound)	E Appleway Ave	E Country Vista Dr	Major Arterial	81	Crackseal	49.85
558	N Liberty Lake Rd (Northbound)	N Liberty Lake Rd	E Appleway Ave	Major Arterial	72	Slurry Seal	53.42
559	N Liberty Lake Rd (Northbound)	N Liberty Lake Rd	N Liberty Lake Rd	Major Arterial	75	Slurry Seal	48.92
23	N Liberty Lake Rd (Southbound)	Roundabout	N Liberty Lake Rd	Major Arterial	75	Slurry Seal	52.06
482	N Liberty Lake Rd (Southbound)	E Appleway Ave	E Country Vista Dr	Major Arterial	86	Crackseal	46.19
556	N Liberty Lake Rd (Southbound)	N Liberty Lake Rd	E Appleway Ave	Major Arterial	75	Slurry Seal	51.15
557	N Liberty Lake Rd (Southbound)	N Liberty Lake Rd	N Liberty Lake Rd	Major Arterial	89	Crackseal	38.76
294	N Madson Ct	E Broadway Ave	End	Local	88	Crackseal	11.64
72	N Madson St	E Knox Ave	E Appleway Ave	Local	72	Seal	26.18
176	N Madson St	E Appleway Ave	E Mission Ave	Local	50	Mill & Overlay	43.53
232	N Madson St	E Sinto Ave	E Boone Ave	Local	64	Mill & Overlay	28.60
237	N Madson St	Maxwell Ave	E Sinto Ave	Local	83	Crackseal	13.49
228	N Malad Ct	E Nora Ave	End	Local	100	Defer	2.06
98	N Malvern Rd	E Mission Ave	E Maxwell Ave	Local	56	Mill & Overlay	32.71
138	N Malvern Rd	N Simpson Rd	E Mallon Ct	Local	74	Seal	21.82
22	N McKinzie Rd	E Valleyway Ave	E Sprague Ave	Local	87	Crackseal	13.05

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
211	N Meyers Ct	End	E Mission Ave	Local	94	Defer	7.30
457	N Meyers Ct	E Maxwell Ave	End	Local	91	Defer	7.62
362	N Meyers Rd	E Deschutes Ave	E Nora Ave	Local	95	Defer	4.93
126	N Mitchell Ct	End	E Valleyway Ave	Local	94	Defer	7.53
258	N Mitchell Ct	End	E Country Vista Dr	Local	61	Mill & Overlay	30.57
16	N Mitchell Dr	E Valleyway Ave	E Main Ave	Local	86	Crackseal	11.41
127	N Mitchell Rd	Maxwell Ave	E Sharp Ave	Local	58	Mill & Overlay	33.23
15	N Molter Rd	E Knox Ave	E Appleway Ave	Local	61	Mill & Overlay	31.94
35	N Molter Rd	N Molter Rd	N Molter Rd	Collector	54	Mill & Overlay	60.49
202	N Molter Rd	N Molter Rd	E Sprague Ave	Collector	42	Mill & Overlay	42.65
394	N Molter Rd	E Appleway Ave	Roundabout	Minor Arterial	54	Mill & Overlay	66.17
395	N Molter Rd	E Appleway Ave	Roundabout	Minor Arterial	55	Mill & Overlay	65.31
398	N Molter Rd	Roundabout	E Maxwell Ave	Minor Arterial	44	Mill & Overlay	65.09
399	N Molter Rd	Roundabout	E Maxwell Ave	Minor Arterial	59	Mill & Overlay	54.23
464	N Molter Rd	E Valleyway Ave	N Molter Rd	Collector	40	Mill & Overlay	71.75
465	N Molter Rd	E Country Vista Dr	N Molter Rd	Collector	50	Mill & Overlay	62.15
466	N Molter Rd	E Country Vista Dr	N Molter Rd	Collector	49	Mill & Overlay	62.83
467	N Molter Rd	E Boone Ave	E Country Vista Dr	Minor Arterial	55	Mill & Overlay	60.02
468	N Molter Rd	E Boone Ave	E Country Vista Dr	Minor Arterial	53	Mill & Overlay	61.48
469	N Molter Rd	E Maxwell Ave	E Boone Ave	Minor Arterial	53	Mill & Overlay	60.90
470	N Molter Rd	E Maxwell Ave	E Boone Ave	Minor Arterial	55	Mill & Overlay	59.45
4	N Oakland Rd	E Sperling Ct	E Marti Ct	Local	81	Crackseal	14.97
40	N Oakland Rd	E Autumn Crossing Ave	E Thorton Ave	Local	92	Defer	7.20
91	N Oakland Rd	E Marti Ct	N Springdale Ct	Local	94	Defer	5.43
120	N Oakland Rd	N Spencer Ct	Sperling Ct	Local	84	Crackseal	12.61
438	N Oakland St	N Carson Range St	E Autumn Crossing Ave	Local	94	Defer	8.86
296	N Ormond Ct	End	E Broadway Ave	Local	72	Seal	21.77
235	N Ormond Dr	E Sharp Ave	E Boone Ave	Local	94	Defer	6.74
262	N Ormond Rd	E Maxwell Ave	E Sharp Ave	Local	79	Crackseal	18.15
520	N Salmon River St	E Kalama Ave	E Knox Ct	Local	95	Defer	4.87
29	N Samantha Rd	E Maxwell Ave	E Sharp Ave	Local	87	Crackseal	13.76
553	N Signal Rd	E Appleway Ave	E Mission Ave	Local	67	Seal	27.43
51	N Simpson Rd	E Boone Ave	Desmet Rd	Local	57	Mill & Overlay	31.80
71	N Simpson Rd	Cataldo Ct	Cataldo Ct	Local	66	Seal	25.18
76	N Simpson Rd	Desmet Rd	Cataldo Ct	Local	61	Mill & Overlay	29.97
95	N Simpson Rd	Desmet Rd	E Country Vista Dr	Local	79	Crackseal	15.91
128	N Simpson Rd	Cataldo Ct	Desmet Rd	Local	68	Seal	24.42
173	N Simpson Rd	E Maxwell Ave	E Sharp Ave	Local	73	Seal	23.94
229	N Summit Ct	E Blue Ridge Ave	End	Local	100	Defer	1.95
321	N Snoqualmie Rd	E Thompson Ave	E Mission Ave	Local	100	Defer	0.78

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
413	N Snoqualmie Rd	E Indiana Ave	Deschutes Ave	Local	100	Defer	0.43
414	N Snoqualmie Rd	Deschutes Ave	E Deschutes Ave	Local	100	Defer	0.58
415	N Snoqualmie Rd	Deschutes Ave	E Nora Ave	Local	95	Defer	4.87
416	N Snoqualmie Rd	E Nora Ave	E Thompson Ave	Local	98	Defer	4.82
263	N Stevenson Ct	End	E Broadway Ave	Local	74	Seal	20.36
266	N Stevenson Rd	E Sinto Ave	E Boone Ave	Local	59	Mill & Overlay	33.15
264	N Swing St	E Country Vista Dr	E Broadway Ave	Local	58	Mill & Overlay	32.26
417	N Umatilla St	E Nora Ave	End	Local	100	Defer	3.19
581	N Village Ln	E Olive Ln	End	Local	63	Mill & Overlay	27.69
582	N Village Ln	E Olive Ln	E Alki Ln	Local	66	Seal	27.07
359	N Winchester St	E Domrese Ave	E Reston Ave	Local	95	Defer	5.02
146	N Willamette Rd	E Nora Ave	E Cirque Ln	Local	90	Crackseal	7.53
187	N Willamette Rd	E Cirque Ln	E Augusta Ln	Local	90	Crackseal	8.64
155	N Wilmington St	E Reston Ave	E Stonecrest Ave	Local	90	Crackseal	8.25
201	N Wilmington St	E Blue Ridge Ave	E Reston Ave	Local	94	Defer	6.75
433	N Wilmington St	E Stonecrest Ave	End	Local	97	Defer	4.00
102	N Winchester Ct	E Autumn Crossing Ave	End	Local	86	Crackseal	12.30
107	N Winchester St	E Bergamot Ave	E Autumn Crossing Ave	Local	75	Seal	21.20
119	N Winchester St	E Reston Ave	E Bergamot Ave	Local	91	Defer	8.98
7	N Winrock St	E Ludlow Ave	E Autumn Crossing Ave	Local	90	Crackseal	8.26
39	N Winrock St	E Bergamot Ave	E Bergamot - Ludlow Aly	Local	89	Crackseal	9.32
79	N Winrock St	E Reston Ave	E Bergamot Ave	Local	97	Defer	4.75
83	N Winrock St	E Autumn Crossing Ave	N Winchester St	Local	82	Crackseal	15.67
209	N Winrock St	E Bergamot - Ludlow Aly	E Ludlow Ave	Local	92	Defer	6.29
218	N Winrock St	E Blue Ridge Ave	E Reston Ave	Local	93	Defer	7.69
429	N Wolfe Penn	E Bergamot Ave	E Autumn Crossing Ave	Local	97	Defer	5.04
101	N Wolfe Penn Ct	E Autumn Crossing Ave	End	Local	89	Crackseal	10.11
80	N Wolfe Penn St	E Reston Ave	E Bergamot Ave	Local	88	Crackseal	10.98
207	N Wolfe Penn St	E Domrese Ave	E Reston Ave	Local	79	Crackseal	16.81
428	N Wolfe Penn St	E Bergamot Ave	E Autumn Crossing Ave	Local	81	Crackseal	16.41
19	N Wright Blvd	E Riverside Ave	E Sprague Ave	Local	92	Defer	6.52
129	N Wright Blvd	E Main Ave	E Riverside Ave	Local	94	Defer	8.24
250	N Wright Blvd	Maxwell Ave	E Sinto Ct	Local	74	Seal	20.04
253	N Wright Blvd	E Sinto Ct	E Sharp Ave	Local	68	Seal	24.08
256	N Wright Blvd	E Sharp Ave	E Boone Ave	Local	74	Seal	20.04
259	N Wright Blvd	E Boone Ave	E Desmet Ct	Local	54	Mill & Overlay	34.67
273	N Wright Blvd	E Desmet Ct	E Country Vista Dr	Local	58	Mill & Overlay	33.74
108	Roundabout (Harvard/Mission)	N Harvard Rd	N Harvard Rd	Major Arterial	100	Defer	30.12
196	Roundabout (Harvard/Mission)	N Harvard Rd	N Harvard Rd	Major Arterial	95	Defer	34.12
197	Roundabout (Harvard/Mission)	N Harvard Rd	E Mission Ave	Major Arterial	100	Defer	30.16

CLX UID	Street Name	From Street Name	To Street Name	Functional Class	PCI	Maintenance Suggestion	Repair Priority
198	Roundabout (Harvard/Mission)	E Mission Ave	N Harvard Rd	Major Arterial	83	Crackseal	42.57
344	Roundabout (Harvest/Mission)	E Mission Ave	E Mission Ave	Minor Arterial	87	Crackseal	39.42
345	Roundabout (Harvest/Mission)	E Mission Ave	N Harvest Pkwy	Minor Arterial	75	Slurry Seal	48.33
346	Roundabout (Harvest/Mission)	N Harvest Pkwy	E Mission Ave	Minor Arterial	75	Slurry Seal	48.34
347	Roundabout (Harvest/Mission)	E Mission Ave	E Mission Ave	Minor Arterial	77	Crackseal	46.95
213	Roundabout (Holl/Indiana)	E Indiana Ave	E Indiana Ave	Collector	70	Slurry Seal	51.94
214	Roundabout (Holl/Indiana)	E Indiana Ave	E Indiana Ave	Collector	58	Mill & Overlay	60.46
215	Roundabout (Holl/Indiana)	E Indiana Ave	E Indiana Ave	Collector	67	Slurry Seal	54.13
216	Roundabout (Holl/Indiana)	E Indiana Ave	E Indiana Ave	Collector	75	Slurry Seal	48.15
336	Roundabout (Kramer/Mission)	E Mission Ave	E Mission Ave	Minor Arterial	100	Defer	30.23
337	Roundabout (Kramer/Mission)	Kramer Pkwy	E Mission Ave	Minor Arterial	100	Defer	30.19
338	Roundabout (Kramer/Mission)	Kramer Pkwy	Kramer Pkwy	Minor Arterial	100	Defer	30.10
339	Roundabout (Kramer/Mission)	Kramer Pkwy	E Mission Ave	Minor Arterial	100	Defer	30.21
222	Roundabout (Molter/Mission)	N Molter Rd	N Molter Rd	Minor Arterial	54	Mill & Overlay	63.63
223	Roundabout (Molter/Mission)	N Molter Rd	N Molter Rd	Minor Arterial	75	Slurry Seal	48.23
360	Roundabout (Molter/Mission)	N Molter Rd	E Mission Ave	Minor Arterial	54	Mill & Overlay	63.48
393	Roundabout (Molter/Mission)	E Mission Ave	N Molter Rd	Minor Arterial	60	Mill & Overlay	59.13

Appendix E: Year-by-year pavement program (6 years)

2026 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) ROADWAY PROJECTS



SIX YEAR TRANSPORTATION CAPITAL FACILITIES PLAN, 2026 -2031													
Roadway Projects													
LINE NO.	**PROJECT TYPE**	**PROJECT NAME**	**LOCATION**	**FUNDING SOURCE**	**CURRENT 2025**	**PROJECT TOTAL (2026-2031)**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**NOTES:**
TP-1	Enhancement/ New Construction	Harvard Rd Bridge /Kramer Overpass & Rd Ext	Between Country Vista & Mission	CW/TIF/LIFT/TBD		TBD							
TP-2	Preservation/ Enhancement	Country Vista Rebuild/ Operational Improvements	W City Limits to Liberty Lake Rd	REET2		$ 4,416,000	$ 196,000	$ 2,008,000	$ 2,212,000				
TP+A7:N 32-3	Enhancement	Appleway Frontage Improvements	Fairway to E City Limits	REET/TBD		$ 4,281,726					$ 335,386	$ 3,946,340	
TP-4	Enhancement	Mission Ave Frontage Improvements	W City Limits east to Glenbrook (southside)	REET2/COMMERCE	$ 200,025	$ 1,493,975	$ 1,493,975						Commerce Grant = $999,100
TP-5	Enhancement	Upgrade Molter /Appleway Signal	Molter/Appleway		$ 57,000	$ -							
TP-6	Enhancement	Smart Signal Control	Multiple Locations	HRM		$ 51,000			$ 51,000				
TP-7	Preservation	Mission Ave Overlay	Country Vista to Molter	SRTC/REET/TBD		$ 1,368,400	$ 1,368,400						
TP-8	Preservation	Sprague Avenue Rebuild	Liberty Lake Road to Gage	REET/TBD		$ 3,029,371			$ 204,194	$ 1,359,530	$ 1,465,647.40		
TP-9	Plan/Report	Pavement Condition Study/ Preservation Master Plan	Citywide	TBD	$ 75,000	$ -							
TP-10	Preservation	Mission Ave Grind & Overlay (North)	Storage Facility to Harvard	REET2/TIB		$ 1,030,000	$ 1,030,000						Moved to 2026; adjusted for inflation
TP-11	Preservation	Molter Grind & Overlay, North Segment	Mission to Appleway	REET2/SRTC		$ 1,622,000	$ 142,000	$ 1,480,000					Local match=$370,000, SRTC Grant =$1,110,000
TP-12	Preservation	Country Vista Drive Grind & Overlay	Mission Avenue to Molter	REET/TBD		$ 2,014,299		$ 141,603	$ 1,872,696				
TP-13	Plan/Report	Network Analysis	City-wide	HRM/PUG	$ 97,930	$ -							
TP-14	Preservation	Street Tree Replacement	City-wide	TBD		$ 138,806	$ 20,000	$ 21,160.00	$ 22,387.28	$ 23,685.74	$ 25,059.52	$ 26,512.97	Removal and periodic replacement of damaged street trees
TP-15	Preservation	Roundabout/ Median Beautification	City-wide	TBD		$ 208,208	$ 30,000	$ 31,740.00	$ 33,580.92	$ 35,528.61	$ 37,589.27	$ 39,769.45	Periodic replacement of damaged or missing landscaping or hardscape
TP-16	Preservation	Street Repair Allocation	City-wide	TBD		$ 694,028	$ 100,000	$ 105,800.00	$ 111,936.40	$ 118,428.71	$ 125,297.58	$ 132,564.84	Small pavement repairs not included in other CFP pavement preservation projects
TP-17	Enhancement	Intersection Improvement	N Liberty Lake Rd/ E Country Vista Drive	HRM/TIB		$ -		TBD					Dual EBL turn lane; to be constructed with TP-2
TP-18	Preservation	Molter Grind & Overlay, Center Segment	Mission to Country Vista	REET/TBD/TIB		$ 1,754,166				$ 1,754,166.07			
TP-19	Preservation	Molter Grind & Overlay, South Segment	Country Vista to Sprague	REET/TBD/TIB		$ 2,121,037					$ 2,121,037.37		
				TOTAL, ROADWAY PROJECTS	**$ 429,955**	**$ 24,055,111**	**$ 4,380,375**	**$ 3,788,303**	**$ 4,339,890**	**$ 3,291,339**	**$ 4,110,017**	**$ 4,145,187**	

Appendix F: Funding Program Summaries

Transportation Improvement Board (TIB) Programs

The Transportation Improvement Board administers a suite of grant programs that support local transportation projects, including arterial improvements, pavement preservation, Complete Streets enhancements, and active transportation facilities. Typical programs include:

- Urban Arterial Program (UAP) – for safety and mobility improvements on major urban streets.
- Arterial Preservation Program (APP) – for pavement preservation treatments on urban arterials.
- Small City Preservation and Arterial Programs – for cities under state population thresholds.
- Active Transportation and Complete Streets Programs – support multimodal enhancements that align with Complete Streets policies.

Highway Safety Improvement Program (HSIP)

Administered by WSDOT with federal funds, HSIP provides funding to reduce serious injuries and fatalities on city and county roads through evidence-based engineering countermeasures. Eligible project scopes include roadway safety improvements identified through crash data and local safety plans.

Safe Routes to School Program

Funds infrastructure improvements within two miles of schools to make walking and biking safer and more appealing; pavement-related work on school routes may qualify under this program.

National Highway Freight and System Asset Management Programs

These federal programs, managed via WSDOT, support freight mobility improvements and systematic preservation of key roadway assets, which may include pavement work on designated freight corridors.

Freight Mobility Strategic Investment Program (FMSIB)

A state freight-focused program providing competitive funding for high-priority freight-related roadway and intersection improvements that support the movement of goods and economic activity.

Federal Funding Sources

Surface Transportation Block Grant Program (STBG)

STBG is one of the most flexible federal-aid programs and provides significant funding for local pavement preservation, rehabilitation, and other road improvements. Jurisdictions typically access STBG funds through the regional Transportation Improvement Program (TIP) process.

Programming and Planning Mechanisms

Statewide Transportation Improvement Program (STIP)
The STIP compiles federally funded projects programmed by WSDOT and regional partners; inclusion in the STIP is generally required for federal fund eligibility.

Transportation Improvement Program (TIP)
The TIP is the regional four-year program of transportation projects that schedules federal and state funds (such as STBG, CMAQ, and CRP) for construction and implementation; local roadway projects funded through these programs are typically included in the TIP.

Regional and Local Funding Programs

Spokane Regional Transportation Council (SRTC) Competitive Grants
Through periodic *Calls for Projects*, SRTC programs federal funds (like STBG, STBG set-aside, CMAQ, and Carbon Reduction Program) to local jurisdictions in Spokane County for preservation, mobility, safety, and multimodal improvements. Projects must be consistent with regional priorities and included in the TIP. The program has historically funded roadway preservation, multimodal facilities, and safety enhancements, with millions awarded across the region.

Spokane Transit Authority (STA) Grants
While STA primarily focuses on transit and multimodal improvements, several STA-associated programs fund related infrastructure that can support Complete Streets components or corridor enhancements connected to pavement projects. For example, Federal Transit Administration competitive grants (e.g., Reconnecting Communities Pilot) have funded design advance work on active transportation and transit corridors that complement roadway investments.

Regional Mobility Grant (via WSDOT / Regional partners)
Although administered by WSDOT, the *Regional Mobility Grant* program supports capital construction and connectivity improvements that span regional centers, often in partnership with local agencies. Eligible project types include capital construction and transportation demand management, which can intersect with pavement and corridor improvements when coordinated regionally.

Neighborhood Access & Equity-Type Programs
Federal competitive grant programs like the U.S. DOT *Reconnecting Communities and Neighborhoods* initiative can be accessed through collaborative applications with regional partners (e.g., STA, Spokane County, City of Spokane, etc.) to fund pedestrian, bicycle, and connectivity improvements along key streets, enhancing safety and mobility that tie into pavement projects.

Appendix G: Glossary and Acronyms

Glossary

Arterial Street – A major roadway designed to carry high traffic volumes and provide regional or citywide connectivity.

Asset Management – A systematic process of operating, maintaining, and upgrading infrastructure assets cost-effectively over their life cycle.

Collector Street – A roadway that connects local streets to arterial streets and carries moderate traffic volumes.

Complete Streets – A policy and design approach that ensures streets are planned, designed, and operated to be safe and accessible for all users, including pedestrians, bicyclists, transit riders, motorists, and people of all ages and abilities.

Condition Assessment – The process of evaluating pavement condition through visual inspections, automated surveys, or other data collection methods to determine distress types, severity, and extent.

Deferred Maintenance – The practice of delaying routine maintenance activities, often resulting in accelerated deterioration and higher long-term repair costs.

Functional Classification – A system for categorizing roadways based on their role in the transportation network, typically including arterials, collectors, and local streets.

Life-Cycle Cost Analysis – An evaluation of the total cost of an asset over its useful life, including construction, maintenance, rehabilitation, and reconstruction.

Local Street – A roadway primarily providing access to adjacent properties with low traffic volumes and limited through movement.

Maintenance – Routine activities such as crack sealing, patching, and sweeping that preserve pavement condition and slow deterioration.

Network-Level Analysis – Evaluation of pavement condition and performance across the entire roadway system rather than individual projects.

Performance Target – A measurable goal used to evaluate the condition and performance of the pavement system (e.g., maintaining a citywide PCI of 70 or higher).

Preventive Maintenance – Planned treatments applied to pavements in good or fair condition to slow deterioration and extend service life, such as seal coats or crack sealing.

Preservation – A strategy focused on maintaining existing pavement assets through timely maintenance and rehabilitation to maximize service life and minimize long-term costs.

Rehabilitation – Structural or surface treatments that restore pavement condition and extend service life, such as overlays or partial-depth repairs.

Reconstruction – Full replacement of the pavement structure, typically required when pavement has reached the end of its useful life.

Right-of-Way (ROW) – Public land reserved for transportation facilities, including roadways, sidewalks, and utilities.

Safety Improvement – A project or treatment intended to reduce the frequency or severity of traffic crashes.

Service Level – The desired condition or performance standard established for a roadway or asset class.

Treatment – A maintenance, preservation, rehabilitation, or reconstruction activity applied to pavement to improve or restore condition.

Utility Coordination – The practice of aligning pavement work with planned underground utility projects to minimize repeated street cuts and disruptions.

Acronyms

APP – Arterial Preservation Program (Transportation Improvement Board program)

ADA – Americans with Disabilities Act

CIP – Capital Improvement Plan; the City's multi-year program of planned capital projects

CMAQ – Congestion Mitigation and Air Quality Improvement Program; federal funding for projects that reduce congestion and improve air quality

CRP – Carbon Reduction Program; federal funding for projects that reduce transportation-related greenhouse gas emissions

FMSIB – Freight Mobility Strategic Investment Board; state program funding freight-related transportation projects

FHWA – Federal Highway Administration

HSIP – Highway Safety Improvement Program; federal and state funding for projects that reduce serious injuries and fatalities

PCI – Pavement Condition Index; a numerical rating (0–100) that describes the structural and surface condition of pavement

PMP – Pavement Master Plan; the City's long-range plan for managing pavement assets

RCW – Revised Code of Washington

SRTC – Spokane Regional Transportation Council; the metropolitan planning organization (MPO) for the Spokane region

STA – Spokane Transit Authority; the regional public transportation provider

STBG – Surface Transportation Block Grant Program; flexible federal funding for roadway and transportation projects

STIP – Statewide Transportation Improvement Program; the federally required listing of all programmed transportation projects in Washington State

TIB – Transportation Improvement Board; state agency administering grant programs for local transportation projects

TIP – Transportation Improvement Program; the regional four-year program of federally funded transportation projects

UAP – Urban Arterial Program (Transportation Improvement Board program)

WSDOT – Washington State Department of Transportation

APPENDIX "M"



CITY OF LIBERTY LAKE

SIDEWALK MASTER PLAN

APRIL 2026

Project Information

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Introduction

The City of Liberty Lake faces a growing challenge in maintaining its sidewalk network—one that touches on public safety, legal liability, financial equity, and community accessibility. Aging infrastructure, mature street trees, and decades of wear have left hundreds of sidewalk panels cracked, uneven, or structurally compromised, creating hazards for pedestrians and uncertainty about who bears responsibility for repairs. This Sidewalk Master Plan was developed to address these challenges through a comprehensive, data-driven approach. Drawing on a citywide inventory and assessment, community stakeholder input, and an analysis of funding and implementation strategies, this plan establishes a clear framework for prioritizing repairs, evaluating alternative maintenance models, and identifying sustainable funding mechanisms—ensuring that Liberty Lake can build and maintain a safer, more connected pedestrian network for all residents.

Current Challenges

Aging Infrastructure and Tree Root Damage

Aging infrastructure and mature street trees have created cracks, lifted panels, and uneven sidewalks in many areas of the city. These conditions create tripping hazards for pedestrians and increase potential liability if hazards are not repaired in a timely manner. Freeze–thaw cycles, aging concrete, and tree root growth all contribute to sidewalk deterioration, particularly in older neighborhoods where sidewalks are approaching the end of their lifespan.

Property Owner Maintenance Requirements

Under Liberty Lake Ordinance 123 (Municipal Code 8-3-6 C and D), property owners are responsible for maintaining the sidewalk that abuts their property. Repairs must be completed by a licensed and bonded contractor who also holds a Liberty Lake business license to ensure the work meets city standards. If a property owner does not comply with the repair requirement, the City may issue a Class 1 civil infraction.

Cost Burden and Enforcement Challenges

The cost of sidewalk repair can present a significant financial burden for property owners. Concrete slab replacement can cost $3,000 or more per panel, and many residents may not have funds set aside for these unexpected repairs. As a result, enforcement can be difficult, and repairs may be delayed.

In some cases, residents living in older neighborhoods may reasonably argue that the sidewalk damage is caused by mature street trees that were planted decades ago during the subdivision development and do not meet current tree species or planting standards. Because these trees were installed under earlier development standards, property owners may contend that they should not be held responsible for damage resulting from past decisions. When damage can clearly be attributed to actions of the property owner, the existing ordinance is easier to enforce; however, the ability of the City of Liberty Lake to collect fines is currently limited. Unpaid fines could ultimately be sent to a collection agency, but the collection of those fines is not guaranteed.

Liability and Legal Considerations

If a pedestrian injury occurs due to an uneven sidewalk, liability for compensation may be disputed between the property owner and the City. Recent settlements and legal precedent indicate that municipalities may face liability for injuries caused by neglected sidewalks, particularly if the City has been notified of a hazardous condition and fails to act.

Washington State court decisions have reaffirmed that municipalities have a non-delegable duty to maintain sidewalks in a reasonably safe condition for pedestrians[1]. However, property owners can be liable if they cause or contribute to sidewalk problems.[2] In *Rivett v. City of Tacoma*, the court held that cities are legally responsible for the physical condition of public sidewalks, and that an abutting property owner is not legally responsible for the physical condition of a public sidewalk unless that property owner causes or contributes to the condition. The Legislature has also abolished governmental immunity for cities by providing that cities are liable for their tortious conduct to the same extent as private persons or corporations. Therefore, once a municipality has been notified of a hazardous sidewalk condition that cannot be directly attributed to the abutting property owner, it must mitigate the hazard within a reasonable period of time. Case law also limits the ability of cities to transfer injury liability to adjacent property owners, reinforcing the importance of timely repairs and a proactive sidewalk maintenance strategy.

[1] *See Birdsall v. Abrams (2001) and Millson v. City of Lynden (2013).*

[2] *See Stone v. City of Seattle (1964)*



Plan Methodology

Given these challenges, it is imperative for the City to take a proactive approach to determining how sidewalk repairs will be effectively addressed and resolved. This plan outlines a structured process for doing so by first identifying key concerns and desired outcomes related to sidewalk maintenance and safety. The plan then develops rating criteria to help prioritize repairs based on factors such as safety, condition, and community needs. Using these criteria, available data is reviewed to identify priority areas for repairs.

The plan also outlines strategies for implementation, including potential repair approaches and funding mechanisms that could support long-term sidewalk maintenance. Community engagement is incorporated throughout the process to ensure that resident feedback helps inform priorities and implementation strategies.

Existing Conditions Assessment

Data Collection and Assessment Process

During the summer of 2025, LiDAR scans were conducted along public roadways throughout Liberty Lake to evaluate sidewalk conditions. The scanning process identified approximately 7,800 sidewalk distress locations, which were classified according to the severity of damage. Each location was assigned a condition rating based on the level of deterioration and the type of repair typically required.

Sidewalk Conditions Summary

Table 1: Sidewalk Conditions Summary below summarizes the results of the 2025 LiDAR sidewalk condition assessment, categorizing observed distress into three levels—minor, moderate, and severe.

Table 1: Sidewalk Conditions Summary

Condition Category	Description of Typical Damage	Typical Repair Approach	% of Panels
Minor Damage	Small cracks or slight vertical displacement.	Grinding raised edges or filling cracks with patching material.	**68%**
Moderate Damage	Larger cracks or uneven slabs that remain structurally intact.	Slab leveling through injection or sealing cracks.	**22%**
Severe Distress	Significant cracking, vertical uplift, or structural failure.	Removal and replacement of concrete panels; may require root or full tree removal.	**10%**

The results indicate that approximately 90% of sidewalk issues can be addressed through relatively minor or moderate repairs, while 10% will require full panel replacement due to severe distress.

Sidewalk Repair Criteria

Once locations of moderately and severely distressed sidewalk panels were identified through the LiDAR assessment, additional criteria were developed to determine which repairs should be prioritized first. This was accomplished through the development of a Sidewalk Repair Scorecard, which evaluates repair locations using a consistent and transparent set of criteria.

The rating criteria were informed by prioritization frameworks based on publicly available data sources that could be applied to Liberty Lake's existing spatial dataset. The scorecard sorts the criteria into five categories: **Safety, Equity, Proximity, Connectivity,** and **Cost-Benefit.** Together, these criteria help ensure that repairs are directed toward locations where improvements will provide the greatest benefit for safety, accessibility, and overall network performance.

Icon	Category	Key Criteria or Factors to Consider
	**Safety**	♦ Degree of Sidewalk Distress ♦ Concentration of Distress Points ♦ ADA Ramp Presence ♦ Pedestrian Injury in Vicinity ♦ Speed Limit of Adjadcent Roadway
	**Equity**	♦ High Concentration of Children or Seniors ♦ Proximity to Manufactured Housing ♦ Proximity to Senior Housing
	**Proximity**	♦ Proximity to School Zones ♦ Proximity to Transit Stops ♦ Proximity to Public Services ♦ Proximity to Parks and Trails ♦ Proximity to Activity Centers and Mixed-Use Districts
	**Connectivity**	♦ Off-Street Routes and Multi-Use Paths ♦ Roadways with Sidewalk on Only One Side ♦ Closing Sidewalk Network Gaps ♦ Extending the Network into Underserved Areas
	**Cost-Benefit**	♦ High/Medium/Low Benefit to High/Medium/Low Cost ♦ Construction Complexity ♦ Potential Utility Conflicts ♦ Tree or Root Removal Requirements ♦ Overall Repair Costs

Safety Criteria

Safety-related factors focus on locations where sidewalk conditions may create a risk of injury or present accessibility barriers.

- **Degree of Sidewalk Distress** – Based on the LiDAR point dataset identifying minor, moderate, and severe distress conditions.
- **Concentration of Distress Points** – Areas with clusters of damaged panels receive higher priority, as these locations represent broader infrastructure deterioration and could be candidates for repair contracts of a larger scope.
- **ADA Ramp Presence** – Sidewalk panels near ADA ramps receive higher priority to ensure accessible and safe transitions for people using mobility devices.
- **Pedestrian Injury in Vicinity** – Locations near documented pedestrian injury incidents may indicate areas of heightened vulnerability, particularly near intersections and crossings.
- **Speed Limit of Adjacent Roadway** – Higher vehicle speeds increase pedestrian exposure risk, making safe and well-maintained sidewalks more critical along these corridors.

Equity Criteria

Equity criteria prioritize repairs in areas where residents may rely more heavily on walking or where vulnerable populations are more likely to be present.

- **High Concentration of Children or Seniors** – Identified using census block group data where these populations exceed the area median. These population groups tend to be more dependent on safe walking environments.
- **Proximity to Manufactured Housing** – Areas where vehicle ownership rates may be lower and walking infrastructure plays a greater role in daily mobility.
- **Proximity to Senior Housing** – Residents in these areas may have greater mobility limitations and increased reliance on safe sidewalk conditions.

Proximity Criteria

These criteria prioritize repairs in the vicinity of locations that generate higher levels of pedestrian traffic.

- **Proximity to School Zones**
- **Proximity to Transit Stops**
- **Proximity to Public Services**
- **Proximity to Parks and Trails**
- **Proximity to Activity Centers and Mixed-Use Districts**

Connectivity Criteria

These criteria emphasize locations where sidewalk improvements would enhance the overall pedestrian network.

- **Off-Street Routes and Multi-Use Paths** – Repairs along shared-use paths or off-street routes receive higher priority due to their role in providing safer alternatives to roadway travel.
- **Roadways with Sidewalk on Only One Side** – These locations receive higher priority because of the limited alternative walking routes.
- **Closing Sidewalk Network Gaps** – Projects that repair damaged panels while also completing missing sidewalk segments may receive higher scores.
- **Extending the Network into Underserved Areas** – Improvements that expand sidewalk connectivity into new or previously underserved areas may also receive higher scores.

Cost–Benefit Considerations

Cost-benefit factors are applied during site-level evaluations rather than through the general scoring process. This allows City staff to account for site-specific conditions that may influence project feasibility. Factors considered may include construction complexity, potential utility conflicts, tree or root removal requirements, and overall repair costs relative to the expected safety and accessibility benefits. In some cases, higher repair costs may lower a project's priority if community benefits are limited. Conversely, projects with relatively low repair costs and high safety or connectivity benefits may receive a higher score.

For example, a sidewalk segment adjacent to a school with severe uplift, creating a clear safety hazard for children, may be classified as high benefit due to its importance for pedestrian safety and daily use. If the repair requires full panel replacement and minor root removal, it may be considered a medium-cost project, warranting a relatively high cost-benefit score.

In contrast, a similar repair at a medium cost in a low-pedestrian-traffic industrial area may be classified as offering low benefit, and therefore a much lower overall cost-benefit score.

The matrix shown below in Table 2: Cost-Benefit Scoring Matrix provides a potential cost-benefit scoring structure for the City to use to qualitatively evaluate specific sidewalk segments for repair prioritization.

Table 2: Cost-Benefit Scoring Matrix

	$	$$	$$$
High Benefit	High Priority	High Priority	Medium Priority
Medium Benefit	Medium Priority	Medium Priority	Low Priority
Low Benefit	Low Priority	Low Priority	Low Priority

$ = Low Cost, $$ = Medium Cost, $$$ = High Cost

Stakeholder Exercise and Scorecard Development

To ensure the prioritization framework reflected community values and public interest, the City of Liberty Lake convened a stakeholder group as part of the Sidewalk Master Plan development process. The group included perspectives from City staff, City Council, Planning Commission, the Community Engagement Commission, local residents, and the Spokane Transit Authority.

Participants were asked to review the proposed prioritization criteria and evaluate their relative importance through a structured scoring exercise. During the exercise, stakeholders evaluated each criterion's relative importance against every other criterion in the matrix.

As a result of the exercise, each criterion received a total score based on participant responses. Table 3 shows the final score results from the stakeholder prioritization exercise.

Table 3: Stakeholder Prioritization Exercise Results

Criteria	Average	Weight
HIGHEST PRIORITY		
ADA Ramp Proximity	11.2	3
Closes a Gap in the Sidewalk Network	10.8	3
Concentration/Density of Sidewalk Distress Points Along a Segment	10.6	3
High Presence of Children or Seniors Living Nearby	10.6	3
Prior Reported Pedestrian Injury	10.2	3
Cost/Benefit Analysis of the Improvement	9.8	3
MODERATE PRIORITY		
Degree of Sidewalk Distress	8.8	2
Proximity to Public Services (Healthcare Services, Post Office, Public Buildings, Senior Center)	8.4	2
Extends Sidewalk Network Into New Area	8.4	2
Proximity to School Zone	8.2	2
Proximity to Bus Stop	8.2	2
Proximity to Parks and/or Trails	8.2	2
Proximity to Senior Housing	8	2
Provides Off-Street Alternative Route	7.4	2
Proximity to Commercial Areas, Employment Centers, Mixed Use Districts	7	2
LOWER PRIORITY		
Speed Limit	6.4	1
Located On Street With Sidewalk Only On One Side	5.8	1
Proximity to Manufactured Housing	1.6	1

These scores were then translated into a three-tiered weighting system used in the following manner:

- High Priority Criteria (Score greater than 9): 3 points
- Moderate Priority Criteria (Score between 7 and 9): 2 points
- Base Priority Criteria (Score below 7): 1 point

The results of the stakeholder scoring exercise were incorporated into the final Sidewalk Repair Prioritization Scorecard, which assigns the weighted values to each criterion.

Sidewalk Repair Prioritization Scorecard

The scorecard calculates a prioritization score for each sidewalk distress location based on the presence of specific criteria, their assigned weights, and a qualifier/multiplier for criteria that include multiple tiers within. Criteria associated with higher safety risk, higher pedestrian activity, or greater community need contribute more heavily to the final score.

Table 4 below shows the Sidewalk Repair Prioritization Scorecard and the structure used for the analysis.

Table 4: Sidewalk Repair Prioritization Scorecard

Criterion	Weight	Qualifier	Max Possible Score	% of Total Score	Assigned Score
Safety Criteria				31.75%	
ADA Ramp Proximity	3	1	3	4.76%	
Degree of Sidewalk Distress					
Minor	2	0	0	0%	
Moderate	2	1	2	3.17%	
Severe	3	3	6	9.52%	
Concentration/Density of Sidewalk Distress Points	3	1	3	4.76%	
Speed Limit					
Less than or equal to 25 mph	1	0	0	0%	
Equal to 30 mph	1	1	1	1.59%	
Equal to or greater than 35 mph	1	2	2	3.17%	
Prior Reported Pedestrian Injury (within 100 feet of the location)	3	1	3	4.76%	
Proximity Criteria				50.79%	
Proximity to School Zone					
within 1/4 mile buffer	2	1	2	3.17%	

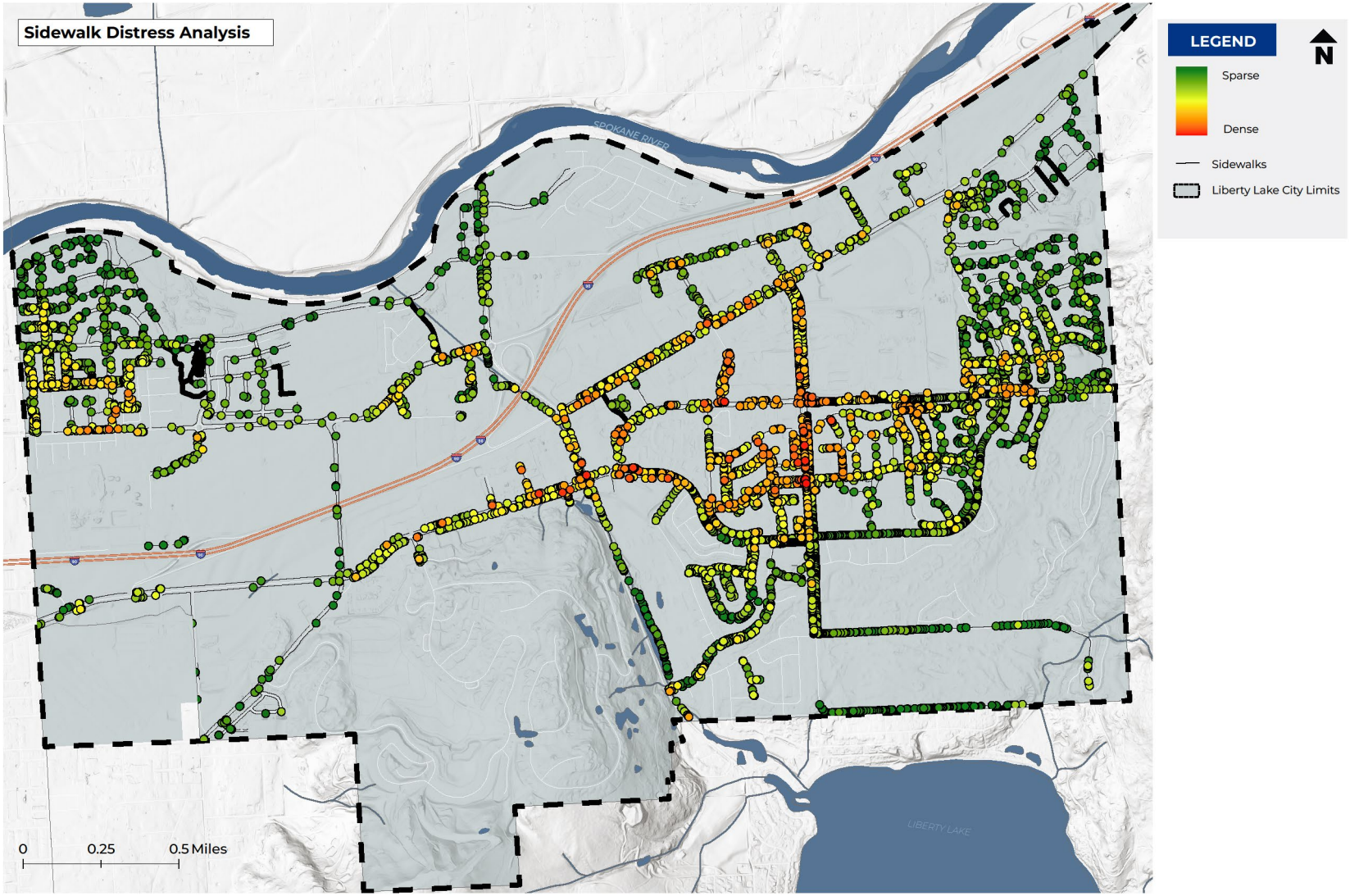
within 1/8 mile buffer	2	2	4	6.35%	
Proximity to Bus Stop					
within 1/4 mile buffer	2	1	2	3.17%	
within 1/8 mile buffer	2	2	4	6.35%	
Proximity to Parks and/or Trails					
within 1/4 mile buffer	2	1	2	3.17%	
within 1/8 mile buffer	2	2	4	6.35%	
Proximity to Public Services (Healthcare Services, Post Office, Public Buildings, Senior Center)					
within 1/4 mile buffer	2	1	2	3.17%	
within 1/8 mile buffer	2	2	4	6.35%	
Proximity to Senior Housing					
within 1/4 mile buffer	2	1	2	3.17%	
within 1/8 mile buffer	2	2	4	6.35%	
Proximity to Commercial Areas, Employment Centers, Mixed Use (Within M-2 or M-3 Zone)	2	1	2	3.17%	
Equity Criteria				6.35%	
Within a Census Block Group with a percentage of children/seniors above the statistical median	3	1	3	4.76%	
Proximity to Manufactured Housing					
within 1/4 mile buffer	1	0	0	0%	
within 1/8 mile buffer	1	1	1	1.59%	
Connectivity Criteria				6.35%	
Extends Sidewalk Network into New Area	2	0.5	1	1.59%	
Closes a Gap in the Sidewalk Network	3	0.5	1.5	2.38%	
Provides Off-Street Alternative Route	2	0.5	1	1.59%	
Located On Street with Sidewalk Only on One Side	1	0.5	0.5	0.79%	
Economic Criteria				4.76%	
Cost/Benefit Analysis of the Improvement (Project site specific)	3	1	3	4.76%	
TOTAL	--	--	63	100.0%	

Prioritization Results

After applying the Sidewalk Repair Prioritization Scorecard to the sidewalk distress dataset, each identified location received a total prioritization score. These scores were then mapped to identify clusters of high-priority repair locations across the city (see Figure 1: Sidewalk Distress Analysis).

The resulting analysis highlights areas where sidewalk conditions, pedestrian activity, and safety considerations combine to create the greatest need for repair. Locations shown in warmer colors represent areas where multiple prioritization criteria overlap and where repairs are likely to provide the greatest benefit to the local pedestrian network.

Figure 1: Sidewalk Distress Analysis





Repair Responsibility Approaches

Given the challenges associated with the current sidewalk maintenance framework, the City may consider several approaches to address sidewalk repairs. These approaches vary in the degree of responsibility shared between adjacent property owners and the City, as well as how repairs are coordinated, paid for, and implemented. The following section outlines three potential models: the current Property Owner Responsibility model, a City-led Approach, and a responsibility-sharing Partnership Model. Each option presents different advantages and administrative considerations that may influence how sidewalk maintenance is managed in the future.

Potential Approaches

Property Owner Responsibility

The State of Washington allows cities to place the burden of sidewalk repair on the abutting property owner per RCW 35.68.010. This model is codified in Liberty Lake under Ordinance 123, placing the responsibility upon abutting property owners to make sidewalk repairs. While this model may allow the property owner the flexibility to take initiative and potentially combine the sidewalk repair with other private frontage improvements, it is not preferred due to the many challenges previously stated.

City-led Approach

Another alternative is for the City to perform sidewalk repairs without requiring direct involvement from the adjacent property owner. Under this approach, repairs could be completed either by City staff or by approved City-hired contractors. This model could allow the City to address repairs more efficiently by coordinating projects at a larger scale, potentially achieving cost savings through economies of scale. It may also provide a timelier method for repairing the most severely damaged sidewalk panels or focusing on areas with higher scores on the Sidewalk Repair Prioritization Scorecard. By managing repairs directly, the City could prioritize work in areas with the greatest need and schedule improvements strategically over multiple years.

However, implementing this approach would require the City to develop, administer, and track a repair program. If the work is completed using City crews, additional staffing or resources may be necessary. Alternatively, if repairs are completed by hired contractors, the City would need to conduct a formal procurement process, such as issuing a Request for Bids (RFB). This approach may also involve administrative responsibilities related to billing property owners for repairs and attempting to collect payments. In some cases, unpaid costs could require the City to place liens on properties or write off outstanding balances.

Partnership Model

Another approach is a partnership model in which repair responsibilities are shared between the City and the adjacent property owner under a number of different structures. This may include cost-sharing arrangements based on the nature of the repair. For example, the City could contribute to repairs when damage is caused by factors outside of the property owner's control, such as mature street tree roots. The City could also partner with property owners by providing access to a certified contractor at a negotiated or reduced rate to perform repairs, while the property owner is responsible for preparing the site and covering the cost of materials. In this scenario, the City would coordinate the repair and bill the property owner at a reduced rate compared to standard market pricing.

Another option within this partnership framework would be to incentivize voluntary repairs. The City could offer rebates on construction costs or permit fees for property owners who complete sidewalk repairs in compliance with City standards and requirements after the condition has been verified by the City.

This partnership approach offers advantages such as reducing the direct financial burden on property owners while also lowering the City's administrative and logistical challenges associated with arranging repairs. Rebates or other incentives may encourage property owners to address sidewalk deficiencies sooner, improving sidewalk safety and condition across the community.

However, this approach would still require the City to develop, implement, and track the program, which may involve additional administrative responsibilities, especially when adding property owners as coordination partners. The City may also need to manage billing processes and attempt to collect funds from property owners for their share of repair costs. In some cases, unpaid bills could require additional enforcement actions such as placing liens on properties or writing off uncollected balances.

Preferred Repair Responsibility Approaches

A city-led sidewalk management program, either with full City responsibility or a shared City/property owner model, has been identified by stakeholders and staff as the most appropriate approach for Liberty Lake. This approach directly supports several of the City's core goals. Managing repairs at a citywide scale leverages economies of scale and enables the City to target the highest-priority repairs first using the Prioritization Scorecard, directly advancing its goals related to safety, walkability, and liability reduction. By establishing a structured, City-administered program, Liberty Lake can conduct scheduled inspections and plan repairs systematically. A city-led program also positions Liberty Lake to more competitively pursue state and federal funding opportunities, which can reduce the financial burden on local taxpayers.

Some outstanding questions for implementing such a program center on the City's capacity to perform repairs in-house or to outsource them. The City must also determine which revenue sources are available to cover these costs, which, in turn, will dictate the degree to which expenses are shared with abutting property owners. Potential funding approaches are detailed in the following section.



Repair Funding Approaches

If the City were to adopt a repair responsibility model in which the City subsidizes or fully funds sidewalk repairs, a dedicated funding source would be required to support ongoing maintenance and replacement. Several potential funding approaches are available to the City, ranging from voter-approved taxes to existing revenue sources and targeted local funding mechanisms. These options could be combined or used separately to create a sustainable, long-term funding strategy for sidewalk repairs across the City.

Potential Approaches

Transportation Benefit District (TBD)

A Transportation Benefit District (TBD) could provide a dedicated funding source for sidewalk repair and maintenance. Liberty Lake already utilizes TBD revenues to support roadway operations. However, the City could consider seeking voter approval to increase the TBD sales tax rate or add additional vehicle license fees to specifically support sidewalk infrastructure.

Other Washington cities have successfully used TBD funding for sidewalk improvements. For example, in November 2018, voters in the City of Shoreline approved a 0.2 percent increase in the local Sales and Use Tax to fund the construction of new sidewalks and the repair of existing sidewalks. Shoreline also authorized an additional $20 vehicle license fee through its TBD to support sidewalk repair and maintenance.

Local Improvement District (LID)

A Local Improvement District (LID) could be established to fund sidewalk repairs within specific neighborhoods or areas where sidewalk conditions are particularly poor. LIDs create a temporary taxing district where property owners within the defined boundary contribute toward the cost of improvements that directly benefit their properties.

Because LID funds are generated locally, this tool can be effective for targeting large-scale repairs in areas with concentrated sidewalk distress. However, establishing an LID requires significant outreach and support from affected property owners, and the process can be administratively complex.

Councilmanic Bonds

Councilmanic bonds allow the City Council to issue bonds that are repaid using existing revenue streams. Liberty Lake has previously used councilmanic bonds to finance improvements to the Trailhead Golf Course. A similar approach could be used to fund a sidewalk repair program by reallocating existing revenues or adjusting service level priorities within the City's budget. For example, funding could be shifted from services with higher existing levels of service to infrastructure areas with currently lower service levels, such as sidewalk maintenance. Councilmanic bonds allow the City to address large infrastructure needs quickly, but they require a stable source of repayment.

Excess Property Tax Levy

An excess property tax levy could also provide dedicated funding for sidewalk improvements. This type of levy requires voter approval and is typically structured for a defined period of time.

A recent example comes from the City of Bothell. In 2016, Bothell voters approved Proposition 1: Safe Streets and Sidewalks Levy to fund street maintenance, safety improvements, and school walk routes. In its first year, the levy was set at $0.50 per $1,000 of assessed property value, generating approximately $1.5 million annually for transportation improvements. Following the expiration of the 2016 measure at the end of 2025, Bothell residents voted to renew the measure during the November 4th, 2025 General Elections.

A similar levy in Liberty Lake could generate dedicated funding for sidewalk repairs while providing voters with a clear understanding of how the funds would be used.

Utility Tax

Liberty Lake currently has a utility tax authorized but set at 0 percent, meaning the City has the authority to implement this tax without creating a new taxing mechanism.

Historically, a 3 percent utility tax generated approximately $1.3 million annually before it was removed. Because the tax framework already exists, reinstating or adjusting a utility tax could provide a relatively straightforward funding option compared to creating a new tax structure.

Utility tax revenues could support a range of infrastructure improvements, including sidewalk repairs, where projects provide broader community benefits such as improved pedestrian safety, accessibility, and connectivity.

Existing Revenue Sources

The City may also consider allocating funds from existing revenue sources to support sidewalk repairs. Some municipalities dedicate portions of their roadway maintenance or transportation funds to sidewalk maintenance.

For example, the City of Yelm has funded sidewalk repair and replacement through its Road and Street Construction Fund, which supports the repair of failing sidewalk panels throughout the city. A similar approach in Liberty Lake could dedicate a portion of existing transportation or capital improvement funds to a sidewalk repair program.

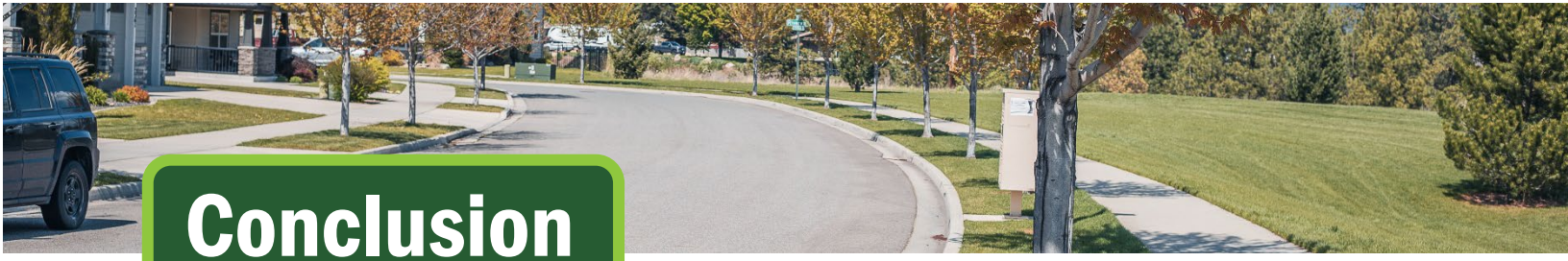
Preferred Repair Funding Approaches

During stakeholder discussions, participants emphasized that funding for sidewalk repairs should not be viewed in isolation, but rather as part of a broader strategy that recognizes co-benefits identified in other City plans.

A number of the funding approaches described earlier may be used to address sidewalk repairs within the City. Some approaches are more readily available because they have been used previously by the City or still exist in some form, such as a TBD, a utility tax, or a councilmanic bond. Others have been used by other jurisdictions for sidewalk repairs and are worth reviewing and evaluating specifically for Liberty Lake. Grant funding from sources such as the Washington State Department of Transportation (WSDOT) and the Transportation Improvement Board was acknowledged as an aspirational but viable component of a larger funding strategy.

The question of cost-sharing between the City and abutting property owners remains an ongoing discussion. Hypothetical cost-split scenarios, along with estimates of the costs to property owners for each scenario, are useful next steps for the City to undertake. Reliable cost estimates may be obtained once a sample of repair sites has been evaluated, with that work anticipated in the coming months.

The intent of this report is to identify potential approaches and provide guidance for City staff and the City Council to review, evaluate, and select the most appropriate funding methods for sidewalk repairs in the City of Liberty Lake.



Conclusion

Liberty Lake's aging sidewalk network presents a clear and pressing need for a structured, citywide approach to maintenance and repair. Left unaddressed, deteriorating sidewalk conditions create ongoing safety hazards for pedestrians, expose the City to legal liability, and place an inequitable financial burden on individual property owners in older neighborhoods where infrastructure damage is most often caused by mature street trees rather than the actions of abutting owners.

This Sidewalk Master Plan provides the City with a comprehensive framework for moving forward. The 2025 LiDAR assessment identified approximately 7,800 sidewalk distress locations across Liberty Lake, with 10% requiring full panel replacement and most of the rest addressable through more moderate interventions. The Sidewalk Repair Prioritization Scorecard, developed in collaboration with a diverse stakeholder group, establishes a transparent, data-driven method for directing limited resources toward the locations where improvements will deliver the greatest safety, accessibility, and community benefit. The scorecard utilizes criteria within five categories: Safety, Equity, Proximity, Connectivity, and Cost-Benefit.

Stakeholders and City staff have identified a City-led or shared City/property owner repair model as the most appropriate path forward, as it enables coordinated repairs at scale, supports strategic prioritization, and positions Liberty Lake to compete for state and federal funding opportunities. Several viable funding mechanisms, including a Transportation Benefit District, a utility tax, councilmanic bonds, and existing revenue sources, are available to support a sustainable, long-term repair program.

The next steps for the City include evaluating hypothetical cost-sharing scenarios between the City and abutting property owners, obtaining reliable cost estimates from a sample of repair sites, and selecting the repair and funding approach or combination of approaches that best aligns with Liberty Lake's financial capacity and community priorities. By taking this proactive, systematic approach, the City can reduce liability exposure, ensure equitable access to safe walking routes, and build a more connected, resilient pedestrian network for all residents.



APPENDIX "N"

City of Liberty Lake
Facilities Master Plan

2024-2025 Master Plan

22710 E Country Vista Drive
Liberty Lake, WA 99019

Ben Turner
Public Works Director
Report created by BCRA

October 16, 2025

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EXECUTIVE SUMMARY

The City of Liberty Lake is experiencing sustained growth and evolving community needs, creating increasing demands for its municipal facilities and services. To ensure the city and its employees remain well-positioned to serve residents today and into the future, a comprehensive **Facilities Master Planning Study (FMP)** was completed by BCRA Architects, Turner and Townsend Heery, and the City of Liberty Lake over the course of the planning effort completed during the 2024-2025 calendar year.

The intent of the Facilities Master Plan Report (FMP) is to provide the City with a clear, data-driven framework for evaluating current facilities, identifying capacity gaps, and forecasting future requirements. By assessing the current City Hall and Council Chambers, Parks Building, Library Building, Police Department and Public works facilities buildings, the study will establish a long-term vision aligned with Liberty Lake's strategic goals, financial stewardship, and community expectations.

Key objectives of the Facilities Master Plan (FMP) Study include:

a) **Assessment of Current Facilities** – Evaluating the condition, utilization, and operational effectiveness of existing municipal assets along with additional sourced property of (Address).

b) **Future Needs Forecasting** – Identifying projected population growth, service demand on departments, and community priorities to identify future facility requirements.

c) **Options Development** – Present feasible alternatives for facility improvements, relocation or expansion, or new construction, supported by cost and funding strategies.

d) **Strategic Roadmap** – Delivering a prioritized, phased implementation plan to guide decision-making and capital investments over the next 5–10-year forecast.

Through this planning process, Liberty Lake will gain a holistic and actionable plan that balances community needs, fiscal responsibility, and sustainable growth. The outcome will empower City leadership to make informed, transparent decisions that strengthen municipal operations and enhance quality of life for residents.

PURPOSE OF THE FACILITIES MASTER PLAN STUDY

a) A Facilities Master Plan (FMP) provides a disciplined framework for guiding long-term facility investments by aligning infrastructure improvements with organizational priorities, projected growth, and fiscal responsibility. Through a comprehensive assessment of existing conditions and analysis of future needs, it establishes clear priorities and sequencing for capital projects, ensuring investments are strategic, timely, and cost-effective. By shifting decision-making from reactive responses to proactive planning, the plan strengthens resource

stewardship, minimizes unforeseen expenditures, and positions the City of Liberty Lake to adapt effectively to evolving operational and community demands while also supporting employee morale and supportive resources to effectively serve the community.

b) The Facilities Master Plan (FMP) provides a strategic framework to ensure Liberty Lake's public facilities are well-positioned to support future growth and community resilience. By aligning facility needs with projected population increases, service demands, and long-term development goals, the plan helps the City proactively manage resources, prioritize investments, and adapt to changing conditions. This forward-looking approach not only supports sustainable growth but also strengthens the City's ability to maintain high-quality services, enhance operational efficiency, and build resilience for the community's evolving needs.

FACILITY MASTER PLAN FOCUS

a) Existing City Hall Building was built in 2001, and located at 22170 E Country Vista Drive, Liberty Lake, Washington, Building A. The building is approximately 7,531 square feet. The building was converted to the current City Hall in 2004 and remains untouched other than typical maintenance and upkeep of the facility.

b) Existing Liberty Lake Municipal Library is located at 23123 East Mission Ave, Liberty Lake, Washington. The portion of the library which occupies the west portion of the building is shared with the Liberty Lake Police Department. The library square footage is approximately 9,612 square feet. The facility remains untouched other than typical maintenance and upkeep of the facility with was built in 1992.

c) Existing Police Department is located at 23127 East Mission Ave, Liberty Lake, Washington. The existing police department occupies the east portion of the building shared with the City of Liberty Lakes Municipal Library. The police department square footage is approximately 18,237 square feet.

d) Existing Parks & Recreation Department was built in 2001, and located at 22170 E Country Vista Drive, Liberty Lake Washington, Building B. The building is approximately 700 square feet and remains untouched other than typical maintenance and upkeep of the facility.

e) Existing Public Works Department is located at 375 North Kramer Parkway, Liberty Lake, Washington. The Public Works facility was constructed in 2023. The approximate square footage of the building is 6,250 square feet and was constructed in 2023.

FACILITY MASTER PLANNING PROCESS

a) As part of the City of Liberty Lake's master planning efforts, facility assessments were completed for the existing library, city hall, police station and existing park

department to evaluate current conditions, space utilization, and capacity to meet staff and departmental needs. These assessments provide a comprehensive understanding of building functionality, infrastructure systems, and operational challenges, ensuring that future planning and investment decisions are based on accurate data. By identifying deficiencies and opportunities within each facility, the City of Liberty Lake can strategically prioritize improvements, support long-term service delivery, and align facility growth with the community's vision and goals.

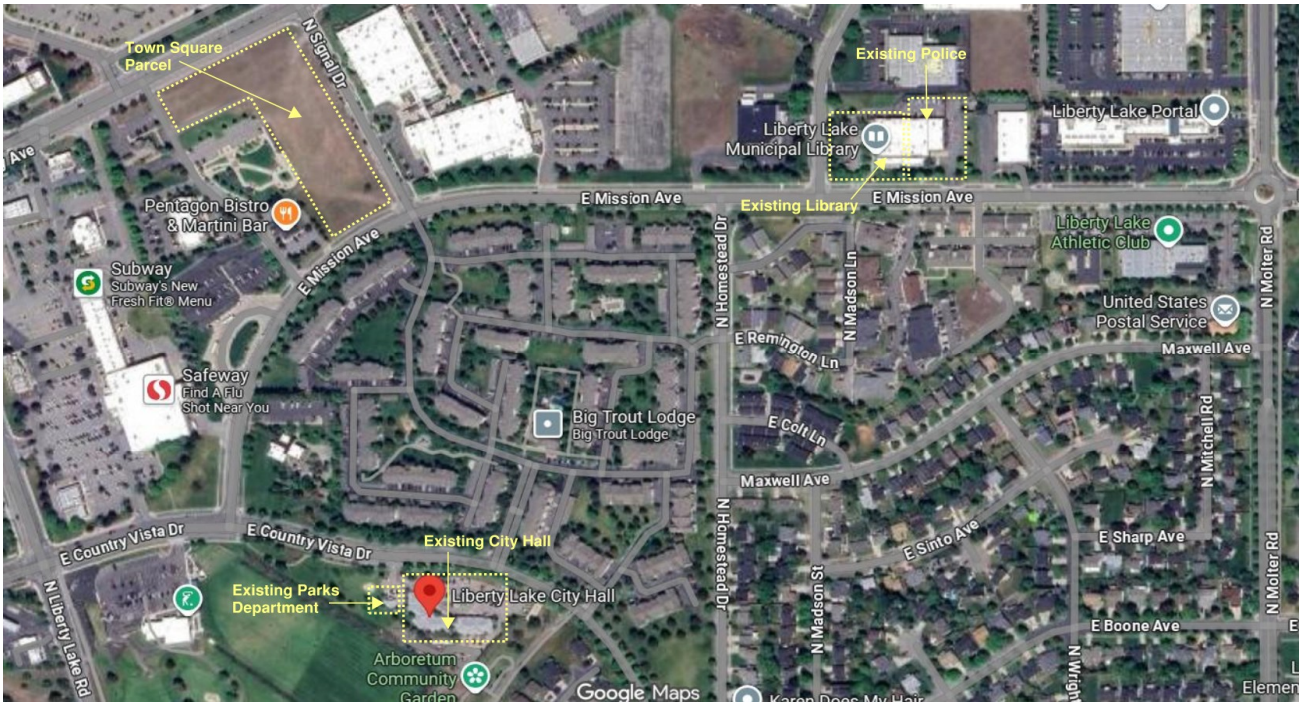
Staff department conducted surveys and interviews during the month of Sept-October of 2024. A programming questionnaire and space needs survey were issued and completed by each department lead for City of Liberty Lake Administrative department, Community Development "PEBS", Parks and Recreation, Public Works, and the City of Liberty Lake's Executive department.

In addition, a survey was issued to City Council members regarding the facility feedback and needs for the existing Council Chambers. Information provided by staff and council members was compiled and analyzed for implementation into conceptual programming and layout options explored during the master planning studies.

EXISTING FACILITES SUMMARY

Site visits to the following properties were conducted throughout the 2024–2025 calendar year as part of a comprehensive facilities assessment aimed at evaluating the overall condition, functionality, and long-term sustainability of each location. During these visits, facility department leaders provided guided tours of key operational areas and shared valuable insights regarding daily workflows, recurring maintenance challenges, and strategic priorities for improvement. The assessment process emphasized several core areas of focus, including space utilization efficiency, building accessibility and code compliance, maintenance and repair needs, and potential opportunities for facility upgrades, repurposing, or expansion.

Through detailed observation and direct engagement with on-site personnel, the project team was able to develop a thorough understanding of each facility's physical and operational strengths, as well as the constraints affecting current performance and service delivery. These firsthand evaluations provided essential context for identifying infrastructure gaps, deferred maintenance concerns, and space limitations that may impact future growth or programmatic needs. The findings gathered during these site visits will serve as a foundation for developing targeted recommendations, prioritizing capital investments, and guiding long-term facility planning to ensure that each property continues to effectively support organizational goals and community needs.



Aerial Image courtesy of Google Maps

Existing City Hall Building is located at 22170 E Country Vista Drive, Building A, Liberty Lake, Washington. The building is approximately 7,995 square feet. The building was converted to the current City Hall in 2004 and was previously built to serve as an assisted memory care facility.

The current configuration of the building has a central vestibule with secured access to the execute and community development wings. Some of the existing building deficiencies were noted as follows:

Images of Existing City Hall







Building Observation

a) Building mechanical and electrical systems were outdated and lacked efficient insulation to maintain consistency in building cooling during the summer months and heat efficiency during the winter months.
b) Building entrance was updated with an ADA actuator to automatically open the vestibule doors.
c) If building undergoes renovation the existing restrooms will need to be updated to be new ADA code compliant standards. Current restrooms meet existing capacity requirements.
d) Existing Council Chambers has very limited seating capacity to serve the public. Overflow requires standing or overflow into the small lobby near reception.
e) Minimal sound absorption between existing offices and other amenities.
f) Building lacking in storage areas for department use
g) Existing finishes are outdated and starting to wear down
h) Building has minimal meeting areas for both internal and external use
i) Building electrical capacity not evaluated at this time
j) Existing building at maximum capacity for additional staff without demolition or reconfiguration of existing walls.
k) Existing building is sprinklered

Existing Liberty Lake Municipal Library is located at 23123 East Mission Ave, Liberty Lake, Washington. The portion of the library which occupies the west portion of the building shared with the Liberty Lake Police Department. The library square footage is approximately 9,612 square feet. The existing building was constructed in 1992. Some of the existing building deficiencies were noted as follows:

Some Images of Existing Municipal Library Site Tour







Building Observation

a) Building mechanical and electrical systems appear to be outdated and will require replacement

b) Existing Building vestibule was added and includes ADA door actuator and automatic opening doors.
c) Existing restrooms appear to be ADA compliant for current use. If building undergoes renovations then the existing restrooms will need to be brought up to new ADA code compliant standards.
d) Interior lighting is dark with limited access internally to natural light or energy efficient lighting solutions
e) Existing checkout desk appears to be ADA compliant
f) Building is currently lacking in storage areas for library department use
g) Existing finishes are outdated and starting to wear down
h) Building one reservable meeting room which can accommodate up to 8-12 occupants.
i) Library does not currently have access to smaller meeting rooms
j) Library currently has one larger programming and activity space which can accommodate 32 occupants for children's story time. The room has limited capacity, which has been an issue when more visitors show up than the room can occupy. The library often has up to 70 visitors for activities in these rooms during peak times.
k) Building electrical capacity not evaluated at this time
l) Existing square footage provides minimal opportunity to add additional book stacks.
m) Existing building is not currently sprinklered

Existing Police Department is located at 23127 East Mission Ave, Liberty Lake, Washington. The existing police department occupies the east portion of the building shared with the City of Liberty Lakes Municipal Library. The police department square footage is approximately 18,237 square feet. The existing building was constructed in 1992. Some of the existing building deficiencies were noted as follows:

Building Observation

a) It was noted that mechanical RTU's were replaced in the last few years. HVAC systems appear to be sufficient at the existing capacity.
b) If building undergoes renovations, then the existing restrooms will need to be brought up to new ADA code compliant standards. Restrooms meet current use and occupancy for the building.
c) Existing meeting/briefing room has very limited seating capacity
d) Minimal sound absorption between existing offices and other amenity areas
e) Building lacking in secure storage areas needed for department use
f) Existing finishes are outdated and starting to wear down
g) Building electrical capacity not evaluated at this time
h) Existing building is not currently sprinklered

Existing Parks & Recreation Department is located 22170 E Country Vista Drive, Building B, Liberty Lake, Washington. The small 700 square foot small house located adjacent west to the existing City Hall Building

Some Images of Parks Department Offices





Building Observation

a) Mechanical systems were not evaluated at this time. Parks department is currently reusing small existing facility approximately xx square feet.
b) Building entrance is not ADA compliant
c) One single user restroom observed during the site walk.
d) Existing building does not have any existing meeting rooms
e) Very small storage/break room observed during site walk.
f) Minimal sound absorption between existing offices
g) Building lacking in storage areas needed for department use
h) Building lacking additional expansion opportunities for additional staff. Building at max capacity of staff that can be accommodated in the existing "small house" facility
i) Existing finishes are outdated and starting to wear down
j) Building electrical capacity not evaluated at this time
k) Existing building is not currently sprinklered

Existing Public Works Department is located at 375 North Kramer Parkway, Liberty Lake, Washington. The Public Works facility was constructed in 2023. The approximate square footage of the building is 6,250 square feet.

Building Observation

a) Mechanical systems were not evaluated at this time.
b) One single user restroom observed during the site walk.
c) Existing building does not have any existing meeting rooms
d) Very small storage/break room observed during site walk.

e) Minimal sound absorption between existing offices
f) Building lacking in storage areas needed for department use
g) Building lacks additional expansion opportunities for additional staff.
h) Building electrical capacity not evaluated at this time
i) Existing building is sprinklered
j) Site includes ample space to expand or add building footprint to accommodate projected growth

GROWTH AND SPACE REQUIREMENTS

The City of Liberty Lake is experiencing increased demand across multiple facilities as growth continues to outpace available resources. Community programming, meeting space, and storage needs have expanded significantly, while City Hall remains undersized and in poor condition. The Police Department faces space gaps that limit training opportunities, and both Parks and the Library experience seasonal overloads that strain their ability to serve residents effectively. During previous planning exercise the city and the Design Team also evaluated opportunities to relocate the existing library within the Legacy Church building in order to help accommodate for square footage short falls.

The city recognizes the importance of providing adequate facilities and square footage growth to support our community's evolving needs. Ensuring that the public facilities have the capacity to accommodate future services, programs, and staffing is critical to maintaining efficiency and delivering high-quality service.

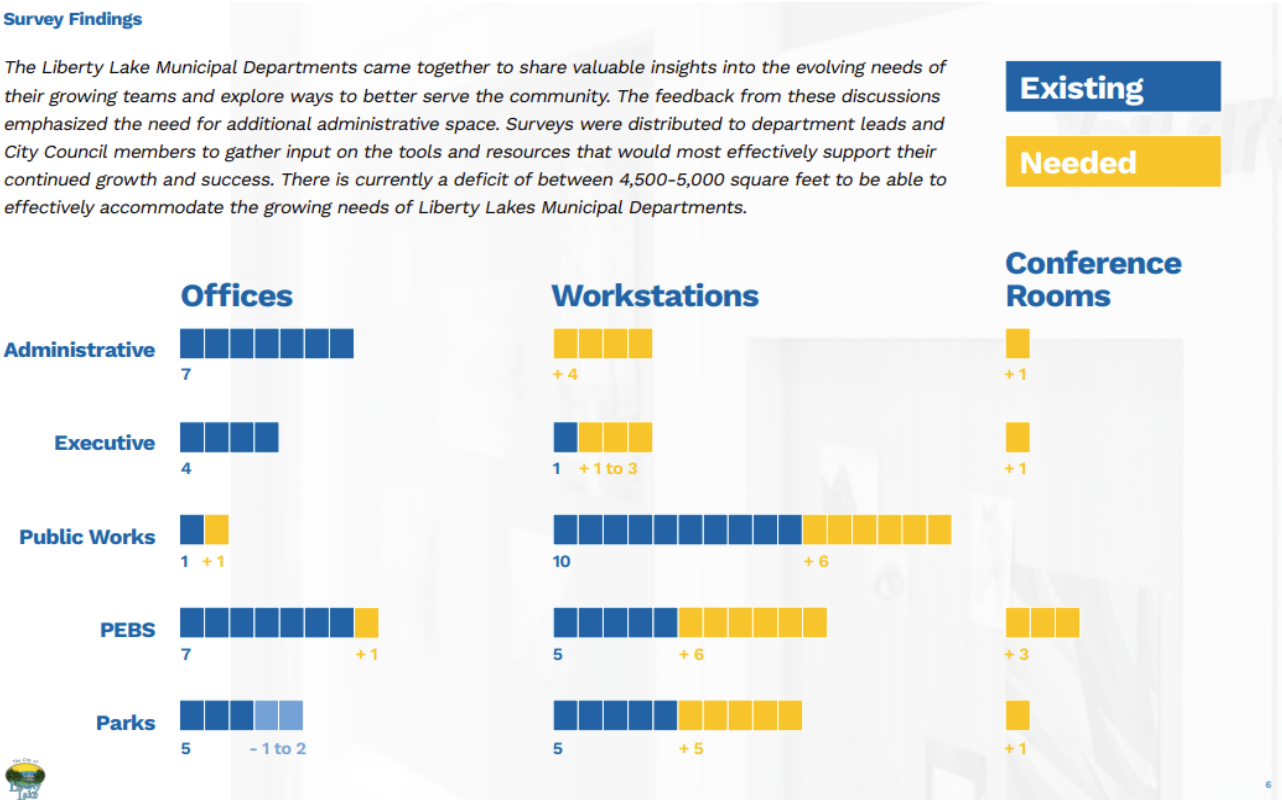
By planning strategically for flexible and scalable spaces, the city departments can remain resilient, adapt to changing demands, and make proactive investments that will benefit our residents today and for generations to come.

During the 2024-2025 calendar year the City of Liberty Lake Department leaders provided future forecast headcount growth numbers for each of their departments. The following matrix reflects the data collected from the survey and questionnaire for future growth for each department for the next 5-10-year forecast period.

Programming Matrix

Department	Requested Offices	Future Offices (10 year)	Requested Workstations	Future Workstations (10 year)	Requested Sm. Conf.	Requested Med. Conf.	Requested Lg. Conf.	Requested Chambers
Administration & Finance	5 (can be flexible and have 4 if needed)	0 additional	2-3 (account for 7 teammates total)	2 additional				
Executive	4 (incl. Mayor)	0 additional	1	3 additional				
Public Works	1 (Hotel)	1 additional	2 (Hotel)	1 additional	1	1	0	
PEBS	6	1 additional	7: 3 are at the Permit Counter, 4 at a Bullpen	1 additional	2	1	1	
Parks	3 (0 at Legacy)	-	4 (0 at Legacy)	-	1			
Hoteling	2	2 additional (Judge, Clerk, etc)	2	2 additional				
Total	**18**	**4+**	**14**	**9+**	**2**	**1**	**1**	**1**
Additional Requirements	Reception Permit Counter Mother's Room File Storage - temperature controlled, fire rated, secure Antechambers; can have flexible use Chambers seating for up to 100 guests All Executive Offices and each Director office sized to accommodate guest seating							

The following survey graphic was presented during the February 18, 2025, Council Presentation as prepared by BCRA



The following deficits were noted during the June 3rd, 2025, Council Presentation as prepared by BCRA

Programming Deficits per Department:

City Hall - Currently 7,995 SF

- Adequately size Council Chambers
- Antechamber or Multi-purpose Concerence Room
- Meeting Spaces
- Improved Departmental Adjacencies
- More Offices for each Department
- More Workstations for each Department
- More Meeting Rooms
- More Functional Secured vs. Public Space
- Parks Administrative Space
- Operational Space for Parks Department
- Storage
- Municipal Court
- Community Space
- Approximately 8,500 SF Deficit (excluding Municipal Court and Parks Operational Space)

Police Department - Currently 18,237 SF

- Training Space for Defensive and Tactical Training
- Secure Record Storage
- Adequate Evidence Storage
- Covered Parking
- Approximately 3,300 SF Deficit

A Library Community and Facility Assessment and Recommendation report was conducted by Kimberly Bolan and Associated for the City of Liberty Lake in December of 2019. The findings of this study along with updated programming validation showed a facility of approximately 18,000 square feet would be needed in order to serve the growing population of 1 square foot per capita per the projected population growth.

This approximation of square footage was validated further in programming meetings with the Library Director conducted in July of 2024. The overarching deficiencies of approximately 8,400 square feet were noted as such.

Library - Currently 9,612 SF

- Increased Linear Feet of Book Stacks
- Meeting and Study Rooms
- Staff Offices
- Processing and Check-in Space
- Adequately-sized Programming Room and Multfunctional Space
- Mother's Room
- More Self Check-Out Stations

- Increased Linear Feet for Library of Things and Friends of the Library Display Space
- Storage
- Ample Parking
- Approximately 8,400 SF Deficit (excluding Parking)

SITE AND LOCATION OVERVIEW

Strengths – Proximity to Commercial Core

Liberty Lake's municipal facilities are well-positioned near the commercial core of the city, providing easy access for residents, businesses, and visitors. This central location of the library, and shared police building is adjacent to the Legacy Church Building which was also included in the Facilities Master Plan review. The Facilities Master Plan study examined the relocation of the existing City Hall functions and departments to the Legacy Church Building which in turn would create a more holistic municipal services center and provide community visibility, encourages public engagement, and enhances efficiency by being close to essential services and amenities.

Gaps – Limited Expansion Room, Aging Sites

While location is a strength, the city faces significant challenges with limited room for expansion within the existing and aging City Hall Building- Council Chambers, Police Department, Parks Department Building and the existing Library. The constrained buildings restrict the ability to adapt to growing space demands, while aging infrastructure increases maintenance needs and impacts service delivery. These limitations create barriers to long-term sustainability and highlight the importance of strategic planning for future facility needs.

Opportunities – Co-Location and City-Owned Parcels

Despite these gaps, Liberty Lake has promising opportunities to optimize resources and plan for growth utilizing strategic relocation for the City Hall to the purchased site of 23129 East Mission Ave, Liberty Lake, WA 99019. With the relocation, a majority of the public departments would free up square footage within the existing City Hall to be utilized for expansion of the Parks Department, as well as providing more opportunities for community meeting space.

The co-location of departments will offer potential for consolidating services, improving efficiency, and fostering collaboration among City of Liberty Lake staff. In addition, city-owned parcels provide a valuable foundation for future facility development, ensuring that new investments are made with flexibility and community growth in mind. By leveraging these opportunities, the city can position itself for sustainable service delivery well into the future.

FACILITY STUDIES AND PROPOSED OPTIONS

Municipal Facility Relocation

As part of the Facilities Master Planning process, the City of Liberty Lake, in collaboration with the design team, developed several conceptual plan options accompanied by cost models to evaluate potential improvements and future uses of the City's existing buildings. These concepts, created in close partnership with Liberty Lake department leaders, illustrate multiple sequencing scenarios that consider how facilities such as City Hall, the Police Department, the Library, and the Parks Department could be reconfigured, expanded, repurposed, or relocated to better meet current and future community needs.

By analyzing a range of approaches, the City is able to weigh both financial implications and operational benefits, ultimately identifying the most cost-effective and strategic paths to address space limitations while supporting long-term growth, efficiency, and service delivery.

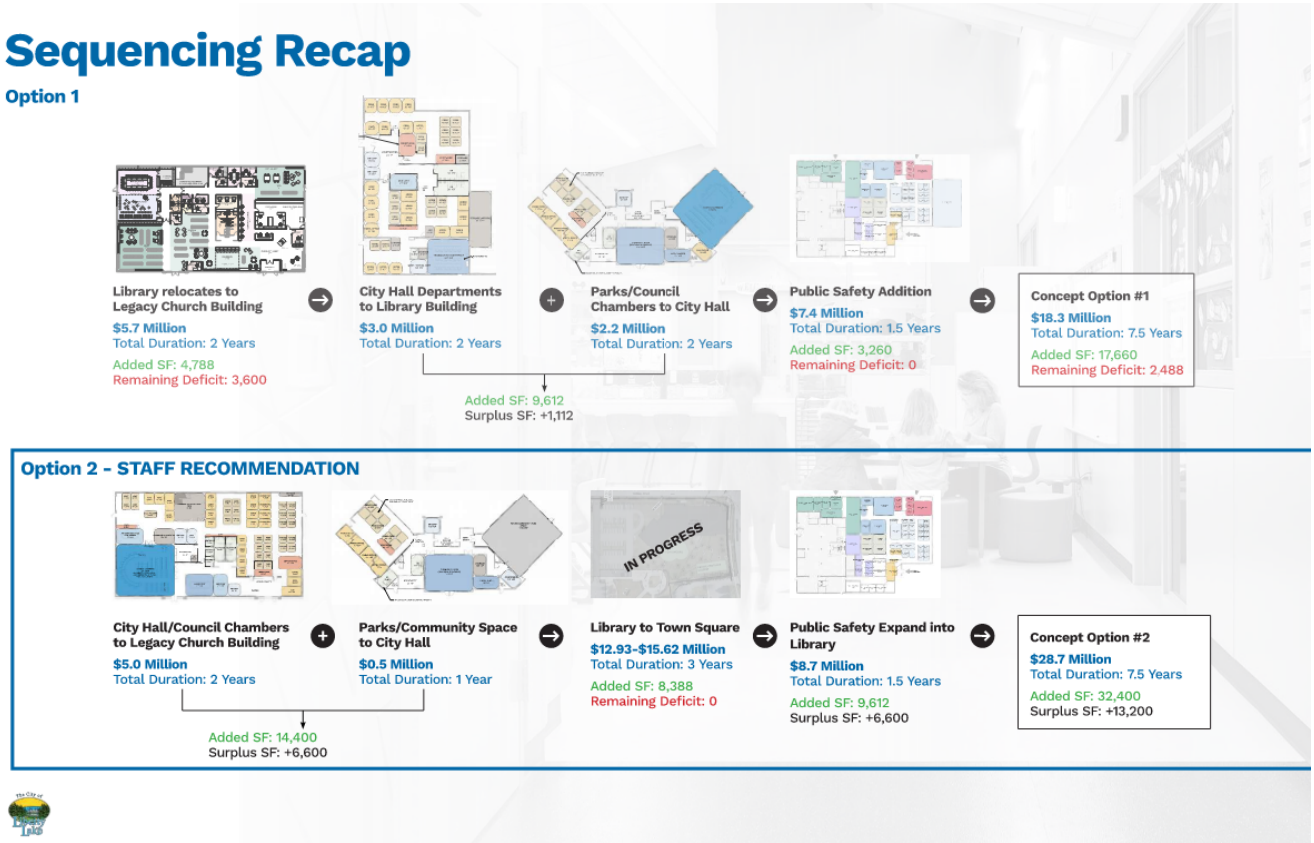
Following the City Council presentation on July 15, 2025, the staff recommended moving forward with **Sequence Two**, a scenario that provides a balanced and phased approach to growth. Under this plan, the existing City Hall would be relocated to the Legacy Church building at **23129 E. Mission Avenue**, allowing for expanded administrative capacity and improved access for the public. In turn, the Parks Department would vacate its current offices and transition into the existing City Hall building at **22170 E. Country Vista Drive, Building A**, making more efficient use of existing assets.

Concurrently, additional programming is planned for a proposed new, purpose-built Library facility within the City-owned "Town Square" property, which would establish a modern hub for learning, events, and community gathering. **Pending approval of the proposed Library project**, the Liberty Lake Police Department would then have the opportunity to expand into the westernmost portion of its current shared facility at **23123 E. Mission Avenue**, creating much-needed room for growth, operational improvements, and expanded parking for staff and visitors.

The surplus space identified through the department deficiency list provides valuable flexibility to accommodate future program expansion, the possible inclusion of a Municipal Court, and increased storage capacity to support departmental operations. Utilizing this additional square footage strategically allows the City to maximize its investment by ensuring that every portion of the renovated facilities contributes to long-term functionality and adaptability.

Moreover, renovating the entire building—rather than only a portion—yields notable economic advantages. A full renovation minimizes future construction disruptions, allows for more efficient mechanical and utility upgrades, and leverages economies of scale in materials and labor. This approach results in a cohesive, future-ready facility that supports operational efficiency, reduces long-term maintenance costs, and enhances the City's ability to respond to evolving community needs.

This phased sequencing not only provides a clear roadmap for addressing current facility challenges but also ensures that Liberty Lake can adapt its civic infrastructure in a fiscally responsible and forward-looking way. The plan balances immediate operational needs with long-term community investment, reinforcing the City's commitment to delivering high-quality services as Liberty Lake continues to grow.



Conceptual layout overview and proposed sequencing options as presented during the July15th, 2025 City Council Presentation as prepared by BCRA

Library to Town Square Parcel

As part of the City of Liberty Lake's master planning efforts, and in alignment with the Sequence Two recommendation, the city and the design team conducted further assessments and programming studies for the city-owned parcel known as "Town Square." Per feedback from city council, it was noted that further design and programming analysis evaluate the library to be relocated using the "Town Square" parcel as owned by the city. This vacant site was identified as a potential location for a new ground-up library and community center to support future growth and address the municipal library's square footage needs. Throughout the planning phase, the team held multiple workshops with the library director and staff to review programming requirements for key areas, including staff offices, adult/teen/juvenile/children's reading stacks, reservable and non-reservable meeting and program rooms, a computer lab, storage, and flexible community spaces that could be made available for public events.

To ensure the facility would be responsive to community needs, a public survey was also distributed, allowing residents to share input on desired features and amenities for a new library. In addition, the design team evaluated supporting site needs such as parking, a drive-up book drop, and outdoor amenities like a children's play structure. The survey response were collected and consolidated into the following summary and presented to city council on July 15th, 2025.

Community Feedback

Survey Results

Total Survey Responses: 772
Data was collected for four weeks, concluding May 14th 2025.

1. Do you believe there should be more indoor gathering space in Liberty Lake?
Yes (82%)

2. Top 3 Educational Programs the Community expressed interest in attending:
1. STEM (62%)
2. Author Talks or Speakers (61%)
3. Cooking or Nutrition Classes (58%)

3. Top 3 Community Activities or Cultural Events the community expressed interest in attending:
1. Adult leisure, hobbies, and crafts (73%)
2. Cultural or Community Events (65%)
3. Children's Programs (52%)

4. Top 3 ways the community envisions using available indoor gathering space:
1. Medium group of 8-15 occupants (56%)
2. Small group of 2-8 occupants (56%)
3. Large group meetings of 15-25 occupants (48%)

Community Feedback

Survey Results

5. Top 3 Requested Maker's Space or Tech-focused Capabilities:

1. 3D Printers
2. Sewing Machines and other Craft Capabilities (cricut, paint, yarn, clay, pottery, etc)
3. Audio/Video Editing Stations

6. Top 3 Outdoor features the community would use:

1. Outdoor tables for meeting space (72%)
2. Community garden (54%)
3. Playground (52%)

7. Additional services the community would be offered by the city library:

Classes / Programs	31%
Offerings are already Great! / No Changes	21%
Meeting and Study Spaces	14%
Indoor or Outdoor Play Spaces	9%
Library of Things	8%
More Books	6%
Computers / Technology	3%
Misc (pool, gym, parking, donations, cafe, etc)	8%



Community Feedback

Survey Results

8. Additional community feedback that may help city leaders make decisions about the future library/indoor gathering space:

Community-Centric / Support Long-Term Growth	30%
Modernize Programs and Amenities	17%
Prioritize Functional Design	15%
No Additional Feedback	15%
Responsible Funding / Spending	8%
Voter Involvement / Transparency	6%
Preserve Core Function of Library	6%
Remove Political Involvement	3%

The following conceptual site plan and building conceptual floor plans were developed and presented at the July 15th council meeting. The enlarged plans and presentation materials can be found in the attached appendices.

Town Square

Conceptual Site Plan



Town Square

Conceptual Option Overview

Option 1: Library Only
- 18,000 SF
- Size based on Needs Assessment
- Total Duration: 3 years
- **$12.93 mil Total** ($730.79/SF)



Option 2: Library + Community Flex Space
- 19,000 SF Library
- 4,000 SF Community Flex Space, including supporting spaces
- Total of approximately 23,000 SF
- Total Duration: 3 years
- **$15.62 mil Total** ($688.58/SF)



Option 3: Library + Small Community Flex Space
- 18,000 SF Library
- 1,000 SF Community Flex Space, including supporting spaces
- Total of approximately 19,000 SF
- Total Duration: 3 years
- **$13.81 mil Total** ($737.25/SF)



10

COMMUNITY AND STAFF INPUT

Through a series of workshops and community outreach events, several key themes emerged that shaped the design drivers for the conceptual layout options. Both community members and staff emphasized the importance of facilities that are accessible, modern, and walkable, ensuring they meet the needs of residents of all ages and abilities. Strong support was expressed for updated library and recreation services that address current demands and strengthen community connections. Staff also highlighted specific priorities, including secure storage, access to natural light, and flexible workspaces designed to adapt to evolving programs and operational needs. Additional information can be found in the attached appendices.

Per this series of Library open house events and community engagement events at the Liberty Lake Farmers Market, and Barefoot at the park community members voted for their preferred option. Per below consolidated responses the community preferred option 2.

Public Engagement

Option	Votes In Person	Votes Online	Total	Percentage
1	2 (1%)	31 (19%)	33	11%
2	118 (87%)	89 (56%)	207	70%
3	15 (11%)	39 (25%)	54	18%
Total	135	159	294	

FUNDING STRATEGIES

The City of Liberty Lake is exploring a range of potential funding strategies to support future facility investments and ensure long-term community benefit.

a) Bonds
b) Grants (e.g., USDA, DOJ, IMLS)
c) Developer impact fees
d) State capital budget support
e) Public-private partnerships (for community center)
f) Donations
g) Other General Fund Sources (e.g – Sales Tax, Property Tax, Reet)

RECOMMENDATIONS AND ACTION PLAN

The City's recommendations and action plan outline a phased approach to addressing facility needs. In the short term (1–3 years), priorities focus on City Hall, Parks and Recreation, and Public Works to ensure essential services can continue to operate effectively. Mid-term goals (3–7 years) emphasize investments in a new Library with Community Flex Space and improvements for the Police Department to meet growing community demands.

Mid-term goals are contingent upon the availability of funding and may need to be adjusted based on financial resources. If sufficient funding is not secured within the planned period, timelines and priorities may shift to align with budget constraints and ensure the most effective use of available resources.

Over the long term (7–10+ years), the plan calls for regular reviews every 2–3 years to evaluate progress, adapt to changing needs, and ensure the City remains responsive and prepared for the future.

NEXT STEPS

The next steps in this process will involve seeking council approval or additional feedback, ensuring alignment with community and leadership priorities. From there, the City will prioritize capital funding requests to support implementation and begin the concept design for short-term improvements. At the same time, the City will continue to engage the community in the upcoming planning cycle, reinforcing a collaborative approach that guides future growth and investment.



Liberty Lake Library

City Council Presentation

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13 Pricing

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2022 Pricing Recap

(No library program had been developed)

Architectural and fire sprinkler costs	$566,280
Mechanical upgrades	$522,720
Electrical upgrades	$483,122
Total upgrades	$1,572,122

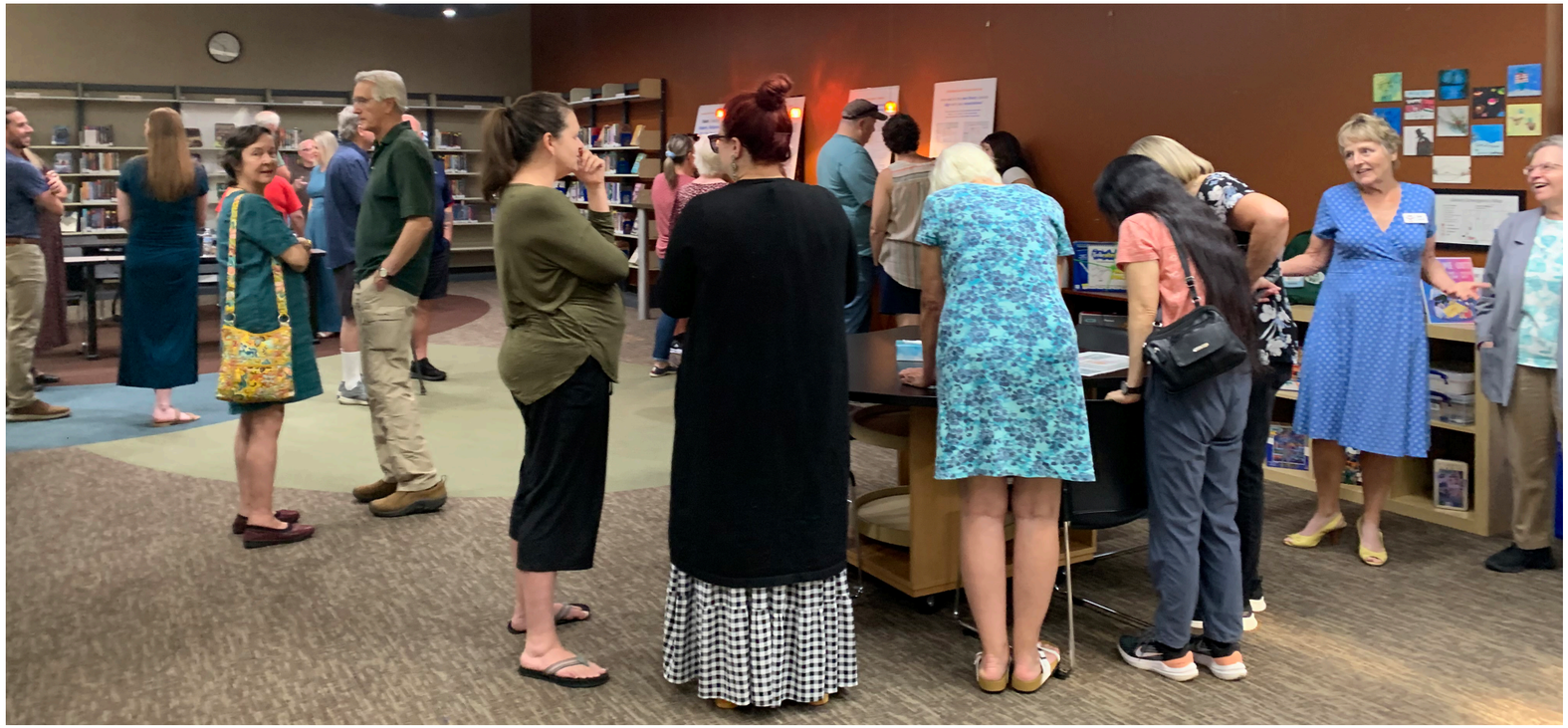
Inclusions (Factored into 2022 Pricing Recap):

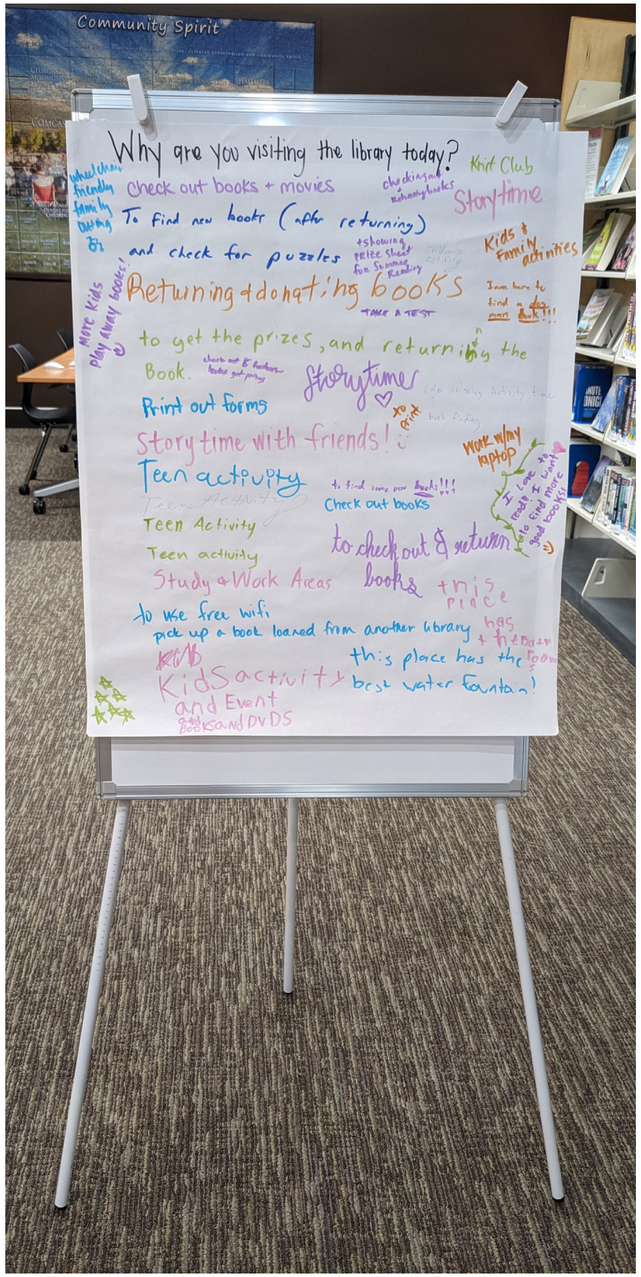
Select demo to create a large open space, four offices and an IT room, new carpet, ceiling tile at open to structure areas, interior paint, small kiosk desk, code mechanical and electrical upgrades

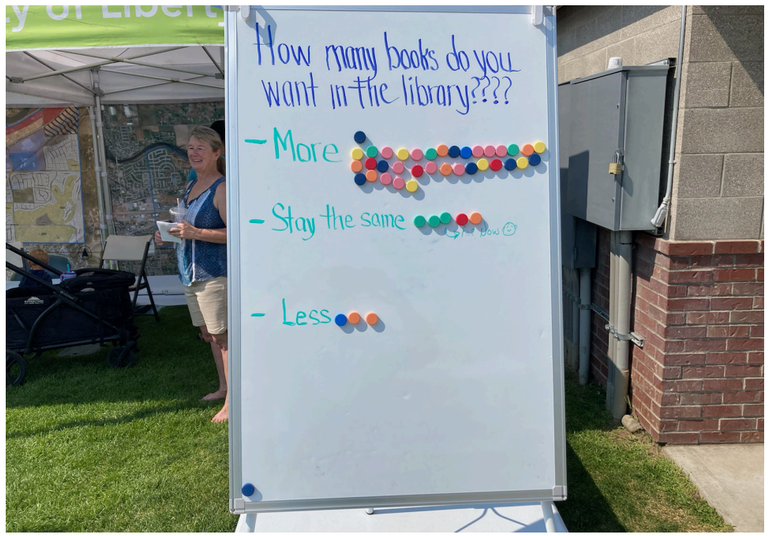
Exclusions (Not factored into 2022 Pricing Recap):

No soft costs including sales tax, design services, furniture, contingency etc., no work in existing restrooms, and no added restrooms, reuse existing ceiling tile where it exists, no new data cabling, or power outlets, no A/V

Community Engagement Photos









The **Liberty Lake community** survey gathered valuable insights into how residents envision the **new library**. The feedback highlights a broad spectrum of **needs** and **desires**, positioning the library as a potential **central hub** for **learning**, **community engagement**, and **family activities**. This report distills these insights into **key themes** and **actionable recommendations**, guiding the City Council in making informed decisions that align with **community expectations**.

Family & Community Spaces

Responses highlight the community's vision of the new library as a hub for family-oriented activities and community gatherings. Many seek spaces where children can safely play and learn, there is more soft seating, and families can spend quality time together.

Example Responses:

- *"I want the library to feel like an extension of my neighborhood, community—where I go to see friends and learn new things and have fun."*
- *"Space for my kids to read and play, we can easily spend an hour or two doing this. Easy book rental pickup. Kids play activities—Nerf guns and Lego building are our favorite."*
- *"I would like to see more seating areas throughout the library where patrons can plug in devices and work. Currently, there isn't enough seating, and there are far too few outlets. It would be nice (and more comfortable) if there were more armchairs to work in with power."*

Educational & Recreational Programs

The library is viewed as a vital resource for educational and recreational programs across all age groups. Respondents emphasized the need for events that promote learning, social interaction, and community involvement.

Example Responses:

- *"Mentoring and tutoring."*
- *"Event space, kid activity space, loaning books."*
- *"Fun events for my toddler/preschooler."*
- *"Home school opportunities."*



Traditional Library Services

Traditional services remain central to the community's values. Book checkouts, Online resources, and quiet spaces for reading or studying are frequently mentioned as essential.

Example Responses:

- *"To check out books, bring my grandkids, participate in community programming."*
- *"Books, space for kids of all ages to engage."*
- *"Reading/studying/working. Hard copy of current Economist, The Atlantic magazine. Free wifi. Cubicles, tables, chairs, couches. Power outlets."*
- *"Check out books, baby read alouds (would love a tummy time/crawler focused baby read aloud group for the little guys)."*

Vision: Creating a **Modern**, **Welcoming**, and **Flexible Community Gathering Space**

Modern Aesthetic with Timeless Quality

- Design a space that balances a contemporary feel with inviting warmth.
- Incorporate ample natural light to enhance usability of the space.

Flexible and Adaptable Community Spaces

- Create multi-functional areas that can evolve with the community's needs.
- Ensure spaces can easily transition between various uses, such as events, study, and leisure.

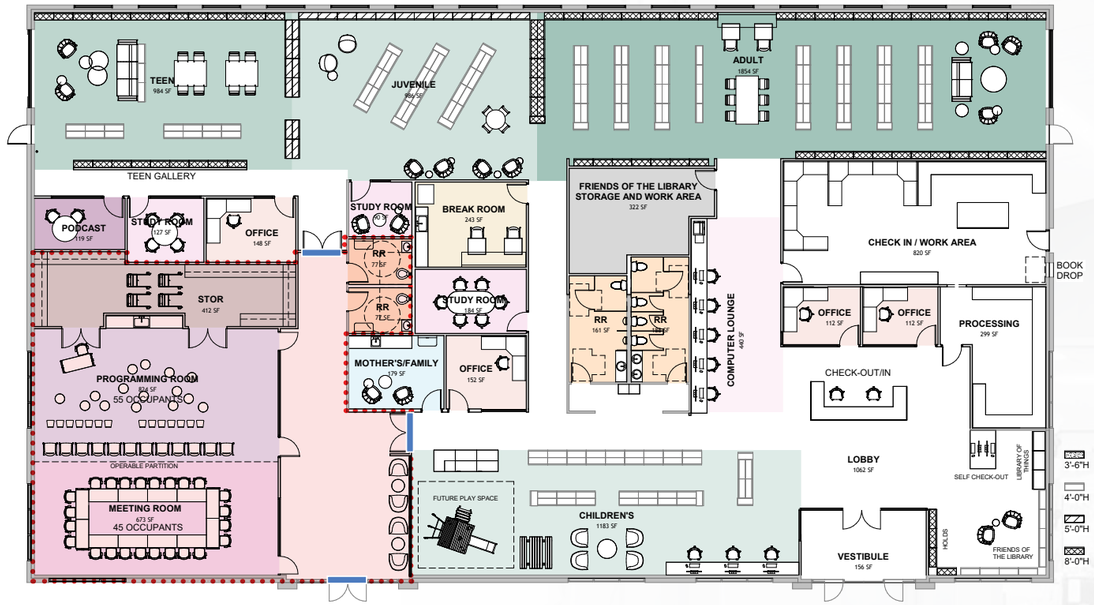
A Beacon for the Community

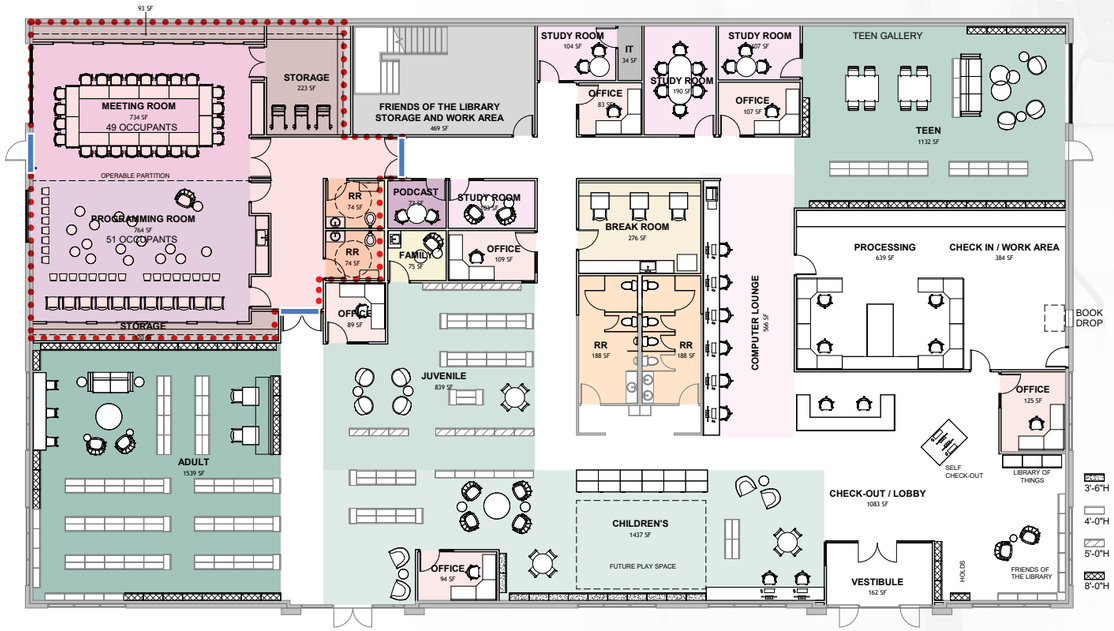
- Establish the library as a central hub offering unique amenities.
- Include community conferencing spaces, a Mother's Room, children's activity areas, multi-functional study rooms, and convenient resources.

A Safe, Welcoming Environment

- Design to accommodate a variety of users' needs.
- Prioritize safety and accessibility for both staff and visitors.

Common Themes





After Hours Access **Access To After Hours**

The following are consistent between Layout Options 1 & 2

- Main entry positioning
- 100 occupants accommodated in meeting space
- Approach to addressing existing restrooms
- Security considerations
- Providing (2) new single-user restrooms
- Children's Area location
- Book stack height approach
- Amenities responding to community engagement
- Drive-through Book Drop
- Retail space for Friends of the Library

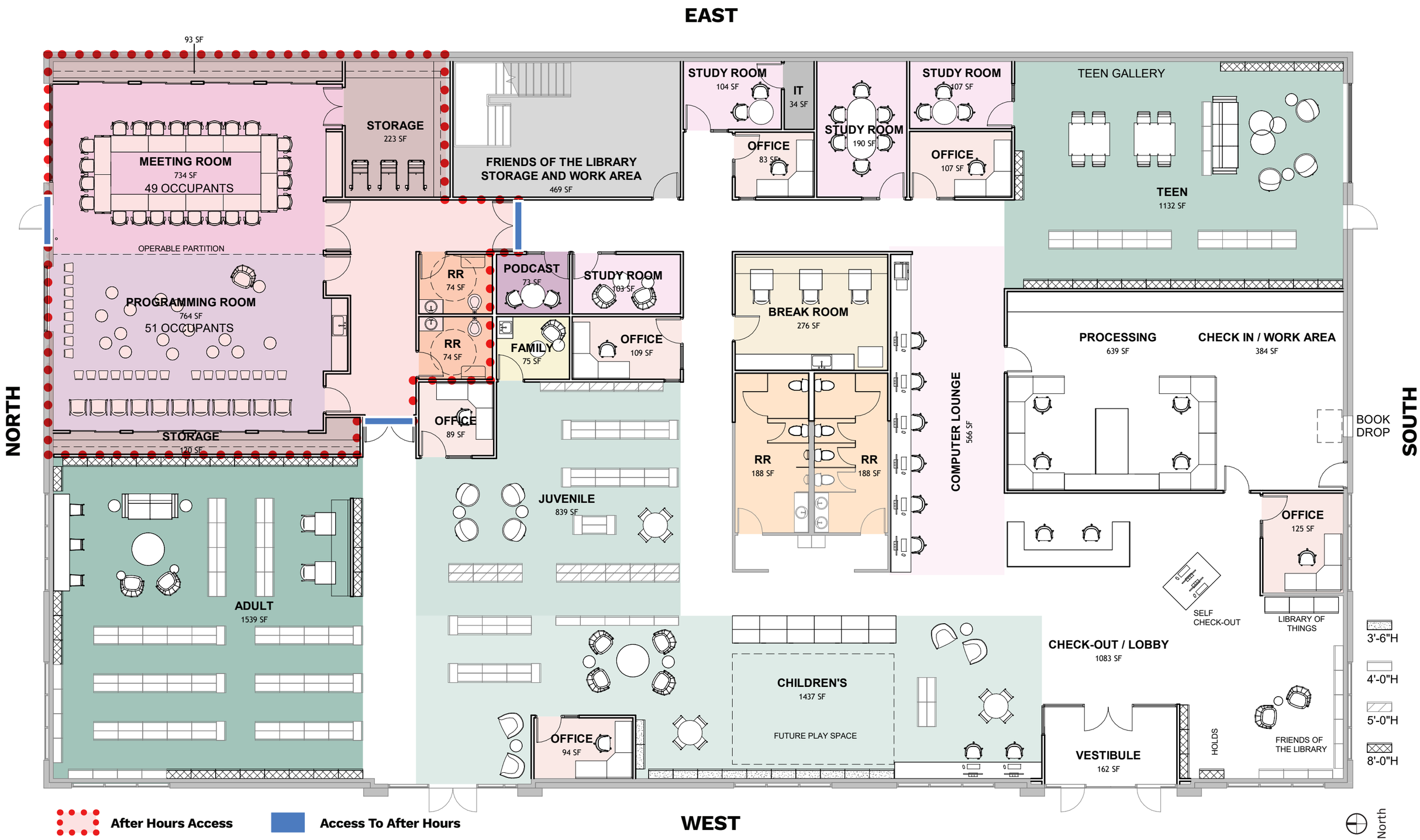
Conceptual Layout - Option 1



Conceptual Layout - Option 1

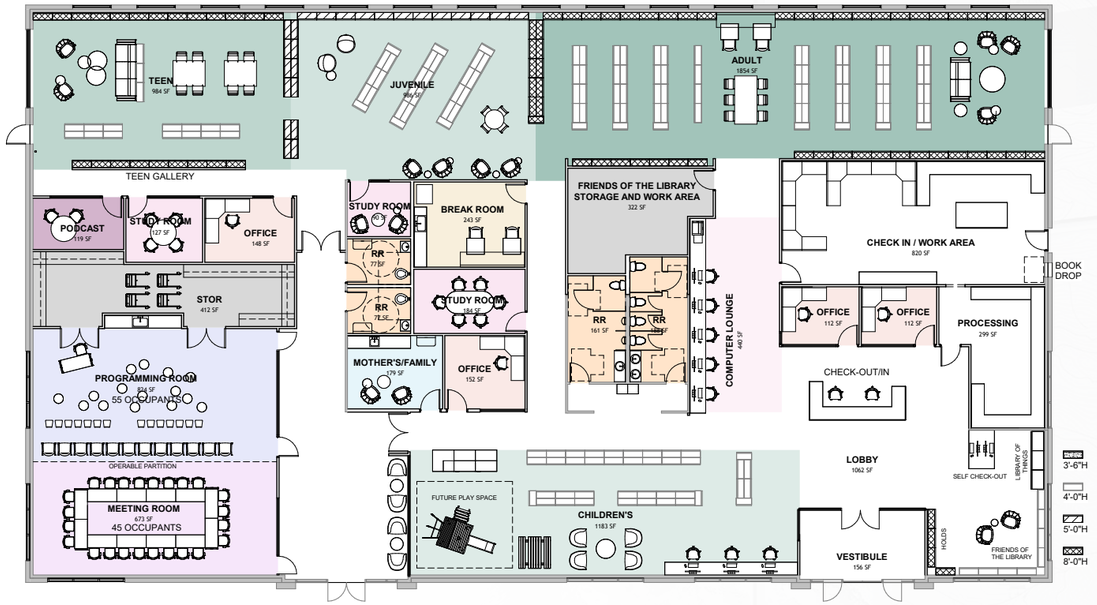
Space Type	Option 1	Existing
Programming Room (Craft Room and Story Area)	**55 Occupants**	**39 Occupants**
Meeting Room (Multi-functional Space)	**45 Occupants**	✗ **No**
Study Rooms	**3 total (2-6 occupants)**	**1 total, 8 Occupants**
Podcast Room	**1 @ 119 SF**	✗ **No**
Mother's/Family Room	**1 @ 179 SF**	✗ **No**
Unisex Restrooms	**2 new**	**1**
Children's Reading Area	**75% Additional Book Stacks**	✓ **Yes**
Juvenile Reading Area	**40% Additional Book Stacks**	✓ **Yes**
Teen Reading Area	**43% Additional Book Stacks**	✓ **Yes**
Adult Reading Area	**18% Additional Book Stacks**	✓ **Yes**
Friends of the Library	✓ **Yes**	✓ **Yes**
Library of Things	✓ **Yes**	✗ **No**
Computer Stations	**8**	**4**
Lounge Spaces	**6**	**2**
Work Spaces (Aside from computers provided)	**4**	**2**
Teen Gallery Space	✓ **Yes**	✗ **No**
Children's Imagination Zone (opportunity for future play structure)	✓ **Yes**	✗ **No**
Drive-up Book Drop	✓ **Yes**	✗ **No**
Staff Workspace (excluding private offices)	**1853 SF**	**400 SF**
Storage	**834 SF**	**500 SF**

Conceptual Layout - Option 2



Conceptual Layout - Option 2

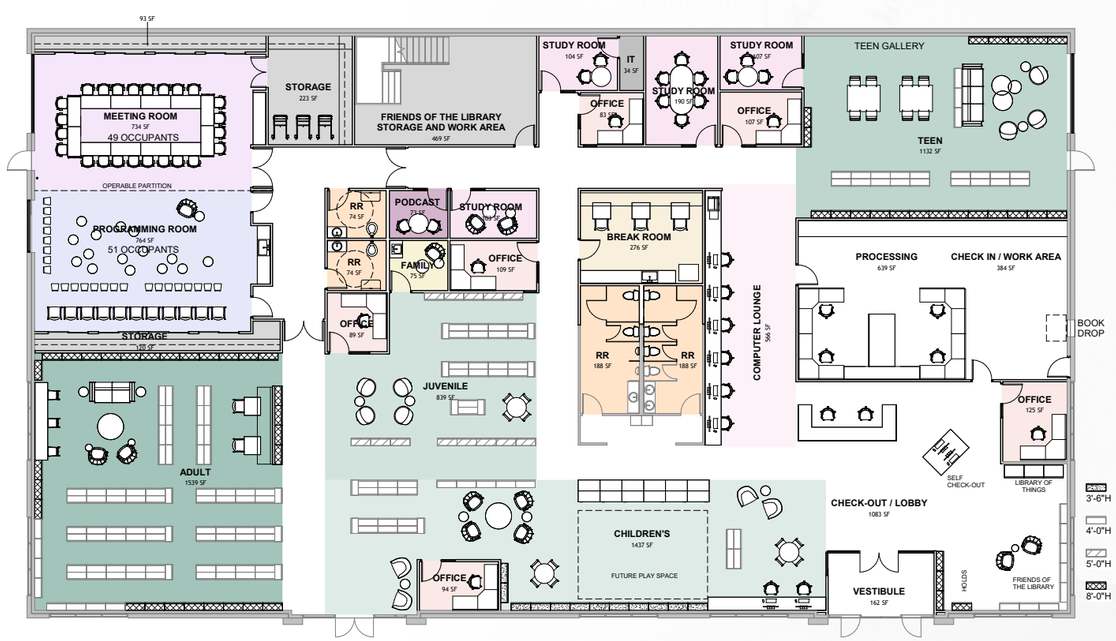
Space Type	Option 2	Existing
Programming Room (Craft Room and Story Area)	**51 Occupants**	**39 Occupants**
Meeting Room (Multi-functional Space)	**49 Occupants**	✗ **No**
Study Rooms	**4 total (2-6 occupants)**	**1 total, 8 Occupants**
Podcast Room	**1 @ 73 SF**	✗ **No**
Mother's/Family Room	**1 @ 75 SF**	✗ **No**
Unisex Restrooms	**2 new**	**1**
Children's Reading Area	**57% Additional Book Stacks**	✓ **Yes**
Juvenile Reading Area	**31% Additional Book Stacks**	✓ **Yes**
Teen Reading Area	**30% Additional Book Stacks**	✓ **Yes**
Adult Reading Area	**1% Additional Book Stacks**	✓ **Yes**
Friends of the Library	✓ **Yes**	✓ **Yes**
Library of Things	✓ **Yes**	✗ **No**
Computer Stations	**8**	**4**
Lounge Spaces	**5**	**2**
Work Spaces (Aside from computers provided)	**5**	**2**
Teen Gallery Space	✓ **Yes**	✗ **No**
Children's Imagination Zone (opportunity for future play structure)	✓ **Yes**	✗ **No**
Drive-up Book Drop	✓ **Yes**	✗ **No**
Staff Workspace (excluding private offices)	**1023 SF**	**400 SF**
Storage	**1005 SF**	**500 SF**



Option 1

Total Conceptual Cost Model

$5,840,662



Option 2

Total Conceptual Cost Model

$5,715,228

Next Steps

09/17 Present Options to City Council

10/01 Vote on Option

10/21 PRC Application



Thank you!

Liberty Lake City Council

The City of Liberty Lake

Liberty Lake Master Planning

February 18, 2025



Contents

03 Schedule

04 Master Planning Recap

05-06 Goals and Survey Findings

07 Sequencing Concepts

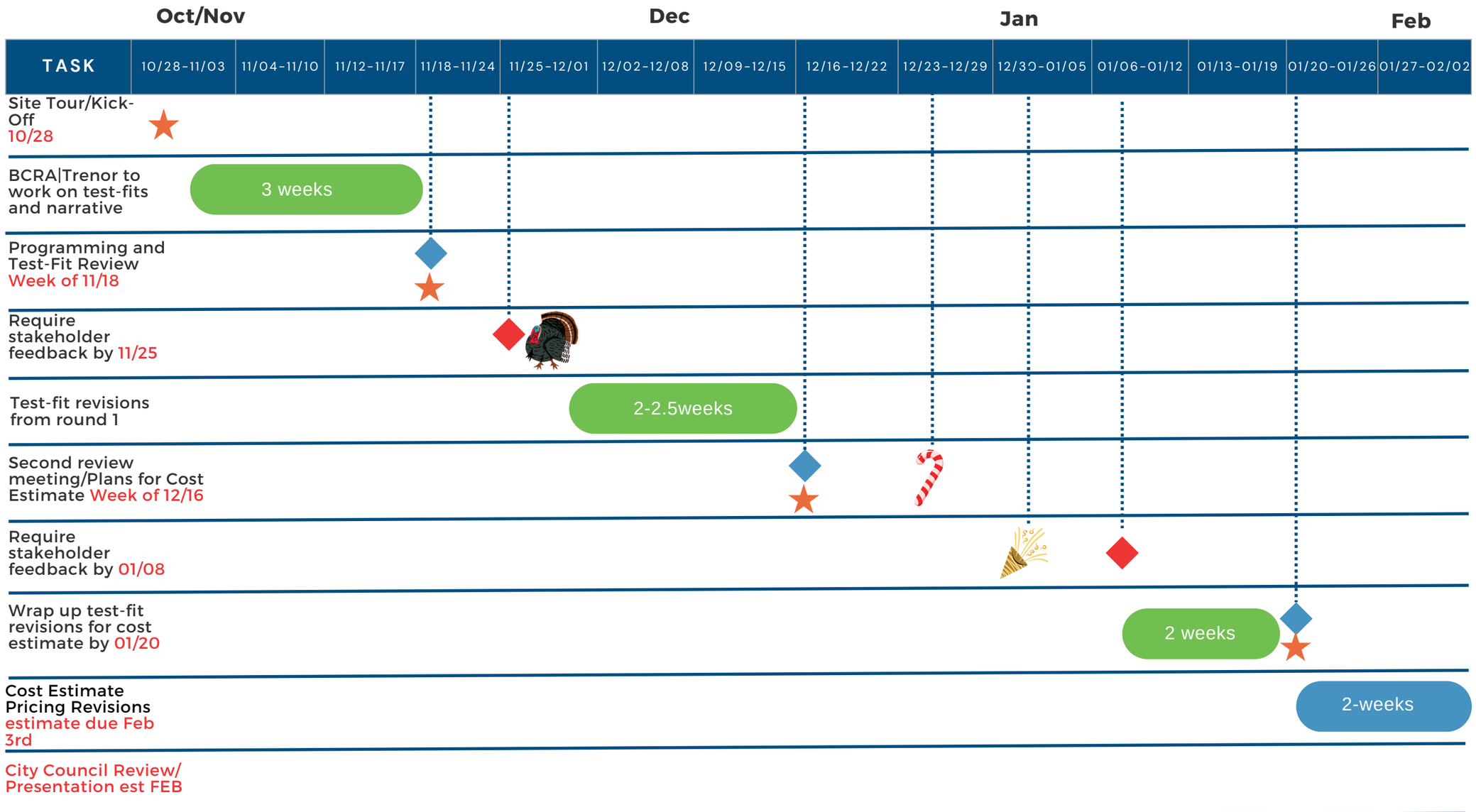
08-12 Conceptual Layouts

13-14 Cost Model

15 Next Steps

Schedule

LIBERTY LAKE MP PHASE II



Coordination Meetings

Deliverable due

Stakeholder Feedback

Master Planning Recap

- Master planning effort examined the existing City Hall, existing Police/Library building, and the Legacy Church building
- Preliminary cost analysis
- Surveying and gathering data for the needs for each department

Vision: Creating a **Modern**, **Welcoming**, and **Flexible Community Gathering Space**

Community Connectivity

- Provide a community campus that is approachable, and efficient so that the city of Liberty Lake's various departments can effectively serve the needs of the Liberty Lake residents.
- Ensure adaptability for future growth.

A Safe, Welcoming Environment

- Design to accommodate a variety of users' needs.
- Prioritize safety and accessibility for both staff and visitors.

Flexible and Adaptable Community Spaces

- Create multi-functional areas that can evolve with the community's needs.
- Ensure spaces can easily transition between various uses, such as events, study, and leisure.

Modern Aesthetic with Timeless Quality

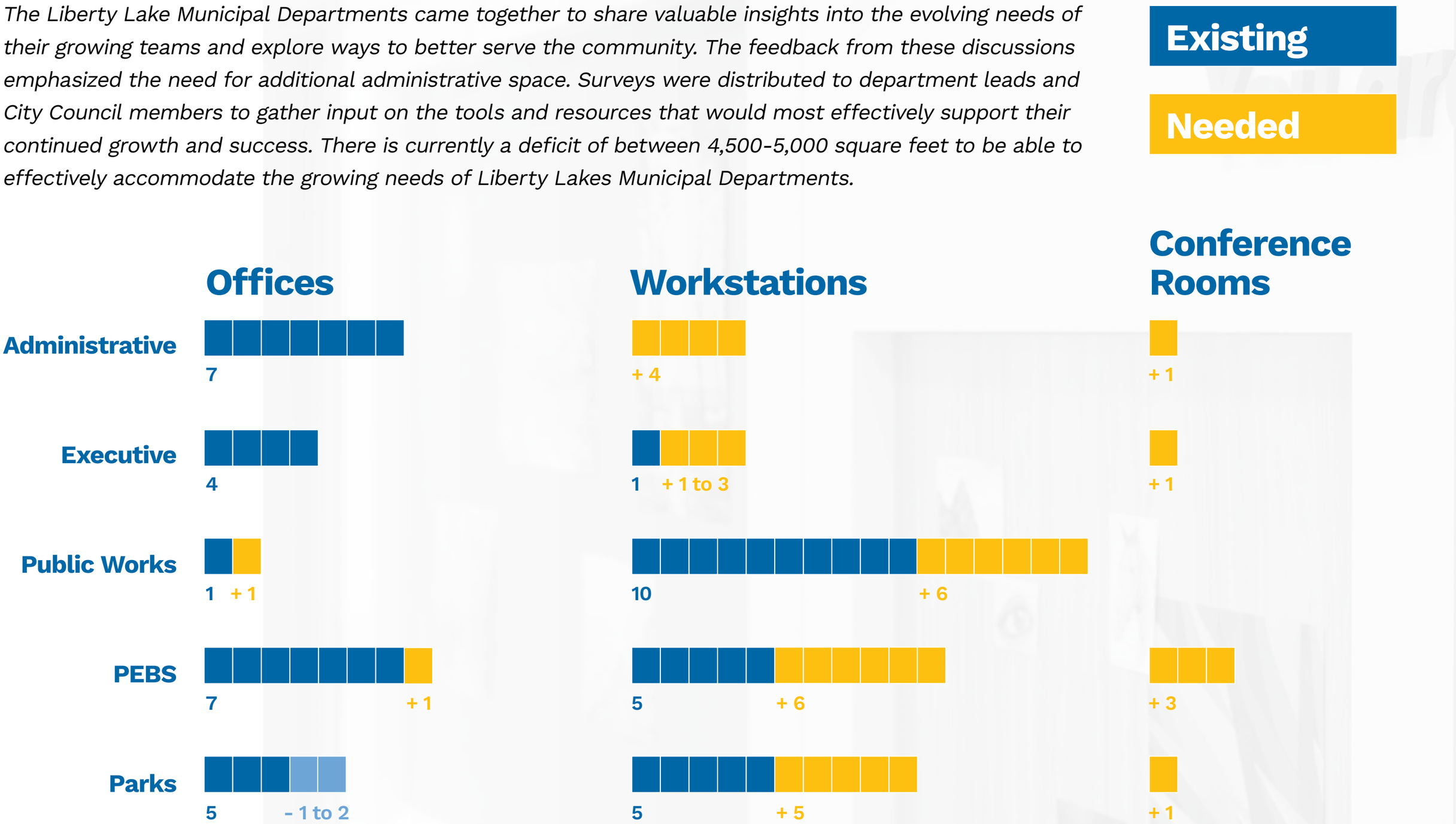
- Design a space that balances a contemporary feel with inviting warmth.
- Incorporate ample natural light to enhance usability of the space.

Survey Findings

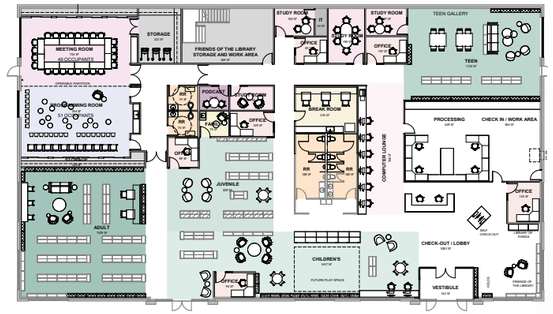
The Liberty Lake Municipal Departments came together to share valuable insights into the evolving needs of their growing teams and explore ways to better serve the community. The feedback from these discussions emphasized the need for additional administrative space. Surveys were distributed to department leads and City Council members to gather input on the tools and resources that would most effectively support their continued growth and success. There is currently a deficit of between 4,500-5,000 square feet to be able to effectively accommodate the growing needs of Liberty Lakes Municipal Departments.

Existing

Needed

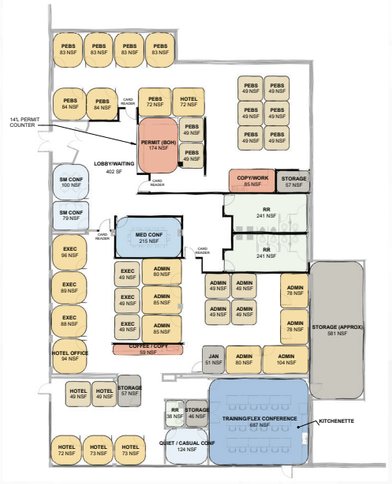


Sequencing Concepts



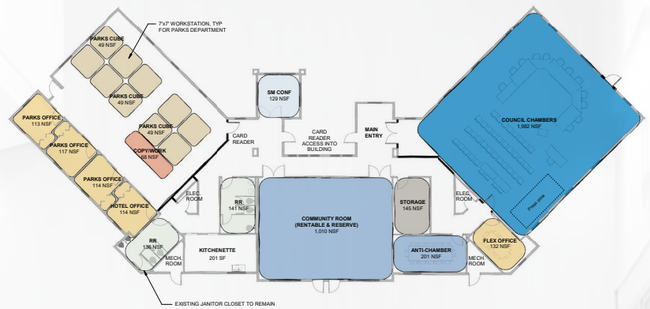
Library relocates to Legacy Church Building

$5.7 Million
Total Duration: 2 Years



City Hall Departments to Library Building

$3.0 Million
Total Duration: 2 Years

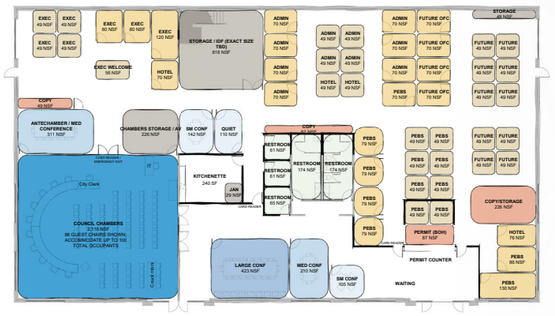


Parks/Council Chambers to City Hall

$2.2 Million
Total Duration: 2 Years

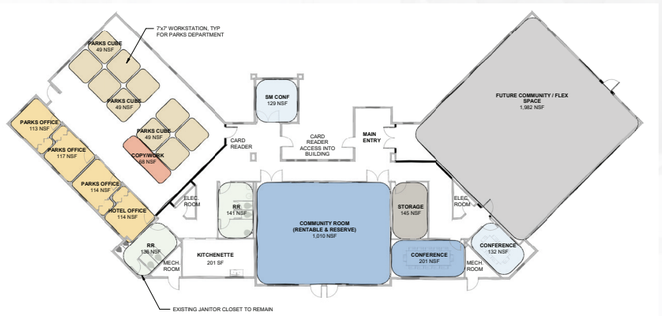
Concept Option #1

$10.9 Million
Total Duration: 6 Years



City Hall/Council Chambers to Legacy Church Building

$5.0 Million
Total Duration: 2 Years



Parks/Community Space to City Hall

$0.5 Million
Total Duration: 1 Year

Town Square

Library to Town Square

$14.5 Million
Total Duration: 3 Years
"Bond Dependent"

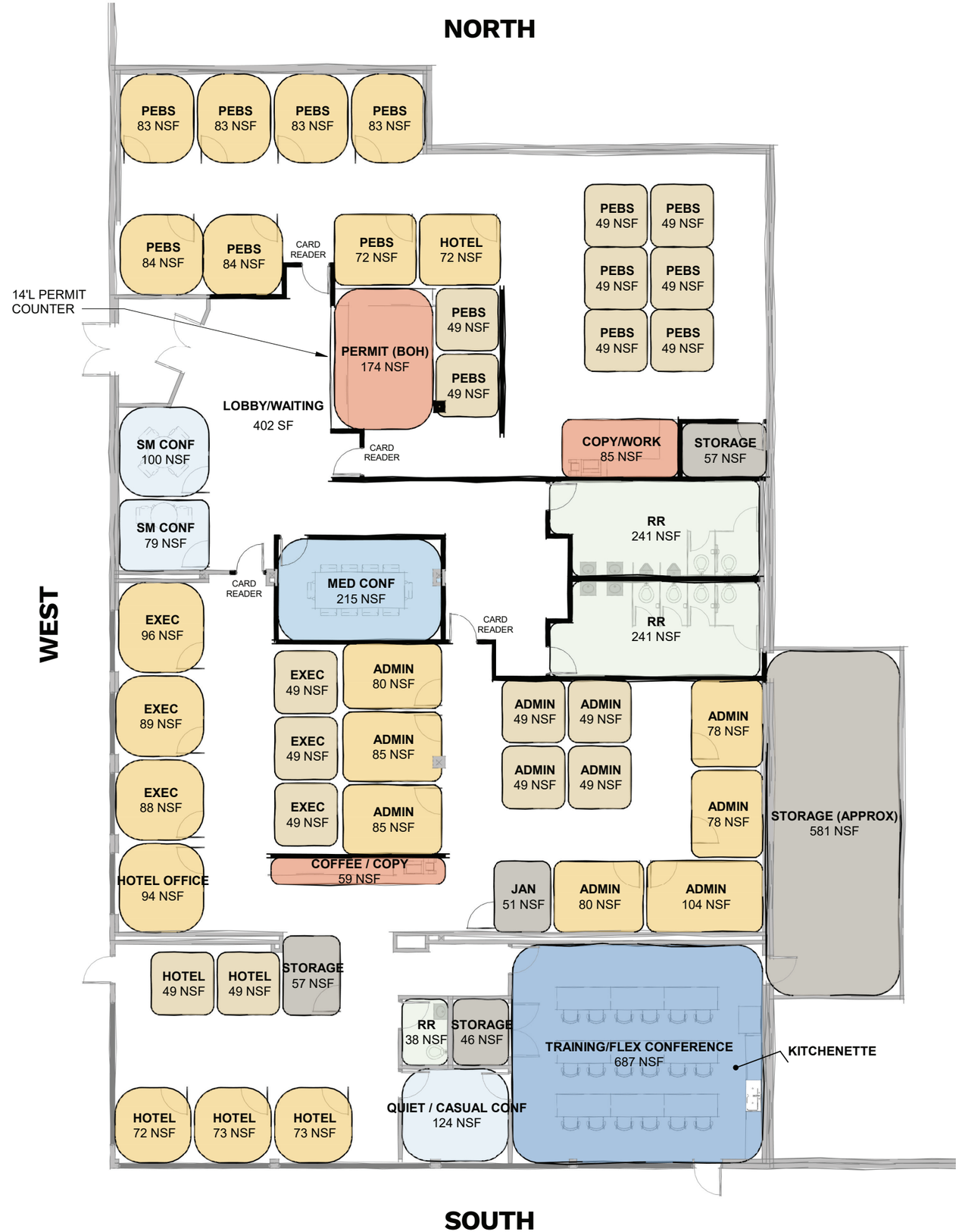
Concept Option #2

$20 Million
Total Duration: 6 Years

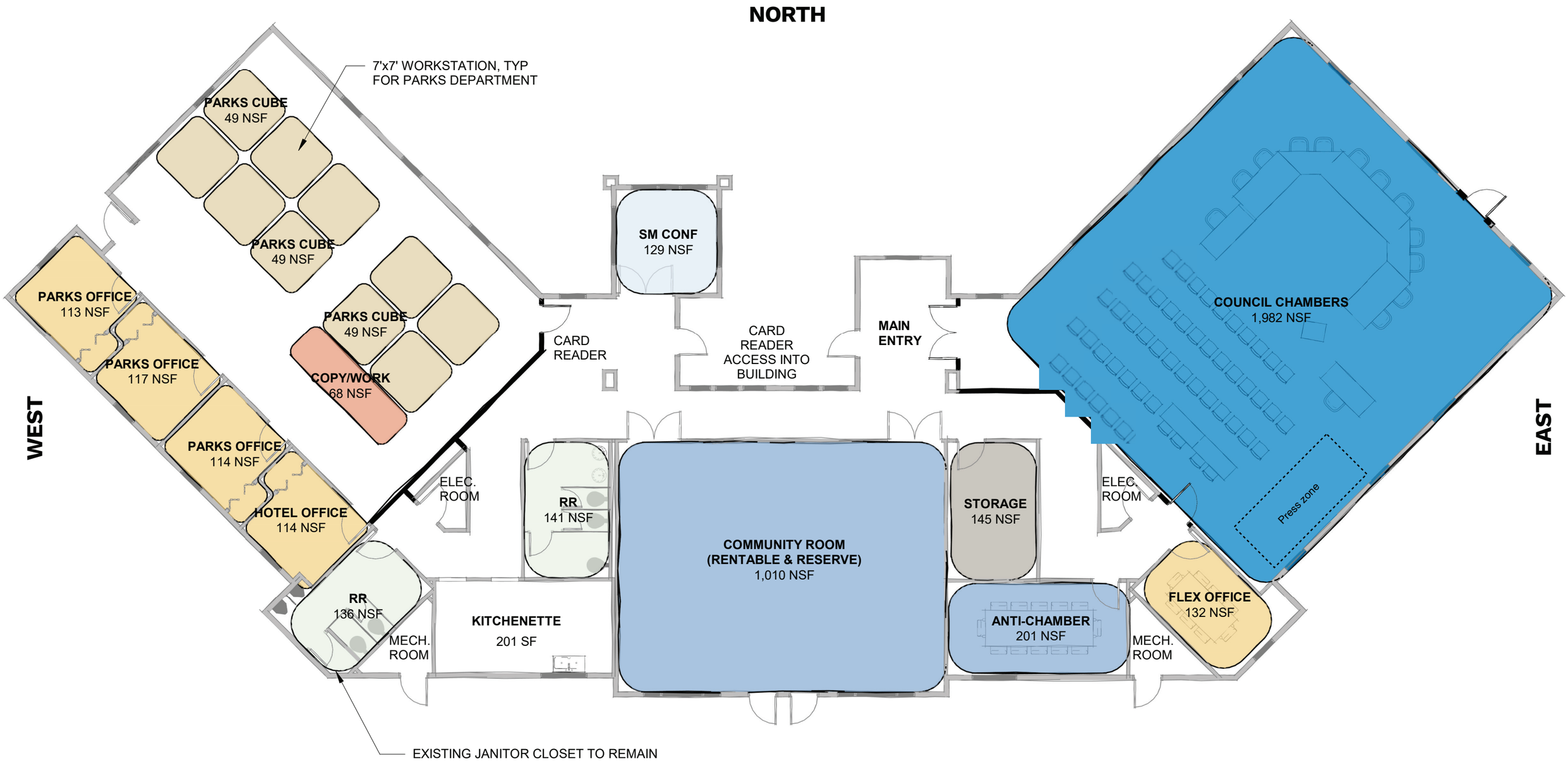
Conceptual Layout - Library to Legacy Church Building



Conceptual Layout - City Hall to Library Building

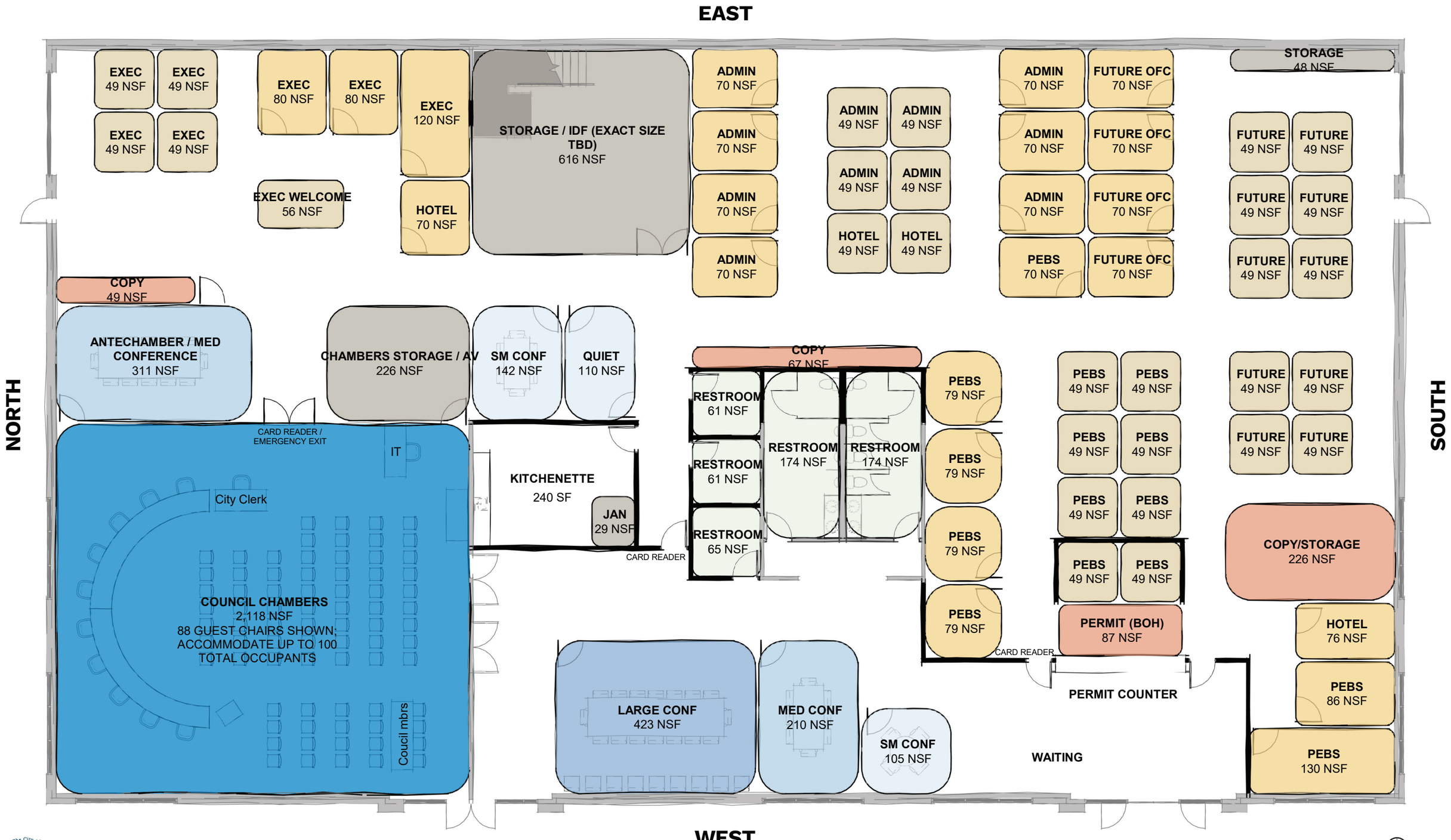


Conceptual Layout - Parks and Council Chambers located in City Hall Building

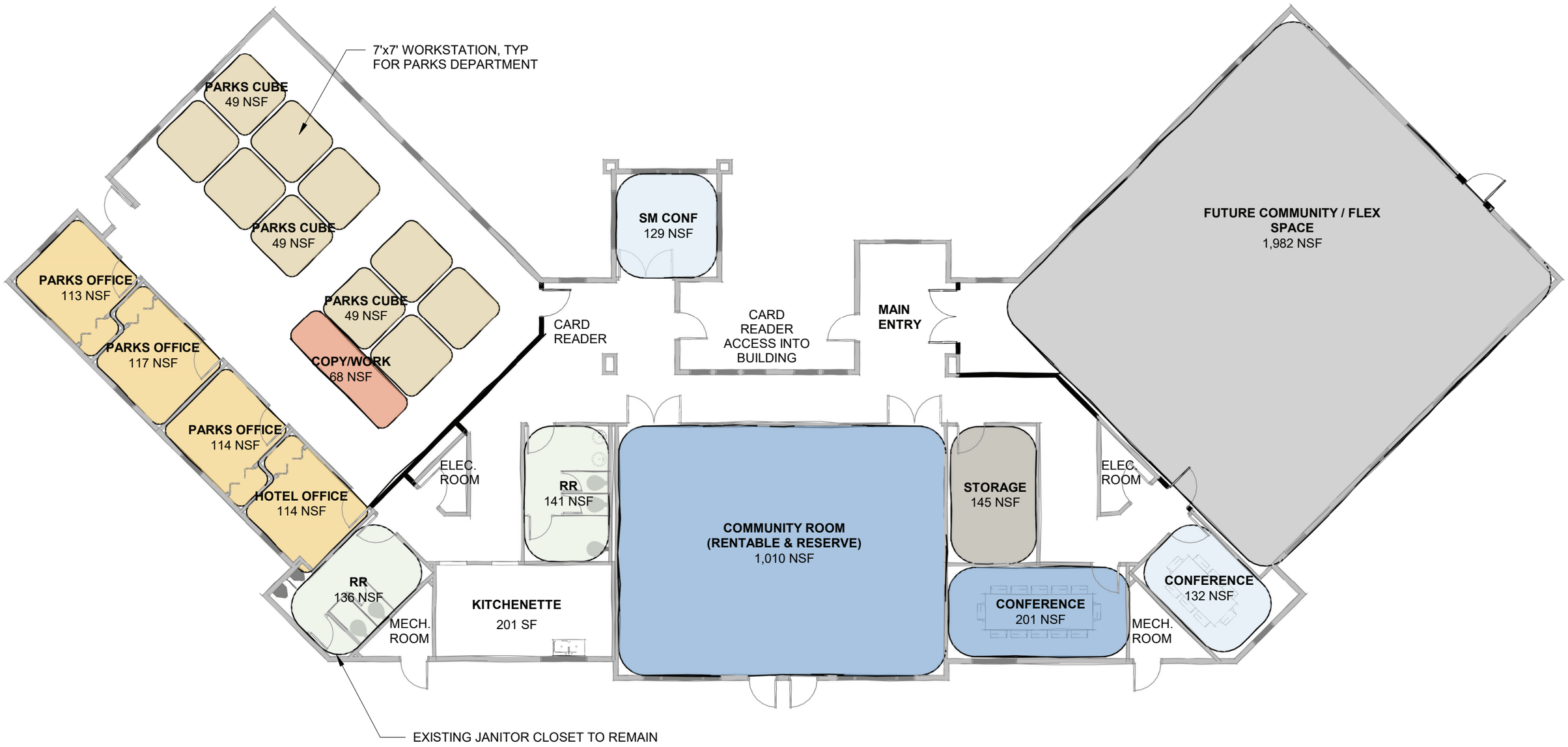


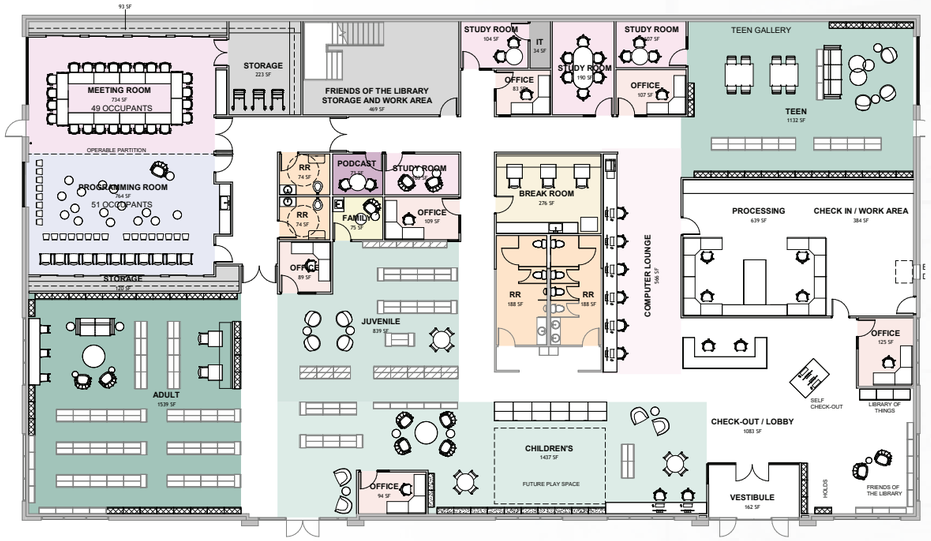
North

Conceptual Layout - City Hall and Council Chambers relocated to Legacy Church Building



Conceptual Layout - Parks and Community Space Located in City Hall

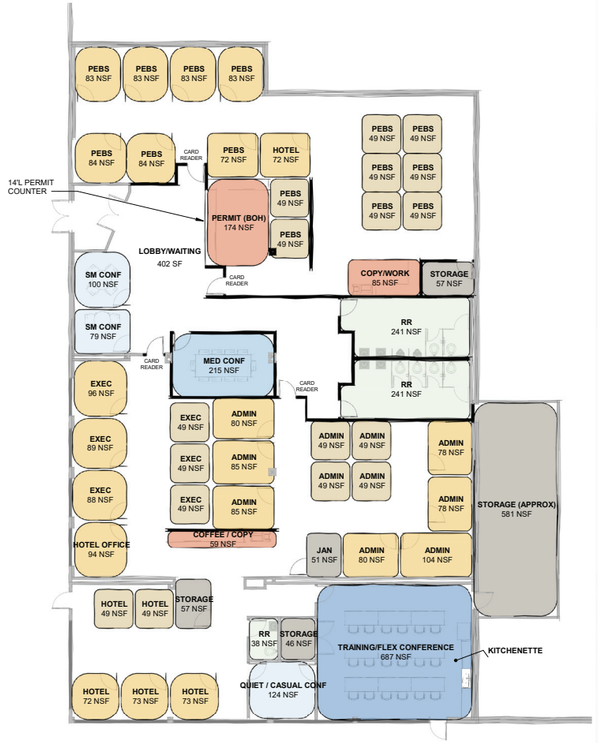




23129 E Mission Ave, Relocated Library

Total Conceptual Cost Model

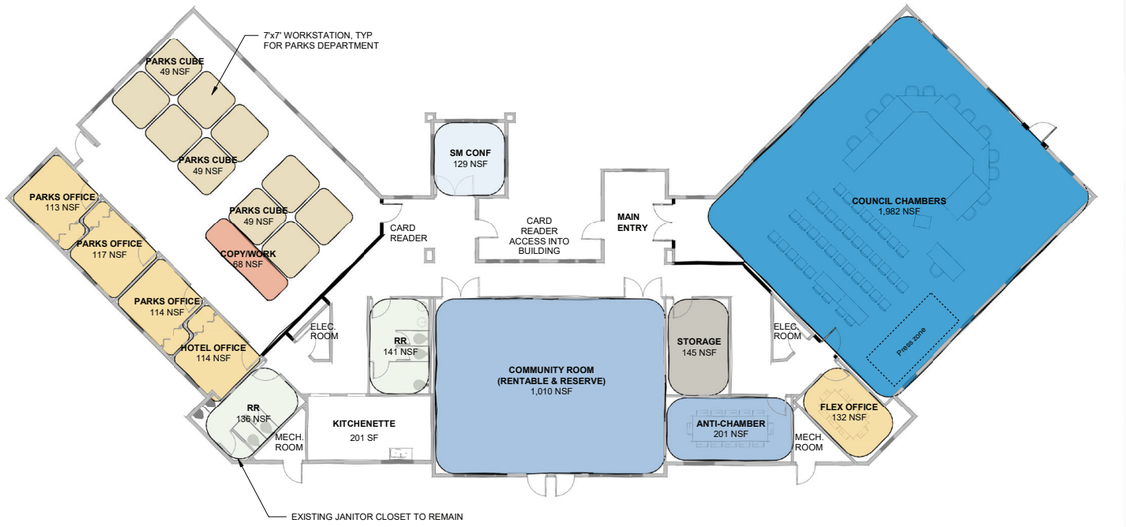
$5.7 Million



23123 E Mission Ave, Relocated City Hall

Total Conceptual Cost Model

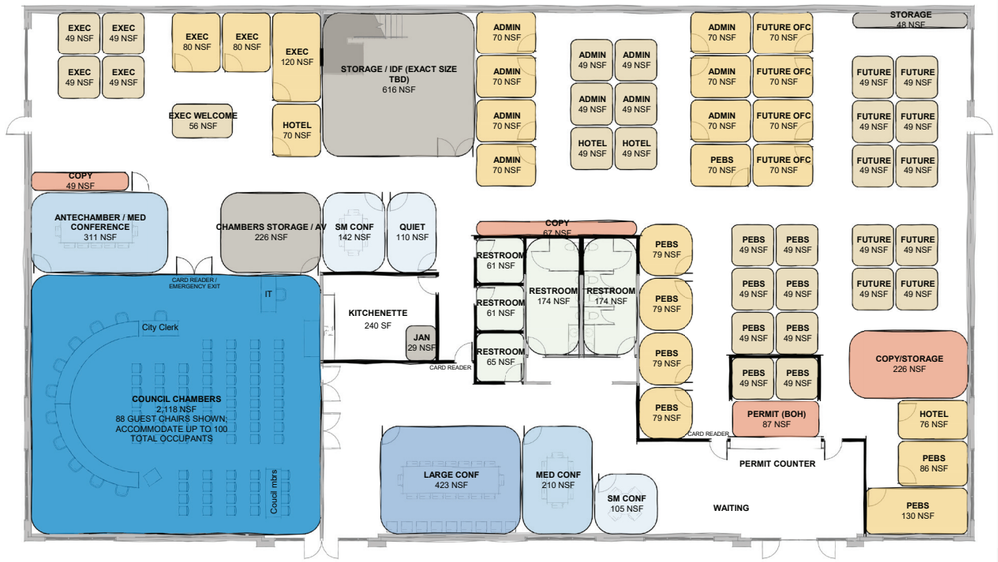
$3.0 Million



22710 E Country Vista Dr, Parks and Council Chambers

Total Conceptual Cost Model

$2.2 Million



23129 E Mission Ave, Relocated City Hall

Total Conceptual Cost Model

$5.0 Million

Next Steps

02/25/25 Project Development of Library and Community Center

03/04/25 ????

The City of Liberty Lake

Est. 2001

Thank You!

The City of Liberty Lake

Liberty Lake Master Planning

June 3, 2025



Contents

03 Master Planning Recap

04 Police Department Programming

05-07 Sequencing Concepts

08-09 Enlarged PD Options

10 Staff Recommendation

11 Next Steps

12 Appendix

Master Planning Recap

Programming Deficits per Department:

City Hall Currently 7,995 SF

- Adequately sized Council Chambers
- Antechamber or Multi-purpose Conference Room
- Meeting Spaces
- Improved Departmental Adjacencies
- More Offices for each Department
- More Workstations for each Department
- More Meeting Rooms
- More Functional Secured vs. Public Space
- Parks Administrative Space
- Operational Space for Parks
- Storage
- Municipal Court
- Community Space
- Approximately 8,500 SF Deficit (excluding Municipal Court and Parks Operational Space)

Police Department Currently 18,237 SF

- Training Space for Defensive and Tactical Training
- Secure Records Storage
- Adequate Evidence Storage
- Covered Parking
- Approximately 3,300 SF Deficit

Public Works Currently 6,500 SF

- Restroom
- Parking
- Approximately 1,000 SF Deficit (excluding Parking)

Library Currently 9,612 SF

- Increased LF of Book Stacks
- Meeting and Study Rooms
- Staff Offices
- Processing and Check-in Space
- Adequately-sized Programming Room/ Multifunctional Space
- Mother's Room
- More Self Check-Out Stations
- Increased LF for Library of Things and Friends of the Library
- Storage
- Ample Parking
- Approximately 8,400 SF Deficit (excluding Parking)

TOTAL DEFICIT: Approximately 21,200 SF

Police Department

Programming Data and Needs

Quantity of Officers and Staff

- 40-45 Officers Anticipated at Build-Out
- 5-8 Support Staff
- Currently 350 SF/person
- See Shared Space Section Below for Additional Personnel

Ratios

- Current: 1.79 Officers per Thousand
- Anticipated at Build-Out: 2.18 Officers per Thousand
- National Average: 2.4 Officers per Thousand

Shared Space with Partners

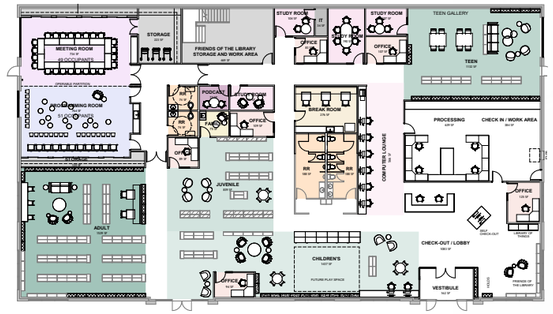
- SCOPE
- Department of Corrections
- Washington State Patrol

Existing Facility Capabilities Not Being Met

- Training Space for Defensive and Tactical Training - needs to be adequately sized and equipped with appropriate resources
- Secure Records Storage
- Adequate Evidence Storage
- Covered Parking

Option 1

Sequencing Concepts



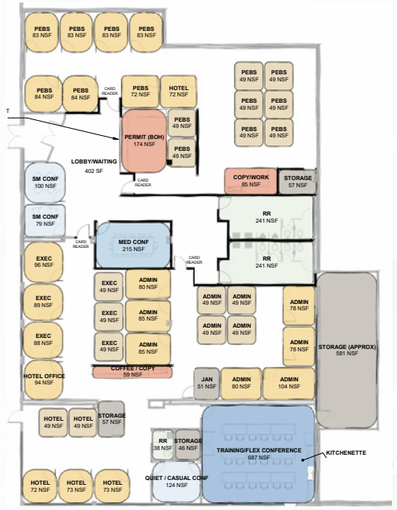
Library relocates to Legacy Church Building

$5.7 Million

Total Duration: 2 Years

Added SF: 4,788

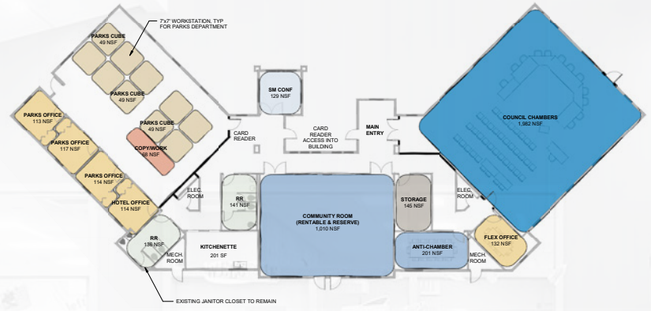
Remaining Deficit: 3,600



City Hall Departments to Library Building

$3.0 Million

Total Duration: 2 Years



Parks/Council Chambers to City Hall

$2.2 Million

Total Duration: 2 Years



Public Safety Addition

$7.4 Million

Total Duration: 1.5 Years

Added SF: 3,260

Remaining Deficit: 0

Added SF: 9,612

Surplus SF: +1,112

Surplus square footage could be allocated to the following, as shown:

- Larger Council Chambers (seating for up to 60 guests)
- Rentable community space (1,010 SF / max. 64 occupants)

Concept Option #1

$18.3 Million

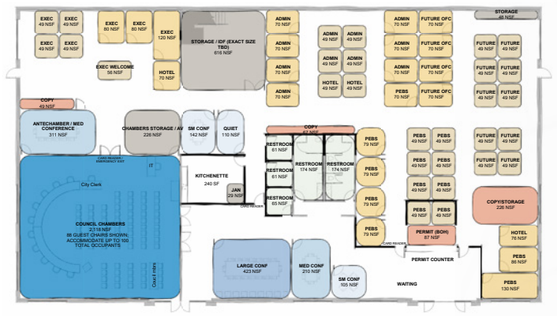
Total Duration: 7.5 Years

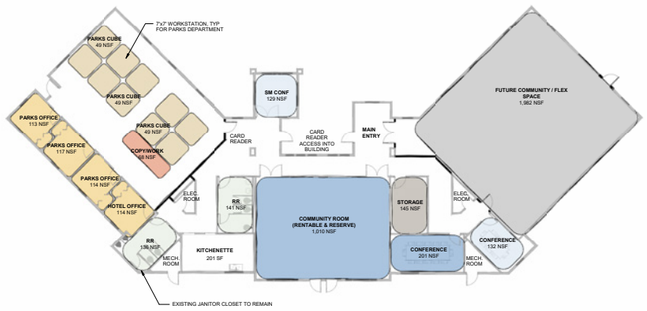
Added SF: 17,660

Remaining Deficit: 2,488

Option 2

Sequencing Concepts









City Hall/Council Chambers to Legacy Church Building

$5.0 Million

Total Duration: 2 Years

Parks/Community Space to City Hall

$0.5 Million

Total Duration: 1 Year

Library to Town Square

$14.5 Million

Total Duration: 3 Years

Added SF: 8,388

Remaining Deficit: 0

Public Safety Expand into Library

$8.7 Million

Total Duration: 1.5 Years

Added SF: 9,612

Surplus SF: +6,600

Surplus square footage could be allocated to the following:

- Municipal Court

Added SF: 14,400

Surplus SF: +6,600

Surplus square footage could be allocated to the following, as shown:

- Future Community Flex space (1,982 SF / max. 132 occupants)
- Rentable Community Space (1,010 SF / max. 64 occupants)
- Larger Council Chambers (seating for up to 90 guests)
- Room for growth and flexible/hoteling stations

Concept Option #2

$28.7 Million

Total Duration: 7.5 Years

Added SF: 32,400

Surplus: 13,200

Conceptual Layout

Option 1

Public Safety Addition

23123 E Mission Ave, Public Safety Addition

Total Conceptual Cost Model

$2.4 Million, Addition

$5 Million, Remodel Existing

$7.4 Million, All-in Cost

Possible Space Types in Expansion Space:

- Training/Tactical
- Administration
- Conference
- Staff/Open Office
- Garage
- Secure Record Storage
- Emergency Management Operations



Conceptual Layout

Option 2

Public Safety expand into Library

23123 E Mission Ave, Public Safety expand into Library

Total Conceptual Cost Model

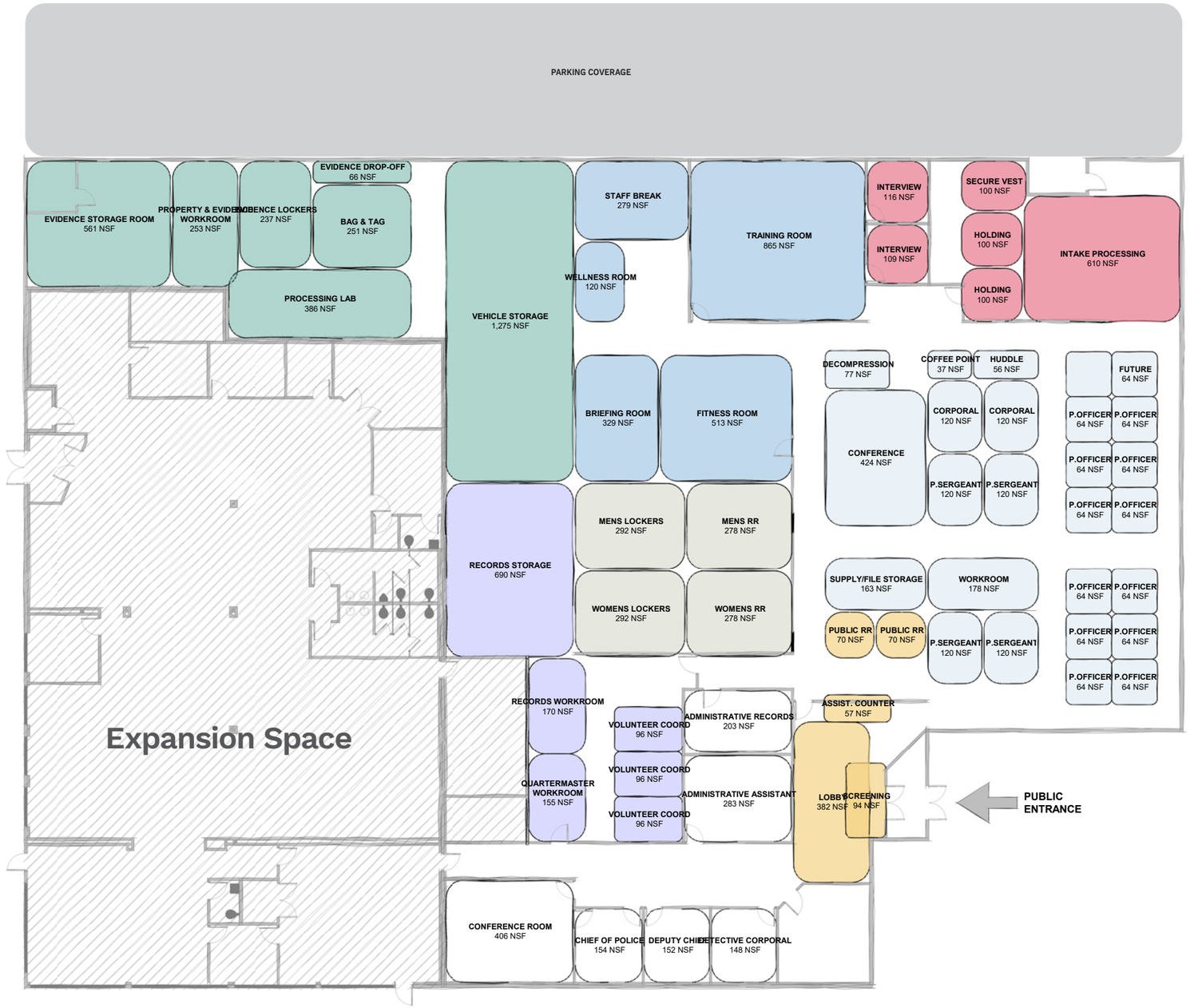
$5 Million, Remodel Existing

$3.7 Remodel Existing Library

$8.7 Million All-In

Possible Space Types in Expansion Space:

- Training/Tactical
- Administration
- Conference
- Staff/Open Office
- Garage
- Secure Record Storage
- Emergency Management Operations
- Municipal Court



Staff Recommendation

Option 2 is Recommended by Staff

- Meets future space requirements for all City departments
- Parks continues central co-location with Golf Operations; includes indoor activity space for future programs
- Develops City Campus feel with connected City Hall, Police Department, and possible future Municipal Court
- Develops Town Square into arts and culture community zone adjacent to the City's commercial hub
- Enables Police Department natural expansion into existing library for training needs without sacrificing campus parking
- Appraisal for Legacy Church: $2,230,000 as-is
- Appraisal for City Hall: $2,175,000 as-is

Next Steps

7/15/25 City Council Presentation

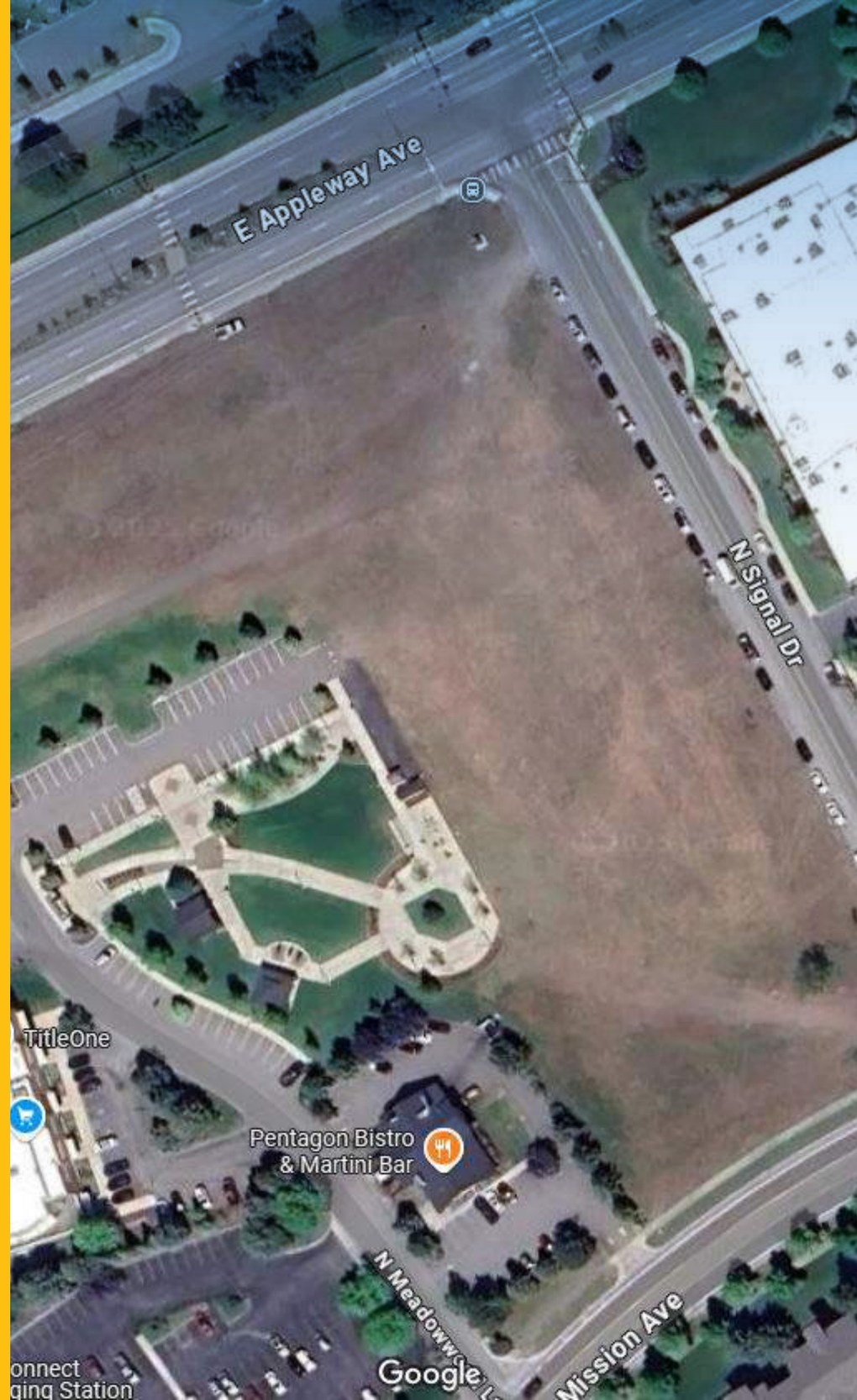
8/19/25 August City Council Presentation

Thank You!

The City of Liberty Lake

Liberty Lake Master Planning

July 15, 2025



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Master Planning Recap

Programming Deficits per Department:

City Hall Currently 7,995 SF
Approximately 8,500 SF Deficit (excluding Municipal Court and Parks Operational Space)

Police Department Currently 18,237 SF
Approximately 3,300 SF Deficit

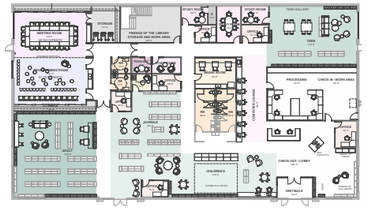
Public Works Currently 6,500 SF
Approximately 1,000 SF Deficit (excluding Parking)

Library Currently 9,612 SF
Approximately 8,400 SF Deficit (excluding Parking)

TOTAL DEFICIT: Approximately 21,200 SF

Sequencing Recap

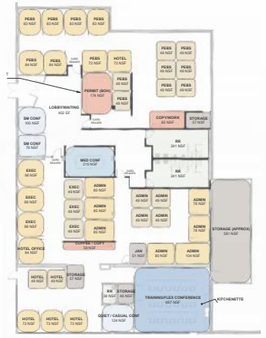
Option 1



Library relocates to Legacy Church Building

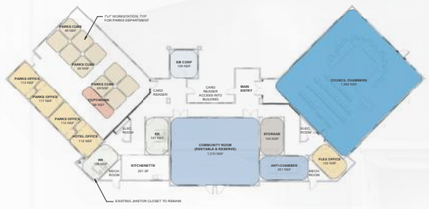
$5.7 Million
Total Duration: 2 Years

Added SF: 4,788
Remaining Deficit: 3,600



City Hall Departments to Library Building

$3.0 Million
Total Duration: 2 Years



Parks/Council Chambers to City Hall

$2.2 Million
Total Duration: 2 Years

Added SF: 9,612
Surplus SF: +1,112



Public Safety Addition

$7.4 Million
Total Duration: 1.5 Years

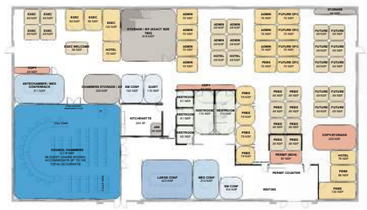
Added SF: 3,260
Remaining Deficit: 0

Concept Option #1

$18.3 Million
Total Duration: 7.5 Years

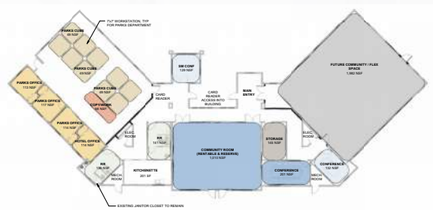
Added SF: 17,660
Remaining Deficit: 2,488

Option 2 - STAFF RECOMMENDATION



City Hall/Council Chambers to Legacy Church Building

$5.0 Million
Total Duration: 2 Years



Parks/Community Space to City Hall

$0.5 Million
Total Duration: 1 Year

Added SF: 14,400
Surplus SF: +6,600



Library to Town Square

$12.93-$15.62 Million
Total Duration: 3 Years

Added SF: 8,388
Remaining Deficit: 0



Public Safety Expand into Library

$8.7 Million
Total Duration: 1.5 Years

Added SF: 9,612
Surplus SF: +6,600

Concept Option #2

$28.7 Million
Total Duration: 7.5 Years

Added SF: 32,400
Surplus SF: +13,200

Survey Results

Total Survey Responses: 772
Data was collected for four weeks, concluding May 14th 2025.

1. Do you believe there should be more indoor gathering space in Liberty Lake?

Yes (82%)

2. Top 3 Educational Programs the Community expressed interest in attending:

1. STEM (62%)
2. Author Talks or Speakers (61%)
3. Cooking or Nutrition Classes (58%)

3. Top 3 Community Activities or Cultural Events the community expressed interest in attending:

1. Adult leisure, hobbies, and crafts (73%)
2. Cultural or Community Events (65%)
3. Children's Programs (52%)

4. Top 3 ways the community envisions using available indoor gathering space:

1. Medium group of 8-15 occupants (56%)
2. Small group of 2-8 occupants (56%)
3. Large group meetings of 15-25 occupants (48%)

Survey Results

5. Top 3 Requested Maker's Space or Tech-focused Capabilities:

1. 3D Printers
2. Sewing Machines and other Craft Capabilities (cricut, paint, yarn, clay, pottery, etc)
3. Audio/Video Editing Stations

6. Top 3 Outdoor features the community would use:

1. Outdoor tables for meeting space (72%)
2. Community garden (54%)
3. Playground (52%)

7. Additional services the community would be offered by the city library:

Classes / Programs	31%
Offerings are already Great! / No Changes	21%
Meeting and Study Spaces	14%
Indoor or Outdoor Play Spaces	9%
Library of Things	8%
More Books	6%
Computers / Technology	3%
Misc (pool, gym, parking, donations, cafe, etc)	8%

Survey Results

8. Additional community feedback that may help city leaders make decisions about the future library/indoor gathering space:

Community-Centric / Support Long-Term Growth	30%
Modernize Programs and Amenities	17%
Prioritize Functional Design	15%
No Additional Feedback	15%
Responsible Funding / Spending	8%
Voter Involvement / Transparency	6%
Preserve Core Function of Library	6%
Remove Political Involvement	3%

Design Constraints

GENERAL

1. Landed on these site plans and layouts based on feedback from the community, City staff and the City Council
2. Designing within a budget provided
3. Adherence to Codes

SITE

1. Zoning Regulations
2. Liberty Lake Design Guidelines
3. Preserve existing Farmer’s Market

INTERIOR

1. Assumptions about Community Flex Space programming based on community feedback
2. Working from Needs Assessment for Library space

Conceptual Site Plan



Conceptual Option Overview

Option 1: Library Only
- 18,000 SF
- Size based on Needs Assessment
- Total Duration: 3 years
- **$12.93 mil Total** ($730.79/SF)



Option 2: Library + Community Flex Space
- 19,000 SF Library
- 4,000 SF Community Flex Space, including supporting spaces
- Total of approximately 23,000 SF
- Total Duration: 3 years
- **$15.62 mil Total** ($688.58/SF)



Option 3: Library + Small Community Flex Space
- 18,000 SF Library
- 1,000 SF Community Flex Space, including supporting spaces
- Total of approximately 19,000 SF
- Total Duration: 3 years
- **$13.81 mil Total** ($737.25/SF)



Option 1: Conceptual Site Plan

Library Only (18,000 GSF Target)

Feature	Option	Existing
Parking Spaces	**49 Stalls**	**32 Stalls**
EV Parking	**1 Stall**	**No**
ADA Parking	**1 Stall**	**2 Stalls**
Bikes	**4 Spots**	**x Spots**
Building Entry	**Parking Lot or Children's**	**Parking Lot**
Drive-Up Book Drop	**Yes**	**No**
Playground	**Yes**	**No**
Connection to Town Square	**Yes**	**No**



Option 1: Conceptual Layout

Library Only (18,000 GSF Target)

17,981 SF



Option 1: Conceptual Layout Metrics

Library Only (18,000 GSF Target)

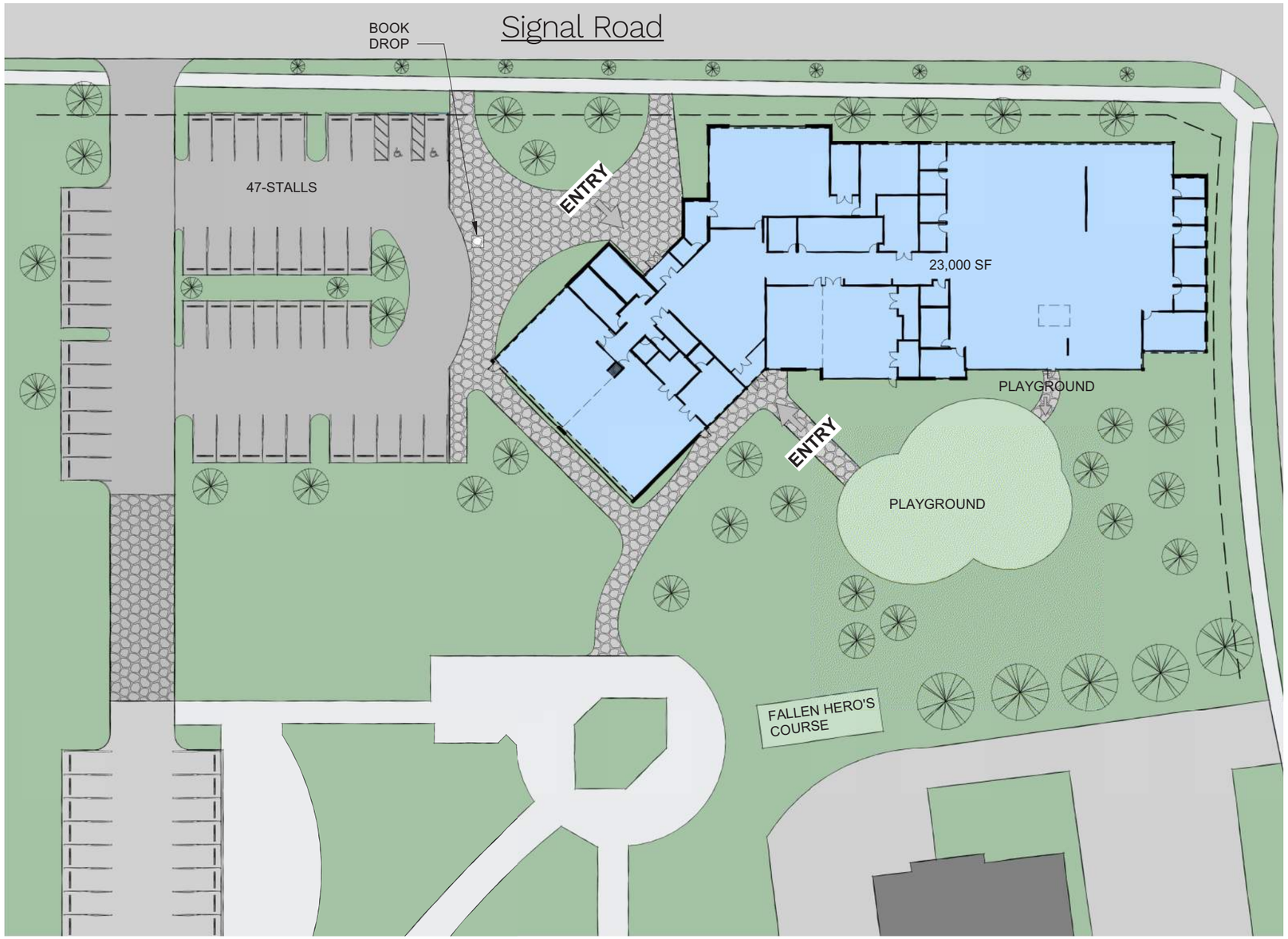
Space Type	Option	Existing
Programming Room (Craft Room and Story Area)	**62 Occupants**	**39 Occupants**
Meeting Room (Multifunctional Space)	**54 Occupants**	**No**
Study Rooms	**5 total (4-16 occ.)**	**1 total (8 occ.)**
Podcast Room	**1 @ 111 SF**	**No**
Mother's/Family Room ~~+ Restroom~~	**1 @ 107 SF**	**No**
Unisex Restrooms	**2**	**1**
Children's Reading Area	**68% Additional Stacks**	**Yes**
Juvenile Reading Area	**19% Additional Stacks**	**Yes**
Teen Reading Area	**26% Additional Stacks**	**Yes**
Adult Reading Area	**14% Additional Stacks**	**Yes**
Friends of the Library + Storage	**Yes**	**Yes**
Library of Things	**Yes**	**No**
Computer Stations	**11**	**4**
Lounge Spaces	**7**	**2**
Work Spaces (Aside from computers provided)	**6**	**2**
Teen Gallery Space	**Yes**	**No**
Children's Imagination Zone	**Yes**	**No**
Drive-up Book Drop	**Yes**	**No**
Staff Workspace (excluding private offices)	**1,387 SF**	**400 SF**
Storage	**655 SF**	**500 SF**
Community Flex Space	**No**	**No**
Community Flex "Green Room" + Restroom	**No**	**No**
Community Flex Storage	**No**	**No**



Option 2: Conceptual Site Plan

Library + Community Flex (23,000 GSF Target)

Feature	Option	Existing
Parking Spaces	**47 Stalls**	**32 Stalls**
EV Parking	**2 Stalls**	**No**
ADA Parking	**2 Stalls**	**2 Stalls**
Bikes	**4 Spots**	**x Spots**
Building Entry	**Parking Lot or Town Square or Children's**	**Parking Lot**
Drive-Up Book Drop	**Yes**	**No**
Playground	**Yes**	**No**
Connection to Town Square	**Yes**	**No**



Option 2: Conceptual Layout

Library + Community Flex (23,000 GSF Target)

22,963 SF



Option 2: Conceptual Layout Metrics

Library + Community Flex (23,000 GSF Target)

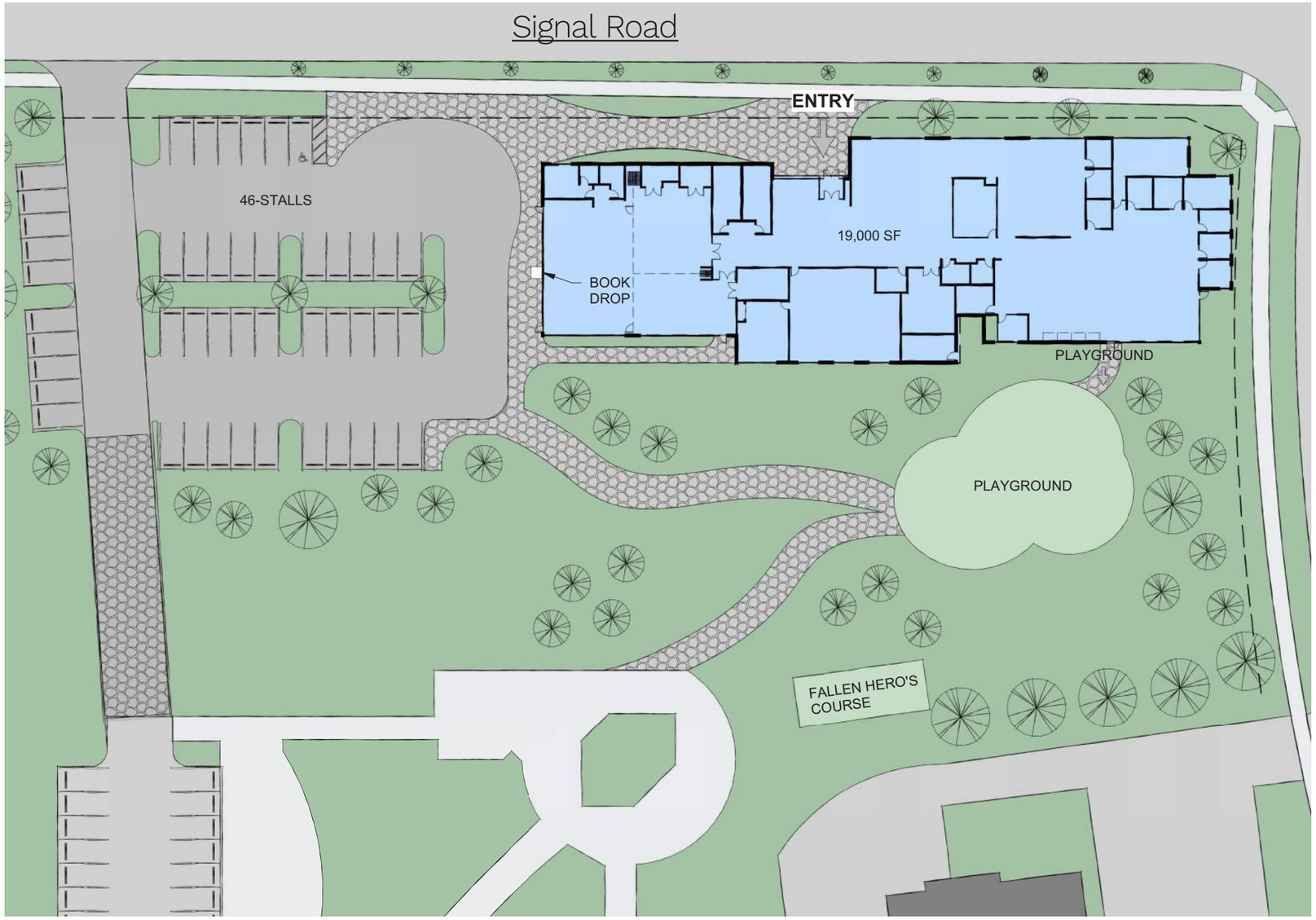
Space Type	Option	Existing
Programming Room (Craft Room and Story Area)	**68 Occupants**	**39 Occupants**
Meeting Room (Multifunctional Space)	**47 Occupants**	✗ **No**
Study Rooms	**4 total (3-15 occ.)**	**1 total (8 occ.)**
Podcast Room	**1 @ 118 SF**	✗ **No**
Mother's/Family Room + Restroom	**1 @ 168 SF**	✗ **No**
Unisex Restrooms	**3**	**1**
Children's Reading Area	**96% Additional Stacks**	✓ **Yes**
Juvenile Reading Area	**25% Additional Stacks**	✓ **Yes**
Teen Reading Area	**3% Fewer Stacks**	✓ **Yes**
Adult Reading Area	**35% Additional Stacks**	✓ **Yes**
Friends of the Library + Storage	✓ **Yes**	✓ **Yes**
Library of Things	✓ **Yes**	✗ **No**
Computer Stations	**12**	**4**
Lounge Spaces	**5**	**2**
Work Spaces (Aside from computers provided)	**5**	**2**
Teen Gallery Space	✓ **Yes**	✗ **No**
Children's Imagination Zone	✓ **Yes**	✗ **No**
Drive-up Book Drop	✓ **Yes**	✗ **No**
Staff Workspace (excluding private offices)	**1,777 SF**	**400 SF**
Storage	**1,152 SF**	**500 SF**
Community Flex Space	**196 Occupants**	✗ **No**
Community Flex "Green Room" + Restroom	**397 SF**	✗ **No**
Community Flex Storage	**179 SF**	✗ **No**



Option 3/3a: Conceptual Site Plan

Library + Small Community Flex (19,000 GSF Target)

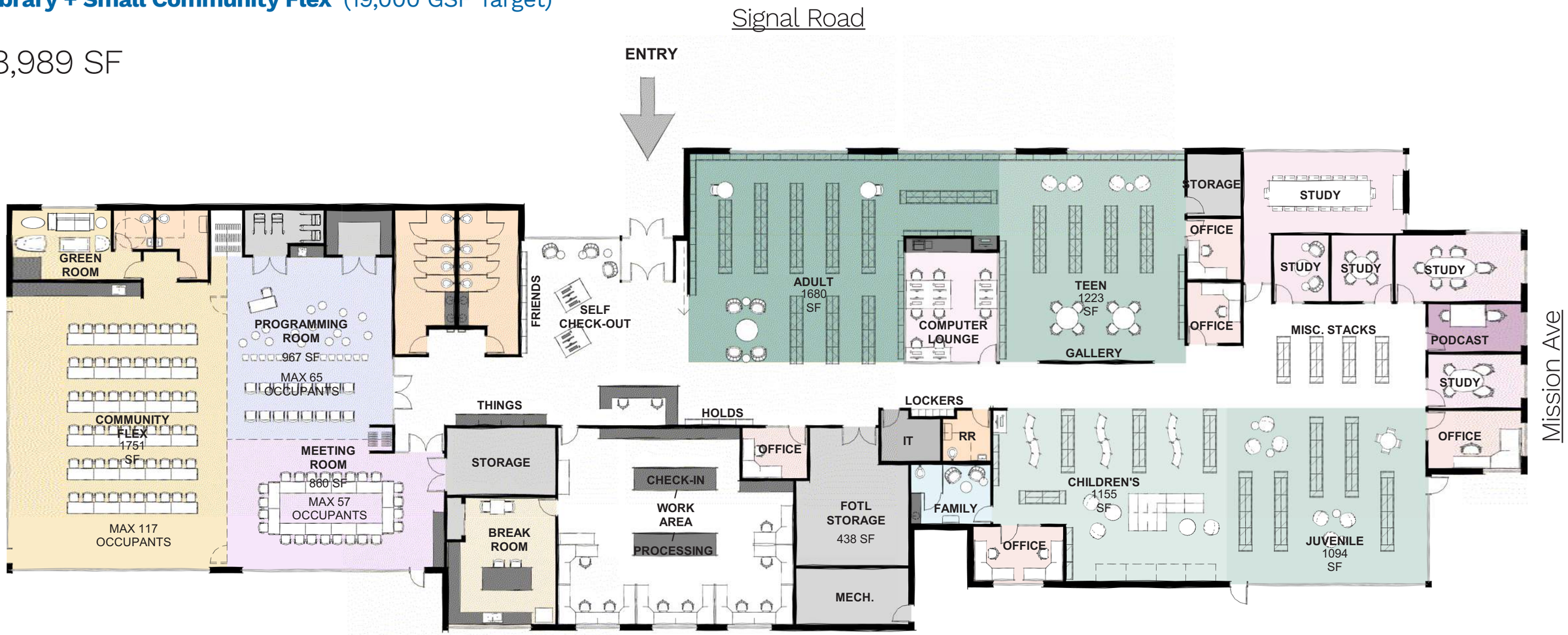
Feature	Option	Existing
Parking Spaces	**46 Stalls**	**32 Stalls**
EV Parking	**1 Stall**	**No**
ADA Parking	**1 Stall**	**2 Stalls**
Bikes	**4 Spots**	**x Spots**
Building Entry	**Signal Ave. or Children's**	**Parking Lot**
Drive-Up Book Drop	**No**	**No**
Playground	**Yes**	**No**
Connection to Town Square	**Yes**	**No**



Option 3: Conceptual Layout

Library + Small Community Flex (19,000 GSF Target)

18,989 SF



Option 3a: Conceptual Layout

Library + Small Community Flex (19,000 GSF Target)

18,989 SF



Option 3/3a: Conceptual Layout Metrics

Library + Small Community Flex (19,000 GSF Target)

Space Type	Option	Existing
Programming Room (Craft Room and Story Area)	**65 Occupants**	**39 Occupants**
Meeting Room (Multifunctional Space)	**57 Occupants**	✗ **No**
Study Rooms	**5 total (2-18 occ.)**	**1 total (8 occ.)**
Podcast Room	**1 @ 99 SF**	✗ **No**
Mother's/Family Room + Restroom	**1 @ 151 SF**	✗ **No**
Unisex Restrooms	**3**	**1**
Children's Reading Area	**68% Additional Stacks**	✓ **Yes**
Juvenile Reading Area	**30% Additional Stacks**	✓ **Yes**
Teen Reading Area	**52% Additional Stacks**	✓ **Yes**
Adult Reading Area	**20% Additional Stacks**	✓ **Yes**
Friends of the Library + Storage	✓ **Yes**	✓ **Yes**
Library of Things	✓ **Yes**	✗ **No**
Computer Stations	**8**	**4**
Lounge Spaces	**6**	**2**
Work Spaces (Aside from computers provided)	**4**	**2**
Teen Gallery Space	✓ **Yes**	✗ **No**
Children's Imagination Zone	✓ **Yes**	✗ **No**
Drive-up Book Drop	✓ **Yes**	✗ **No**
Staff Workspace (excluding private offices)	**1,383 SF**	**400 SF**
Storage	**971 SF**	**500 SF**
Community Flex Space	**117 / 238 Combined**	✗ **No**
Community Flex "Green Room" + Restroom	**332 SF**	✗ **No**
Community Flex Storage	**0 SF Dedicated**	✗ **No**



Summary

	Pros	Cons
Option 1	• **Meets programmatic requirements** defined by Library Needs Assessment in an efficient layout • Provides a **staff restroom** in break area • Highest capacity Computer Lounge	• **Does not contain a Community Flex component** • Family Room does not contain a toilet
Option 2	• **Meets programmatic requirements** defined by Library Needs Assessment AND **offers a Community Flex component** • Accommodates the highest number of community members in the large meeting rooms, **311 total occupants** between Community Flex, Programming Room and Meeting Room • Spatial layout provides for **the most future flexibility** • **Accommodates the highest number of staff** in the Check-in/Work Area/Processing space • Dual points of entry at Lobby and Vestibule • **Responds to community feedback** requesting space for classes, programs, meeting/study spaces, and offering a community-centric space that **supports long-term growth** • **Lowest cost per square foot**	• Largest footprint and therefore **largest total project cost** (please note this is the **lowest cost per square foot**) • Contains one fewer small study room compared to other options
Option 3/3a	• **Meets programmatic requirements** defined by Library Needs Assessment in an efficient layout AND **provides a small Community Flex space** • Community Flex, Programming Room and Meeting Room can be consolidated as one space for **maximum of 239 occupants** in one space • Largest Friends of the Library storage space • All study rooms are co-located	• Least amount of openness between the four book stack areas • Does not include a Drive-up Book Drop • Smallest capacity Computer Lounge of all options • **Community Flex space is only accessible from exterior** of building, unless combined with either the Programming or Meeting Room • **Smallest Lobby** • **Least amount of natural light opportunities** due to needing exterior walls to accommodate adequate book stacks

Summary

- **Vision**
  - Create a welcoming Town Square at the heart of the community — bringing together the library, flexible community gathering spaces, connectivity to the Liberty Lake farmers market, and a park and playground for families to enjoy
  - Design a space that will endure the foreseeable future, supporting community growth and programmatic needs in a timeless, high quality and efficiently designed space.
  - The dedicated teen space will encourage youth to engage with the Library's programs and discover a love of reading. It will also provide a safe, welcoming environment where teens can spend time, feel supported, and be seen.

- **Council Input: which option(s) to bring to the public**
- **Community Input: feedback on the option(s) presented to them**

Next Steps

8/2/25 Public Engagement: Barefoot

8/7/25 Open House at Library

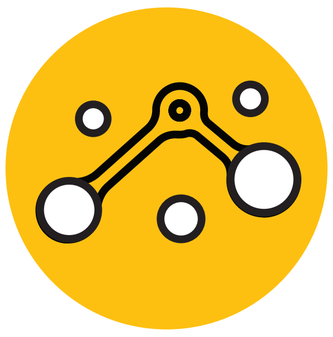
8/23/25 Public Engagement: August Farmer's Market

9/2/25 City Council Action Item

Thank You!

Master Planning Recap

A look at **Purpose**, **Scope**, **Process** and **Guiding Principles** for the Facility Master Planning



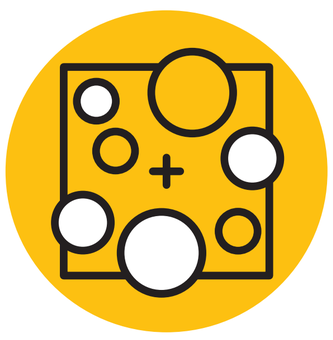
Purpose

- Guide long-term facility investments
- Align spaces with service needs
- Improve operational efficiency and customer service
- Plan for growth and resilience



Scope

- Examine departmental deficits, building challenges, and spatial opportunities of City Hall, Library, Police Department, Parks & Recreation, and Public Works



Process

- Facility assessments
- Staff interviews & workshops
- Site visits & GIS mapping
- Space needs forecasting
- Exploring all viable sequencing options
- Preliminary conceptual plans and cost estimation
- Community feedback integration



Guiding Principles

- Enhance civic identity and customer service
- Maximize sustainability and resilience
- Improve accessibility and equity
- Provide flexible, scalable solutions
- Build community trust through transparency

Master Planning Recap

A look at **Programming Deficits** per Department and Summary of **Improvement Options**

Programming Deficits per Department:

City Hall Currently 7,995 SF
Approximately 8,500 SF Deficit (excluding Municipal Court and Parks Operational Space)

Police Department Currently 18,237 SF
Approximately 3,300 SF Deficit

Public Works Currently 6,500 SF
Approximately 1,000 SF Deficit (excluding Parking)

Library Currently 9,612 SF
Approximately 8,400 SF Deficit (excluding Parking)

TOTAL DEFICIT: Approximately 21,200 SF

Improvement Options by Department

Department	Renovate	Expand	Relocate
City Hall	✗	✗	✓ to existing City building
Police Department	✓	✓ into existing Library	✗
Library	✗	✗	✓ to new stand-alone building in Town Square
Public Works	✗	✓	✗
Parks & Recreation	✗	✓ into existing City Hall	✗

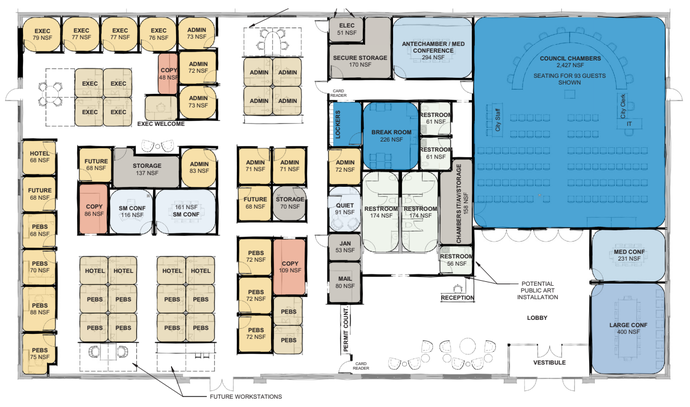
Summary of Existing Facilities

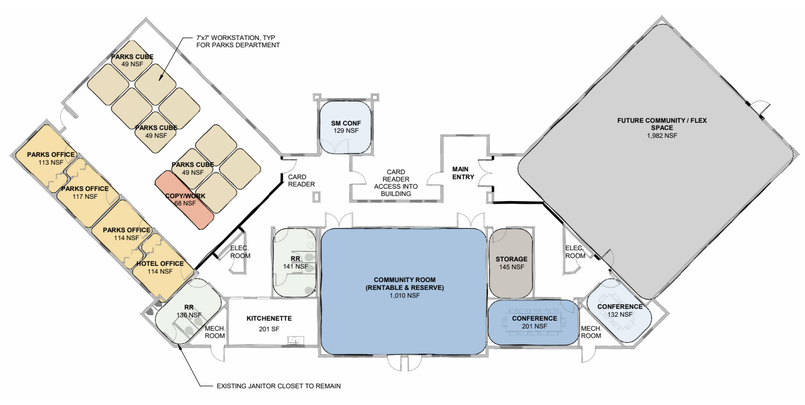
- Undersized spaces, aging systems, ADA gaps, inability to meet current and future operational needs

Master Planning Recap

The **Recommended Sequencing Concept** to address current and future City operational and service needs

Staff Recommendation





City Hall/Council Chambers to Legacy Church Building

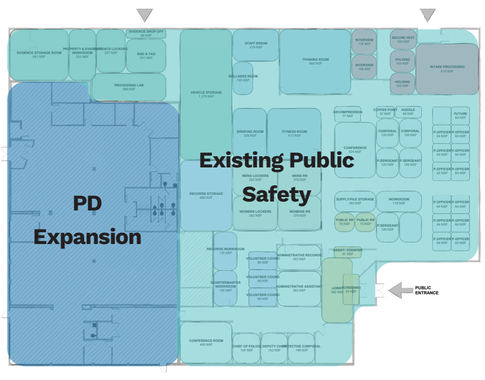
$5.0 Million
Total Duration: 2 Years

Parks/Community Space to City Hall

$0.5 Million
Total Duration: 1 Year

Added SF: 14,400
Surplus SF: +6,600





Library to Town Square

$12.93-$15.62 Million
Total Duration: 3 Years

Added SF: 8,388
Remaining Deficit: 0

Public Safety Expand into Library

$8.7 Million
Total Duration: 1.5 Years

Added SF: 9,612
Surplus SF: +6,600

Concept Option #2

$28.7 Million
Total Duration: 7.5 Years

Added SF: 32,400
Surplus SF: +13,200

Preferred Option Overview

- Addressess all current and projected departmental deficiencies by using parcels and properties owned by The City.
- Develops City Campus feel with adjacent City Hall, Police Department and possible future Municipal Court.
- Develops Town Square into arts and culture community zone adjacent to the City's commercial hub.

Spokane County
Regional Siting Process for
Essential Public Facilities









Spokane County
Regional Siting Process
for
Essential Public Facilities

July 25, 2002

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Executive Summary

Spokane County and the towns and cities of Airway Heights, Cheney, Deer Park, Fairfield, Latah, Liberty Lake, Medical Lake, Millwood, Spangle, Spokane, Rockford, and Waverly are required to plan for essential public facilities (EPFs) pursuant to the Growth Management Act (GMA). RCW 36.70A. The Steering Committee of Local Elected Officials for Spokane County (Steering Committee) through the County Wide Planning Policies along with the "Growth Management Essential Public Facilities Technical Committee Report" adopted on May 3, 1996 set forth a model project review process for the siting of EPFs. All jurisdictions provided a mechanism in their Comprehensive Plans to utilize the model project review process either verbatim or as a model.

Recently the Legislature passed two laws addressing siting of EPFs. In June 2001 the state enacted 3ESSB 6151, and in March 2002 the state enacted ESSB 6594. These laws require counties and cities fully planning under GMA to include a process in their Comprehensive Plans to provide for the siting of Secure Community Transition Facilities (SCTFs).

In 2001 planning staff from all jurisdictions in Spokane County formed a task force to cooperatively develop a regional siting process for all essential public facilities, including SCTFs. The Essential Public Facilities Task Force, with assistance from the Office of Community Development (OCD), the Department of Social and Health Services (DSHS), and technical staff from the jurisdictions developed a regional siting process for essential public facilities titled *Spokane County Regional Siting Process for Essential Public Facilities.*

The regional process provides for a review process with a location analysis. Public involvement takes place throughout the process with public comment periods as well as public hearings. The review process requires the applicant for an EPF to assume responsibility for the bulk of the analysis and processing of the proposal. The analysis includes two parts. First, an analysis of functional criteria of all potential sites is conducted to select the highest-ranking ten (10) semi-finalist sites. Second, these ten semi-finalist sites are analyzed using more qualitative criteria and resulting in selection of at least three (3) preferred sites. Both analyses include public comment periods. Next, the Board of County Commissioners (BoCC) conducts a public hearing on the Preferred Site List to allow for further public comment, identify strategies to address any issues associated with particular sites, and rank the finalist sites. The BoCC ranking is advisory to but not binding on the applicant. Last, the applicant, after selecting a specific site, will work directly with a local jurisdiction and its regulatory requirements to permit construction and operation of the EPF.

The regional siting process is based on a coordinated interjurisdictional approach, which in combination with consistent development regulations among the jurisdictions will implement the requirement of equitable distribution of EPS of a statewide or regional/countywide nature.

Acknowledgments

This regional siting process for essential public facilities is the result of a collaborative countywide process including a range of participants. It is founded on the Growth Management Essential Public Facilities Technical Committee Report approved by the Steering Committee of Elected Officials on May 3, 1996. The process was crafted by a task force consisting of representatives from all planning jurisdictions in the county. From there, it was reviewed by various technical committees, and endorsed by all jurisdictions' planning commissions and elected officials.

EPF Task Force members:

Airway Heights:	Stephen Roberge
Cheney:	Glenn Scholten, Tom Richardson
Deer Park:	Roger Krieger, Kathy Marcus
Fairchild Air Force Base:	John Gibson
Fairfield:	Kathy Marcus
Latah:	Kathy Marcus
Liberty Lake:	Amanda Tainio, Doug Smith
Medical Lake:	Doug Ross, Bill Grimes
Millwood:	Heather Cannon
Rockford:	Bill Grimes
Spangle:	Kathy Marcus
City of Spokane:	Susanne Croft
Spokane County:	Esther Larsen, Bruce Hunt, Scott Kuhta, Dan Antonson, Marisa Schuchart
Waverly:	Kathy Marcus

City of Spokane, EPF Technical Advisory Committee:

Capital Programs:	Dick Raymond
Environmental Programs:	Lloyd Brewer
Fire:	Greg Hesse, Rich Leonhardt
Human Services:	June Shapiro
Public Works:	Roger Flint
Solid Waste:	Bill Vensel

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  Airway Heights, WA 99001
  509-244-2552
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  Cheney, WA 99004
  509-235-7221
- Deer Park:
  Mayor / Community Services Director
  316 E. Crawford Avenue
  P.O. Box F
  Deer Park, WA 99006-0228
  509-276-8802
- Fairfield:
  Mayor / Clerk-Treasurer
  P.O. Box 334
  Fairfield, WA 99012-0334
  509-283-2414
- Latah:
  Mayor / Clerk-Treasurer
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  Latah, WA 99018-0130
  509-286-3471
- Liberty Lake:
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  1421 N. Meadowwood Ln., Suite 120
  Liberty Lake, WA 99019
  509-755-6700
- Medical Lake:
  Public Works Director
  124 S. Lefevre Avenue
  Medical Lake, WA 99022
  509-565-5000
- Millwood:
  Planning Director
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  Spokane, WA 99206
  509-924-0960

- Rockford:
  Clerk / Treasurer
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  Rockford, WA 99030
  509-291-4716
- Spangle:
  Mayor / Clerk-Treasurer
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  Spangle, WA 99031-0147
  509-245-3260
- City of Spokane:
  Planning Services Department
  808 W. Spokane Falls Blvd.
  Spokane, WA 99201-3329
  509-625-6060
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Key Elements of Spokane County Regional Siting Process for Essential Public Facilities

I. Essential Public Facilities

Definition of an EPF

Essential Public Facilities (EPFs) are defined as follows:

> Essential public facilities include those facilities that are typically difficult to site, such as airports, state education facilities and state or regional transportation facilities as defined in RCW 47.06.140, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance abuse facilities, mental health facilities, group homes, and secure community transition facilities as defined in RCW 71.09.020. (RCW 36.70A.200)

Clarification of Utilities

Utilities, as defined in the Countywide Planning Policies for Spokane County (CWPPs), are excluded from this EPF regional siting process. In general, a "utility" refers to a system of delivery, as opposed to a facility at which processing and/or treatment occurs. For example, delivery systems such as sewer pipes are utilities, whereas the wastewater treatment plant itself is an EPF. Siting issues concerning utilities shall be addressed within each jurisdiction's comprehensive plan.

Ownership

If the services provided meet an essential public need, the facility may be considered essential, regardless of whether it is publicly or privately owned. An EPF may include a facility providing or housing a needed public service that is:

- provided by or substantially funded by government, or
- provided by a private entity subject to public service obligations[1], or
- on an officially adopted state, regional, county or local community EPF list.

II. EPF's Level of Significance

Siting Process Determination

The regional siting process outlined herein applies to siting EPFs of statewide or regional/countywide significance. EPFs of local significance will be sited according to the process in place for each local jurisdiction. (See Appendix A for classification guidelines and examples.)

[1] The 1996 Growth Management Essential Public Facilities Technical Committee Report defines a public service obligation as "an obligation imposed by law on service providers to furnish facilities and/or supply services to all who may apply for and be reasonably entitled to service."

If a proposed facility is not listed in Appendix A, the Board of County Commissioners (BoCC) is responsible for determining whether the proposal is an essential public facility, and if so, its level of significance. To aid in this determination, the project applicant shall identify the potential area of adverse impact and public benefit. If it is determined that a proposed EPF is of statewide or regional/countywide significance, the regional process for siting EPFs shall be carried out as described herein.

III. Public Involvement

Public involvement is a key part of the siting and decision process. While answers to some of the site selection criteria will be fairly straightforward and objective, assessment of other criteria may require a subjective judgment based on public opinion and community values. To a large extent, the nature of the EPF will determine the appropriate level and type of citizen participation in the siting process. (See Appendix B for guidelines and options for a public involvement strategy.)

IV. Review Process: Roles and Responsibilities

Board of County Commissioners

The BoCC has three main roles in this regional siting process. As mentioned above, if there is a question as to whether a proposal is an EPF, it is the body that makes that determination. Also, it is responsible for resolving any conflict arising from an applicant's unwillingness to comply with a public, agency or departmental request for further study or analysis.

Finally, the BOCC is the body that conducts the public hearing on the Preferred Site List. The purpose of this hearing is to allow the public to comment on the finalist sites, identify strategies to address any issues associated with particular sites, and rank the finalist sites. The BoCC ranking is advisory to but not binding on the applicant.

Applicant

The applicant assumes responsibility for the bulk of the analysis and processing of its proposal. The applicant performs the Functional and Qualitative Analyses, and generally coordinates and conducts the various elements of the process including public involvement, review by other agencies and jurisdictions, SEPA analysis, and notification requirements.

V. Location Analysis

EPFs shall be located based on their respective siting and service delivery criteria, regardless of Urban Growth Area (UGA) boundaries.[2]

[2] See CWPP 6.2.

Equitable Distribution

In addition, site selection shall conform to the following Equitable Distribution Philosophy[3]:

> The procedural process for siting EPFs shall be consistent within all Spokane County jurisdictions, including consistent siting criteria and development regulations, so as to ensure that:
>
> (1) no jurisdiction will be viewed by virtue of the siting process or review criteria more or less favorably than another with regard to locating a particular EPF;
>
> (2) service providers are able to locate to meet their client's needs; and
>
> (3) predictability of development regulations will help project developers to select and develop sites.

Criteria for Assessment

Some types of information are more easily evaluated through objective criteria, while other questions involve a more subjective assessment. Therefore, potential sites shall be identified through both objective and subjective assessments of various types of information.

First, an analysis of functional criteria is performed. These criteria may vary, depending on the operational and location requirements for the particular type of facility proposed. GIS (Geographic Information Systems) or equivalent geographic and demographic data analysis is used to identify a range of alternative semi-finalist sites (approximately ten) that meet the applicant's basic siting criteria. A site survey must then be performed for each of those sites in order to confirm the findings and assess the potential for negative impacts and possible mitigation strategies. During the second stage of analysis, the public evaluates these semi-finalist sites based on more qualitative criteria. As part of the functional and qualitative analyses, the applicant routes the proposal to effected agencies and jurisdictions for a minimum 30-day comment period.

Finally, the criteria are weighted and the list of potential sites is further narrowed down to approximately three sites that reflect legal requirements and public preference. A narrative example of this analysis process is provided in Appendix C.

Functional Analysis

This step in the location analysis consists of an evaluation of a site's capability of meeting the basic siting criteria for the proposed EPF.

As part of this step, the applicant shall publish notice of the proposal as well as a Notice of Availability of Functional Analysis regarding an Essential Public Facility, according to the requirements described in Appendix B herein. In addition, the applicant will distribute the proposal and the functional analysis for a minimum 30-day comment period to all jurisdictions within Spokane County, as well as agencies, special purpose districts, and other interested parties.

[3] Based on the Technical Committee Report's Essential Public Facilities Equitable Distribution Philosophy, which was adopted by the Steering Committee on October 6, 1995. Also referenced in CWPP 3.15 and CWPP 6.2(d).

Data and site analysis will be conducted for factors on the applicant's list of basic siting requirements. The functional analysis will also address other relevant factors, including but not limited to those listed below. In addition, comments from members of the public and affected agencies and jurisdictions may identify other factors requiring analysis.

(1) available minimum acreage required for the particular type of EPF;

(2) protection of the natural environment, such as air quality, open space corridors, natural resource areas and critical areas;

(3) protection of public health and safety, through proximity to and available capacity of various services, including the location's access to law enforcement, fire protection and other public safety or emergency response services, as well as other aspects of public safety and public health, such as spill containment, reduction of crime opportunity, proximity to particularly sensitive receptors or electromagnetic force impacts;

(4) adequate capacity available in the transportation network, as determined from systems such as Level of Service Standards and concurrency management;

(5) adequate access to the required transportation networks, such as highways, municipal street systems, mass transit, railroad, and air;

(6) adequate capacity available from supporting public facilities and public services, such as social services and utilities such as sewer, water, and solid waste;

(7) county-wide equitable distribution, based on existing sites;

(8) consistency with existing land use and development in adjacent and surrounding areas; and

(9) compatibility with existing comprehensive plan land use designations and development regulations for the site and surrounding areas.

Sites will be ranked based on a formula where each factor is assigned a number indicating the extent to which that particular site satisfies that siting requirement for the proposed facility. (See Appendix D for potential siting criteria for various types of facilities.) The end product of this stage of analysis is a list of approximately ten (10) alternative semi-finalist sites.

Qualitative Analysis

The ten (10) semi-finalist sites that ranked highest in the functional analysis will be selected for further evaluation using more qualitative criteria. A public process will be conducted to assess the political, economic, legal and social impacts of the EPF, as well as the extent of public need for the facility. In the end, all semi-finalist sites must be available for lease for the anticipated use period or for purchase, with the consent of the owner.

This stage of analysis will result in a general description of the relative impacts associated with the proposed EPF at each of the semi-finalist sites, including but not limited to the following factors.

(1) present and proposed population densities of the surrounding area;

(2) presence of archeological, cultural and historical sites;

(3) site design;

(4) availability of a labor pool;

(5) availability of affordable housing;

(6) spin-off (secondary and tertiary) impacts (e.g., traffic, economic, social);

(7) potential for associated development being induced by the siting of the EPF; and

(8) proposed mitigating measures to alleviate or minimize significant potential adverse environmental impacts, including those from closure of or lack of siting an EPF.

The findings at this stage will be balanced against the public need for the proposed facility, and justification, if any, for why the proposed facility needs to be in a particular proposed location. An important ingredient at this stage is the dialogue that takes place between the proponent and the public regarding mitigation strategies to address potential adverse impacts.

Each factor will be assigned a number indicating the extent of impact anticipated for the proposed EPF at each site. The end product of this stage of analysis is a list of approximately three (3) alternative finalist sites.

As part of this step in the location analysis, the applicant shall publish a Notice of Availability of Qualitative Analysis regarding an Essential Public Facility, according to the requirements described in Appendix B herein. In addition, the applicant will distribute the qualitative analysis for a minimum 30-day comment period to all jurisdictions within Spokane County, as well as agencies, special purpose districts, and other interested parties. Comments received from members of the public and affected agencies and jurisdictions may identify additional qualitative factors requiring analysis.

Scoring Matrix: Weighted Analysis

Finally, a scoring matrix is used to rank the sites in order of preference. The scores in the matrix reflect weighted values that are assigned to the various functional and qualitative criteria based on how important each criterion is to the community. The conversation that results in this determination is a key part of the public participation conducted during this siting process. (See Appendix B for a summary of public involvement strategy guidelines.)

VI. Preferred Site Review

Public Hearing

Satisfactory completion of all preceding required review procedures, including weighted analysis, results in selection of at least three (3) preferred sites. The final public hearing assesses these finalist sites for the factors listed below.

The BoCC conducts the public hearing on the Preferred Site List. The purpose of this hearing is to allow the public to comment on the finalist sites, identify strategies to address any issues associated with particular sites, and rank the finalist sites. The BoCC ranking is advisory to but not binding on the applicant.

Urban Impact

The proposed EPF shall be reviewed for impacts on regional growth planning concepts, including but not limited to the urban nature of the facility, existing urban growth near the facility site, compatibility of urban growth with the facility, compatibility of facility siting with respect to Urban Growth Area boundaries, and urban sprawl.

Site Development Criteria

Proposed EPFs shall also be reviewed for site development criteria including the time required for construction, property acquisition, control of on and off-site impacts during construction, and the possibility of expediting and streamlining necessary government approvals and permits.

Cost Sharing

Finally, the proposed EPF shall be reviewed to determine if the financial impact on the jurisdiction can be reduced or avoided. The review will identify potential economic impacts from closure or lack of siting an EPF and include mitigation strategies to minimize impacts (i.e., bond or insurance).

Intergovernmental agreements will be established to mitigate any disproportionate financial burden that may fall on the jurisdiction that becomes the site of an EPF of statewide or regional/countywide significance. Especially in the case of an EPF of statewide significance, the proponent state agency may be required to mitigate costs related to siting the facility. In addition, all proponent entities are required to assume full responsibility for the costs of operating and maintaining their facility, and this burden shall not fall on the jurisdiction in which the facility is sited (unless the jurisdiction so desires).

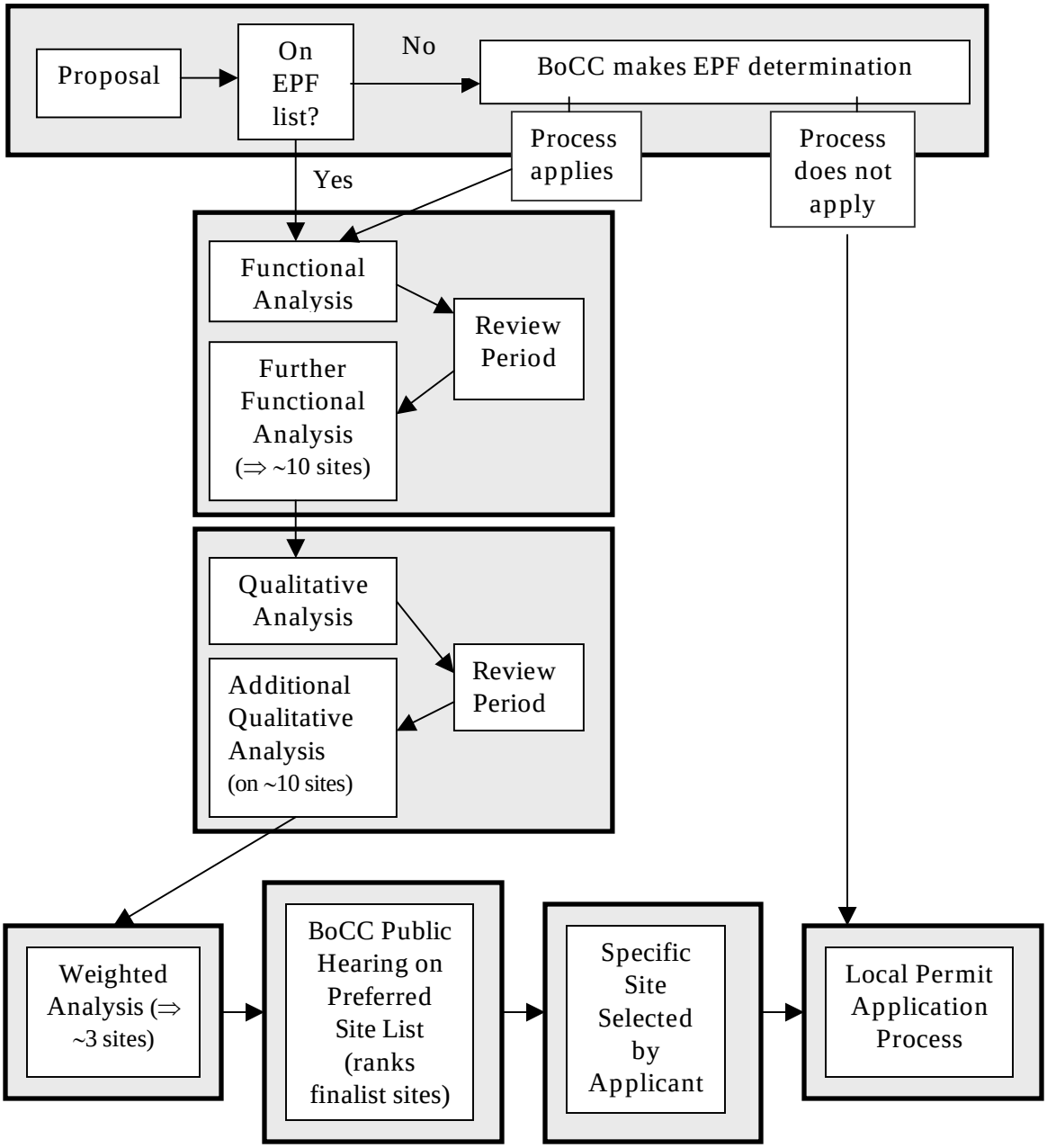
VII. Local Siting Process

Following final selection of the most appropriate site, the applicant will then work directly with that local jurisdiction and its regulatory requirements to permit the construction and operation of the EPF.

A coordinated interjurisdictional approach is essential in order to fully implement the regional siting process requirement for equitable distribution of EPFs of a statewide or regional/countywide nature. For this reason, except for unique circumstances, each jurisdiction's specific project review guidelines, siting criteria, and development regulations (land use) are expected to be consistent with all other jurisdictions in Spokane County for the siting of EPFs of a statewide or regional/countywide nature.

VIII. Process Flow Chart

The basic stages of the regional siting process are as follows:



APPENDIX "A": Level of Significance

The proposed essential public facility (EPF) will be classified as having statewide, regional/countywide or local significance according to the following.

Essential Public Facilities of a State-wide Nature

EPFs having statewide significance are major facilities that provide a needed public service affecting, or potentially affecting, residents and/or property located in two (2) or more Washington State counties and may be included on the Washington State Office of Financial Management list of EPFs. These facilities include, but are not limited to: regional transportation facilities, such as commercial and military airports, freeways, highways and beltways; state correctional facilities; secure community transition facilities; state social services; state parks; and state higher-educational facilities.

Essential Public Facilities of a Regional/County-wide Nature

EPFs having regional/countywide significance are local or interlocal facilities providing a needed public service affecting, or potentially affecting, residents and/or property located in two or more Spokane County jurisdictions. They include, but are not limited to: general aviation airports; county correctional facilities; regional transportation system; public transit maintenance and operational facilities; regional solid waste disposal/recycling/composting/handling facilities; community colleges; regional wastewater treatment facilities; arenas, stadiums and other entertainment facilities; and regional social and health services such as inpatient hospitals, mental health facilities, substance abuse treatment centers, and group homes (including adult family homes, boarding and retirement homes, and nursing homes).

Essential Public Facilities of a Local Nature

EPFs having local significance are facilities providing a needed public service affecting or potentially affecting only residents and/or property within the jurisdiction in which they are located.

Local jurisdiction's comprehensive plans shall provide for additional locally significant public facilities that are also likely to be considered as "essential". For example, the following may fall into such a list: fire stations, police stations, child care facilities, public libraries, community parks, recreation facilities, community centers, local social services, and elementary, middle and high schools, etc.

When developing locally significant EPFs, the jurisdiction shall document their reasons for adding a particular type of facility to the local list. There shall be relative consistency of these lists from one jurisdiction to the next, in order to avoid forcing the siting of a particular facility in one jurisdiction or another and to assist in meeting service providers' permitting needs.

In order to allow each Spokane County jurisdiction to determine a proposal's classification, the project applicant shall identify the potential area of adverse impact and public benefit.

If it is determined that a proposed EPF is of statewide or regional/countywide significance, the process for siting EPFs shall be carried out as described herein. (See Appendix E for an Inventory of all EPFs of a statewide or regional/countywide significance that are located within Spokane County, as well as a map showing the location of each facility.)

APPENDIX "B": Public Involvement Strategy Guidelines

Every process to site an EPF shall include methods to provide early notification and involvement of affected citizens and jurisdictions, thus allowing for opportunities to comment on the proposal. The nature of the EPF shall be considered when determining the appropriate level and type of citizen participation in the siting process.

Applicants for statewide and regional/countywide significant EPFs shall initiate a citizen participation program prior to final site selection. The program shall include community involvement in the screening process for the identification of alternative sites most suitable for locating a given EPF. This process shall be documented and the documentation provided to the reviewing jurisdiction.

Along with public input on site selection, citizen participation shall include involvement with issues such as but not limited to:

- Administration of state contract services
- Air pollution
- Air traffic
- Availability of utilities
- Building design
- Change in type of traffic
- Cost of closure
- Encroachment on other land uses
- Environmental impacts
- Groundwater contamination
- Hazardous materials
- Hours of operation
- Increase in traffic
- Lighting
- Litter
- Noise
- Odor
- Operational costs
- Parking
- Periodic high use
- Risk of disaster
- Safety
- Site design (within the range of feasible costs and technical requirements)
- Stimulus to changing character

• Procedural Requirements

The process for citizen involvement shall include the following elements:

- The applicant shall publish notice of the proposal in those newspapers designated by the affected jurisdictions.
- As part of both the functional and qualitative step in the location analysis, the applicant will distribute the proposal for a minimum 30-day comment period to all jurisdictions within Spokane County, as well as agencies, special purpose districts, and other interested parties.
- In addition, the application shall conduct open houses or workshops as appropriate, and at least one public hearing.
- The applicant will provide additional public participation opportunities according to the guidelines set forth in WAC 365-195-600 and the Spokane County Public Participation Program Guidelines.

APPENDIX "C": Evaluation Example

The following narrative provides an example of the two-step assessment and the scoring matrix used in the location analysis portion of the regional siting process for essential public facilities.

Potential sites shall be identified through both objective and subjective assessments of various types of information. First, an analysis of Functional Criteria will be performed. These criteria will vary slightly, depending on the operational and location requirements for the particular type of facility proposed. Once a range of alternative sites are identified which meet the applicant's basic siting criteria, these semi-finalist sites will be subjected to pubic evaluation based on more subjective Qualitative Criteria. Finally, a scoring matrix is used to rank the sites in order of preference based on weighted values assigned through a public process.

For example, the functional assessment step might involve analysis for such factors as public safety, availability of support services, environmental impact, distribution equity, and land use designation.

1. **Public safety –** The location's access to law enforcement, fire protection and other public safety or emergency response services. Also includes other aspects of public safety and public health, like spill containment, reduction of crime opportunity, proximity to particularly sensitive receptors or electromagnetic force impacts.
2. **Availability of support services –** The location's access to necessary support services, like airports, prisons, medical facilities, public transit, utilities, libraries or schools.
3. **Environmental impact –** The overall assessment, SEPA-style, of the project's impacts to earth, air, water, traffic, noise, light, aesthetics or other categories of environmental evaluation.
4. **Distribution equity –** The relative saturation of EPFs in proximity to the proposed location.
5. **Land Use Designation** – Each jurisdiction's comprehensive plan land use designations for the potential sites and surrounding areas.

The qualitative assessment step might involve analysis for such factors as economic impact, aesthetic impact, and the extent to which the site's impacts might be mitigated.

6. **Economic impact –** The location's susceptibility to negative economic impact (or positive economic impact) as a result of the project.
7. **Aesthetic impact –** The location's visual sensitivity to the type of project the EPF represents.
8. **Mitigatability –** The project's ability to offer compensation (financial or other incentives, provision of amenities, etc.) or design modifications to mitigate the location's specific concerns.

A scoring matrix would look something like the one shown below. Initially, the individual sites (completely hypothetical) are scored against the Criteria on a scale of 1 to 5, five being the most favorable score. These scores are then assigned a Weight on a scale of 1 to 5, five being most preferred or important. The initial score for each of the functional and qualitative criteria are then

multiplied by that weighted value to produce the Total Score for each criterion, by site. The Final Score for each site is the sum of the resulting weighted Total Scores for each criterion.

Criteria	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	
Site 1 Score	**4**	**4**	**4**	**3**	**3**	**2**	**1**	**5**	
Site 2 Score	**3**	**5**	**3**	**5**	**4**	**2**	**4**	**3**	
Site 3 Score	**4**	**3**	**5**	**4**	**5**	**1**	**1**	**1**	
Site 4Score	**1**	**3**	**2**	**2**	**2**	**3**	**5**	**2**	
Weight	**5**	**4**	**3**	**3**	**3**	**3**	**2**	**2**	
Total Score									**Final Score**
Site 1	20	16	12	9	9	6	2	10	84
Site 2	15	20	9	15	12	6	8	6	91
Site 3	20	12	15	12	15	3	2	2	81
Site 4	5	12	6	6	6	9	10	4	58

In this example, Site 1 barely nudges out Site 3 as the second most preferred site for this particular EPF. Site 3 scores highly with respect to public safety, environmental impact, distribution equity, and consistency with the comprehensive plan's land use designation, but it has some negative economic impact, would probably look bad and would be difficult to mitigate.

Site 4 presents an alternative which scores rather poorly on all but the aesthetic criteria. It involves a risk to public safety, a negative environmental impact, distribution inequity, weak consistency with the comprehensive plan's land use designations, some economic impact, and would be difficult to mitigate, but it will look sharp.

APPENDIX "D": Siting Criteria for EPFs

Following is the Dept. of Social and Health Services' April 2002 "Summary of Key Statutory Siting Requirements" relative to Secure Community Treatment Facilities (SCTFs). This appendix may be supplemented at a later date to include siting criteria for other types of EPFs.

Summary of Key Statutory Siting Requirements

- **Planning.** By September 1, 2002, cities and counties must establish or amend their processes for identifying and siting essential public facilities and amend development regulations as needed to provide for siting of secure community transition facilities (SCTFs).

- **Non-Compliance with Planning Requirements.** Failure to act by 9/1/2002 is NOT a condition that would disqualify county or city from receiving public works trust funds, water pollution control facility grants, etc., or be a basis for a Growth Management Hearings Board Review or private cause of action.

- **Preemption.** After October 1, 2002, the state preempts and supersedes local plans, development regulations, permitting requirements, inspection requirements, and all other laws as necessary to enable the department to site, construct, renovate, occupy, and operate SCTFs in the following counties or any of their cities that fail to complete the required planning consistent with state law by 9/1/2002: Clark, King, Kitsap, Snohomish, Spokane, and Thurston Counties.

- **Immunity from liability.** Cities and counties are immune from causes of action for civil damages related to the siting of SCTFs. Cities and counties and their law enforcement officers are also immune from causes of action for civil damages when officers responds in good faith to emergency calls involving SCTF residents.

- **Risk potential activities/facilities.** Defined as public and private schools, school bus stops, licensed day care, licensed preschools, public parks, publicly dedicated trails, sports fields, playgrounds, recreational and community centers, churches, synagogues, temples, mosques, and public libraries. Does not include bus stops established primarily for public transit.

- **Proximity to risk potential facilities.** SCTF not permitted to be located adjacent to, immediately across the street or parking lot from, or within line of sight of a risk potential activities/facilities in existence at the time a site is listed for consideration. "Within line of sight" means that it is possible to visually distinguish and recognize individuals. Give great weight to sites that are the farthest removed from risk potential locations.

- **Response Time.** Requirement to site in areas in which it is possible to "endeavor to achieve an average five-minute response time by law enforcement" has been deleted.

- **Equitable Distribution.** In considering potential sites, give great weight to "equitable distribution factors" (i.e., number of residential facilities operated by Dept of Corrections, residential facilities operated by DSHS Mental Health Division, and Level 2 and Level 3 sex offenders in each jurisdiction).

- **Public Safety and Security Criteria.**

    - Visibility between SCTF and adjacent properties is limited or barriers can be established to limit visibility;
    - Electronic monitoring devices/systems are available and are functional in the area;
    - Existing building, if used for an SCTF, is suitable or can be feasibly modified; and
    - Adequate security and back-up system resources can be installed at the site and contractor/maintenance services are available on 24/7 basis.
        - Security panel must be commercial grade with tamper-proof switches and key-lock to prevent unauthorized access.
        - All staff must be issued personal panic devices.
        - All staff must be issued and wear photo ID badges.

- **Other Siting Requirements.**

    - Site must be in area with access (reasonable commute distance) to medical, mental health and sex offender treatment providers, and community services such as employment, educational and other services.
    - Treatment providers must be available – this means the providers are qualified, willing to provide services, and within a reasonable commute.
    - Site must be in location suitable for programming, staffing and support considerations.
    - The SCTF property must be available at reasonable purchase or lease cost.

Note: **Public safety and security criteria – including distance of SCTF from risk potential locations – must be given the greatest weight.**

APPENDIX "E": Inventory of EPFs

Attached are an inventory of all EPFs located in Spokane County that are of a statewide or regional/countywide significance, and a map showing the locations of those EPFs.

Staff Note: The map is available by contacting the Spokane County Division of Planning.

Liberty Lake Comprehensive Plan
Employment Statistics & Forecasts

To: Lisa D. Key, Director of Planning & Engineering, City of Liberty Lake

From: Shareefa Abdulsalam, AICP, SCJ Alliance
Andrew Oliver, AICP, Leland Consulting Group

Date: July 23, 2025

Project: Liberty Lake On-Call Planning (24-000540)
Task Order 5: Housing Policy

Subject Employment Statistics and Forecasts (Draft)

Introduction

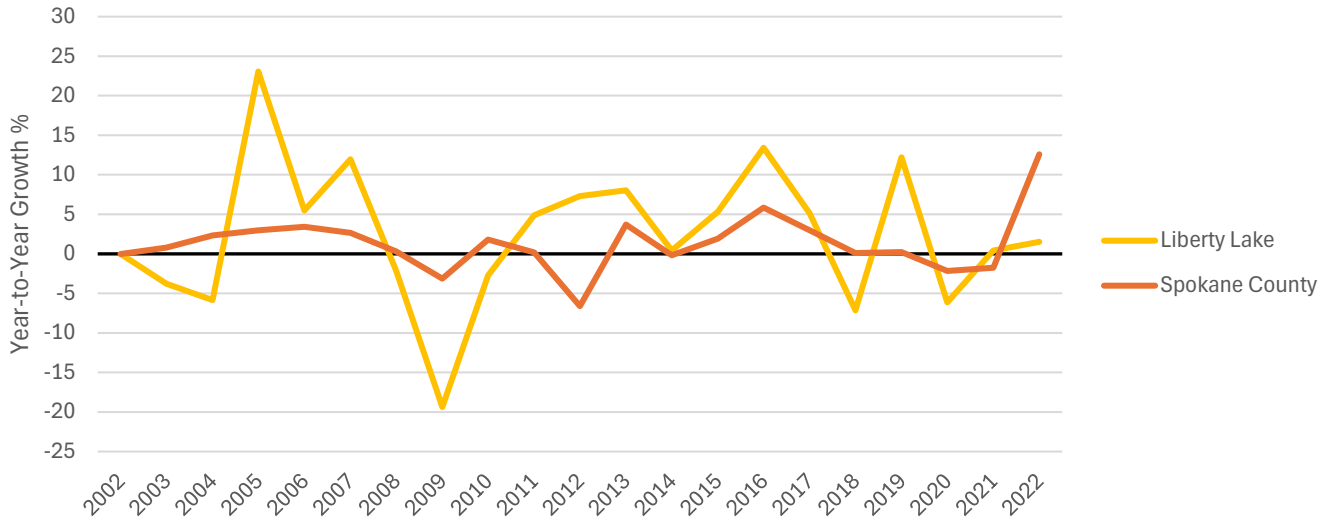
SCJ Alliance (SCJ) and Leland Consulting Group (Leland) were retained to assist the City of Liberty Lake with various elements of their 2026 Comprehensive Plan update, including conducting a historic employment data review and developing employment projections for the city. This report discusses the process and results of this analysis, including past employment trends, commute data, and forecasts of employment based on various methodologies such as past trends, jobs-to-housing ratio, and land capacity for employment in the city. These results can help inform the city's planning for housing, land use, infrastructure, commercial development, and economic development.

Employment Statistics

Historic Employment Trends

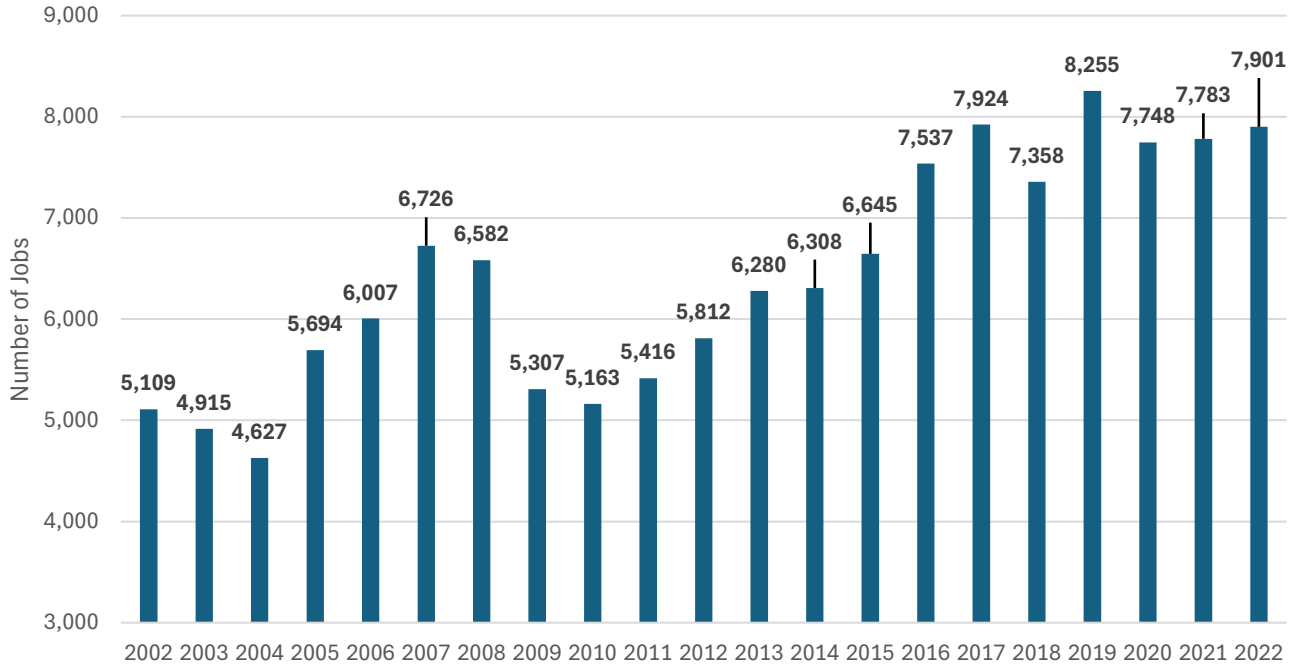
Over the past two decades, Liberty Lake's year-to-year employment growth has fluctuated significantly (Figure 1). When compared with the Spokane County employment growth rates, Liberty Lake employment numbers indicate a higher degree of volatility. With an annual average job growth rate of 2.6%, Liberty Lake's employment growth has outpaced the surrounding county's annual rate of 1.4%. Major spikes in growth of greater than 10% are observed from 2004-05, 2014-2016, and 2018-2019. Growth fluctuations in the global economy can be seen reflected in Liberty Lake's figures, with declines observed following the Great Recession and the COVID-19 pandemic. The number of those employed in Liberty Lake was more negatively impacted by the pandemic than both the County and City of Spokane; however, 2022 statistics suggest that the city has since rebounded, and is on the trend to employ more people than it ever has (Figure 2).

Figure 1: Annual Employment Growth, City of Liberty Lake and Spokane County 2002-2002 (Education Adjusted)



Source: U.S. Census LEHD, Leland Consulting Group, SCJ Alliance

Figure 2: City of Liberty Lake Employment 2002-2022 (Education Adjusted)



Source: U.S. Census LEHD, Leland Consulting Group, SCJ Alliance

Employment by Industry

According to the recent Census data, Liberty Lake now has a more diverse mix of employment sectors than in 2002 and has seen significant job growth in the majority of its sectors. (Table 1)

Table 1: City of Liberty Lake Percentage Change by Industry from 2002 to 2022 (Education Adjusted)

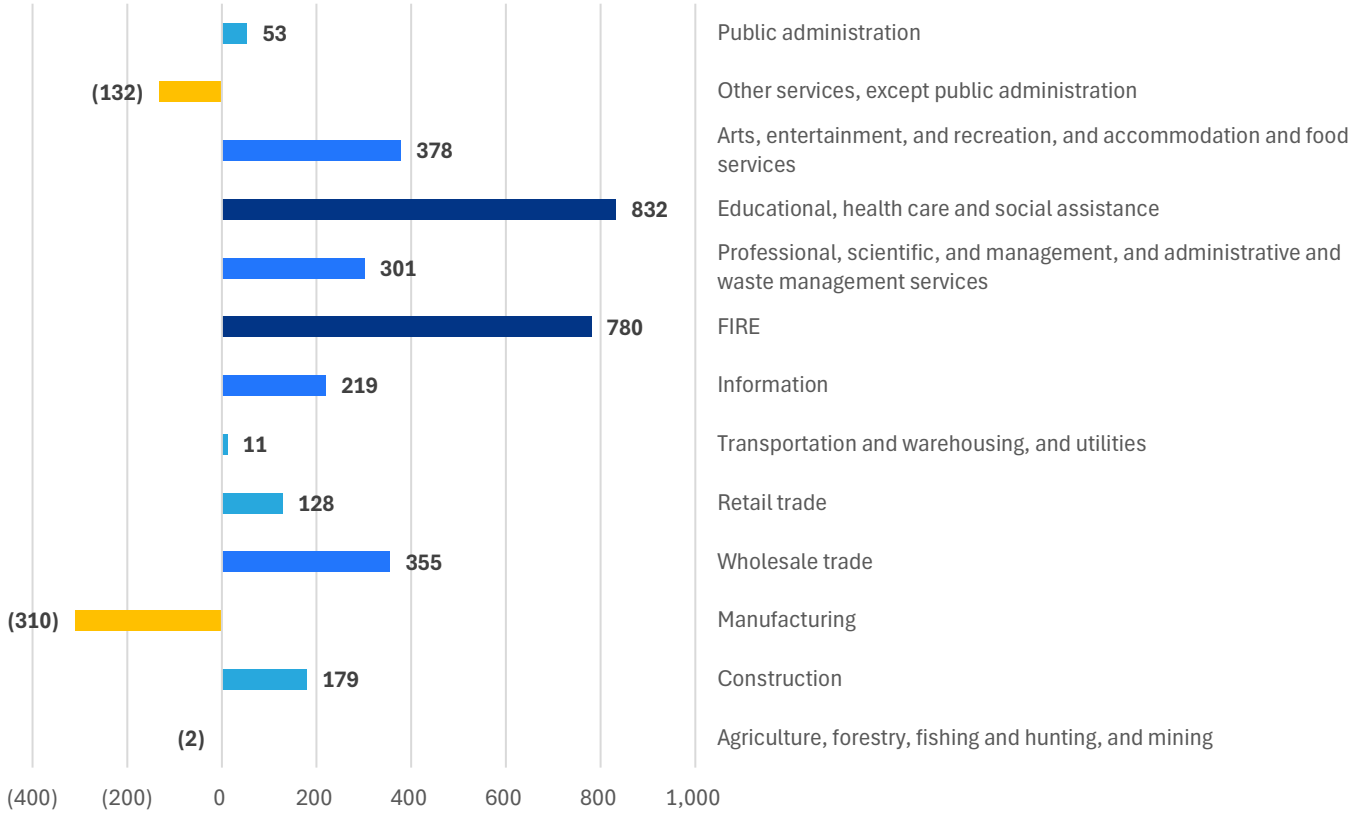
Industry	2002 Share	2022 Share	2002 Count	2022 Count
Agriculture, forestry, fishing and hunting, and mining	0.04%	0.00%	2	0
Construction	1.04%	2.94%	53	232
Manufacturing	38.97%	21.28%	1,991	1,681
Wholesale trade	0.67%	4.92%	34	389
Retail trade	14.76%	11.16%	754	882
Transportation and warehousing, and utilities	0.20%	0.27%	10	21
Information	0.51%	3.10%	26	245
Finance, Insurance and Real Estate	18.40%	21.77%	940	1,720
Professional, scientific, and management, and administrative and waste management services	13.70%	12.67%	700	1,001
Educational, health care and social assistance	2.47%	12.13%	126	958
Arts, entertainment, and recreation, and accommodation and food services	5.05%	8.05%	258	636
Other services, except public administration	4.03%	0.94%	206	74
Public administration	0.18%	0.78%	9	62
Totals	100.00%	100.00%	5,109	7,901

Source: U.S. Census LEHD 2002-2022, Leland Consulting Group, SCJ Alliance

Finance, Insurance, and Real Estate (F.I.R.E.) is the city's largest employment sector, comprising 1,720 jobs and 21.8% of all jobs in Liberty Lake in 2022. This sector has added 780 new jobs since 2002. While Manufacturing is the city's second-largest sector, with 1,681 job, it has lost 310 jobs compared to 2002 (Figure 3). Manufacturing now represents only 21.3% of all jobs, compared to 39% in 2002. The fastest growing sector in the City is Wholesale Trade, which grew by 658%, jumping from only 34 jobs in 2002 to 389 jobs in 2022.

The employment numbers listed in these charts have been adjusted from the raw Census data to reflect a more accurate picture of the City of Liberty Lake. A more thorough explanation of the reasoning and methodology used is provided later in the report, under the Education Sector Discrepancies section.

Figure 3: Change in Employment, 2002-2022 (Education Adjusted)



Source: U.S. Census LEHD 2002-2022, Leland Consulting Group, SCJ Alliance

The following chart compares the employment sector shares of Spokane County and Washington State to Liberty Lake's percentages using 2023 American Community Survey estimates. (Figure 4)

Figure 4: City of Liberty Lake Employment by Industry in 2023 Compared with Spokane County and Washington



Source: U.S. Census LEHD OnTheMap, American Community Survey 5-Year Estimates 2023 DP03, Leland Consulting Group, SCJ Alliance

The largest employment sectors in Liberty Lake are:

1) Finance, Insurance, and Real Estate (F.I.R.E.) (22.5%)
2) Manufacturing (22%)
3) Services (Professional, Administrative, Scientific, Managerial, Waste Management) (13.1%)

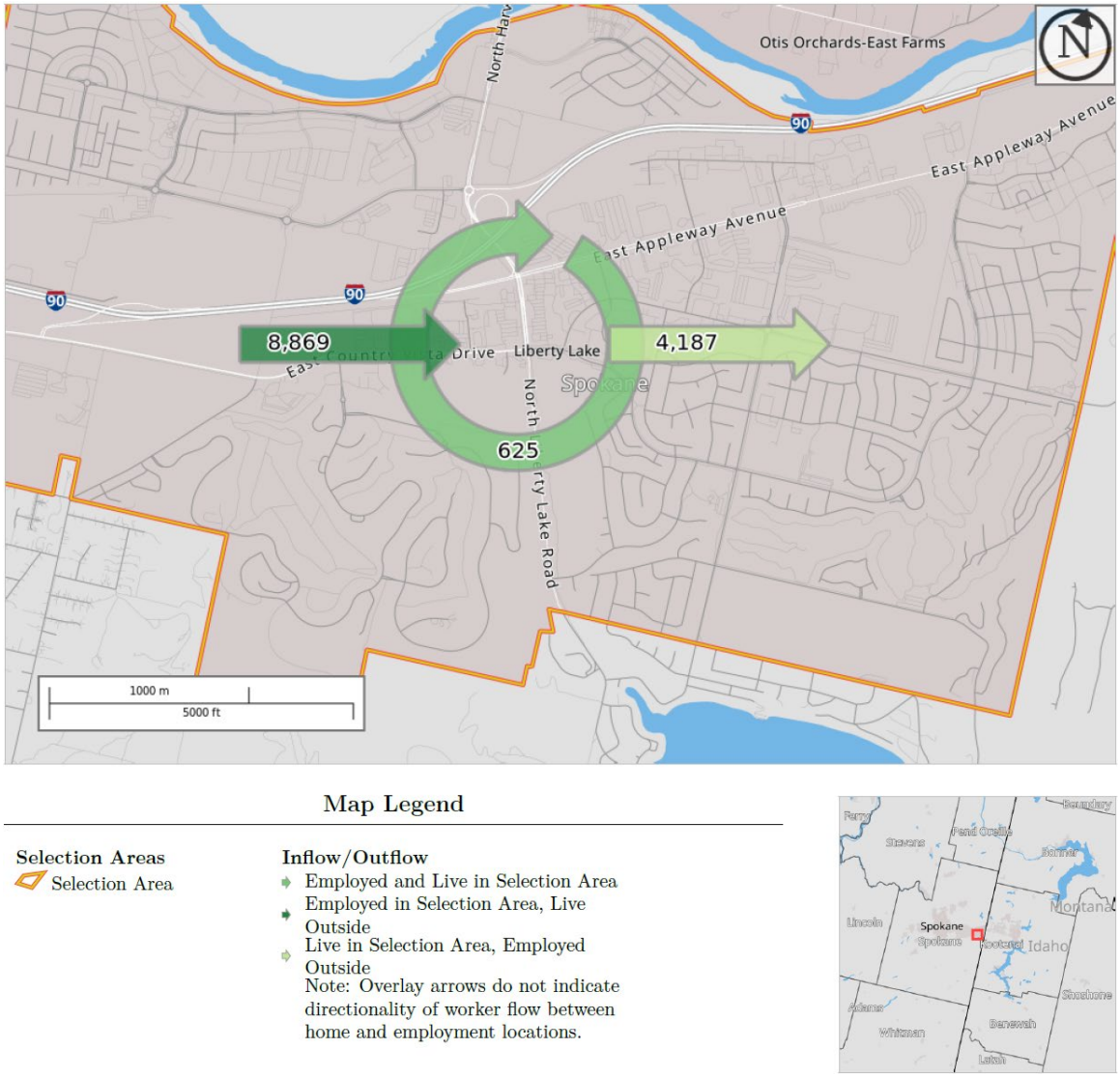
Liberty Lake's top employment sectors of F.I.R.E and Manufacturing employ a much higher percentage of the workforce compared to Spokane County and Washington State.

A considerably lower percentage of the labor force works in transportation, warehousing, utilities, education services, and healthcare compared to Spokane County and Washington.

Commute Patterns

Reviewing the commute patterns of both residents and non-residents in and out of Liberty Lake is important for understanding the current housing and transportation demands. The employed population (Aged 16+) of Liberty Lake **residents** is estimated to be 4,812, according to the 2022 American Community Survey 5-year estimates. According to these estimates, a significantly higher number of people travel into Liberty Lake for employment (8,869)[1] than travel out of the City (4,187). An estimated 625 residents both live and work in Liberty Lake.

Figure 5: City of Liberty Lake Employment Inflow/Outflow (2022)



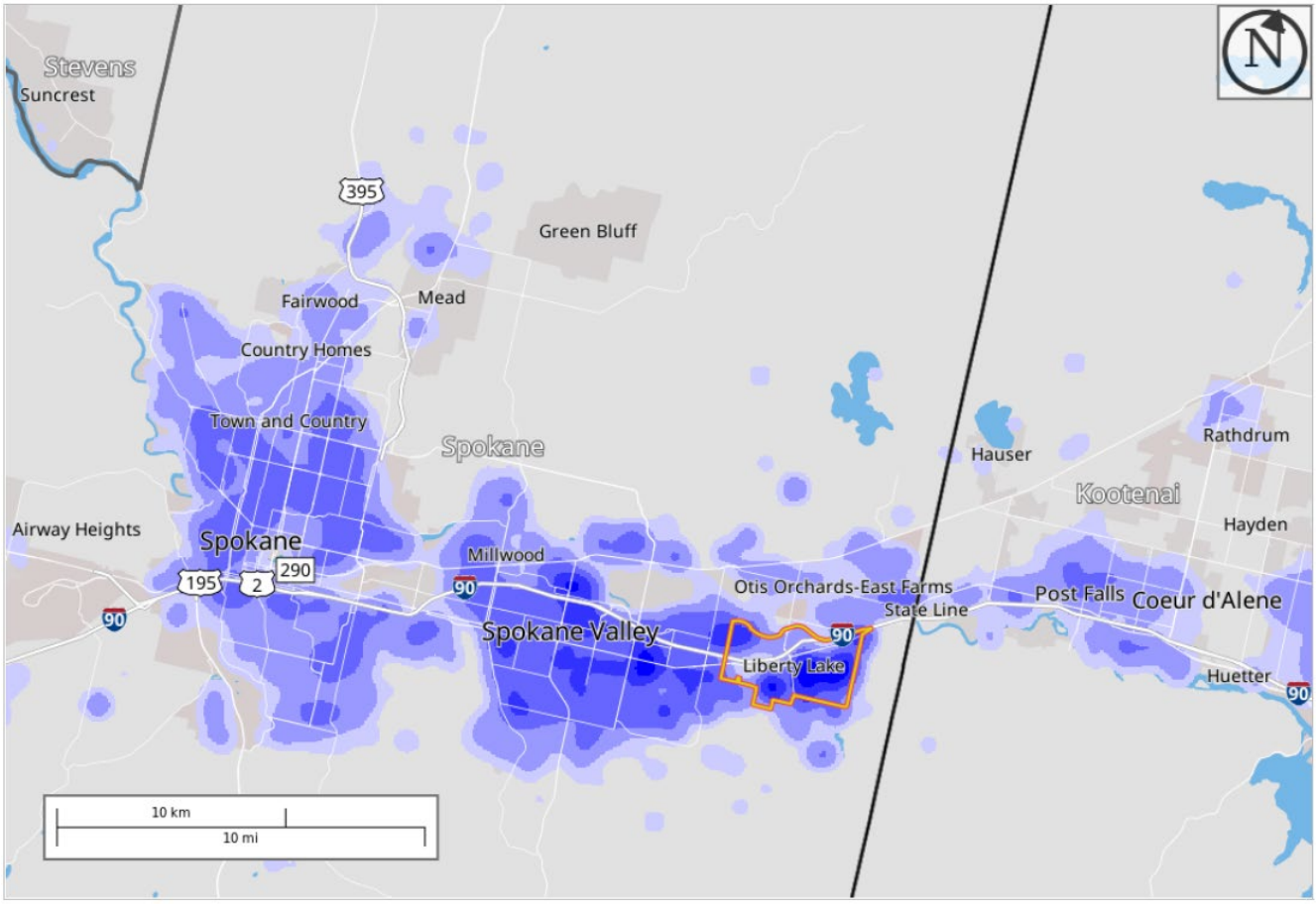
Source: U.S. Census LEHD OnTheMap 2022

[1] *The total number of jobs is a higher reported count due to Education sector jobs being overestimated in the U.S. Census LEHD OnTheMap.*

It is important to note that employment and commute patterns have changed for many people since the 2020 Census. Following the COVID-19 pandemic, many more people now work from home, and these numbers continue to change each year.

The following charts show where Liberty Lake residents' places of employment are located. (Figures 6 & 7)

Figure 6: Spatial Distribution of Where Liberty Lake Residents are Employed (2022)



Map Legend

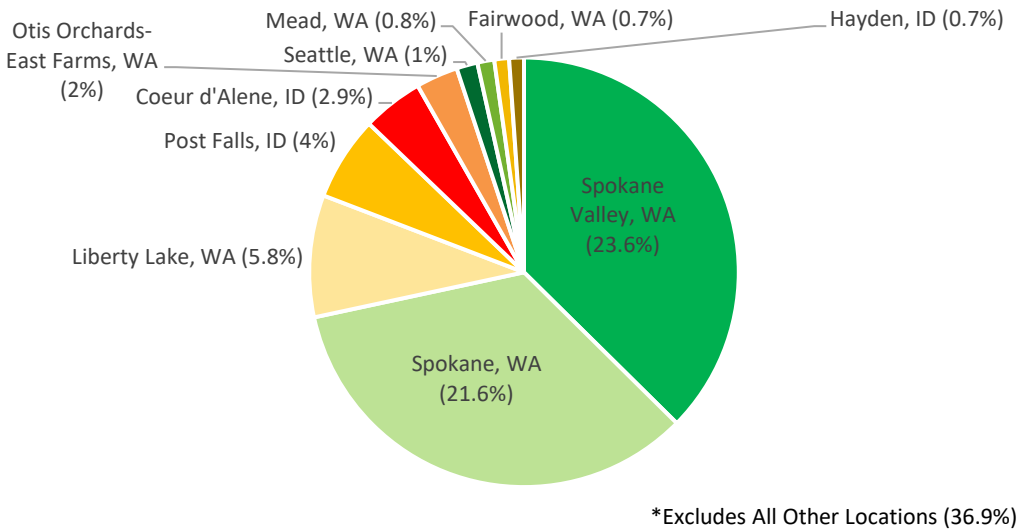
Job Density [Jobs/Sq. Mile]
- 5 - 12
- 13 - 33
- 34 - 69
- 70 - 119
- 120 - 184

Selection Areas
- Work Area



Source: U.S. Census LEHD OnTheMap 2022

Figure 7: Where Liberty Lake Residents are Employed (2022)

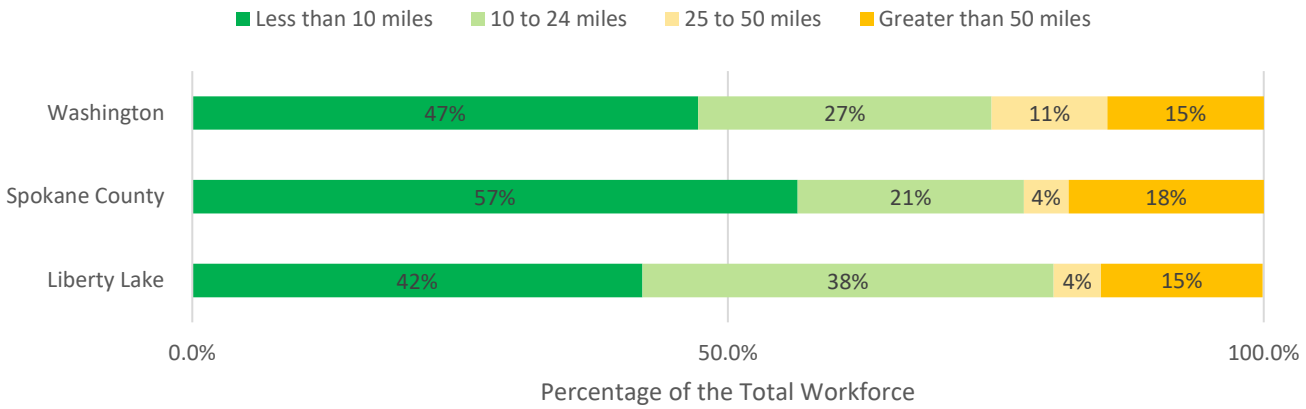


Source: U.S. Census LEHD OnTheMap 2022, SCJ Alliance

The job locations of Liberty Lake Residents are most concentrated in Liberty Lake and Spokane Valley, with lower concentrations spatially distributed throughout the Spokane-Coeur d'Alene metropolitan area. The top two employment locations are Spokane Valley and Spokane, with those who live and work in Liberty Lake comprising 5.8% of the workforce. Slightly more than 7% of residents are employed in Idaho.

To reach their workplace, 42% of Liberty Lake's workforce commutes less than 10 miles to work, and 38% commute between 10 and 24 miles. (Figure 8) This commute pattern differs from Spokane County, where a higher 57% of all employed residents commute less than 10 miles to their workplace.

Figure 8: Liberty Lake Workforce Commute Distances vs. Spokane County and Washington

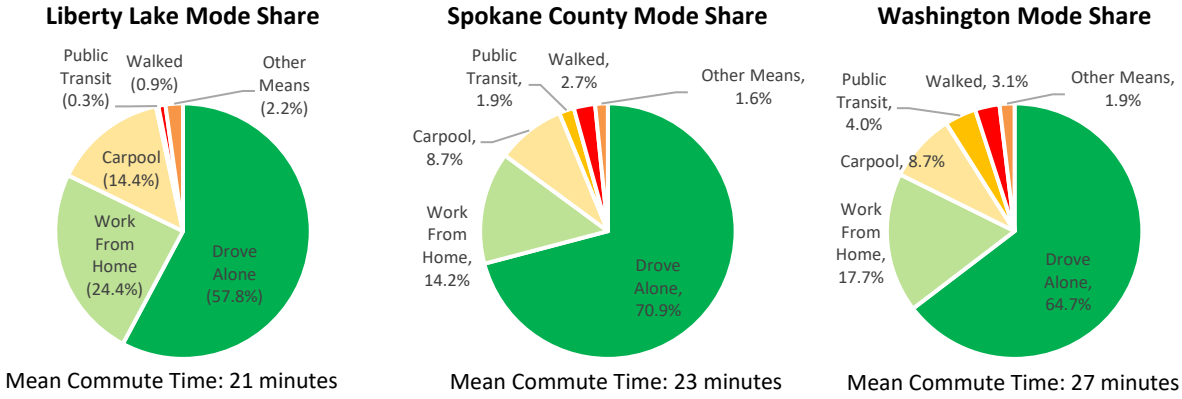


Source: American Community Survey 2023 5-year estimates, Table S0801; US Census OnTheMap, SCJ Alliance

When looking at the commuters' transportation mode shares within Liberty Lake, a higher percentage of people work from home and carpool (38.8%) compared to the County (22.9%) or State (26.4%). (Figure 9) This contributes to a lower percentage of Liberty Lake residents driving alone to work than in the County or State.

As for active transportation modes, only 1.2% of Liberty Lake residents walk or take public transit to work compared to 4.6% in the County. This may influence the City's decisions in determining future development that increases access to jobs within walking or cycling distance from residences.

Figure 9: Means of Transportation to Work vs. Spokane County and Washington



Source: American Community Survey 2023 5-year estimates, Table S0801; US Census OnTheMap, SCJ Alliance

Education Sector Discrepancies

The table below in Figure 10 shows employment totals in Liberty Lake by industry sector from 2002-2022, the year of the most recent available LEHD data. This historic data was used to generate the trends-based forecasts discussed further below.

Figure 10: Employment by Sector in Liberty Lake, 2002-2022 (Education Adjusted)

Sector	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Manufacturing	1,991	1,510	1,245	2,270	2,480	2,213	1,950	1,359	1,257	1,236	1,339	1,520	1,534	1,421	1,441	1,566	1,609	1,678	1,677	1,605	1,681
Finance and Insurance	940	1,079	1,122	1,147	1,153	1,972	1,952	1,110	1,048	1,172	1,241	1,277	1,597	1,551	2,007	2,078	1,989	2,080	2,011	1,754	1,575
Retail Trade	754	666	816	837	869	867	881	852	970	981	855	929	935	647	754	837	793	786	760	834	882
Professional, Scientific, and Technical Services	620	676	312	324	343	327	216	356	304	281	326	341	427	431	449	418	391	574	605	613	646
Health Care and Social Assistance	89	116	149	176	178	156	450	463	530	577	492	430	448	516	728	788	757	590	558	585	540
Accommodation and Food Services	195	227	259	204	194	280	278	270	293	331	375	407	483	450	557	559	523	506	370	353	517
Educational Services (Revised)	37	37	37	37	37	37	37	37	37	37	40	44	45	39	51	101	98	140	135	431	418
Wholesale Trade	34	135	212	152	163	164	167	235	129	142	158	211	204	266	236	307	322	365	395	403	389
Administration & Support, Waste Management	73	62	39	62	55	76	55	37	47	51	584	763	220	880	804	713	221	182	276	343	350
Information	26	38	44	56	90	123	54	60	61	134	87	61	99	95	81	104	111	814	456	274	245
Construction	53	53	60	91	111	122	164	148	100	78	88	82	81	89	115	109	137	204	215	219	232
Real Estate and Rental and Leasing	0	15	18	22	25	41	49	85	62	70	57	41	46	61	94	94	119	117	108	130	145
Arts, Entertainment, and Recreation	63	45	75	70	65	78	72	73	84	59	54	64	79	84	88	71	111	88	36	99	119
Other Services (excluding Public Administration)	206	222	199	201	200	219	193	152	174	189	42	51	28	42	49	48	56	58	62	63	74
Public Administration	9	23	28	34	29	40	42	42	45	56	56	59	61	59	63	65	72	58	69	58	62
Utilities	10	10	12	11	13	10	12	10	12	9	0	0	13	11	19	17	12	13	15	17	21
Management of Companies and Enterprises	7	0	0	0	2	1	8	9	2	0	1	0	2	0	0	15	33	0	0	2	5
Agriculture, Forestry, Fishing and Hunting	1	1	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Mining, Quarrying, and Oil and Gas Extraction	1	0	0	0	0	0	0	0	3	5	0	0	4	1	1	0	4	2	0	0	0
Transportation and Warehousing	0	0	0	0	0	0	0	9	5	8	16	0	2	2	0	34	0	0	0	0	0

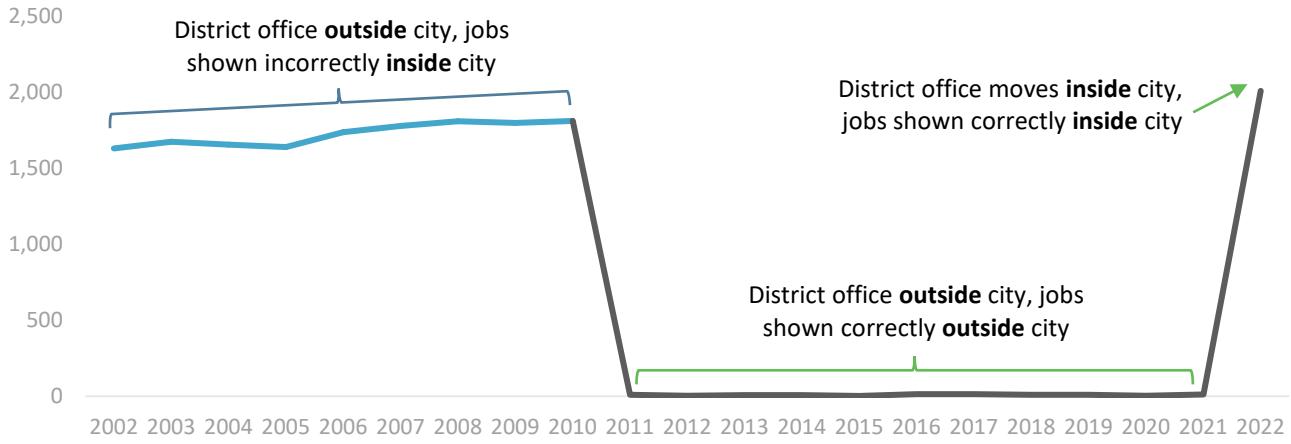
Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Leland Consulting Group

Location and Allocation Issues

The employment data shown above is drawn from the U.S. Census Bureau and Bureau of Economic Analysis' Longitudinal Employer-Household Dynamics (LEHD) dataset. This tool produces point-level data on employment by Census Block Group centroids. In order to provide such granular data, the dataset employs some statistical blurring to ensure confidentiality, meaning that some jobs are moved slightly from their actual location which can cause issues in smaller jurisdictions with borders that cross Census geographies, such as Liberty Lake. Another issue with this dataset is that jobs in education are sometimes shown at the location of the school district headquarters, rather than at the location of the individual schools. In Liberty Lake, these issues caused several problems with the education employment numbers.

From 2002 until 2021, the headquarters of the Central Valley School District was located just east of Liberty Lake. However, the LEHD blurring algorithm caused the district office jobs to mostly be moved inside the city from 2002-2010. Starting in 2011, the district jobs were correctly shown outside of the city limits. Then, in 2021, the headquarters moved to a new location at 2218 N. Molter Road in Liberty Lake. This caused the district jobs to move back inside the city limits in the LEHD dataset. The chart below shows the original education employment numbers directly from LEHD, showing the over-counting of jobs prior to 2011, as well as the actual movement of jobs into the city in 2021 with the new district office location.

Figure 11: Education Jobs in Liberty Lake (LEHD Unadjusted), 2002-2022



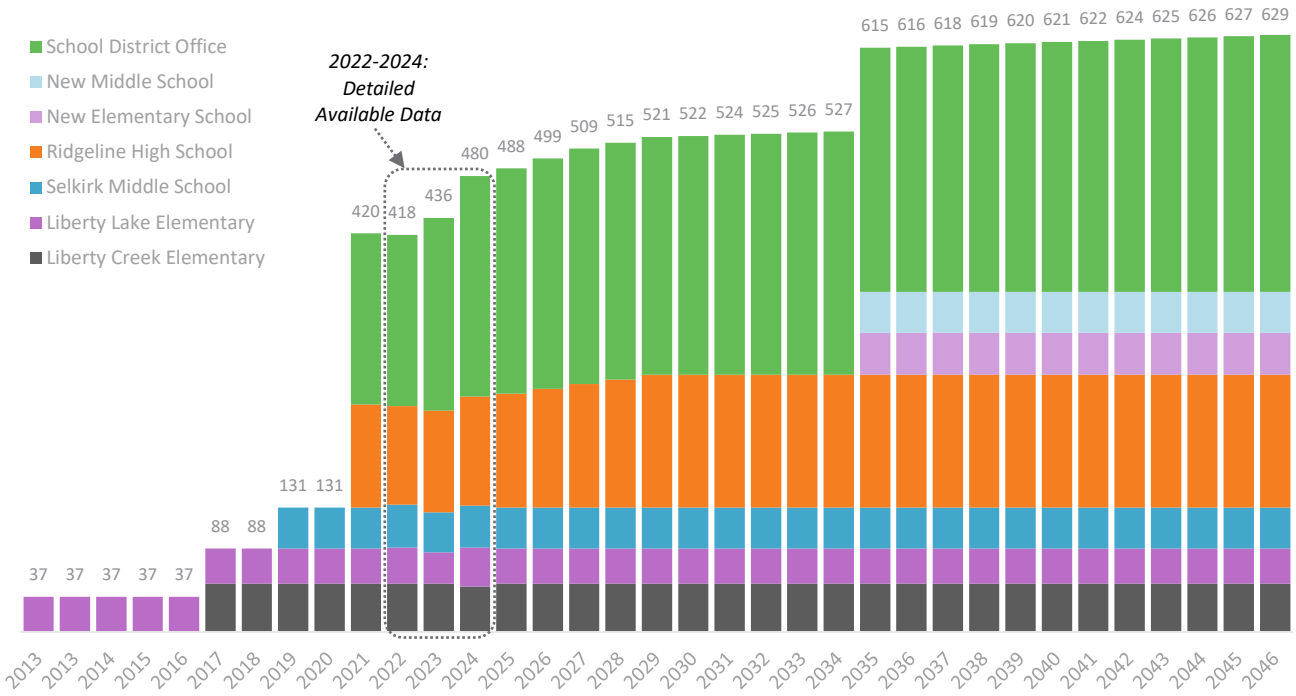
Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Leland Consulting Group

In attempting to correct for this data, it was also discovered that many of the jobs at schools across the district were being counted at the district office, rather than at the individual school locations. Publicly available data on school staffing from the State of Washington and the Washington Office of the Superintendent of Public Instruction contains school district employment data and breakdowns of jobs at each school as well as at the district office for 2022, 2023, and 2024. According to this data, in 2024, 232 people were employed at the district office, 48 at Liberty Creek Elementary, 41 at Liberty Lake Elementary, 43 at Selkirk Middle School, and 114 at Ridgeline High School, for a total of 480 education jobs in Liberty Lake in 2024. Similarly, the 2022 state data shows 418 education jobs in the city in 2022, considerably less than the 2,011 reported by LEHD in that year. The overall numbers countywide are similar to the school district's total numbers, showing that the LEHD jobs are simply misallocated to the district office from the individual school locations.

Data Correction & Forecast

Using the 2022-2024 employment breakdown by school and the district office, estimates were developed for 2013-2022 based on the known years in which each school in Liberty Lake was opened. Projections for educational employment through 2046 were developed based on the potential addition of a new middle school and a new elementary school at some point during the 20-year planning horizon, according to input from City staff. Additionally, employment at the district office was projected to grow at the growth rates forecast by the Washington Employment Security Department for the education sector in Spokane County. This methodology of using known and projected employment for specific schools and the district office was used only for forecasting educational employment, given the issues identified in the LEHD dataset. The historic estimates and projections for 2025-2046 for educational employment in Liberty Lake are shown below:

Figure 12: Liberty Lake Historic Adjusted Education Employment and Forecast, 2013-2046



Source: Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Washington Employment Security Department, Leland Consulting Group

Employment Projections

Employment projections for Liberty Lake were developed using three methodologies, after correcting the historic data for the education discrepancies discussed above. The methodologies were:

- **Trend-Based Forecasts**
  - Linear trend to 2046 based on historic 10-year total employment numbers
  - 2046 projections based on compound annual growth rates by industry group over the past 10 years
- **Jobs to Housing Ratio**
  - 2046 projections based on current jobs-to-housing ratio and 2046 housing unit targets
  - 2046 projections based on a continuation of past jobs-to-housing ratio trends
- **Land Capacity**
  - 2046 capacity based on the city's Land Capacity Analysis and achieved commercial densities
  - 2046 capacity based on the city's Land Capacity Analysis and allowed commercial densities

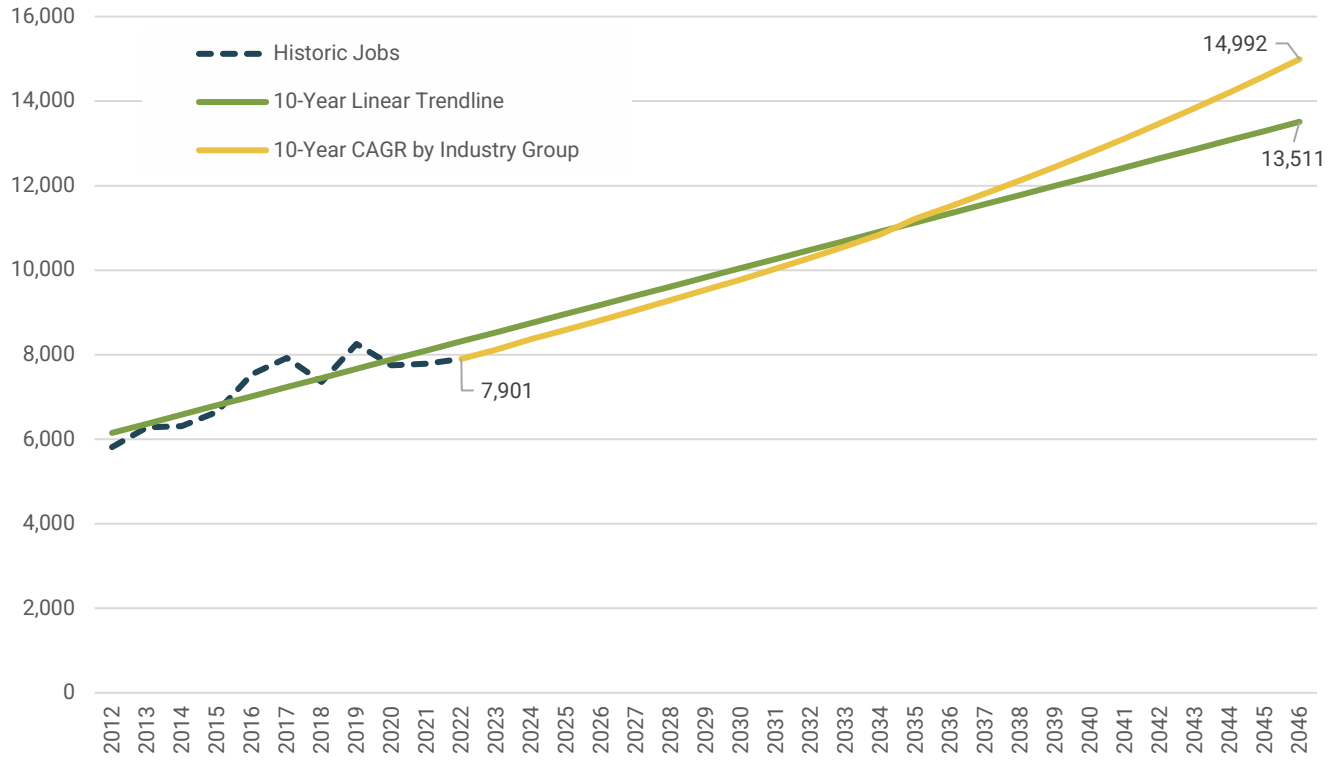
Trend-Based Forecasts

Linear Trend

The simplest jobs forecast was developed by calculating a linear trend line based on the past 10 years of jobs data, from 2012 to 2022. Although LEHD provides employment data extending back to 2002, the employment landscape following the 2008 recession caused significant changes in Liberty Lake's employment landscape which staff felt were less relevant over the 20 year planning horizon. The 10 year historic jobs data does include the COVID-19 pandemic years, though jobs have recovered somewhat since 2020 and future economic discrepancies and cycles may occur during the next 20 years as well. The chart below shows, in green, the 10 year linear trend line for jobs in Liberty Lake, as well as historic data extending back to 2012. The linear trend methodology results in a grand total of 13,511 jobs in 2046, an increase of 5,610 jobs over the planning horizon.

The chart also shows, in yellow, the results of the trend-based forecast by industry, which aggregates growth by sector based on the compound annual growth rate (CAGR) in each sector from 2012 to 2022. This is discussed in further detail below, and results in a slightly higher jobs forecast for 2046 – 14,992 total jobs, or an increase of 7,091 jobs during the planning horizon.

Figure 13: Liberty Lake Employment Forecasts Based on Job Trends, 2022-2046



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Leland Consulting Group

Industry Growth Rates

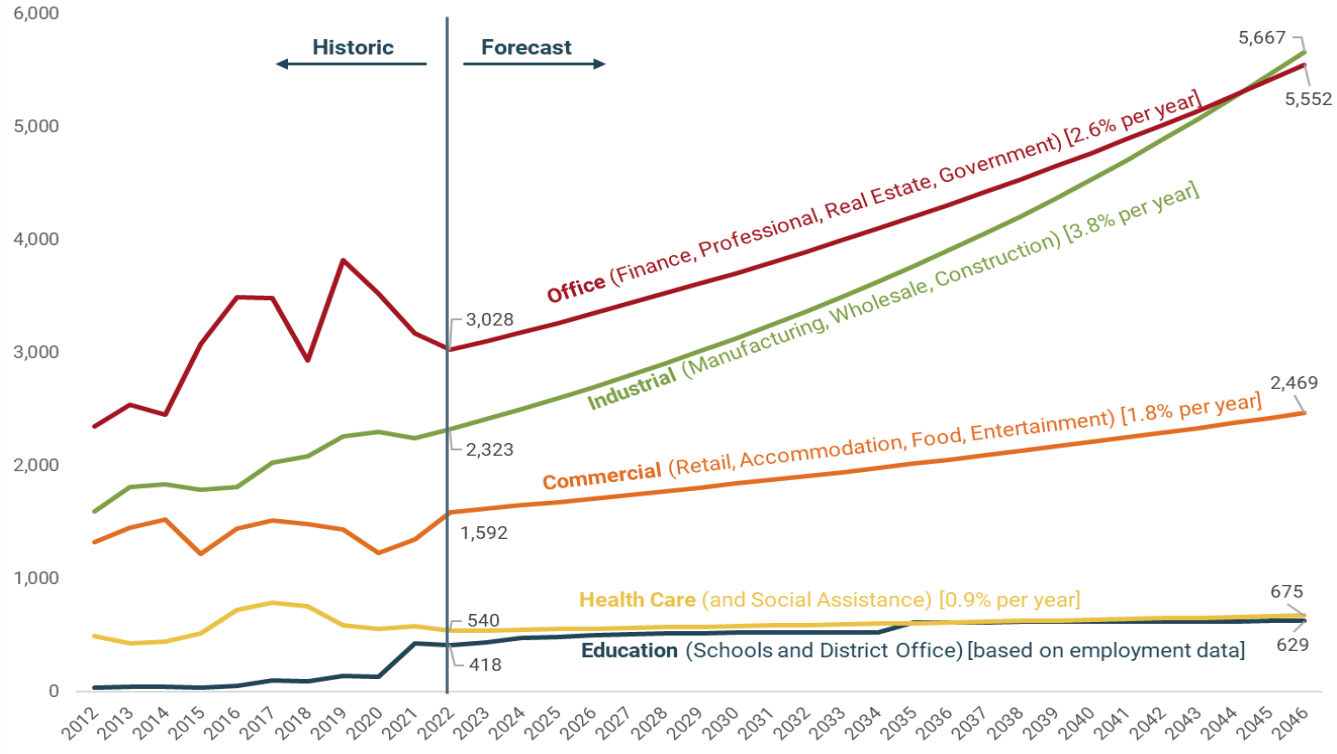
The second trend-based forecast was developed based on an analysis of Liberty Lake's 10-year growth rates by aggregated sector. Because many job sectors in Liberty Lake have small numbers of employees, small changes in the number of jobs can have outsized effects on growth rates. Therefore, the employment data by sector provided by LEHD was aggregated into five major categories, as shown in the table below:

Figure 14: Employment Sector Categorization for Liberty Lake Employment Forecasts

Category	Sector
Commercial	Retail Trade
	Accommodation and Food Services
	Arts, Entertainment, and Recreation
	Other Services (excluding Public Administration)
Education	Educational Services (Revised)
Health Care	Health Care and Social Assistance
Industrial	Manufacturing
	Wholesale Trade
	Construction
	Utilities
	Agriculture, Forestry, Fishing and Hunting
	Mining, Quarrying, and Oil and Gas Extraction
	Transportation and Warehousing
Office	Finance and Insurance
	Professional, Scientific, and Technical Services
	Administration & Support, Waste Management
	Information
	Real Estate and Rental and Leasing
	Public Administration
	Management of Companies and Enterprises

Within each of these categories, the growth rate for the past 10 years was calculated and extrapolated forward (with the exception of education, where the specific forecasts based on expected school openings were used as detailed previously). Using this methodology, the recent increases in finance, professional services, information (including tech), and administration jobs are driving relatively high growth in the "Office" category. Note that this category likely also includes some jobs worked from home, so does not translate directly into demand for new office space. Additionally, there is some uncertainty based on degree to which artificial intelligence may reduce job growth in these sectors, though it is too early to make definitive projections based on this trend. Liberty Lake's existing manufacturing base is forecast to continue to increase, and recent increases in wholesale jobs are also captured in the "Industrial" category. Commercial (including retail) and healthcare have grown less rapidly in the past decade and therefore account for more moderate levels of growth in this forecast. The results of the growth rate by industry forecast are shown below:

Figure 15: Liberty Lake Employment Forecasts Based on 10-Year Growth Rates by Industry, 2022-2046.



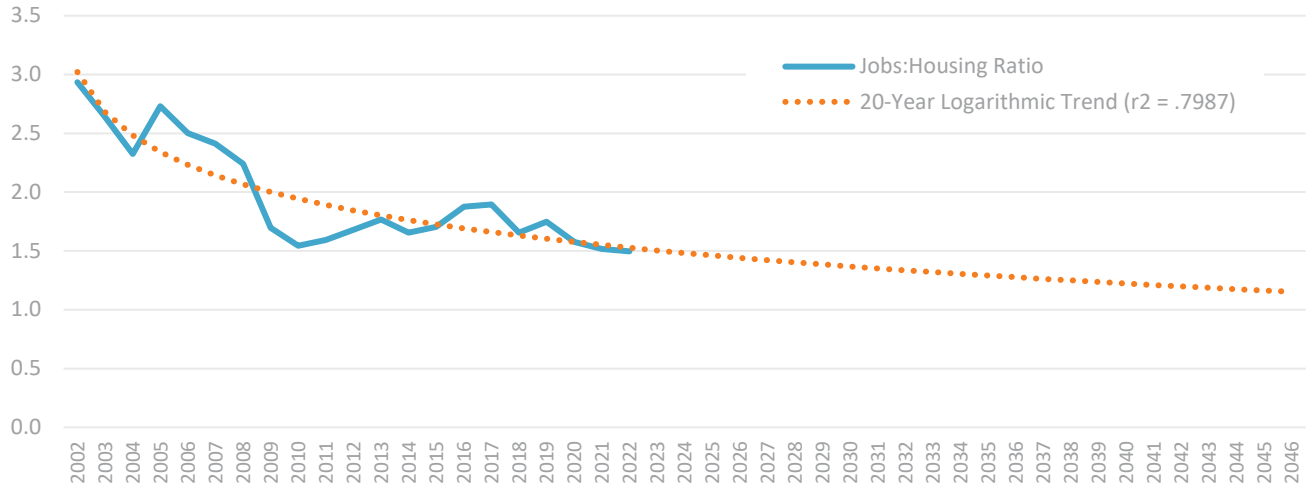
Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Leland Consulting Group

As shown previously in Figure 15, the sector-based forecast results in a slightly higher total number of jobs by 2046 compared with the linear trend. This is due to the fact that it uses a compound growth rate, rather than a linear rate, and also reflects the influence of higher growth rates in manufacturing, finance, and professional services – which make up a large proportion of Liberty Lake's job base – in the overall total.

Jobs-to-Housing Ratio Forecasts

Another common way of forecasting future jobs in a community, used frequently at the countywide level throughout Washington State, is to benchmark job growth to population and housing growth. During the 2022-2046 planning period of this Comprehensive Plan, Liberty Lake must plan for an additional 4,951 housing units, for a total of 10,231 housing units by 2046. Figure 16 below shows Liberty Lake's historic jobs-to-housing ratio since 2002 and a logarithmic trend line extending out to 2046. The city had a jobs-to-housing ratio of almost 3.0 in 2002, which has decreased to 1.5 as of 2022. This reflects the fact that when the city was incorporated in 2001, there was an existing base of manufacturing employment and less housing stock, and since then, housing production has been rapid compared with employment growth. The dotted line shows a continuation of the trend, with the jobs-to-housing ratio continuing to fall, but at a decreasing rate, reaching 1.2 by 2046. This trend assumes that the rate of housing production will still slightly outpace the rate of employment growth over the planning horizon, but much less rapidly than in the past two decades.

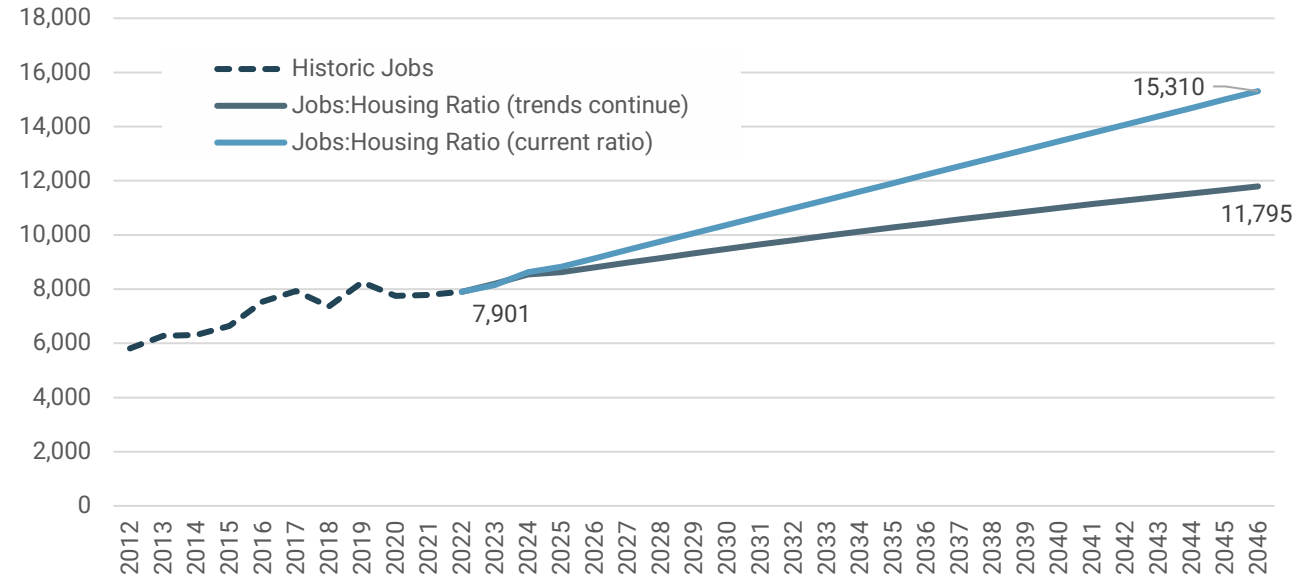
Figure 16: Liberty Lake Historic Jobs to Housing Ratio and Trendline, 2002-2046



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Washington Office of Financial Management

Two forecasts were developed based on the jobs-to-housing ratio and the city's housing target of 10,231 units by 2046. The higher forecast below projects jobs based on the current jobs to housing ratio of 1.5 continuing throughout the planning period. The second, lower, forecast shows a jobs projection based on the jobs-to-housing ratio continuing to decrease as shown in the trend line above.

Figure 17: Liberty Lake Jobs Projections Based on Jobs-To-Housing Ratio, 2022-2046

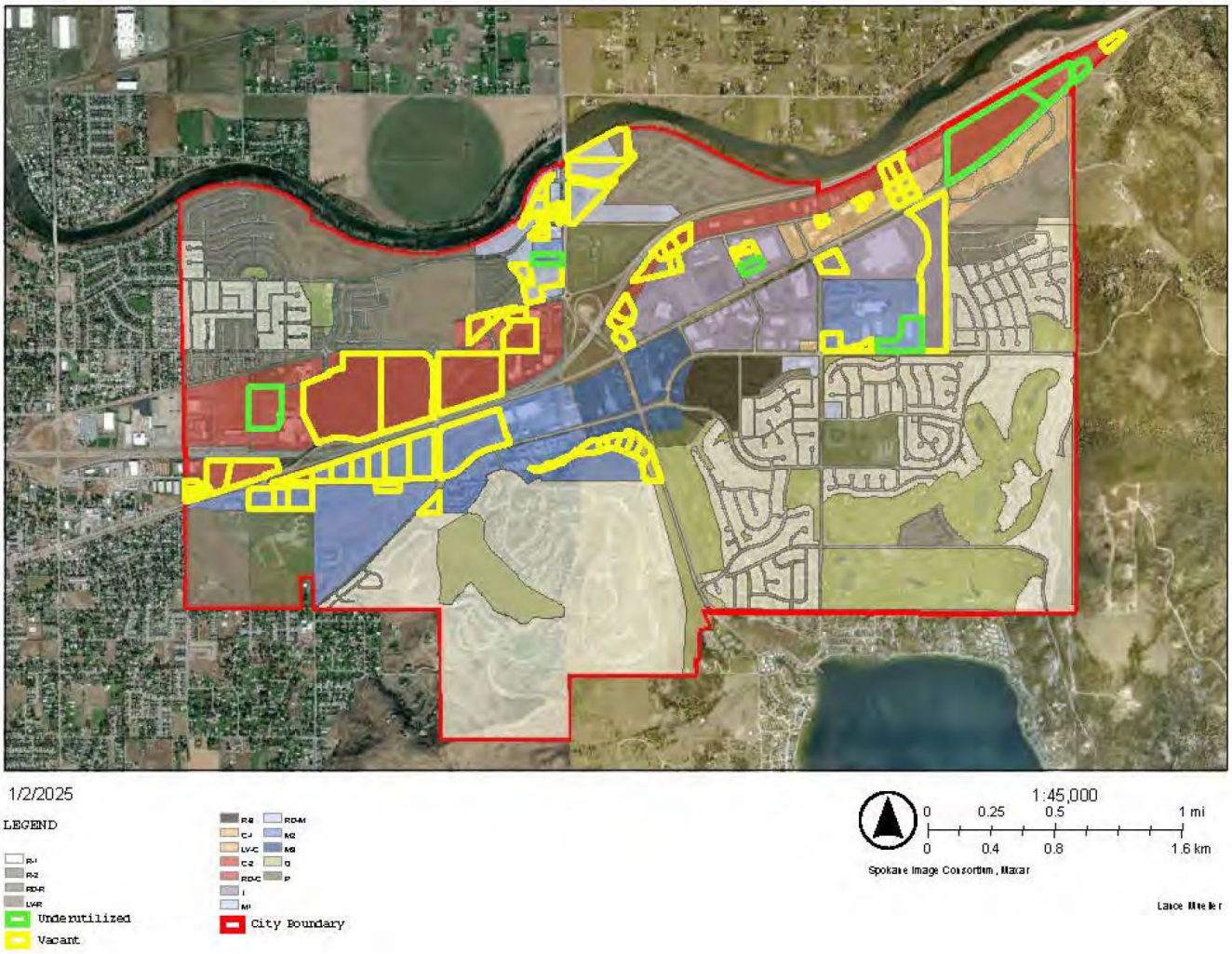


Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Washington Office of Financial Management

Employment Land Capacity

As part of the 2026 Comprehensive Plan update, Liberty Lake conducted a Land Capacity Analysis which showed sufficient land capacity to meet the city's housing targets. This analysis also contained an accounting of the available acreage for commercial and industrial development over the planning horizon, a total of 425.06 acres across seven zones. The map below shows the location of vacant and underutilized commercial and industrial land in the city.

Figure 18: Vacant & Underutilized Commercial & Industrial Properties in Liberty Lake, 2025



Source: City of Liberty Lake Land Capacity Analysis

In order to determine job capacity on this acreage, a range of potential development densities was developed. Allowed floor area ratio (FAR) in Liberty Lake's commercial and industrial zones ranges from 3.5 to 4.2, with allowed heights up to five or seven stories. However, in reality, no commercial development even approaching this density has been built in the city. Analyzing achieved densities of commercial structures shows a range of FAR

between 0.12 and 0.24, depending on zone. In order to develop an estimate of potential jobs on vacant and redevelopable land that was higher than the achieved density, but below the full allowed, FAR assumptions were also developed based on a hypothetical one-story building that fills the maximum area allowed in the zoning code. This resulted in an FAR of between 0.6 and 0.7, depending on zone.

These potential densities were then multiplied by an assumption of square feet per job based on the types of commercial uses allowed in each zone (e.g. retail, industrial, office) and standard job densities drawn from the U.S. Energy Information Administration 's Commercial Buildings Energy Consumption Survey. Overall, on the 425.26 acres of vacant and redevelopable commercial and industrial land in Liberty Lake, there is the capacity for at least 3,368 new jobs (using achieved densities) and potentially up to 13,806 new jobs (assuming maximum lot coverage). Note that if multistory commercial development occurred, the potential capacity could be even higher, though this is unlikely due to market trends.

Table 2: Land Capacity for Jobs in Liberty Lake, 2020-2046

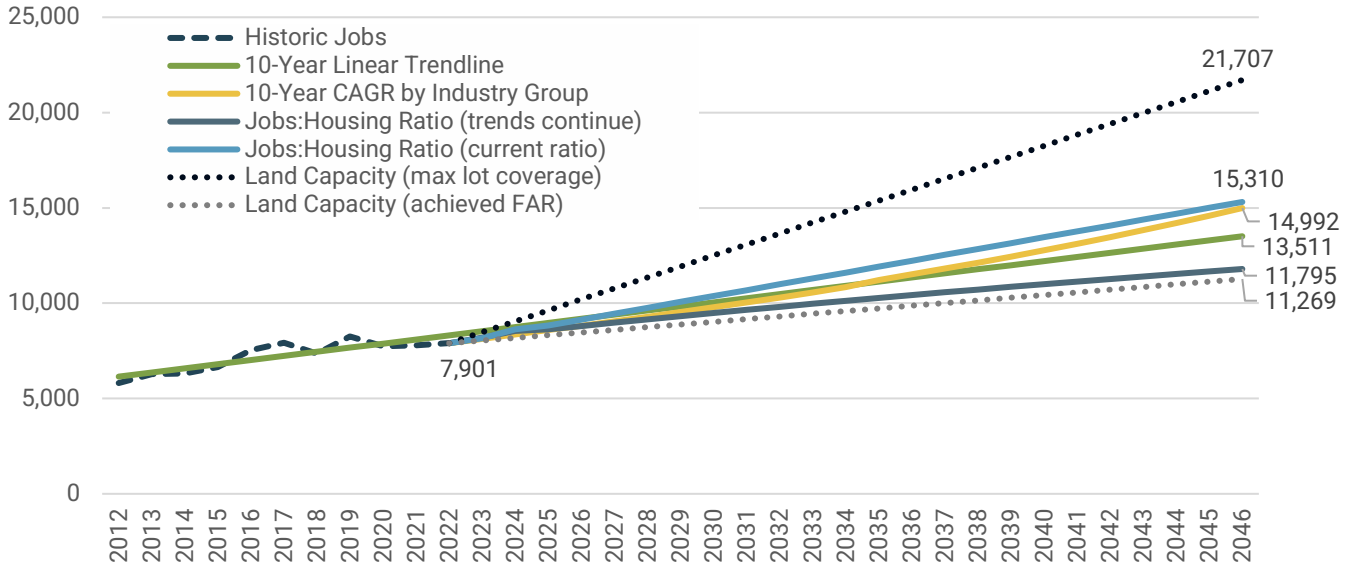
Zone	Available Acres	Allowed FAR (5-7 Stories)	Medium FAR (1 story, max lot coverage)	Achieved FAR	Sq Ft / Job	Jobs/Acre (Medium FAR)	Net New Jobs (Medium FAR)	Jobs/Acre (Achieved FAR)	Net New Jobs (Achieved FAR)
C-1	**7.96**	4.2	0.60	0.20	1,050	24.9	**198**	8.3	**66**
C-2	**116.42**	4.2	0.60	0.12	1,200	21.8	**2,536**	4.4	**507**
I	**43.5**	4.2	0.60	0.24	1,200	21.8	**947**	8.7	**379**
I/C-2	**21.94**	4.2	0.60	0.18	1,200	21.8	**478**	6.5	**143**
M-2	**115.11**	3.5	0.70	0.16	600	50.8	**5,850**	11.6	**1,337**
RD-C	**79.83**	4.2	0.60	0.12	1,200	21.8	**1,739**	4.4	**348**
RD-M	**40.5**	3.5	0.70	0.20	600	50.8	**2,058**	14.5	**588**
Total	**425.26**						**13,806**		**3,368**

Source: City of Liberty Lake Land Capacity Analysis, City of Liberty Lake Zoning Code, U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS), Leland Consulting Group

Totals and Key Takeaways

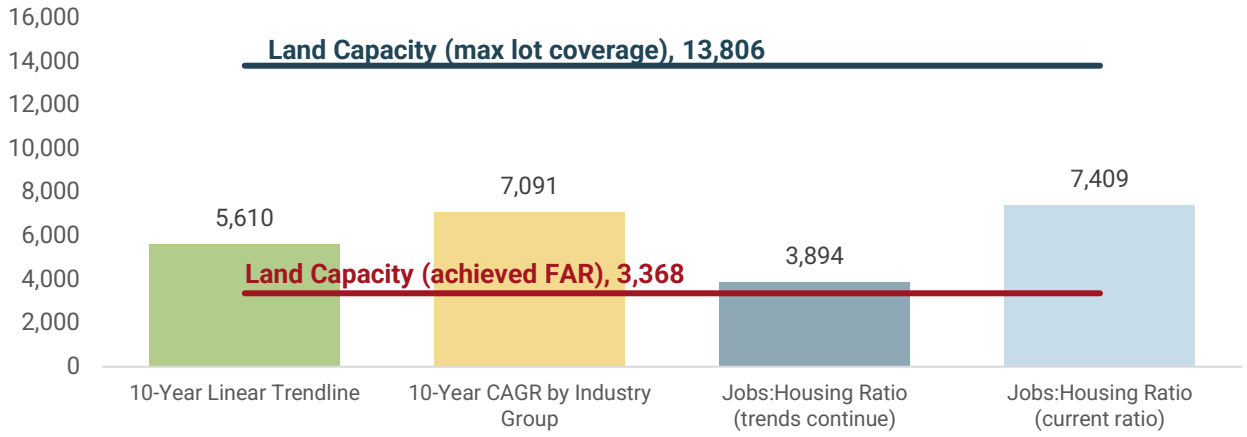
The chart in Figure 19 shows the grand totals all of the jobs projections together in a linear chart, and Figure 20 shows the net new jobs for each of the four projections with net new land capacity. Key takeaways are below.

Figure 19. Combined Liberty Lake Employment Forecasts, 2022-2046



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Washington Office of Financial Management, City of Liberty Lake Land Capacity Analysis, City of Liberty Lake Zoning Code, U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS), Leland Consulting Group

Figure 20. Net New Liberty Lake Employment Forecasts, 2022-2046



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD), via Census OnTheMap, Washington Office of Superintendent of Public Instruction SAFS Data Files, Washington State Fiscal Information: K-12 Public Schools: District Staffing & Finance Data, Washington Office of Financial Management, City of Liberty Lake Land Capacity Analysis, City of Liberty Lake Zoning Code, U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS), Leland Consulting Group

- Liberty Lake is likely to see between **3,894 and 7,409** net new jobs in the next twenty years, for a total of between **11,795 and 15,310 jobs by 2046**. Currently, there are **7,901** jobs in the city.
- A continued **decrease in the jobs-to-housing ratio**, reflecting a continuation of past trends where housing development outpaces employment growth, results in a **lower** employment growth forecast.
- The continuation of a **linear trendline** of employment growth in Liberty Lake, reflecting the status quo over the past decade, results in a **mid-range** employment forecast for 2046.
- Two forecasts converge at the **higher** range of employment projections – the sector-based growth rate forecast, which projects **more rapid growth in the city's main sectors** of manufacturing, finance, real estate, and professional services, and the **continuation of the current jobs-to-housing ratio**, which would result from increased commercial development compared with housing, potentially as the city's available land for housing is built out.
- The city has **sufficient** commercial and industrial land under current zoning to reach all of these projected employment levels, but **only with some degree of intensification of commercial development densities**. If all the available land is built out with densities similar to what exists today, there would not be enough available land for the employment demand suggested by the medium- and high-range forecasts. On the other hand, if developers begin to use more of the allowed space on commercial and industrial parcels, or build multi-story buildings, there would be more than enough land to accommodate any of these scenarios.
- Given Liberty Lake's small size, the employment landscape could be upended by the **arrival or departure of a major employer or two**, or through other actions outside the control of the city, such as changes in school location, as seen in the education data discrepancies.
- These forecasts can provide a range of scenarios for the city to plan for in terms of **infrastructure** and **housing needs**, as well as expected **revenue** and level of **commercial development** over the next 20 years.