Transportation Master Plan

City of Olympia

Olympia

February 2021

Prepared by:

City of Olympia Public Works Transportation with support from Fehr and Peers

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Chapter 1: Introduction

Initially incorporated as a town in 1859, Olympia's physical development is similar to that of many western cities founded in the 19th century. Our geographic center is a historic downtown of tightly gridded streets, surrounded by older neighborhoods, also on a dense street grid.

Beyond this older core, Olympia expands into areas characterized by typical post-war development: big, busy streets that are spaced far apart, with fewer local access streets. Residential subdivisions were built disconnected from one another, with many streets ending in cul-de-sacs. Areas developed in the 1990s and later returned to the type of development that characterizes the core: smaller blocks, sidewalks with street trees, and a tighter street grid.

Olympia's westside connects to the rest of the city via two critical bridges where the Deschutes River flows into Budd Inlet. Many streams, wetlands, and lakes make our city beautiful, and they define the street system we have built around them.

Thurston County has a strong transit system that serves many worksites, and it connects Olympia to neighboring cities and colleges. In addition to being home to state government, Olympia is also a regional employment and medical hub. Due in part to our history, Olympia has a distinct identity and sense of place, which contributes to community support for local businesses, arts, and schools.

Olympia's current population of about 54,150 is growing, with an estimated 18,000 more people expected to live in the City and Urban Growth Area by 2040. The decisions we make about our streets, which will affect people's ability to safely and comfortably move around our city, are critical to the future of Olympia.

The *Olympia Comprehensive Plan* provides the overarching guidance for the development of our city for the next 20 years, with goals and policies relating to parks, utilities, land use, public safety, and transportation, to name a few. This Transportation Master Plan (TMP) advances the vision of the Olympia Comprehensive Plan: to build a street system that supports walking, biking, and riding the bus, as well as driving.

In addition to the guidance of our comprehensive plan, Olympia works with regional partners in implementing the *Regional Transportation Plan* (RTP). A key directive from the RTP is a reduction in vehicle miles travelled and greenhouse gas emissions. This master plan will help us reach those targets.

Because our transportation system for vehicles is more complete than the system that supports walking, biking, and transit, the focus of this TMP is to build new infrastructure to support these modes, while maintaining the motor vehicle network. The ultimate goal is to increase the number of trips by walking, biking, and transit.

Olympia Comprehensive Plan
Transportation Chapter

What Olympia Values

Olympians want a transportation system that can move people and goods through the community safely while conserving energy and with minimal environmental impacts. We want it to connect to our homes, businesses, and gathering spaces and promote healthy neighborhoods.

Our Vision for the Future: complete streets that move people, not just cars

Olympia's future transportation system will focus on moving people, not just cars. Our ability to create vibrant urban areas, reduce our environmental impact, and conserve our financial and energy resources will depend on an increase in walking, biking, and transit.

Our future streets will work for all modes of transportation - thanks to our investment in sidewalks, bike lanes, trees, and safe crossings. We will build streets that are human scale, for people, as well as cars. A more connected grid of smaller streets will shorten trips for people walking, biking, and driving, and allow trucks, buses, and emergency vehicles to have direct and efficient routes.

As Olympia grows, we are learning to use a range of tools that will help us to both respond to growth and provide people with more choices. It won't eliminate congestion, but with the help of involved citizens, our future system will provide safe and inviting ways for us to walk, bike, and use public transit.

Role of this plan

This is the first Transportation Master Plan for the City of Olympia. This TMP will help people see the larger scope of what we plan for our streets and how our investments in the transportation system are connected to the vision in the Comprehensive Plan.

Before this TMP, the City used several smaller plans and programs to identify projects. Programs for different types of improvements were developed independent of one another. Some of those programs were designed to be responsive to requests made by the public, which had the unintended result of directing transportation investments unevenly – and sometimes unfairly – across the City. Other programs emphasized widening roads in response to congestion, which conflicts with many comprehensive plan goals.

Here are the ways this plan guides the future development of our street system:

Links investments to the comprehensive plan vision

To meet the vision of the comprehensive plan, we need to rebalance the street system that has historically prioritized motor vehicles. To increase trips by walking, biking, and transit, we need to increase our investments in improvements for those modes. That starts with defining the needs more clearly.

Defines our street system needs

This TMP identifies long-term prioritized projects for a range of improvements. You will see these in Chapter 4. For every type of project – sidewalks, bike lanes, or roundabouts, for example – we have defined a system target that describes what we need to build in order to have a more complete transportation system. This is the first time we took such a broad and complete look at the needs we have on our street system.

Invests fairly throughout the city

We prioritized the project lists using criteria such as proximity to destinations and how busy and fast the street is. For example, we prioritized building sidewalks near bus stops on busy streets over building them on quiet residential streets with no bus stops. Prioritization methodologies are important, because they are a clear and fair way to address needs throughout our city. Because the scope of the improvements we identified is large, we need to be as fair as possible in how we make investments.

Evaluates revenue needs

By describing the street improvements we want in the future, we can better articulate our long-term funding needs. This is the first comprehensive look at our current transportation revenue sources. We were able to compare our current revenue levels to the needs we defined. We share our analysis in Chapter 5, along with some potential new revenue sources.

Looks to the future

While the project lists in Chapter 4 are the core of this TMP, we also considered some of the changes on the horizon that will affect transportation. Those can be found in Chapter 7, which outlines some of the issues the city is likely to face in the future. Chapter 7 can help guide our policy work in the coming years.

The future of our street system is more than the new asphalt and concrete infrastructure we build. Everyday people's experiences on our streets are affected by maintenance and operations practices. Chapter 8 reviews those practices, issues we face, and considerations for the future.

This TMP will be updated every six to eight years. The update process will be the opportunity to add new projects, adjust priorities, and respond to emerging policy and funding issues.

Developing this plan

As mentioned, the project lists are the core of this plan. We used Geographic Information Systems (GIS) extensively to inventory and evaluate our street system. We also used GIS to do many analysis steps, such as applying the criteria to develop prioritized project lists.

As we developed this plan, City staff worked with a steering committee that included City land use planners, staff from the Thurston Regional Planning Council, Intercity Transit, and the consulting firm Fehr and Peers. The Bicycle and Pedestrian Advisory Committee, a community advisory committee to the City Council, played an important role in developing the bicycle and pedestrian elements of this plan.

City Council Committees, the Olympia Planning Commission, the Coalition of Neighborhood Associations, and the Transportation Policy Board of the Thurston Regional Planning Council were all briefed on the development of this plan throughout the process.

We asked the public to help us shape the plan through two online story maps, which were an alternative to in-person open houses. We hoped we would get more people involved if we used an online tool, and the results were successful. The information gathered through surveys in the story maps influenced many aspects of the development of this plan, from criteria to policy issues. You can read more about public engagement in the following section.

Public Engagement

We developed two online story maps to share information with the public and seek input on the development of this TMP. Story maps are a GIS-based tool for presenting maps and other graphic information, along with text. The user scrolls at their own pace through the material, reading and exploring maps as they go. In both story maps, we included surveys to ask viewers for their feedback.

The first story map in the fall of 2018 asked people about the kinds of projects that should be included in the plan, and how to prioritize them. We used that feedback to guide the development of ranking criteria, which we then used to prioritize projects. Once we had made prioritized project lists, we shared them with the public in the second story map in the fall of 2019. In that story map, we asked people if they supported the project rankings and what their priorities would be for future funding.

Online engagement was very effective for the development of this plan. The first story map was viewed over 1,700 times, and the second story map was viewed about 2,400 times. The surveys in each story map were available for just over a month. For both surveys, over 300 people responded to at least one of the questions, and many people offered narrative responses. We reference the surveys throughout this document.

The 2018 story map was viewed over 1,700 times.

The 2019 story map was viewed 2,400 times.

Over 300 people responded to surveys in each story map.

Next Steps

Capital Facilities Plan (CFP) updates

The TMP will be implemented through the CFP. Projects from this TMP will be added to the CFP each year when the CFP is updated. Once in the CFP, funding for a project is identified and a target construction year defined. Each year the public can review and comment on the CFP before it is adopted by the City Council. Chapter 10 proposes metrics to gauge our progress in building the projects in this TMP.

Concurrency and impact fee programs

These programs are tools authorized by the state's Growth Management Act to help build the transportation system to support new growth. Our concurrency program demonstrates that we are building new capacity on our street system to serve the growth that is coming to our community. Impact fees are a tool we can use to fund infrastructure improvements to serve the new trips on our streets.

The community and City Council have been interested in updating these two programs to include walking, biking, and transit projects, rather than focusing solely on vehicle trips. This TMP sets the stage for updating these programs and making them more multimodal. You can learn more in Chapter 6 of this plan.

Funding decisions

In the coming years, we will need to make some tough funding decisions about transportation, which will be framed by larger funding needs within the City. As City staff draft this TMP, we are in the midst of a pandemic that is taking a toll on the local, state, and national economy. Like most of the west coast, Olympia faces rising housing costs and an increasing population of people experiencing homelessness.

Through the public engagement done as part of this TMP, people indicated that they would like to see more funding for infrastructure that will help people walk and bike. These are some of the complex factors that will likely influence the coming discussion about funding.

Comprehensive plan update

Information we have learned from developing this TMP will inform the comprehensive plan update, expected in 2025. That update will be an opportunity to further link our land use and transportation policies.

The way we develop land affects our travel patterns. Ensuring that new development mixes residential and commercial uses is one way we can make it easier for people to get their needs met without having to travel very far. When trips are short, they are easier to make by walking and biking.

Land use decisions should build from the investments we have already made in the transit system. Olympia's Urban Corridors, as defined in the comprehensive plan, generally coincide with where we have frequent transit service. Directing more housing, commercial activity, services, and employment along our Urban Corridors and in downtown allows more people to take advantage of the existing bus service. As densities increase, we will need to retrofit our streets to serve more people, particularly those who are walking, biking, and riding the bus. Lastly, the street grid needs to be connected as land is developed or redeveloped. A connected street grid allows for shorter trips and makes it easier to walk, bike, and access bus stops.

Issues we see in the future

Among the many issues we face in the future are the need for greater social equity, the need to address climate change, and the impact of new technology on our transportation system. Improving our streets to make it easy to walk, bike, and ride the bus is an important step towards a more fair transportation system. Cars are expensive for people to own and maintain. Many people in our community have no choice but to walk, bike, and take the bus to their destinations. Making it easier to get around without a car is a significant step towards achieving greater equity in our community. As new technology changes the way we use our streets, we will keep the safety and mobility of all people in focus. Making streets human scale and safe for people walking and biking will remain our priority.

In a region where transportation is a major contributor to greenhouse gases, reducing our dependence on fossil fuels is essential to lessening our impact on the climate. We can do that by replacing gas-powered vehicle trips with trips made by walking, biking, transit, or electric vehicles.

Equity in Transportation

This plan will help make our transportation system more fair by:

- Building infrastructure that makes it easier to walk, bike, or ride the bus.
- Prioritizing projects near the essential places people need to go.
- Making it easier to live in Olympia without owning a car.

Learn more about equity and transportation in Chapter 7.

Chapter 2: Who we are and how we get around

Cities are places in motion. At any time of day or night, people are moving around Olympia. The sum total of our movements is the result of thousands of decisions people make each day. Those decisions are influenced, in turn, by thousands of other considerations: do I have access to a car? Is it raining? How far away is the bus stop? How often does the bus come? Is there a place to safely park my bike? Do I need to give someone a ride? Can I afford to pay for parking? These are just a few questions that influence how, where, and why we go places.

In general, when planning the transportation system, planners tend to focus on the number of cars using the system, because:

- Cars take up a lot of space relative to the number of people they transport
- They are the most common way people get around
- Unchecked growth in car traffic leads to poorer quality of life, due to traffic congestion, increased air and water pollution, and people getting less daily activity
- We have regional goals to reduce vehicle miles traveled and greenhouse gas emissions

Because previous generations invested so heavily in a transportation system to move cars, our focus for the next 20 years is to invest in a system that makes it easier for people to walk, bike, and take the bus. We will maintain the existing transportation system we inherited from previous generations – and which powers our local economy – while we build a new, more inclusive transportation system for future generations.

To manage and plan for a transportation system, planners look at broad indicators to get a high-level sense of how the community uses the system and what it will need in the future. In Olympia, a few indicators stand out that help inform how we should plan the transportation system to meet our needs for the next 20 years.

Population and Employment Indicators

Olympia is growing, and we estimate about 18,000 more people will live here by 2040. The 2020 population of Olympia and its Urban Growth Area is estimated at 66,790, and we expect that the population in 2040 will be about 84,400.[1]

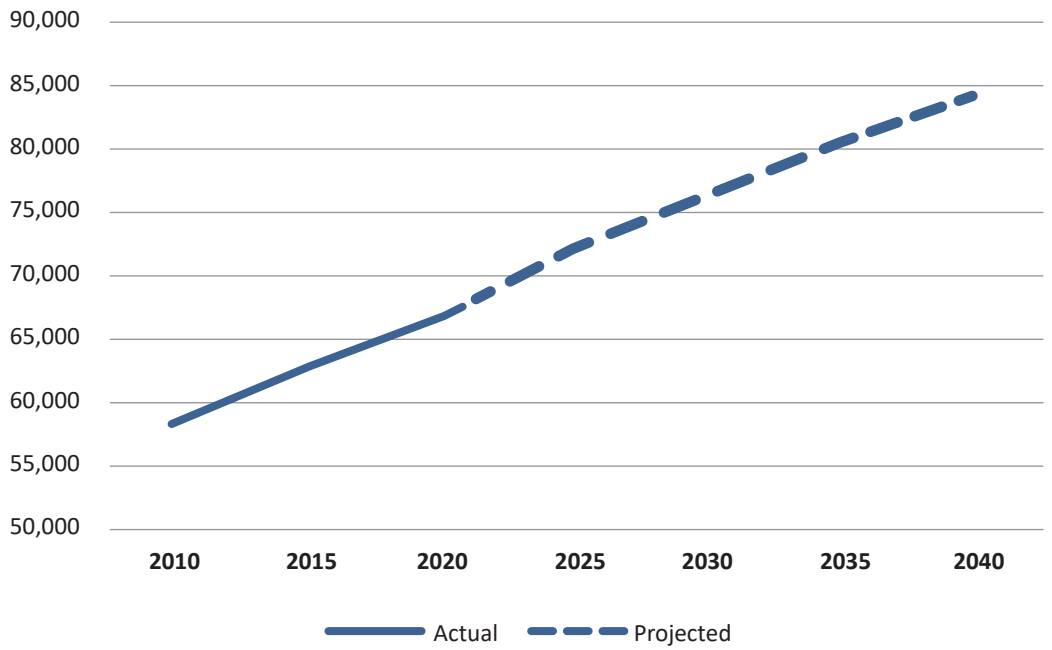
Projections for job growth indicate that downtown, the Capitol Campus, and the medical district on Lilly Road are likely to continue to be the biggest employment centers in Thurston County. More people work in Olympia than live here, so this means the pattern of many people commuting to work in Olympia from elsewhere will continue. Of those who worked here in 2017, 84 percent lived in another community.[2]

Of those who lived in Olympia and were working from 2015 through 2019, about half worked within the city, and the other half traveled outside.[3]

We do not yet know how many of those workers will continue to telework after the threat of COVID-19 passes, but it seems likely that a higher percentage of workers will continue teleworking. It is also possible that teleworkers from the Central Puget Sound region may choose to move here, where the cost of housing is lower. Either way, demand on our streets seems likely to decrease during morning and evening peak commute times, and it may increase during off-peak times.

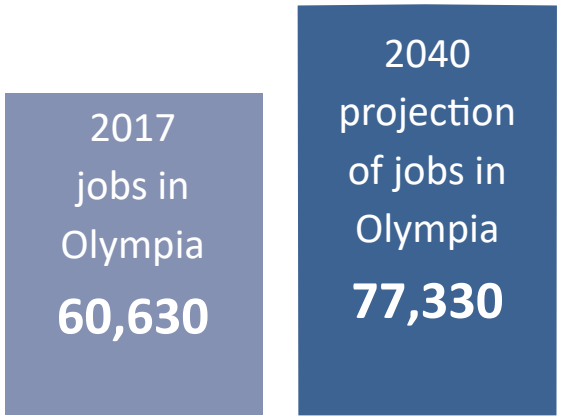
Population Forecast

City of Olympia and Urban Growth Area



Source: Thurston Regional Planning Council. (2020, July). Population, Housing & Employment Data Tables. Retrieved from Thurston Regional Planning Council on July 21, 2020 at https://www.trpc.org/480/Population-Housing-Employment-Data.

Job Projections



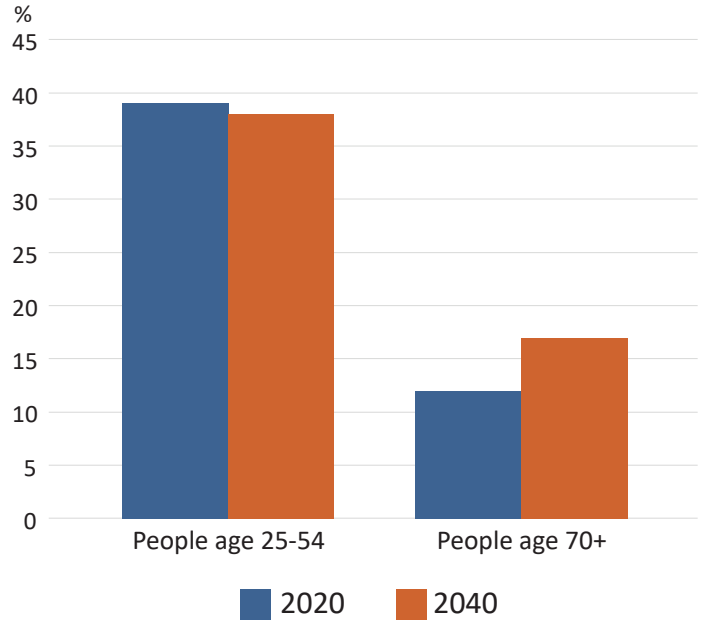
Source: Thurston Regional Planning Council. (2019, September). The Profile: Thurston County Statistics and Information. Retrieved from Thurston Regional Planning Council on July 21, 2020 at https://www.trpc.org/391/The-Profile-Thurston-County-Statistics-D. Additional data processing by City staff.

In addition to more people living and working in Olympia, we expect the population to age as well. As people age, some become less able to drive, walk, or bike, and they may need to rely on transit or paratransit to get around. Most people in Olympia currently live within a half mile of a transit route. This means that those people who can walk about ten minutes can get to a bus stop. If they have a disability that prevents them from getting to a bus stop, they may qualify for paratransit services.

As is the case in communities across the country, paratransit is very costly. On average, one paratransit trip on Intercity Transit costs $51.57, whereas a fixed-route bus trip costs $7.35.[4] As our population ages, it may become more difficult to fund paratransit services even as demand may increase, because the tax base will likely decrease. This is because a greater share of Thurston County's population will be over 70 in 2040, relative to the percentage of people age 25 to 54, which is generally considered peak working age.

Change in Peak Working Age to Retired Population

(Thurston County)



Source: Thurston Regional Planning Council. (2019, September). The Profile: Thurston County Statistics and Information. Retrieved from Thurston Regional Planning Council on July 21, 2020 at https://www.trpc.org/391/The-Profile-Thurston-County-Statistics-D

People in Olympia live in smaller households than elsewhere in Thurston County, and we expect that trend to continue to 2040. This is important, because in the aggregate it means there will be more trips on our system. For example, two people sharing a home often share other resources, like groceries, which means one person may make a trip to the grocery store to buy food for two people. When those two people live separately, both make trips to the grocery store.

Average number of people per household

	2020	2040
Olympia	2.1	1.9
Thurston County	2.5	2.3

Source: Thurston Regional Planning Council. (2019, September). The Profile: Thurston County Statistics and Information. Retrieved from Thurston Regional Planning Council on July 24, 2020 at https://www.trpc.org/391/The-Profile-Thurston-County-Statistics-D

Race and Ethnicity Indicators

Like the rest of the United States, Olympia's racial and ethnic make-up is changing. In the table below, you can see Olympia's current racial and ethnic breakdown and how it compares to neighboring communities and the state.

	Olympia	Lacey	Tumwater	Washington State
White alone, not Hispanic	76.5%	64.8%	81.7%	67.5%
Black or African American alone	2.8%	5.9%	1.7%	4.4%
American Indian and Alaska Native alone	1.1%	1.4%	0.5%	1.9%
Asian alone	7.3%	9.1%	4%	9.6%
Native Hawaiian and Other Pacific Islander alone	0.4%	1.7%	0.6%	0.8%
Two or more races	4.5%	7.8%	6.6%	4.9%
Hispanic	8.4%	11%	6.7%	13%

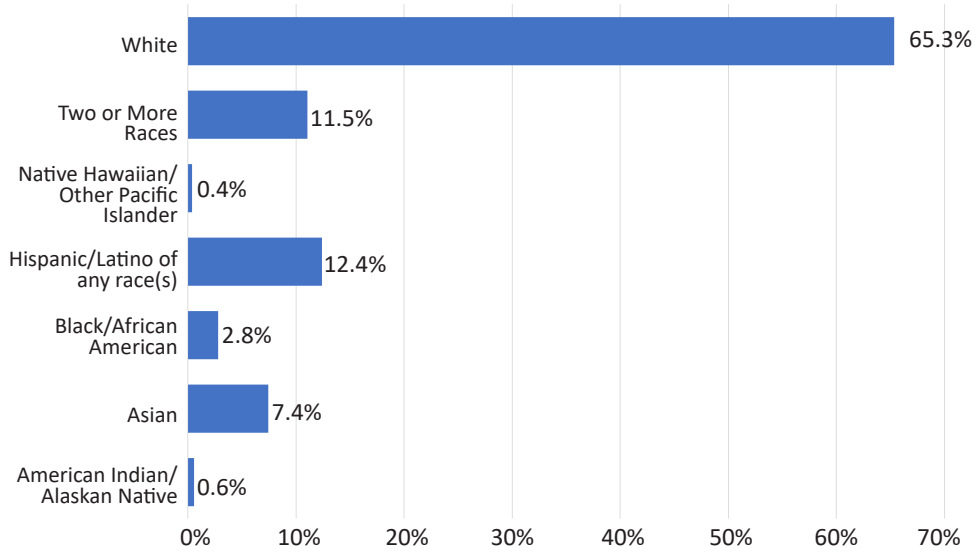
Source: US Census Bureau. (2020). QuickFacts. Retrieved from United States Census Bureau on July 24, 2020 at https://www.census.gov/quickfacts/fact/table/US/PST045219

We do not have projections for racial and ethnic population distributions in Thurston County. However, we can get a sense of what our future demographic breakdown may be by looking at the current school age population.

For the 2019-2020 school year, about 65 percent of children in the Olympia School District identified as white. We cannot compare this directly to the percentage of people who identify as "white alone, not Hispanic" in the above table, because some of the children who identify as white may also identify as Hispanic. Regardless, Olympia school children are more racially and ethnically diverse than the overall population.

Olympia School District 2019-2020 Enrollment

Race and Ethnicity



Source: Washington Office of Superintendent of Public Instruction. (2020). Data Portal. Retrieved from Washington Office of Superintendent of Public Instruction on July 24, 2020 at https://www.k12.wa.us/data-reporting/data-portal

This mirrors trends seen at the state and national level, too. As children get older, our city is likely to become more racially and ethnically diverse. The implications of this demographic shift for transportation in our region are not well researched or known.

Income, Poverty, and Car Ownership Indicators

In Olympia the median household income is about $58,606, which is lower than the state average and the neighboring jurisdictions of Lacey and Tumwater. However, the median income may be disguising an income divide. In Olympia, the two largest sectors of our local economy are those who work in the service sector and those who work in government. In 2017, 19 percent of Olympia workers were in the restaurant, accommodations, and retail sector, and 23.7 percent of workers were in professional services or public administration jobs.[5]

While we do not have wage data that directly correlates to the percentages of people working in each sector, we did find that in 2019, the average yearly salary of people working in the restaurant and retail sector in our region was about $35,500, whereas those who worked in the professional services sector earned on average $82,300.[6]

This indicates that many people in our city are likely spending a much higher percentage of their income on car ownership, among other expenses, than others. If we can make it easier for people to get around Olympia without a car, it could remove a source of economic stress for those who struggle to afford one.

Even in today's transportation system, about 10 percent of households in Olympia do not have a car, which is higher than the state average of 6.9 percent, and much higher than Lacey and Tumwater (see the table to the right). Without access to a vehicle, these households depend on transit, walking, friends and family for rides, and some likely bike, too.

Olympia's poverty rate is about 16.7 percent, also higher than the state average and that of neighboring cities. Olympia also has a higher percentage of people under age 65 with disabilities. Some people with disabilities are not able to drive, while others likely find driving the most feasible way to get around.

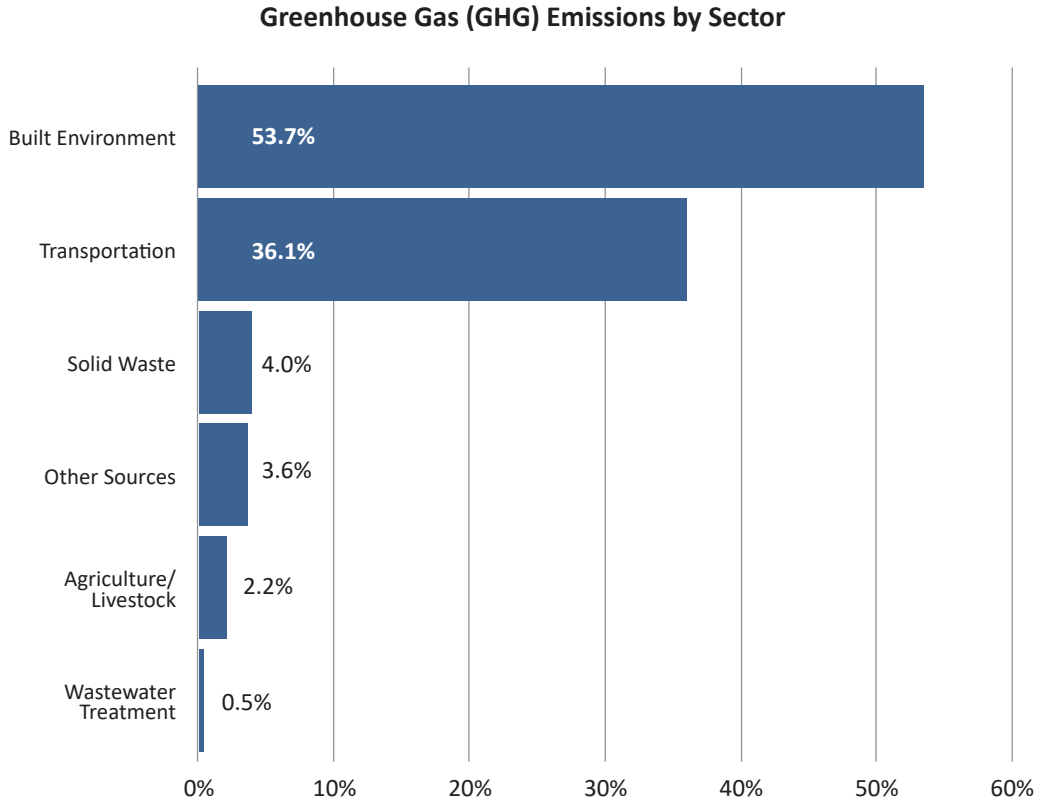
Here is a summary of our findings:

	Olympia	Lacey	Tumwater	State
Median annual income	$58,606	$66,675	$65,167	$70,116
% of households w/no vehicle available	10%	5.9%	5.6%	6.9%
Poverty rate	16.7%	10.0%	9.6%	10.3%
% of people under age 65 w/ disabilities	9.2%	8.3%	7.3%	8.8%

Sources: US Census Bureau. (2020). QuickFacts. Retrieved from United States Census Bureau on July 24, 2020 at https://www.census.gov/quickfacts/fact/table/US/PST045219; US Census Bureau. (2020). 2014-2018 American Community Survey 5-Year Estimates. Retrieved from United States Census Bureau on July 24, 2020 at https://data.census.gov/

Greenhouse Gas Emissions and Vehicle Miles Traveled Indicators

The Thurston region has greenhouse gas (GHG) reduction targets, defined in the Thurston Climate Mitigation Plan. In Thurston County, the transportation sector is second only to the built environment (energy use in homes and commercial buildings) for GHG emissions.



Source: Thurston Regional Planning Council. (2020). Sustainable Thurston Report Card. Retrieved from Thurston Regional Planning Council on July 23, 2020 at https://www.trpc.org/689/Becoming-Carbon-Neutral

The GHG emissions targets for our region are to:

- Achieve 45 percent reduction of 2015 levels by 2030
- Achieve 85 percent reduction of 2015 levels by 2050

As of 2017, the region was trending up instead of down.[7]

In addition to the regional goals, in 2019, the City Council worked with local youth to adopt a Climate Inheritance Resolution. This Resolution sets a goal of achieving net-zero emissions by 2040.

For this plan, we are concentrating on making it easier for people to walk, bike, or ride the bus. Greater numbers of people getting around without a car will result in fewer GHG emissions. We will also need to consider policies that encourage people to switch to electric vehicles, such as supporting more charging stations, and policies that encourage people to avoid making a trip at all, such as teleworking. You can learn more in Chapter 7.

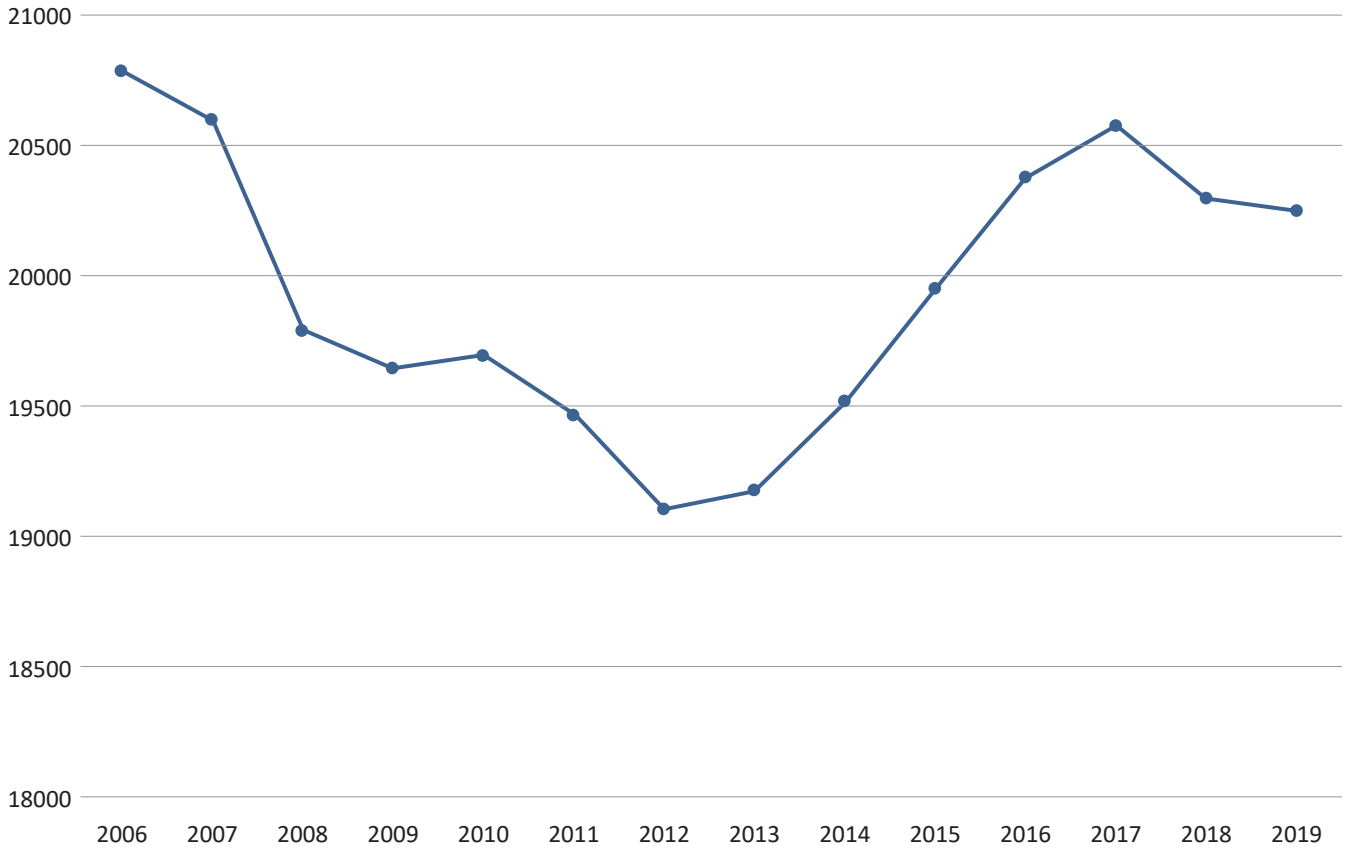
Our region also has targets for reducing per capita vehicle miles traveled, which are outlined in the Thurston Regional Transportation Plan. Those goals are to reach:

- 1990 levels by 2020
- 30 percent below 1990 levels by 2035
- 50 percent below 1990 levels by 2050[8]

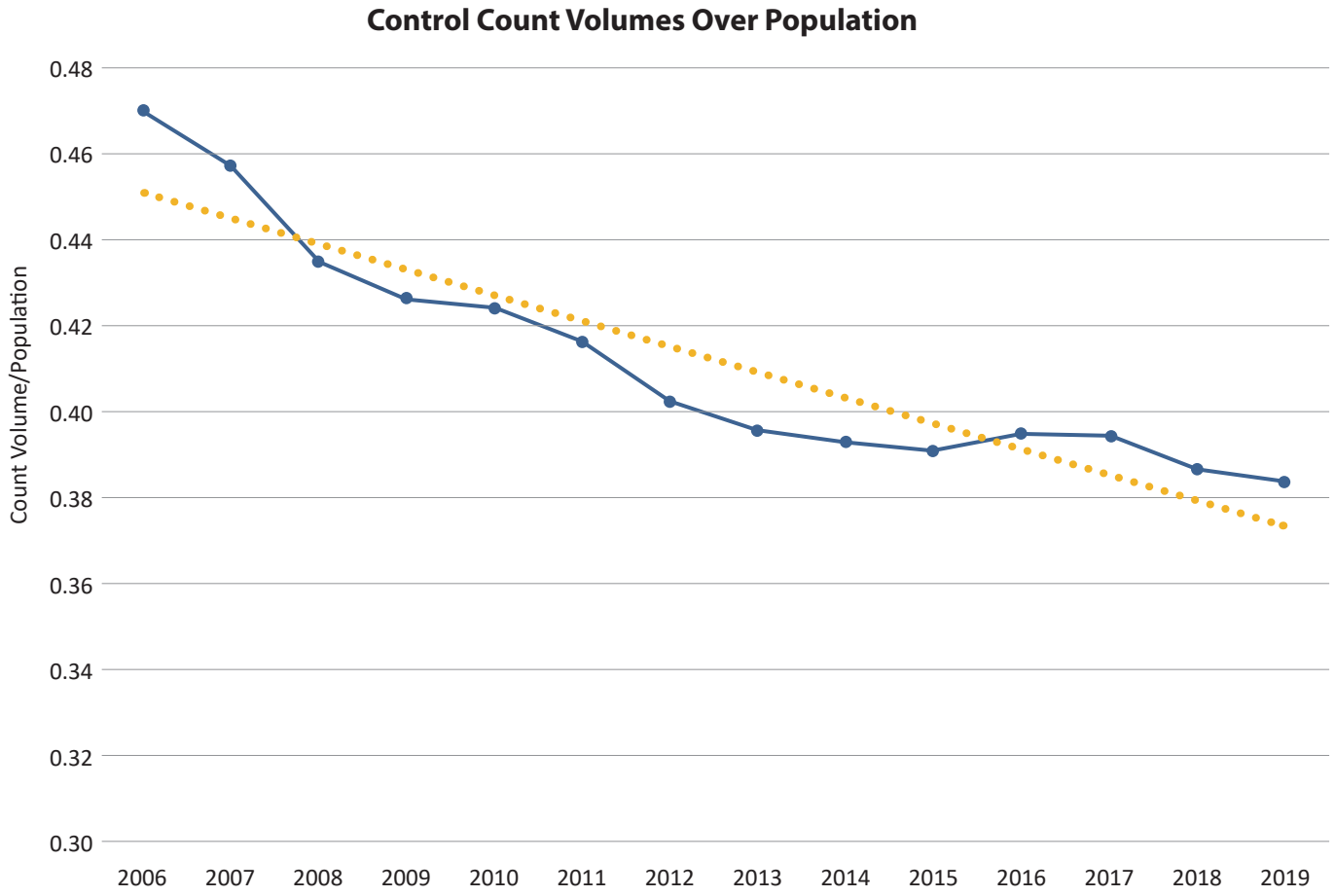
Since 2006, the City has been monitoring vehicle traffic at nine locations each month, which we call "control counts." We count the number of vehicles that pass through those spots for three days, Tuesday through Thursday, and the average of those three days becomes our estimated “average daily traffic” there.

At the end of each year, we average the number of vehicles counted throughout the year to estimate the annual average daily traffic at those locations. Then we average them again across the nine locations, and we use that result to get a pulse on how the system is being used. The below graph of that annual average indicates that vehicle trips initially declined from 2006 to 2012, and they have been increasing since the economy began recovering from the last recession in 2012.

Vehicle Counts: Annual Combined Average at Control Count Locations



Our population has also been growing, and when you relate that to the number of vehicle trips at these nine locations, our volumes relative to population growth are actually decreasing. In the graph below, the ratio itself, shown on the y axis, is less meaningful than the change over time the graph shows.



This indicates that we are moving in the right direction, although we need to do more to reach the regional per capita VMT reduction goals.

Land Use Indicators

Where we live and where we go to work, shop, or access services has a big impact on how we get around. To achieve our reduction targets for both GHG and VMT, we will need to think about how close together all these things are, and this is influenced by land use patterns.

In 2013, the Olympia City Council accepted Creating Places and Preserving Spaces: A Sustainable Plan for the Thurston Region, often called "Sustainable Thurston." By accepting it, the City uses it as a resource for guiding future actions.

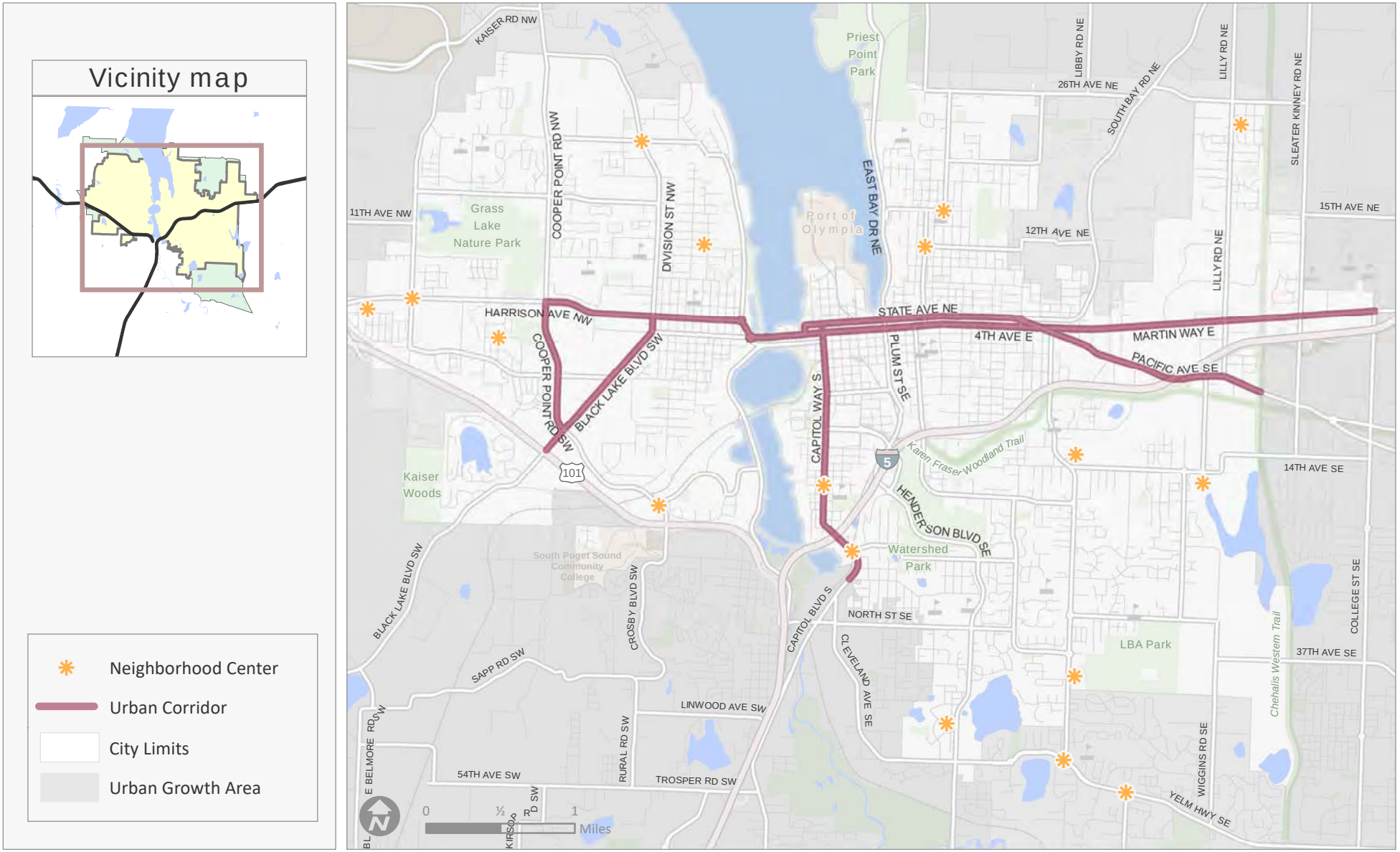
One priority goal from the plan is to create vibrant centers, corridors, and neighborhoods, while accommodating growth. The goal's target is that by 2035, 72 percent of all new and existing households in our cities, towns, and unincorporated urban growth areas will be within a half mile of an urban center, corridor, or neighborhood center. A half mile is about a 10-minute walk. This means that a majority of households can be within a 10-minute walk of shopping and services, and that people can walk and bike to meet some of their daily needs. In Olympia, many of our urban corridors coincide with frequent transit routes, so that means many people would be also close to bus stops.

In 2019, only 46 percent of households in Lacey, Olympia, and Tumwater were within a half mile of these centers, urban corridors, or neighborhood centers. To move toward this Sustainable Thurston target, we will need to change our land use regulations to help bring a greater mix of commercial and residential uses to these areas. More activity in these areas will also create its own momentum. For example, more households can attract more businesses, bringing more services within walking distance of residents.

The projects in this TMP will also allow these centers and corridors to function more efficiently. These improvements will increase the safety and ease of people walking, biking, and getting to bus stops in these areas.

You can see Olympia's Urban Corridors and Neighborhood Centers, as defined by the comprehensive plan, on the following map.

Urban Corridors and Neighborhood Centers



How We Get Around

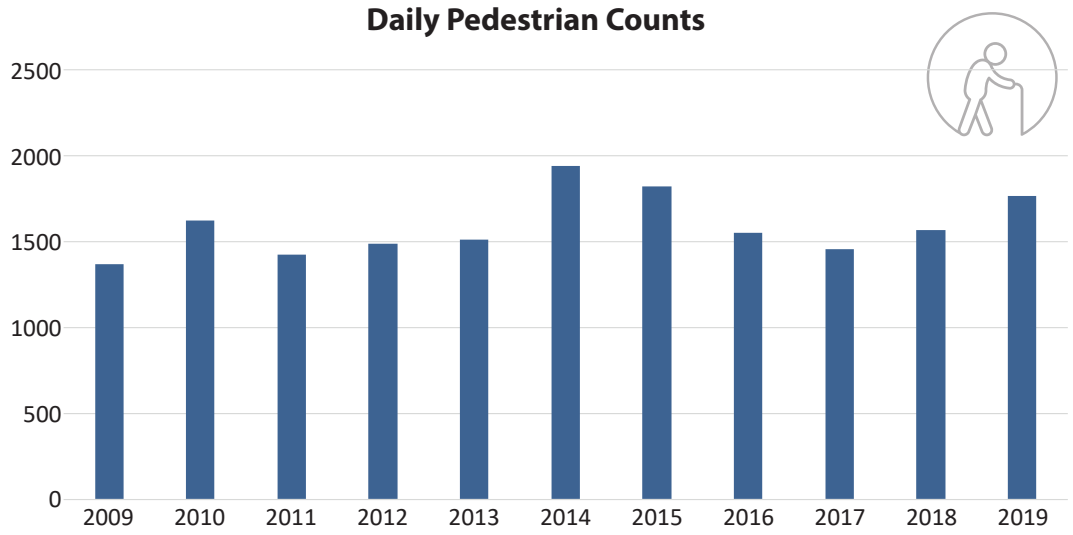
It is difficult to quantify how people get around in Olympia. Certainly, most people drive to most places, and our vehicle count data shown above reflects that. We can get a sense of how people get to work from Census data, below.

Transportation mode	%	Margin of error
Drove alone	71.7	2.6
Carpooled	11.5	2.1
Took the bus	3.8	1.1
Walked	4.3	0.9
Biked	2.7	1.0
Teleworked	4.8	0.9

Source: US Census Bureau. (2020). 2014-2018 American Community Survey 5-Year Estimates. Retrieved from United States Census Bureau on July 23, 2020 at https://data.census.gov/

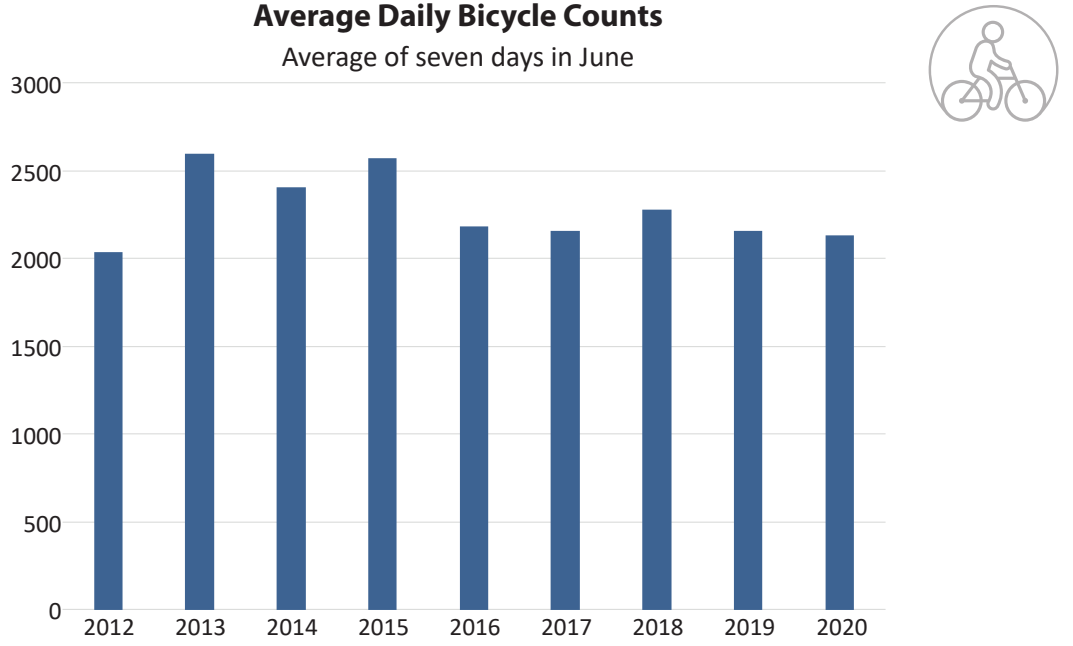
However, commute trips typically only make up about 20 percent of all trips, and some evidence shows that people are more likely to walk, bike, or take the bus for non-work trips.

Since 2009, Olympia has counted people walking for six hours of one sample day in March at 11 sites. We add them up to get a total. Starting in 2019, we transitioned to counting on one day in September, and this is what we will continue to track long term. While these counts indicate that people are out walking in Olympia, the sample size is too small for us to draw any conclusions about trends. This chart shows what we found.

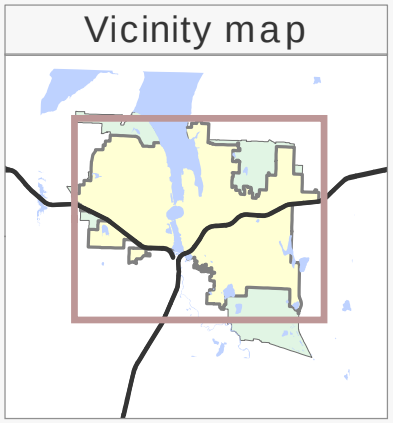


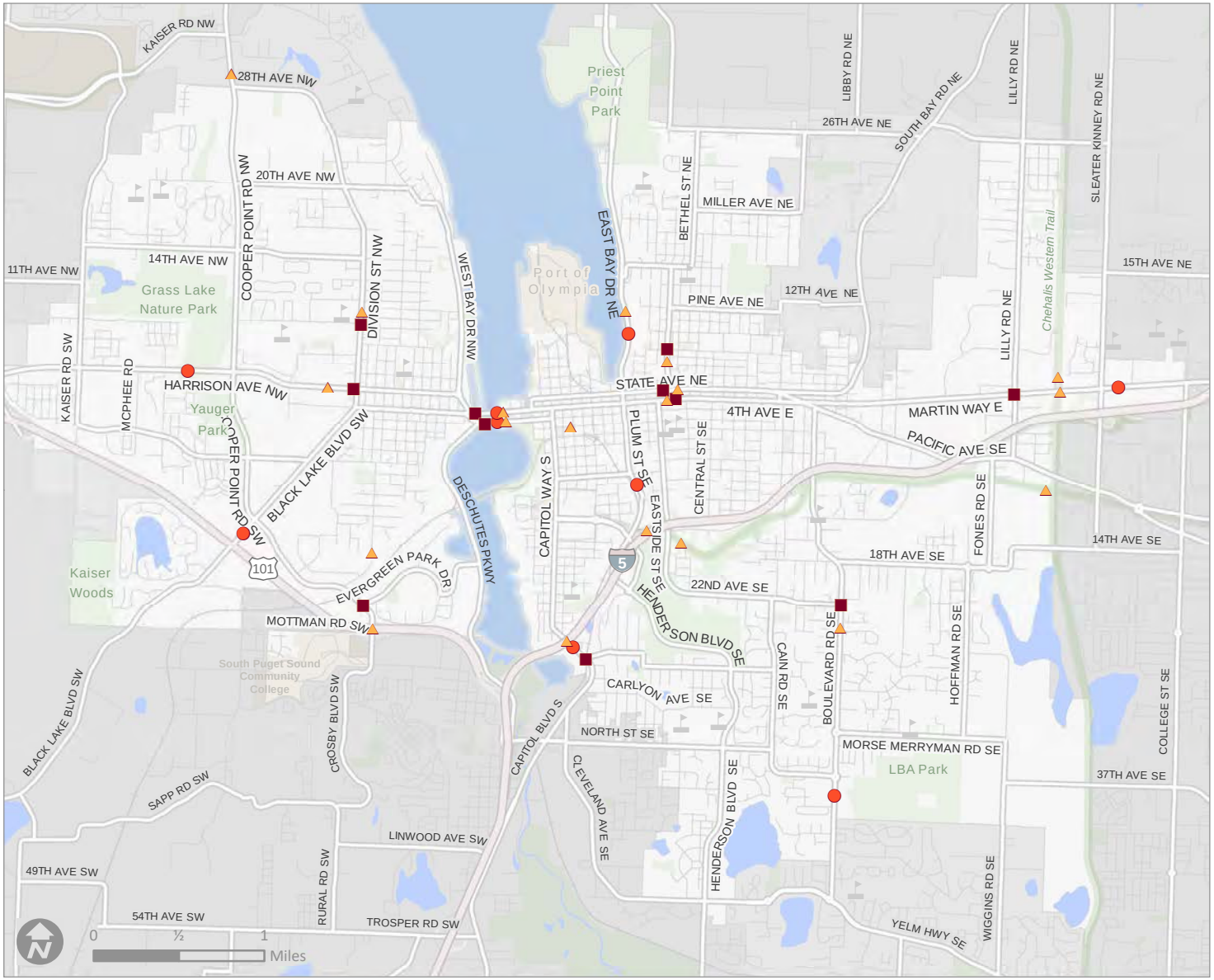
We have also modified traffic counters in order to count bicycles. Because the counters are designed for vehicles and do not detect bicycles traveling under 10 mph, we know these are undercounting, especially where the counters are uphill. They are at 18 sites throughout the city. We take a 24-hour, seven-day average at each location in June and add them up. As with pedestrian counts, the sample size is too small to draw any conclusions about trends.

Please see the map that follows for locations of where we routinely count pedestrians, bicyclists, and motor vehicles.



Traffic Count Locations



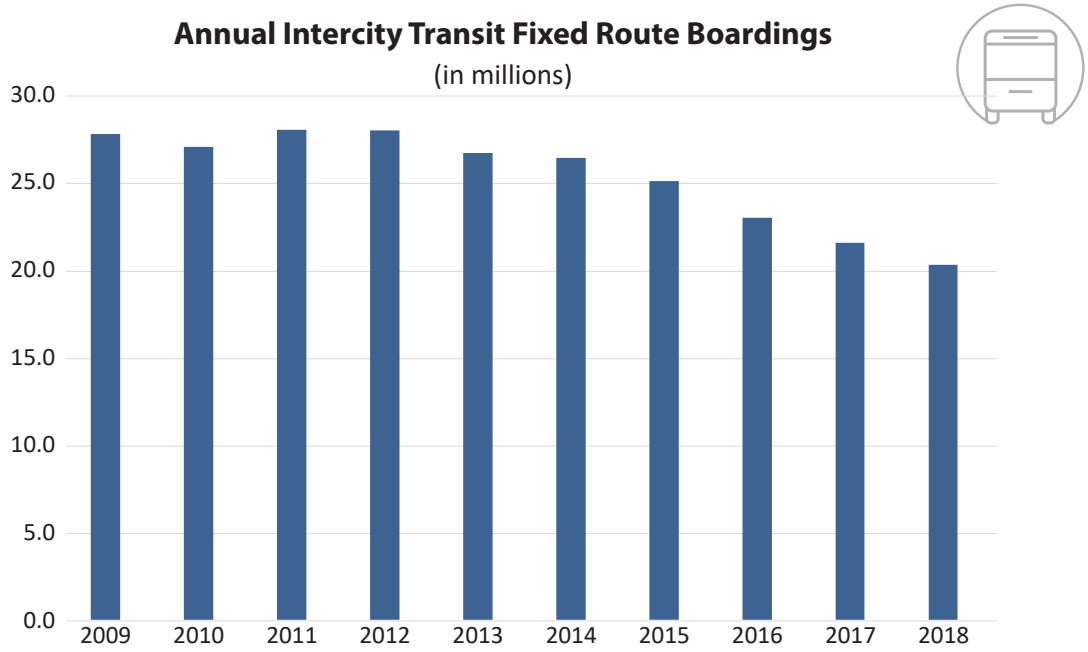


Traffic count locations

- Pedestrian counts
- Bike counts
- Vehicle counts
- City Limits
- Urban Growth Area

For bus ridership, Intercity Transit reports the number of people who get on a bus each year, which are called "boardings." Since 2013, transit boardings have been declining in Thurston County. When Intercity Transit began testing zero fare – meaning no one had to pay to ride the bus – in January 2020, ridership increased 15 percent on weekdays and 49 percent on weekends[9]. Ridership continued to increase until the COVID-19 pandemic changed our travel patterns.

Prior to the pandemic, Intercity Transit had just launched a new route with fewer stops that linked the Capital Mall to the Martin Way Park and Ride in Lacey. To support that route, Olympia reconfigured State Avenue in front of the Olympia Transit Center to create a bus-only lane. We also added the region's first transit-priority traffic signal at the intersection of State Avenue and Washington Street, as well as a boarding platform on 4th Avenue near Washington Street. We will continue to make these types of investments to support Intercity Transit and encourage transit use in our city.



Source: Thurston Regional Planning Council. (2020, July). The Profile: Thurston County Statistics and Information, Transportation, Intercity Transit Ridership. Retrieved from Thurston Regional Planning Council on October 20, 2020 at https://www.trpc.org/418/Intercity-Transit-Ridership

Endnotes

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2 US Census Bureau. (2019, August). OnTheMap. Retrieved from Census Bureau, Longitudinal-Employer Household Dynamics Program: https://onthemap.ces.census.gov/

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6 Washington State Employment Security Department. (2020, August 3). Employment Security Dept. Retrieved from Occupational Employment Statistics: https://esd.wa.gov/labormarketinfo/occupations

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8 Thurston Regional Planning Council. (2020, July). Regional Transportation Plan - What Moves You. Retrieved from Thurston Regional Planning Council: https://www.trpc.org/662/Regional-Transportation-Plan---What-Move

9 Jessica Gould, Grants Program Administrator. (2020, February 4). Email. Intercity Transit.

Chapter 3: Our Street System

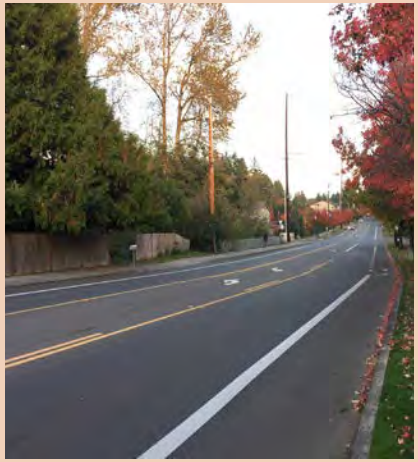
This chapter describes our transportation system as it exists today and explains the new approaches this plan proposes for the future.

We classify our streets in four categories:

Arterials

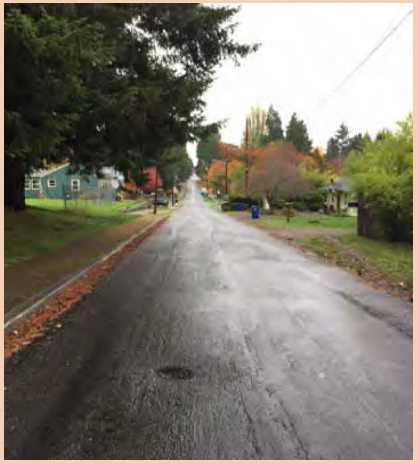
The largest streets in our city.

Major Collectors



These connect arterials to residential and commercial areas.

Neighborhood Collectors



These provide circulation within and between residential and commercial areas.

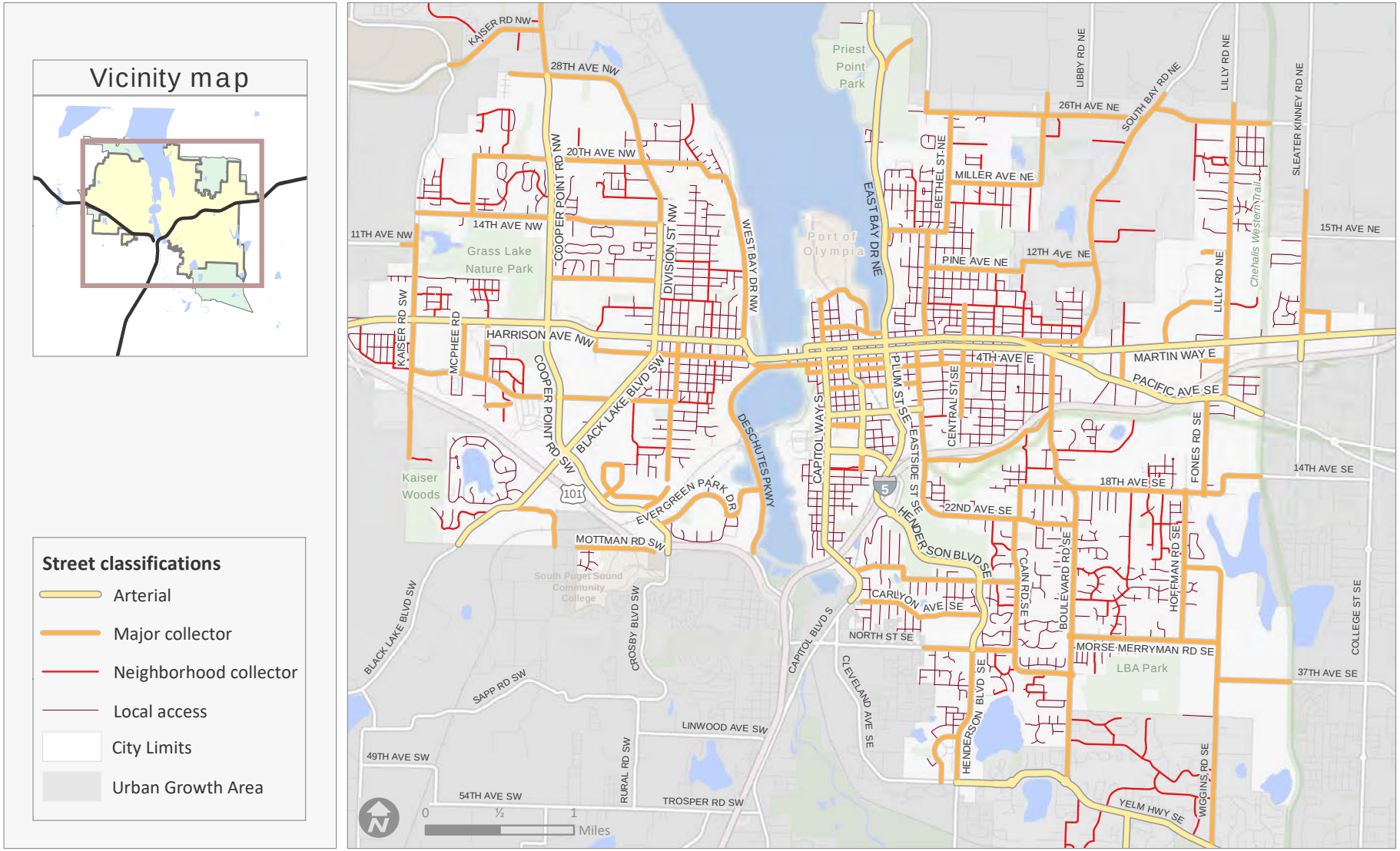
Local Access Streets

These are the smallest streets in our city. They provide direct connections to properties.

Depending on the classification, we require that a street be built a certain way. For example, all new arterials and major collectors must have bike lanes, and we require sidewalks on all new streets, regardless of classification. On most streets, we also require a planter strip between the travel lane and the sidewalk to buffer people walking from traffic.

Many of our streets were built in a previous era when those requirements did not exist. Therefore, those streets are missing sidewalks, bike lanes, and stormwater treatment, among other features that we now consider essential. Much of the work described in this plan is to retrofit our streets, so they will serve everyone, whether it is by walking, biking, riding the bus, or driving a car.

Street Classifications



Olympia has:

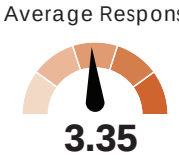
- 526 lane miles of streets
- 12,000+ signs
- 7,000+ pavement markings
- 96 traffic signals
- 4,000+ streetlights (over 2,500 maintained by City crews)
- 12 roundabouts
- 82 lane miles of bike lanes
- 188+ enhanced crosswalks
- 137 linear miles of sidewalks on major streets
- 63 neighborhood pathways
- 4,300+ curb ramps
- 10 miles of paved trails for walking and biking

Public Input About Today's Streets

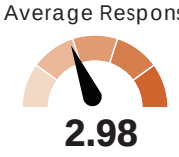
In the fall of 2018, we included a survey about our current transportation system in the first story map about this plan. Respondents could rate conditions as: 1 for poor, 2 for needs improvement, 3 for OK, 4 for good, and 5 for excellent. As you'll see below, driving rated the best, and biking needs the most improvement.

Here's how people responded:

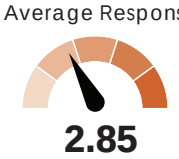
What's it like to get around by car in Olympia?



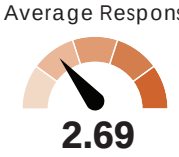
What's it like to ride the bus in Olympia?



What's it like to walk in Olympia?



What's it like to bike in Olympia?



Walking Network

Walking is important to people in Olympia. In 2004, voters approved an increased tax on private utilities to fund sidewalk and pathway construction. In 2016, a random sample of people surveyed about the City budget said that funding infrastructure to support walking was their highest priority. That type of infrastructure includes sidewalks, enhanced crosswalks, curb ramps, trails, and pathways.

In this plan, "walking" and "pedestrian" are terms that include people who use canes, wheelchairs, other walking aids, or strollers.

Sidewalks

Many of our streets were initially built without sidewalks. Since 2004, we have been working toward building sidewalks on at least one side of our major streets – arterials, major collectors and neighborhood collectors. Once we have sidewalks on one side of all these larger streets, we'll add sidewalks to the other side. This plan continues to focus sidewalk construction on our major streets.

We prioritized the sidewalk projects based on how close they were to destinations like schools, parks, and transit stops. We also took into account how busy and fast the street is, and whether it is in a dense area or not. Of the 101 centerline miles of major streets in Olympia, currently 57 miles of them have a sidewalk on both sides, 23 miles have a sidewalk on one side, and 21 miles do not have a sidewalk on either side. To meet the goal of having a sidewalk on both sides of every major street, we will need to build another 65 miles of sidewalks.

Enhanced crosswalks

Busy streets with fast moving traffic are a barrier to people walking, which is why we plan to add enhanced crosswalks on major streets within 300 feet of common places pedestrians need to go. Enhanced crosswalks are more than a crosswalk marking on the pavement. They may have flashing beacon systems, refuge islands, or bulb-outs. Today, there are 188 enhanced crosswalks on our streets, which we built either as part of street reconstruction projects, or in response to a public request. This plan identifies over 350 places where we need enhanced crosswalks, using similar criteria that we used to prioritize sidewalks.

Pathways

Pathways are shortcuts for people walking and biking. These connect a street to another street, a park, trail, or a major destination, like a school or shopping area. There are currently 63 formal pathways in our city. In developing this plan, we identified pathways that are informal and should be improved. We also used Geographic Information Systems (GIS) to pinpoint locations where we need to build new pathways. This plan identifies 57 pathways that need to be improved and 24 new ones that need to built.

Curb ramps and accessible devices

Adding curb ramps and accessible devices to traffic signals or beacons helps people with disabilities get around. Curb ramps make it easier for people using walking aids to get off and on a sidewalk. Adding accessible devices to traffic signals or beacons helps people with visual or hearing disabilities know when it is safe to cross the street.

The Americans with Disabilities Act (ADA) governs how we serve people with hearing, vision, and ambulatory disabilities. The City is developing an *ADA Transition Plan*, which will address how to make the city more accessible to people with disabilities. We prioritized curb ramps the same way in both this TMP and the *ADA Transition Plan*.

The City currently has over 5,600 locations that need a curb ramp in order for the sidewalk to be accessible. Of those locations, about 1,700 have curb ramps that are compliant with the current standard. About 2,700 of those locations have curb ramps that are compliant with a previous standard and need to be upgraded. About 1,300 do not have a curb ramp at all. We will build or upgrade curb ramps as we do other work, such as building sidewalks. The prioritized list of curb ramps provides guidance about what should be built when curb ramps are built as stand-alone projects, separate from other projects.

The City has 96 traffic signals, and 18 have accessible devices. We are planning to add accessible devices to traffic signals and beacons when we upgrade them.

Biking Network

People in Olympia have a strong interest in bicycling both for transportation and recreation. Thurston County has hosted an annual Bicycle Commute Challenge for 32 years. Each May, this challenge has drawn over a thousand participants. They are people who bike to work and school, or people just running errands by bike. To date, Olympia has 32 miles of bike lanes, 10 miles of paved trails, and a 1.5 mile-long bike corridor.

This plan introduces a new approach to improving our streets for people bicycling, the "low-stress bike network." We are planning bicycle infrastructure that appeals to a wider range of people, both in age and ability. Many people want to bike, but they find riding near traffic in standard bike lanes stressful and a deterrent. The low-stress bicycle network is designed to minimize interactions between people on bikes and car traffic. We planned the routes to be on half mile intervals, so everyone is within a quarter mile of a route.

The low-stress bicycle network includes bike corridors, enhanced bike lanes, trails, and pathways.

Bike corridors

Bike corridors are on local access streets that have slow speeds and few vehicles on them. We add signs and pavement markings, and we change the intersections with busy streets, so they are easier to cross. We have built one bike corridor, about a mile and a half long, from Lions Park to Sylvester Park. This plan identifies 34 miles of bike corridors to build.

Enhanced bike lanes

When the low-stress bike network must be routed on to busier or faster streets, we will need to build enhanced bike lanes. Enhanced bike lanes are standard 5-foot bike lanes that are enhanced with vertical separation, like bollards, planter boxes, curbs, or parked cars. They may also be separated by a painted buffer, which is a minimum of 2 to 3 feet wide. This plan identifies 52 miles of enhanced bike lanes we will need to build.

In addition to the streets we have identified as needing enhanced bike lanes to be part of the low-stress bicycle network, we will also reconfigure other major streets to include at least standard bike lanes. Ultimately, our goal is that all arterials and major collectors have a standard or enhanced bike lane.

Trails

The low-stress bike network is further knit together by using new and existing trails and pathways. Ten miles of paved trails pass through Olympia: the Karen Fraser Woodland Trail, the I-5 Bike Trail, and the Chehalis Western Trail. This plan recommends priorities for future trail expansion, based on the transportation benefits those future trails will provide and their role in connecting the low-stress bike network.

Trails are typically built and managed by the Parks, Arts, and Recreation Department. We will share trail priorities identified in this planning process with the Parks Department to consider when it updates its master plan.

Pathways

Sometimes a small connection can make a long length of a bike route complete and more accessible to more people. The low-stress bicycle network also identifies key pathways. Like trails, pathways also serve pedestrians.

Street Network

Retrofitting our streets

Compared with past planning for cars and trucks, this plan is less focused on reducing vehicle congestion, and instead addresses vehicle speeds, vehicle flow, and safety for everyone using the street. Traditionally, we widened streets to respond to traffic congestion. But widening does not always work to reduce congestion in the long term. Widening is costly, has negative effects on adjacent properties, and makes the street even less safe and inviting for walking and biking. Moving forward, widening to add capacity will be the last option to respond to vehicle congestion issues.

"Slow flow" is the concept we will apply to the future vehicle improvements on our streets. This means streets will be designed so that cars operate more slowly, but traffic will flow with less stopping and starting. We will build roundabouts at intersections, change the timing of traffic signals, add center turn lanes and medians, or change the way we use existing lanes. Because there will be less stopping and waiting at traffic signals, this approach can also reduce vehicle emissions.

Vehicle speeds are a risk factor in many of the collisions on Olympia's streets. Reducing speeds is key to safer streets, because the faster a person drives, the slower their response is to something in their path, and the more severe the resulting injury if there is a collision. On streets in an urban area with more intersections and driveways and more people walking and biking, there is a greater chance a driver will need to respond to something quickly. More than speed limits, the design of a street influences how a person drives. This plan emphasizes redesigning our streets to slow vehicles and increase safety.

Maintaining street surfaces

Pavement is the single largest asset the City must maintain, and it needs more frequent maintenance than other types of infrastructure. Maintaining our street surfaces is the biggest expense in Olympia's transportation budget.

To guide our decisions about which street to resurface and when, we rate the pavement condition on every public street in the City. We also calculate an average rating for the whole system, which helps guide broader funding decisions about resurfacing. We work to keep the average system-wide rating at a target level. We will continue to rate pavement conditions and use the ratings to inform investment and to plan projects.

When we resurface a street, we will look for opportunities to reuse street space more efficiently by reconfiguring the lanes. Reconfigurations may narrow or remove lanes in order to reduce speeds and improve safety. Reconfigurations can also make space for enhanced bike lanes, medians, crossing islands, and sometimes sidewalks.

Intersections

Intersections are a big part of how well our street system functions. Our street system has more than 1,600 intersections. 96 of them have traffic signals, and 12 have roundabouts. We have found many collisions occur at signalized intersections, especially collisions involving people walking and biking. We are proposing 52 roundabouts in this plan in order to increase safety, manage speeds, and maintain flow at intersections. In some places we are proposing roundabouts – whether compact or full scale – instead of adding turn lanes or a traffic signal.

Because roundabouts move cars more efficiently through an intersection, they may allow us to remove lanes that were needed only to stack cars as they waited at a traffic signal. Roundabouts are also a safer intersection design than traffic signals.

At the intersections where we will continue to use traffic signals, we will improve how the signals work. For example, we will use cameras to detect when a vehicle or bicycle is present, which is more reliable than the wire loops in the pavement we currently use at most of our signals. We can also program signals to help transit move more efficiently through intersections, allowing buses to stay on time.

To learn more about why roundabouts are safer than signalized intersections, see https://wsdot.wa.gov/Safety/roundabouts/benefits.htm

Major street reconstruction

We plan to do eight major reconstruction projects on some of our largest streets in the next 20 years. These are the biggest and most costly projects in this plan. Like reconfiguration, street reconstruction projects are typically triggered because we need to resurface the street, which presents an opportunity to make other changes. The reconstruction projects in this plan may include adding bike lanes, sidewalks, enhanced crosswalks, lighting, and landscaping, as well as upgrading water lines, sewer lines, and stormwater facilities.

Chapter 4 of this plan describes how we identified all the projects mentioned above, how we prioritized them for construction, and how many we can build in 20 years at our current funding levels.

New street connections

Connecting our street grid is important as our City grows. This means connecting dead end streets and building new streets as land develops. New street connections distribute traffic and provide more route options. This is important for reducing greenhouse gas emissions and improving emergency responses. Also, a grid of smaller streets and shorter blocks is especially important for making it easier to walk, bike, and get to bus stops.

Street connections have typically been built by new private development. When a private development project occurs, the builder or developer complies with many City standards about what new infrastructure is needed, and street connections may be part of those requirements.

To see the location of future major streets, refer to the *Comprehensive Plan*. To see the definition of how far apart new local access should be built with new development, see the City's *Engineering Design and Development Standards*.

This plan does not include specific changes to street connection policy, but it recognizes the importance of street connections in achieving the goals outlined here and in our comprehensive plan. In Chapter 4, we suggest having a future policy discussion about street connections.

Freight

The City of Olympia has worked with the Port of Olympia to define a freight route that connects Interstate 5 with the Port of Olympia's marine terminal. The route is about a mile long and directs trucks from Exit 104 on I-5 to Plum Street, Olympia Avenue, and Marine Drive, which leads to the marine terminal entry gates.

Many major streets in Olympia are designated as truck routes, meaning heavy trucks are directed to these streets instead of other parts of the network. This TMP does not change any freight or truck routes. We will continue to safely accommodate large vehicles in the planning of street reconstruction, reconfiguration, and intersection improvements.

Safety

Olympia's first *Street Safety Plan* was created in 2019. This safety plan shows the results of our evaluation of collisions on our street system from 2014-2018. The plan focuses on collisions that were fatal or resulted in a serious injury, as well as all collisions involving people walking and biking. The safety improvement projects identified in the Street Safety Plan are described in Chapter 4.

The safety analysis we did for the Street Safety Plan identified several risk factors that are causing collisions on our streets. Those risk factors include signalized intersections and streets with more than one lane in each direction. The street reconfiguration and roundabout projects proposed in this TMP will help address these risk factors and prevent future collisions.

The enhanced crosswalks, sidewalks, and projects in the low-stress bicycle network proposed in this TMP will also improve the safety on our streets.

2019 Intercity Transit at a glance:

- **118** buses
- **234** vanpools
- **47** Dial-a-Lift vans
- **2** transit centers
- **983** bus stops
- **301** shelters
- **3** park-and-ride lots

Transit

Intercity Transit has been Thurston County's transit service provider since 1981. Intercity Transit is governed by an Authority, a nine-member board of directors. An Olympia City Council member serves on this board. In nearly 40 years, Intercity Transit's system of bus routes, vanpools, and dial-a-lift services have grown to serve a large part of Thurston County. In 2019, the 21 "fixed" bus routes provided 3.76 million trips, and 180 vanpools made 520,843 commute trips. For people with a disability that prevents them from using a fixed bus route, Intercity Transit provides a dial-a-lift van service.

Intercity Transit also supports people bicycling, by providing bike racks on many buses and operating the annual Thurston County Bicycle Commuter Challenge. Intercity Transit also supports kids walking and biking to school through its Walk N Roll program.

Intercity Transit is implementing a *Short- and Long-Range Plan,* adopted in 2016. Among the projects that will be implemented in our community is Bus Rapid Transit. These are bus routes that operate like a light rail line, with a greater frequency of buses, less frequent stops, a longer route, priority at transit signals, and sometimes dedicated lanes on a street.

As we grow, we will need to find ways to help keep buses moving, operating on time, and remaining predictable for riders. This plan identifies way we can partner with Intercity Transit to help buses operate efficiently on our streets.

Rail

Two freight rail lines pass through Olympia. One goes to the Port of Olympia, and the other serves the Mottman Industrial Park. Increasing freight rail is a priority in the *Regional Transportation Plan* for efficiency and safety, among other reasons.[1] Should either rail line be decommissioned, we support converting it to a bicycle/pedestrian trail, which is consistent with the *Thurston Regional Trails Plan*.

The nearest Amtrak station in Thurston County is about eight miles from downtown Olympia. Amtrak trains provide service to Portland, Seattle, and beyond. Intercity Transit provides bus service to the Amtrak station. Sound Transit's Sounder provides weekday commute-oriented service from Lakewood, 22 miles north of downtown Olympia, to Tacoma or Seattle. By 2036, Sound Transit estimates that the Sounder may provide service to DuPont, 13 miles north of downtown Olympia.

Through the surveys conducted as part of developing this TMP, people said they wanted more options to travel to Seattle by rail. The *Regional Transportation Plan* includes a policy to continue efforts to position the region for commuter rail. This work will be led by the Thurston Regional Planning Council. This TMP does not address rail service in Olympia.

System of the future

In the next twenty years, the way we work, buy goods, and use services will change our transportation system. So, too, will new technology. Chapter 7 of this plan describes the transportation changes we expect to face in the future and lays out some ways we can respond to them.

1 https://www.trpc.org/DocumentCenter/View/7964/Chapter-3-Guiding-Principles-Goals-and-Policies

Chapter 4: Project Lists

This chapter shows the 20-year planned project lists for several kinds of transportation projects. Having long-term project lists provides transparency and predictability about the work we have ahead. By using criteria to prioritize the order in which to build the projects, we can better balance everyone's needs, while distributing resources more fairly throughout the city.

To develop these lists, we assumed that our current levels of revenue would be about the same as they have been recently. Chapter 5 describes those assumptions in more detail.

We made these project lists in three steps:

1. We established targets for each type of project, meaning we defined what a reasonably complete network of projects would look like
2. We identified the projects we need to build to reach those targets
3. We developed ranking criteria to prioritize the order in which to build the projects

The result was a "full network" list for each type of project. From this larger list, we narrowed it down to a 20-year project list, based on what we could afford with current revenue levels.

The full networks are what it will take to provide an acceptable level of service for people, whether they are walking, biking, driving, or riding transit. If additional revenue is secured, more of the full network projects can be built sooner.

Our current street system does not adequately serve people walking, biking, and riding the bus. This plan emphasizes projects that will retrofit our streets to better serve these transportation modes.

This chapter includes project lists for:

- Enhanced crosswalks, sidewalks, and curb access ramps for people walking
- Pathways for people walking and biking
- Bike corridors and enhanced bike lanes for people biking

Many projects will improve streets for multiple modes of transportation, such as those for:

- Street resurfacing
- Major street reconstruction
- Intersection improvements
- Safety improvements

While the City of Olympia does not operate the transit system, we will build projects that help buses stay on time and operate efficiently. Traffic congestion can impact transit's reliability, which makes it harder for people to rely on the bus. As Intercity Transit implements its *Short- and Long-Range Plan*, Olympia will support their efforts by partnering on capital projects. Additionally, the bike and pedestrian projects we are planning will help people get to and from bus stops.

System Targets

The table below outlines the system targets we used to develop project lists. The table also summarizes the system we have today, what we need to build to have a full network, and the number of projects we can build in 20 years.

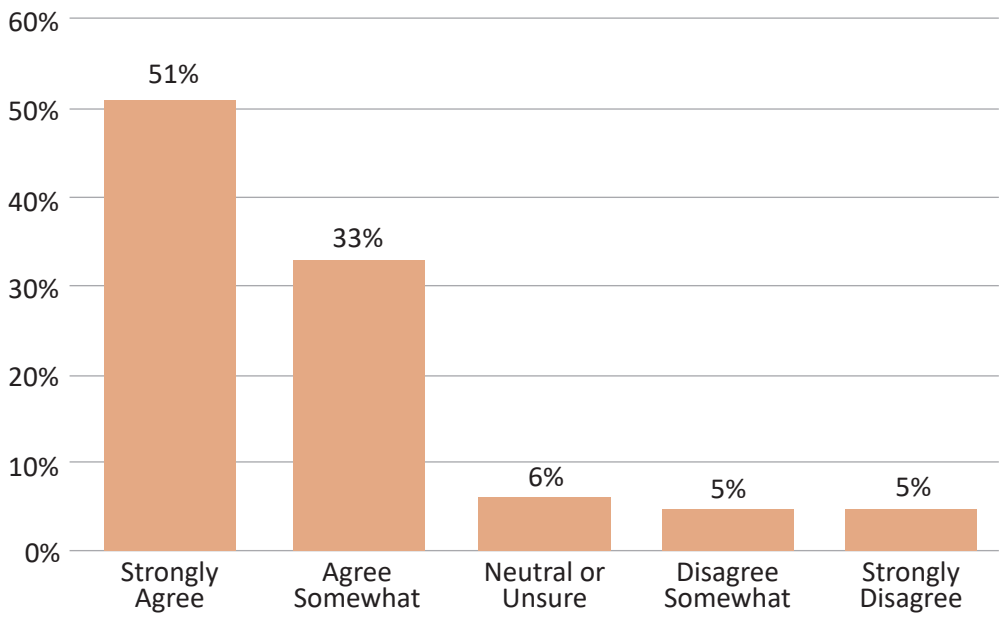
Type of facility	System target	Existing inventory	Full network list	20 year project list
Sidewalks	There will be sidewalks on both sides of our largest streets: arterials, major collectors and neighborhood collectors. The first priority is to have a sidewalk on at least one side of every major street, then both sides.	137 miles	65 miles	8 miles
Pathways	Existing informal pathways will be improved, followed by building pathways in locations where they are needed.	62	81	15
Enhanced crosswalks	There will be an enhanced crosswalk within 300 feet of major destinations on arterials and major collectors.	188	350	16
Curb ramps	Add or upgrade curb ramps on all sidewalks to comply with current federal standards	1,586 curb ramps are compliant with the current standards	4,014 curb ramps are missing or need to be upgraded	Typically, curb ramps are added or upgraded as part of other projects
Accessible signals	Add accessible devices to all traffic signals	18 audible signals	79 signals need accessible devices	Typically, accessible signals are added when signals are upgraded
Bike corridors	The low-stress bike network provides a route on a ½ mile spacing, so no one is more than ¼ mile from one.	1.5 miles of bike corridors	34 miles of bike corridors	10 miles of bike corridors
Enhanced bike lanes	The low-stress bike network provides a route on a ½ mile spacing, so no one is more than ¼ mile from one.	0 miles of enhanced bike lanes	52 miles of enhanced bike lanes	4.5 miles of enhanced bike lanes through resurfacing, and 2.5 miles as part of major street reconstruction
Intersections	Intersection improvements are built as needed for safety and function at major intersections.	12 roundabouts 97 signals	52 roundabouts	12 roundabouts
Safety projects	Improve the safety of our streets based on a routine analysis of collisions.	NA	56 current projects; ongoing need	23 projects
Resurfacing	Streets surfaces will be in good condition, with an average system rating of 75. (A rating of 100 is excellent.)	Our current system rating is 67	Not yet identified; ongoing need	69 miles in 6 years (20-year project list not defined)

Public Input

As we developed the project lists, we asked the public for input. We made two story maps and included surveys in both. We shared the first story map online in fall 2018. The survey in that story map asked several questions about the kinds of projects we should include in the plan and how to prioritize them.

In the project lists that follow, you'll see the relevant survey questions and a score that shows the average rating. For the survey questions, respondents used a rating system, with 1 being "strongly disagree," 2 being "somewhat disagree," 3 being "neutral or unsure," 4 being "agree somewhat" and 5 being "strongly agree."

We used the responses from the survey in the first story map to develop the ranking criteria to prioritize the projects. In fall 2019, we made a second online story map, which shared the results of the prioritization process, as well as which projects we could build in 20 years. One survey question in that story map asked, "In general, do you agree with what we are proposing here?" 84 percent of the 286 respondents did.



Prioritization

The criteria we used to prioritize the projects varied, depending on the type of project. The prioritization methods are described before each project list in the sections that follow. These are some of the considerations that went into the prioritization methodologies:

Comprehensive plan land use goals

Urban Corridors, Bus Corridors and Neighborhood Centers are planning concepts from the comprehensive plan. Urban Corridors and Neighborhood Centers were factors in ranking sidewalks and curb ramps projects. Many of the Urban Corridors also coincide with Bus Corridors, where the planned pedestrian and bus improvements will complement each other and make the land use envisioned for those areas more viable.

Street characteristics

For many types of projects, we also considered street characteristics in the prioritization. For example, busy, fast streets with multiple lanes, such as arterials, ranked higher for sidewalks and enhanced crosswalks. For intersection and transit improvements, we considered congestion.

Technical analyses

Resurfacing projects are ranked based on the pavement condition rating, a process that is done on every two years. Safety projects are ranked based on an analysis of collisions and their associated risk factors, which are detailed in the *Street Safety Plan*.

Destinations

Projects near common destinations such as schools, parks, trails, medical facilities, some public buildings, and grocery stores factored into the ranking for sidewalks, curb ramps, and enhanced crosswalks. Schools, trails, and the downtown were important in planning the pathways and the low-stress bicycle network.

Density

Projects in areas with dense housing or employment ranked higher for sidewalks and curb ramps. Since more people walk in those areas, more people can benefit from pedestrian infrastructure.

Pedestrian projects make up a large part of this plan and have the most complex prioritization. After explaining in the first story map the criteria we wanted to use when prioritizing pedestrian projects, we asked, "Do you agree that common destinations and dense areas are the most important consideration when planning for pedestrians?" The average of the responses was 4.3, with 4 being "agree somewhat" and 5, "strongly agree."

This plan presents projects in prioritized lists. However, we may need to adjust the order in which we build projects. Some of the reasons include:

- Changes to a street or destinations: if the inputs we used to prioritize projects change, then so, too, will the rankings. For example, if a transit route changes, a new park entrance opens, or a new school is built, we may need to reprioritize projects.
- Constructability: we may combine different projects on the same street for construction efficiencies, which saves money.
- Funding opportunities: state or federal grants have their own criteria, and sometimes to get the funding needed to build a project, we need to move it up the list.

When we need to change the project prioritization, we will propose the changes either as we update the *Capital Facilities Plan* each year, or as we update this TMP every six to eight years. Both planning processes will include opportunities for members of the public to share their thoughts on the proposed changes.

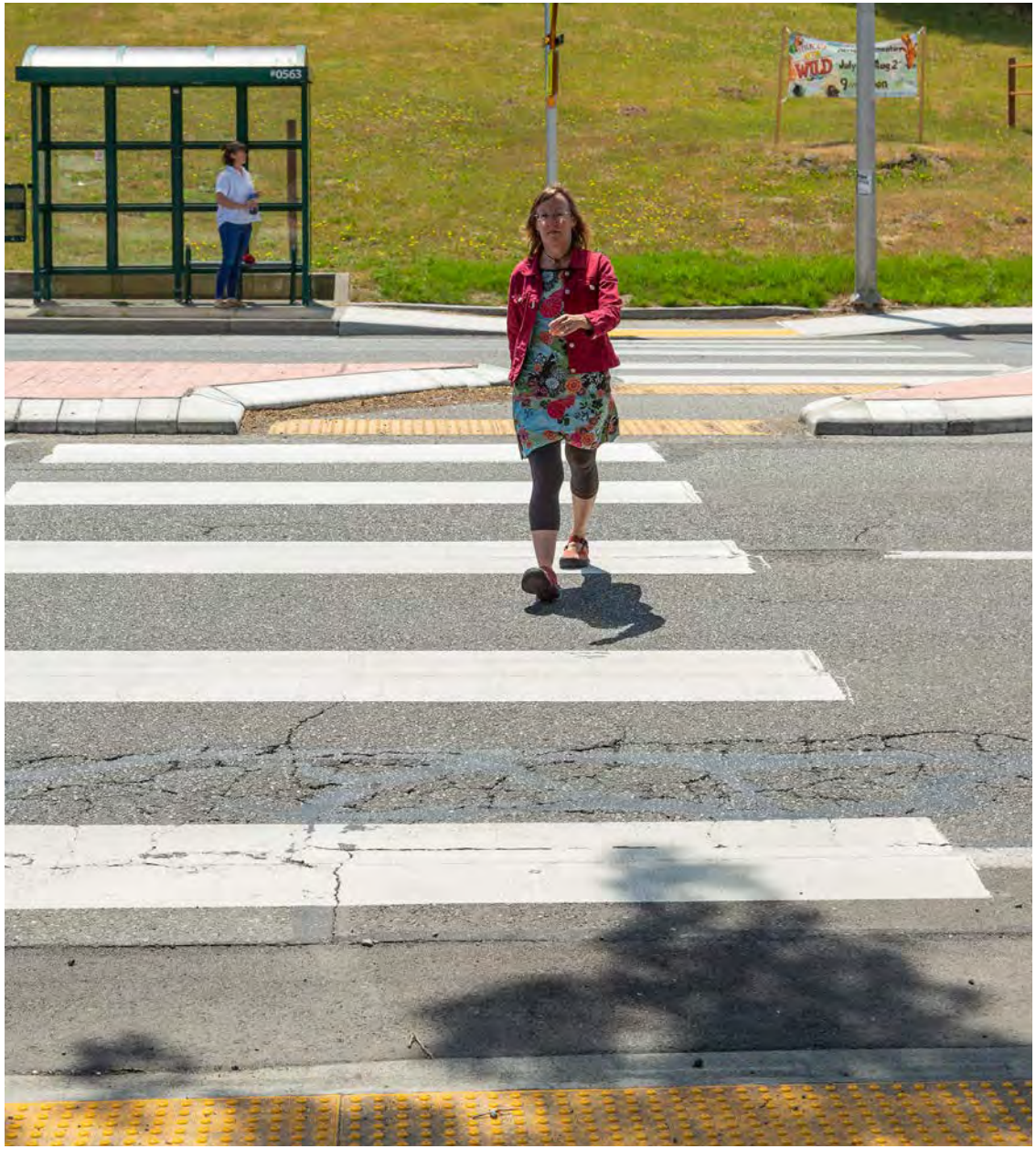
Projects in this chapter

- Enhanced crosswalks
- Sidewalks
- Curb ramps
- Pathways
- Low-stress bike network
- Resurfacing
- Major street reconstruction
- Intersection improvements
- Safety improvements

Project Lists

The next several pages show projects lists for nine types of transportation projects. Before each project list you will see the system target and prioritization methodology we used to develop the list, as well as public input we received in the process.

Maps after each project list show the projects planned in 20 years and sometimes the full network of needs. Some projects in the Urban Growth Area are shown because, over time, these areas may become part of the City through annexation.



Enhanced Crosswalks

A street with intimidating traffic can be a barrier for a pedestrian, preventing them from crossing to get to their destination. To lower the barrier, we want to build enhanced crosswalks in strategic places on major streets. An enhanced crosswalk may include bulb-outs, a crossing island, or flashing beacons, among other features.

In the first story map, we asked, "Do you agree that destinations and street characteristics are the most important consideration when planning for enhanced crosswalks?" The average score of the responses was 4.4, with 4 meaning "agree somewhat" and 5, "strongly agree."

System Target

On all arterials and major collectors, there should be a safe crossing opportunity within 300 feet of a major destination, which includes parks, schools, public buildings, medical facilities, grocery stores, and transit stops.

Identification

Using GIS, we identified sections of arterials and major collectors that were within 300 feet of a destination. Then we removed the segments of these streets that already had an enhanced crosswalk or traffic signal within 300 feet. What remained were locations where an enhanced crosswalk is needed.

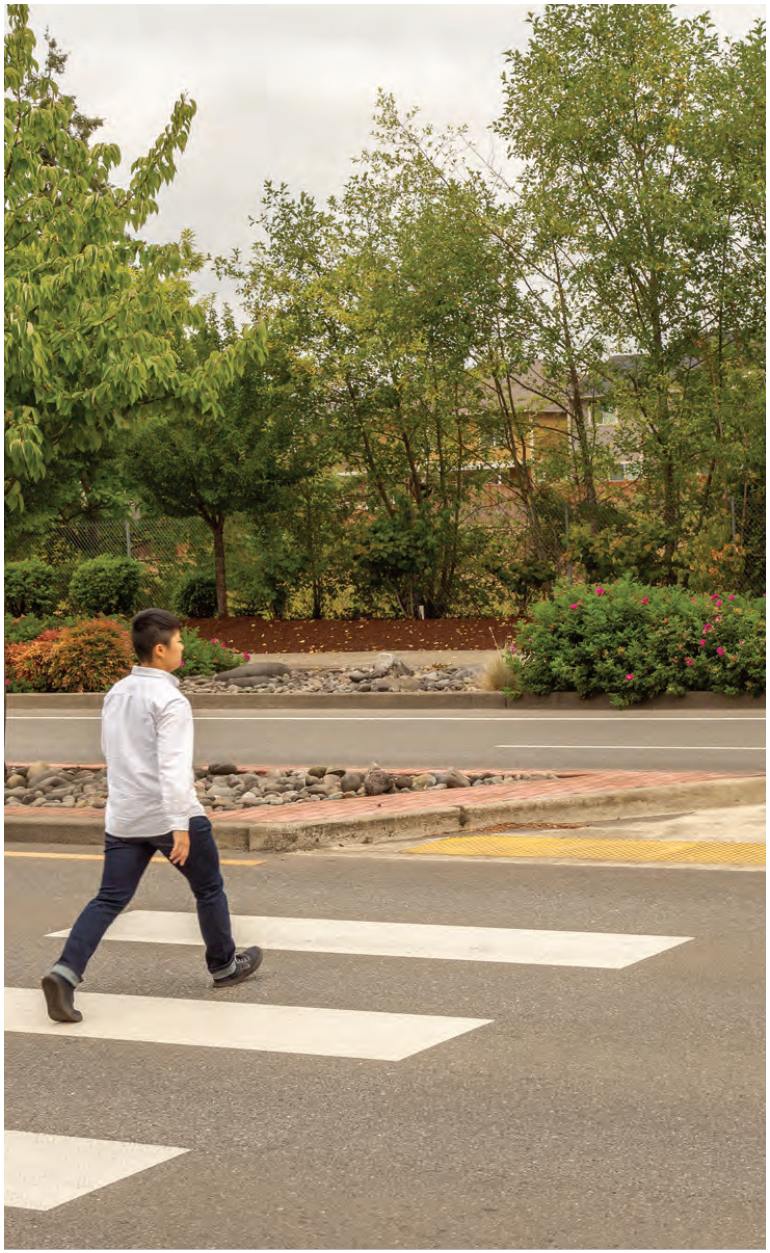
Prioritization

Potential crossing locations were scored according to this method:

Traffic volume: 1 point for every 1,000 ADT*	Up to 30 points
Transit route	20 points
4 lanes	15 points
3 lanes	10 points
Actual speeds exceed 30 mph**	20 points
Actual speeds exceed 25 mph**	15 points

**Average Daily Travel = an average number of cars that travel on a street*

***Wherever possible, we used actual speeds. Where that was not available, we used the posted speed limit.*



Enhanced crosswalk project list

Pacific Avenue
between Weir Street and the Chehalis Western Trail

Cooper Point Road
between Capitol Mall Drive and Black Lake Boulevard (potentially two locations)

Cooper Point Road
between Mall Loop Drive and Capitol Mall Drive

Lilly Road
north of Mary Elder Drive (near Johanns Medical Park)

Harrison Avenue
between Yauger Way and Safeway driveways (possibly two locations)

Pacific Avenue
in the area of Poplar Street and Weir Street (possibly two locations)

Cooper Point Road
between Safeway driveways

Cooper Point Road
northwest of Caton Way (possibly two locations)

Pacific Avenue
between Steele Street and Dehart Drive (possibly three locations)

Harrison Avenue
between Kenyon Street and existing crossing island (possibly three locations)

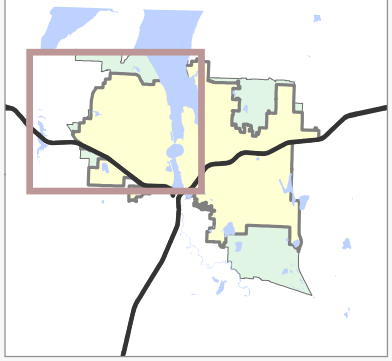
The Pacific Avenue crossing near Weir Street is also identified in the Street Safety Plan as a priority.

Approximately eleven high scoring projects on Martin Way do not appear in the project list shown here, because they will be addressed through the Martin Way project shown on the major street reconstruction list on pages.

The following maps show the projects planned for the 20-year timeframe and the full network of projects we identified. The full network is over 350 projects.

Enhanced Crosswalks | West

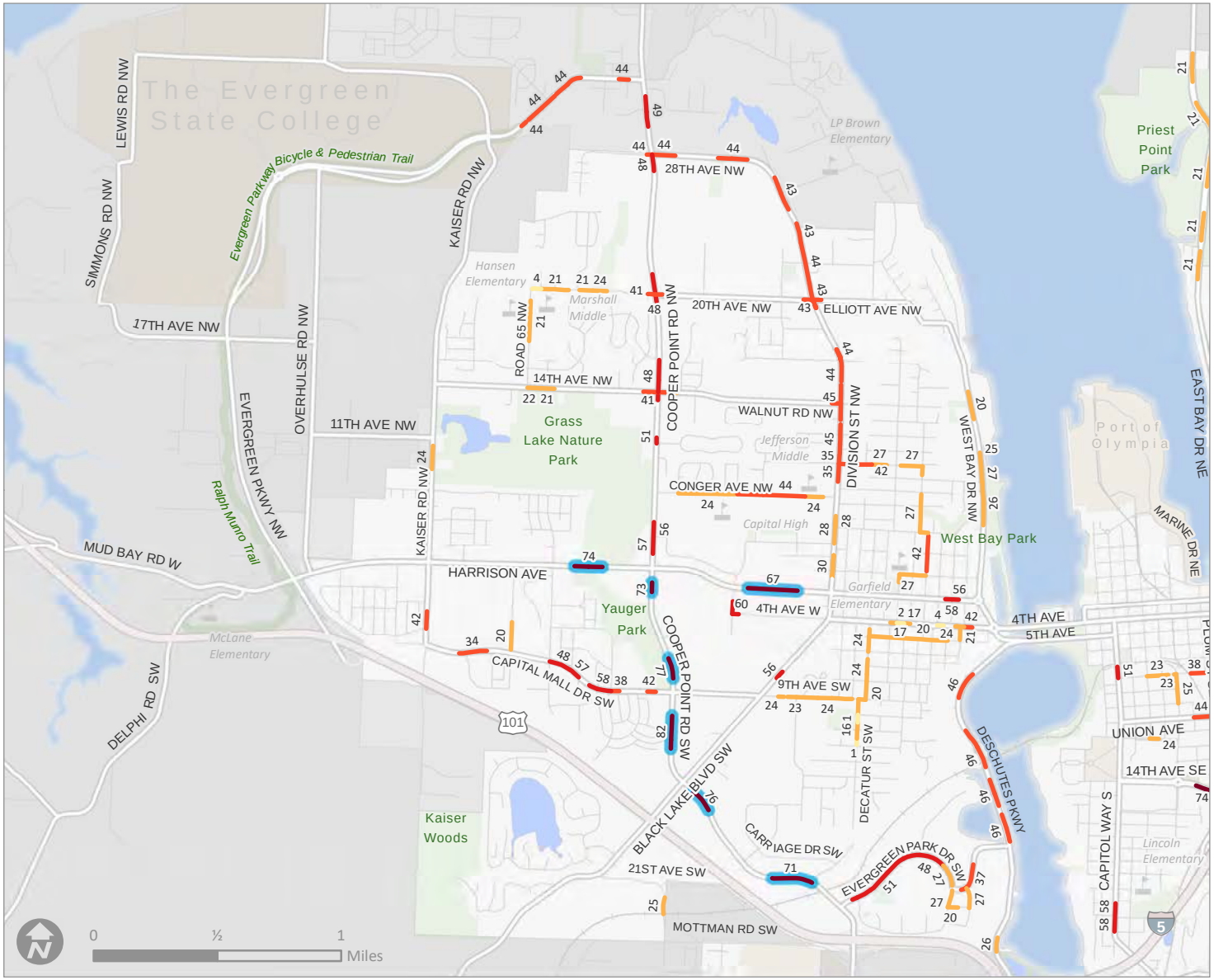
Vicinity map



Places that need enhanced crosswalks

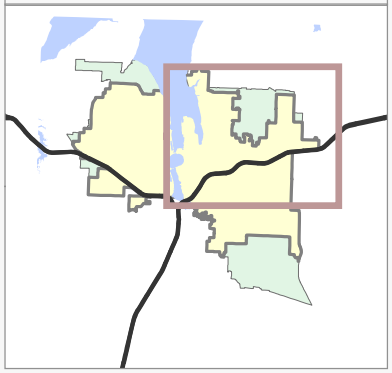
Higher score = higher priority

- 64 - 84
- 48 - 63
- 33 - 47
- 8 - 32
- 0 - 7
- 20 year project list
- City Limits
- Urban Growth Area



Enhanced Crosswalks | Northeast

Vicinity map



Places that need enhanced crosswalks

Higher score = higher priority

- 64 - 84
- 48 - 63
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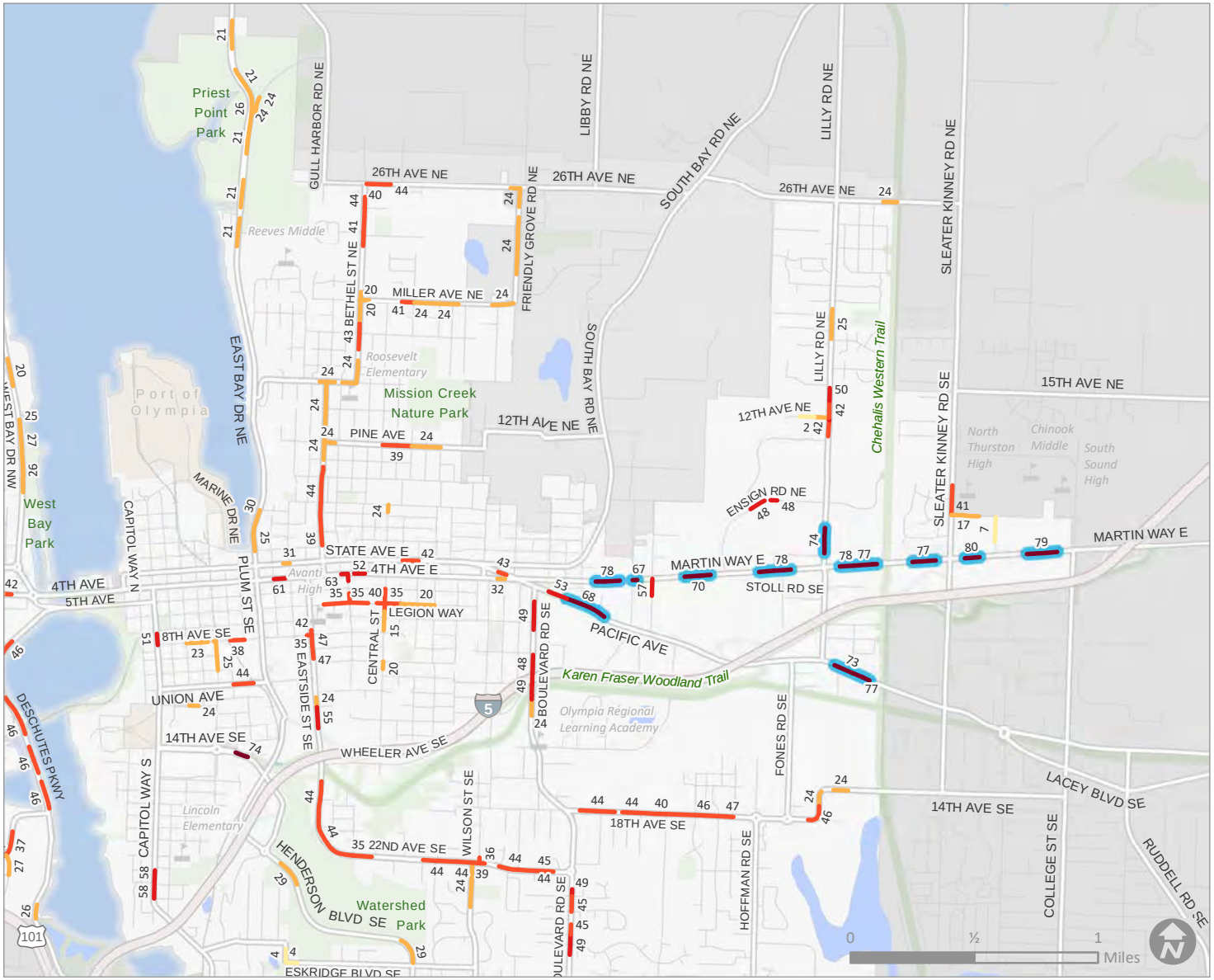
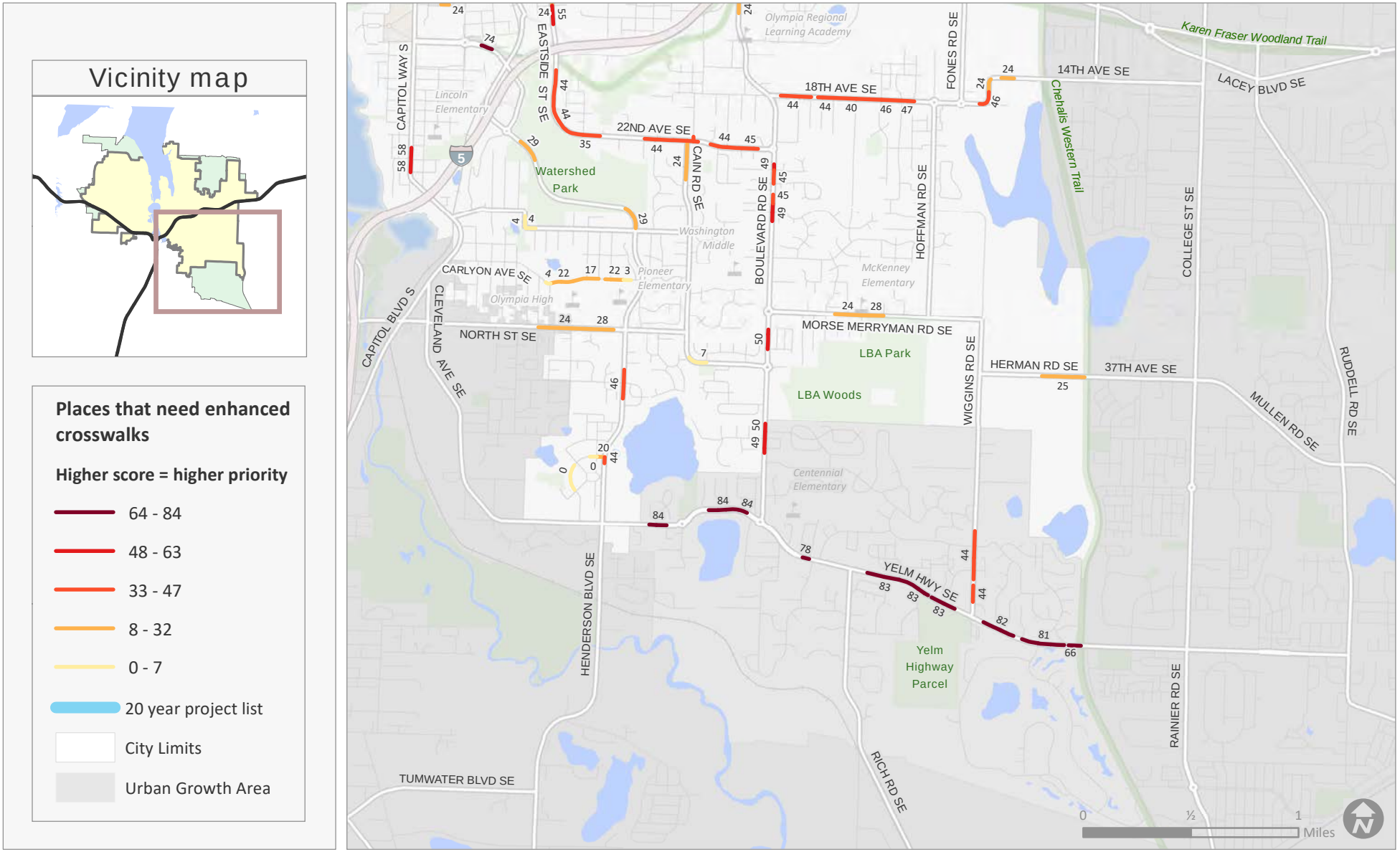
- 8 - 32
- 0 - 7
- 20 year project list
- City Limits
- Urban Growth Area



Enhanced Crosswalks | Southeast



Sidewalks

Sidewalks give people a place to walk with minimal interactions with cars. They are a flat, hard, predicable surface to walk, push a stroller, or use a walking aid, like a cane or wheelchair. Many streets in Olympia were originally built without sidewalks. The focus of this program is to build sidewalks on streets with the busiest, fastest traffic, rather than on local access, or neighborhood, streets.

In the first story map, we asked, "Do you agree that City sidewalk construction should focus on major streets and not local access streets?" The average score of the responses was 4, (4 was "somewhat agree.")

System target

To have sidewalks on both sides of our largest streets: arterials, major collectors, and neighborhood collectors. The first priority is to have a sidewalk on at least one side of every major street, then both sides.

Identification

The City maintains a GIS inventory of sidewalks on arterials, major collector and neighborhood collectors.

Prioritization

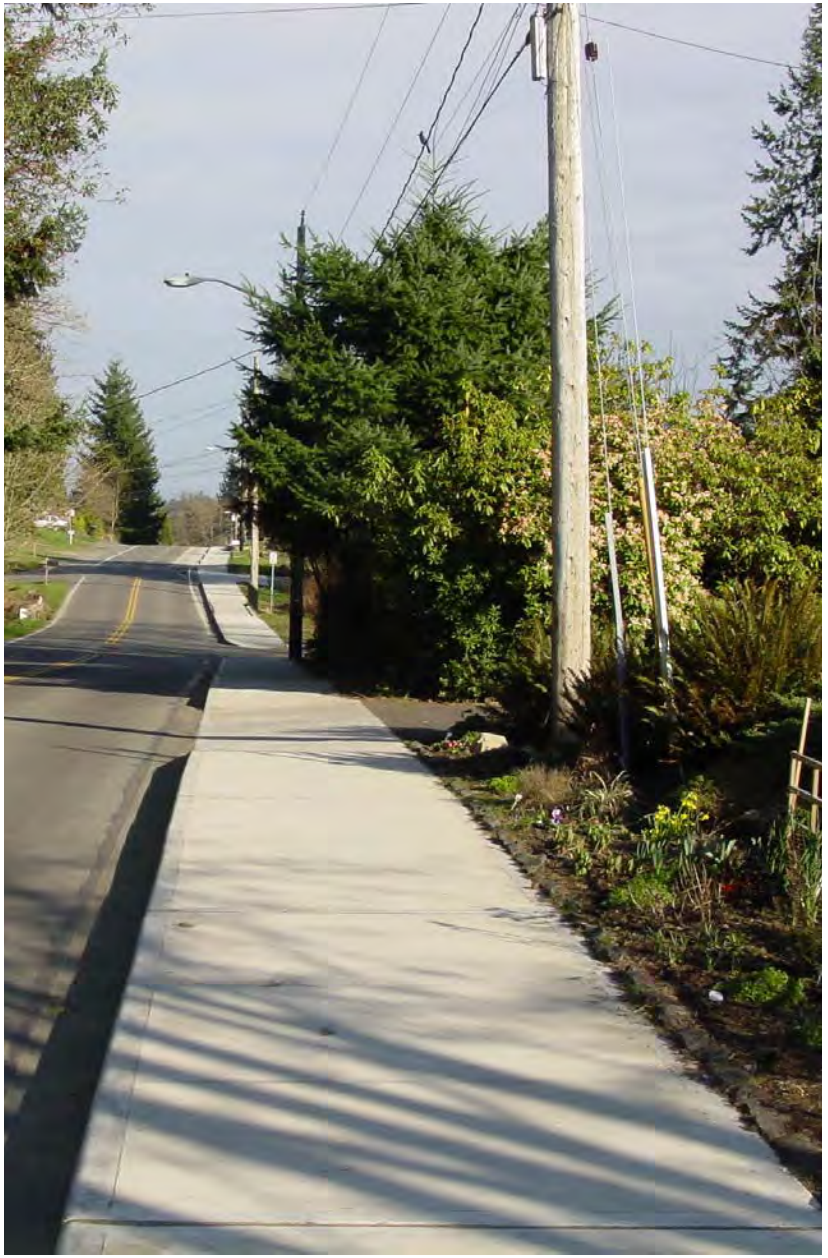
Points are awarded to missing sidewalk segment as follows:

If the segment is within:

½ mile of a school	20 points
½ mile of a park	10 points
¼ mile of a public building or grocery store	10 points
¼ mile of a Neighborhood Center	5 points
Either: On an Urban Corridor In an area of dense housing In an area of dense employment	15 points

If the segment is on a street that is:

A transit route	20 points
An arterial, major collector, or neighborhood collector	20/15/5 points
Missing a bike lane	10 points
Missing a sidewalk on both sides	Double the subtotal of score



Sidewalk project list:

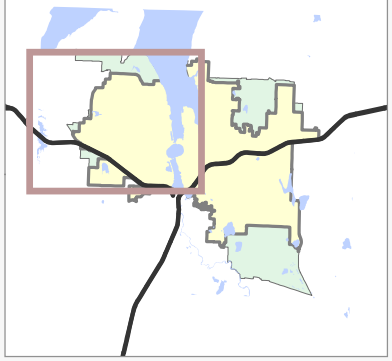
- **4th Avenue**
  from Sawyer Street to Phoenix Street
- **Fir Street**
  from Bigelow Avenue to Pine Avenue
- **Division Street**
  from Walnut Road to 28th Avenue
- **Cooper Point Road**
  from Conger Avenue to 28th Avenue
- **Martin Way**
  from Phoenix Street to Devoe Street
- **Martin Way**
  from Pattison Street to Lilly Road
- **28th Avenue**
  from Cooper Point Road to Division Street
- **Mottman Road**
  from Mottman Court to SPSCC
- **Boulevard Road**
  from 15th Avenue to 18th Avenue
- **Boulevard Road**
  from Log Cabin Road to 41st Way
- **Kaiser Road**
  from Harrison Avenue to 5th Way
- **McPhee Road**
  from Harrison Avenue to Capitol Mall Drive
- **Eastside Street**
  from 18th Avenue to 22nd Avenue
- **18th Avenue**
  from Wilson Street to Steele Street
- **Stoll Road**
  from Stoll Road to Lilly Road
- **Elliott Avenue**
  from Division Street to Bing Court
- **Thurston Avenue**
  from Washington Street to Franklin Street
- **Wilson Street**
  from 22nd Avenue to 18th Avenue
- **20th Avenue**
  from Cooper Crest Street to Cooper Point Road
- **14th Avenue**
  from Kaiser Road to Cooper Point Road
- **Morse Merryman**
  from Hoffman Road to Wiggins Road
- **Fones Road**
  from Detray's to 17th Way
- **22nd Avenue**
  from Eastside Street to Fir Street
- **26th Avenue**
  from Freeman Lane to Friendly Grove
- **Pine Avenue**
  from Fir Street to Edison Street
- **Walnut Road**
  from Ethel Street to Division Street

The following maps show the full network of projects we identified, with those we can build in 20 years highlighted. The full network is 65 miles of sidewalks. The sidewalks we need to build on 4th Avenue E, Martin Way, Mottman Road, and Fones Road will be built as part of the major street reconstruction projects.

There are some high-scoring projects we are not planning to build in 20 years, due to unique conditions. These include a segment on Plum Street that leads to a freeway on-ramp, and a segment parallel to a trail on Wheeler Avenue.

Sidewalks | West

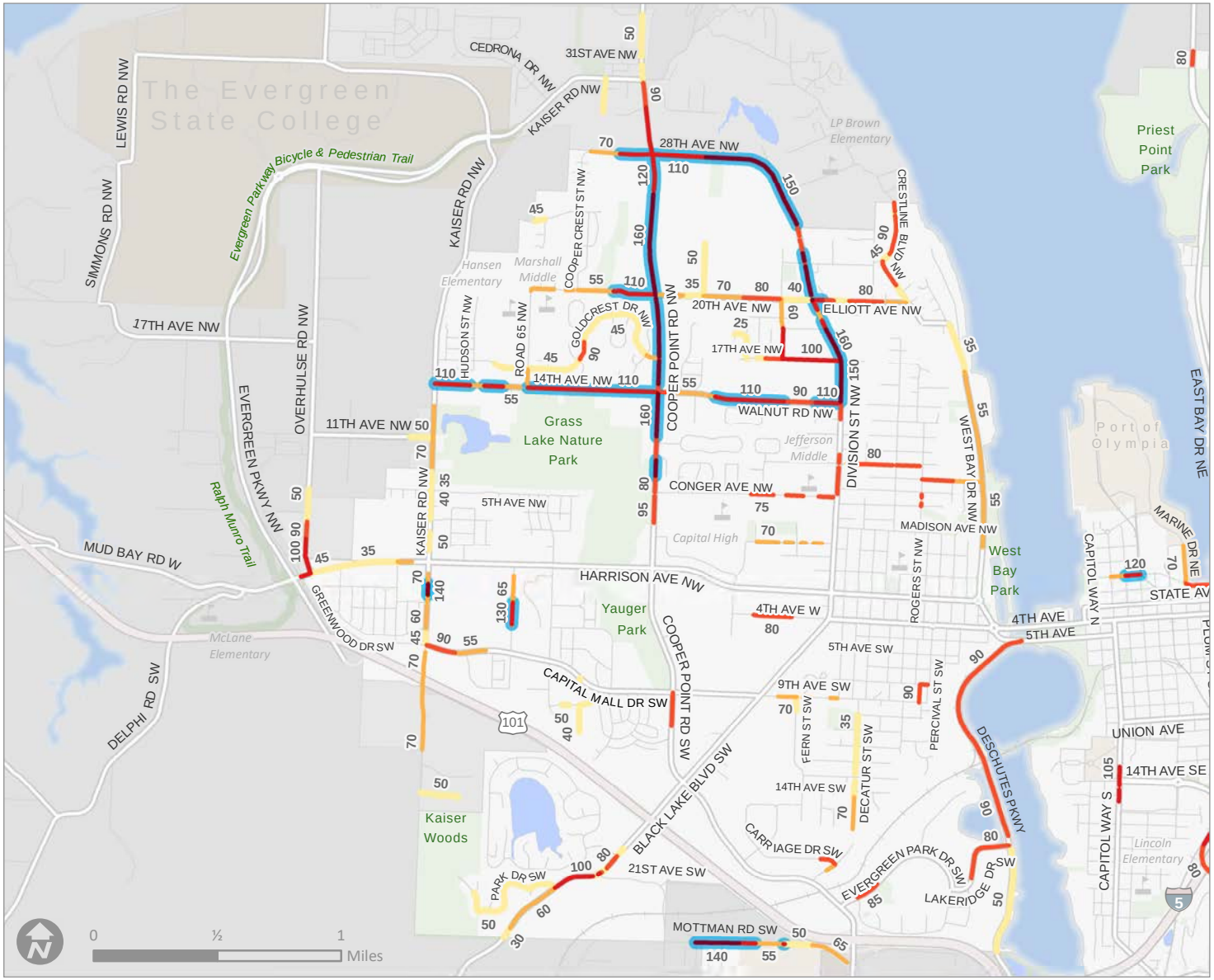
Vicinity map



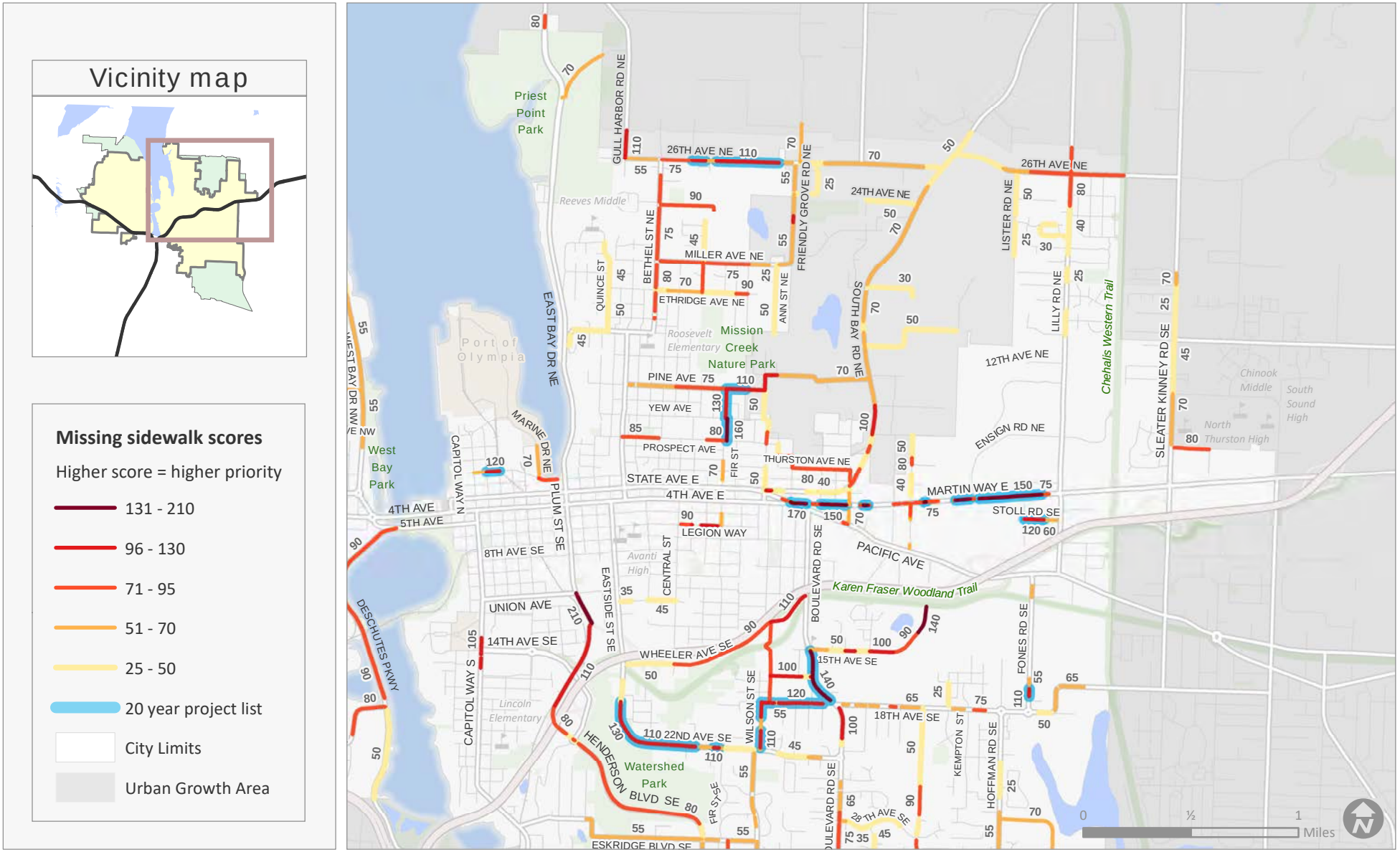
Missing sidewalk scores

Higher score = higher priority

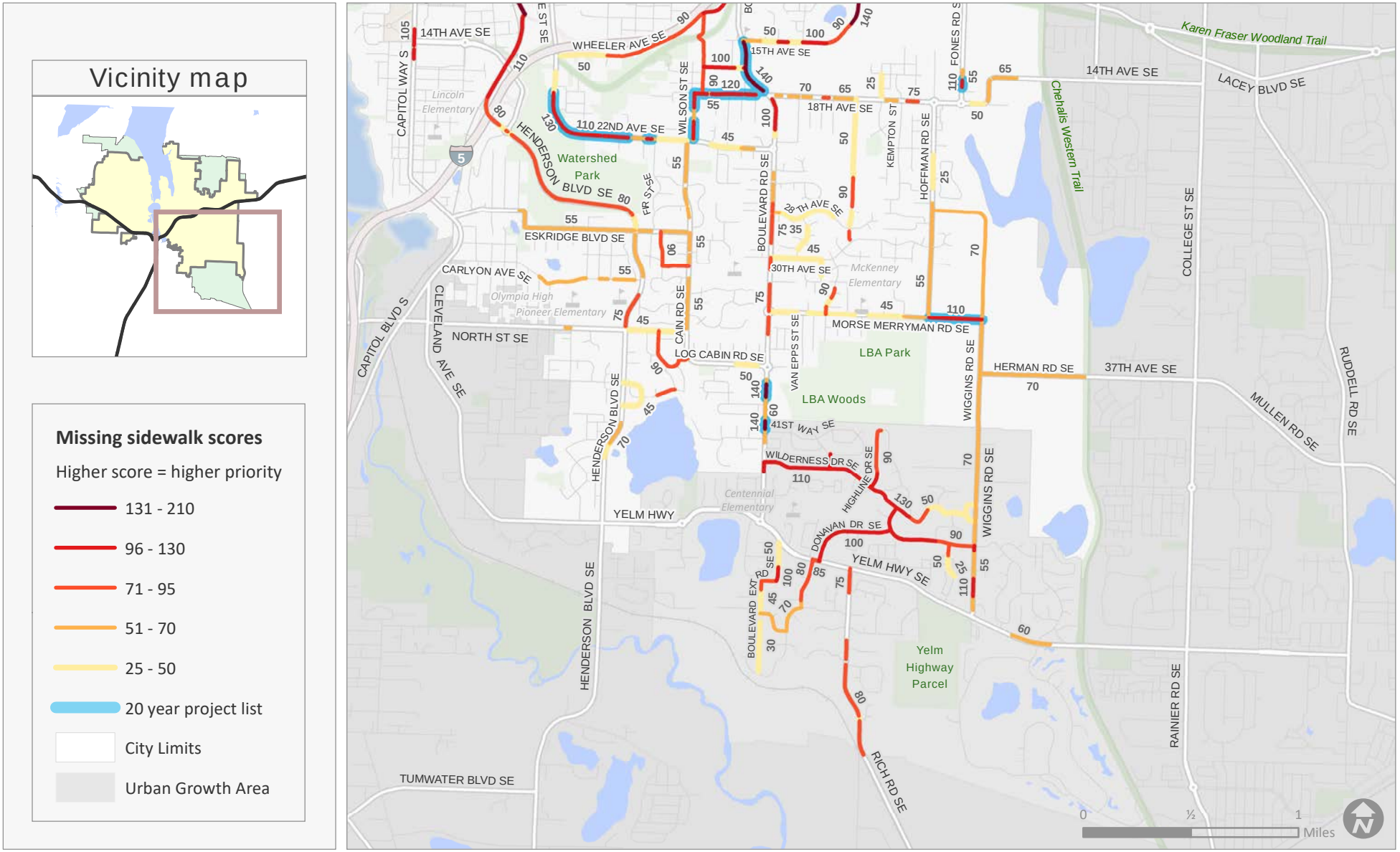
- 131 - 210
- 96 - 130
- 71 - 95
- 51 - 70
- 25 - 50
- 20 year project list
- City Limits
- Urban Growth Area



Sidewalks | Northeast



Sidewalks | Southeast



Curb Access Ramps

Curb ramps help people with wheelchairs, walking aids, or strollers get on and off a sidewalk. Curb ramps built today must meet current federal design standards. Many older ramps need to be rebuilt to meet those standards. This prioritized list of curb ramps is consistent with the City's draft *Americans with Disabilities Act Transition Plan*.

System target

Add or upgrade curb ramps to comply with current federal design standards.

Identification

The City maintains a GIS inventory of curb ramps, including those that are missing or not compliant with current standards.

Prioritization

We used a methodology that considers how close a curb ramp is to a public building, grocery store, transit route, park, or school. Curb ramps within 250 feet got more points than those within 550 feet, which got more points than curb ramps within 800 feet.

We also awarded points if the curb ramp is in an area of dense employment or housing, on an Urban Corridor, and based on the classification of the street. Because curb ramps are typically at intersections, we used the term "intersection" to describe the location of curb ramps.

The prioritization methodology is as follows:

If the intersection is within 250 feet of:	
Public building or grocery store	22 points
Transit route	17 points
Park	12 points
School	12 points

If the intersection is within 550 feet of:	
Public building or grocery store	20 points
Transit route	15 points
Park	10 points
School	10 points

If the intersection is within 800 feet of:	
Public building or grocery store	18 points
Transit route	13 points
Park	8 points
School	8 points

If the intersection is in an area of dense employment:	
High density	17 points
Medium/high density	16 points
Medium/lower density	15 points
Lower density	14 points

If the intersection is in an area of dense housing:	
High density	17 points
Medium/high density	16 points
Medium/lower density	15 points
Lower density	14 points

If the intersection is on:	
An arterial	15 points
A major collector	10 points
A neighborhood collector	5 points
If the crossing is on an Urban Corridor	15 points

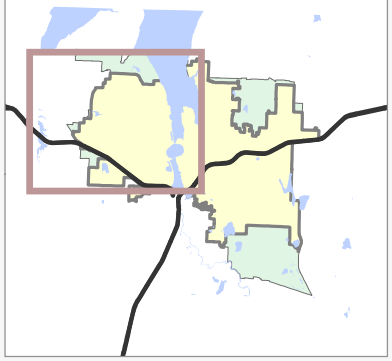
Curb access ramp project list

The full network project list for curb ramps includes over 4,000 locations. Because of its size, the list is challenging to include in this document. The following maps show the locations of curb ramp needs.

We usually build or upgrade curb ramps as part of other construction projects, such as sidewalks, enhanced crosswalks, safety projects, major street reconstruction, and resurfacing projects. Should dedicated funding be identified to build curb ramps as stand-alone projects in the future, the full network project list is a guide for how to prioritize their construction.

Curb Access Ramps | West

Vicinity map



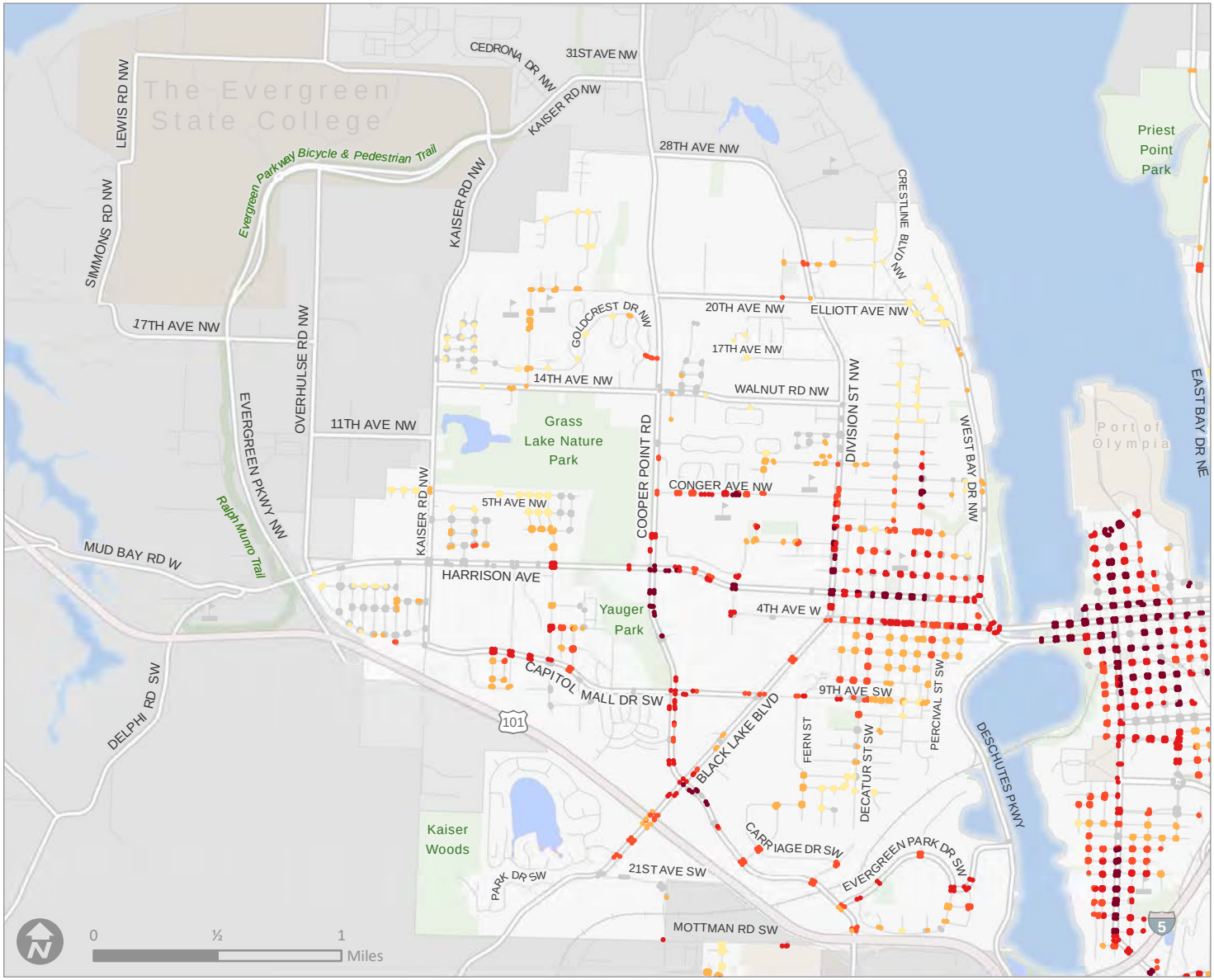
Curb ramps

Higher score = higher priority

- 66 - 81
- 53 - 65
- 38 - 52
- 18 - 37
- 0 - 17
- Compliant with current standard

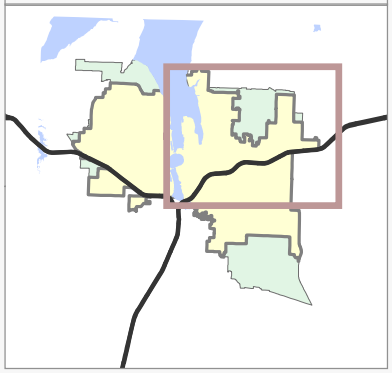
City Limits

Urban Growth Area



Curb Access Ramps | Northeast

Vicinity map



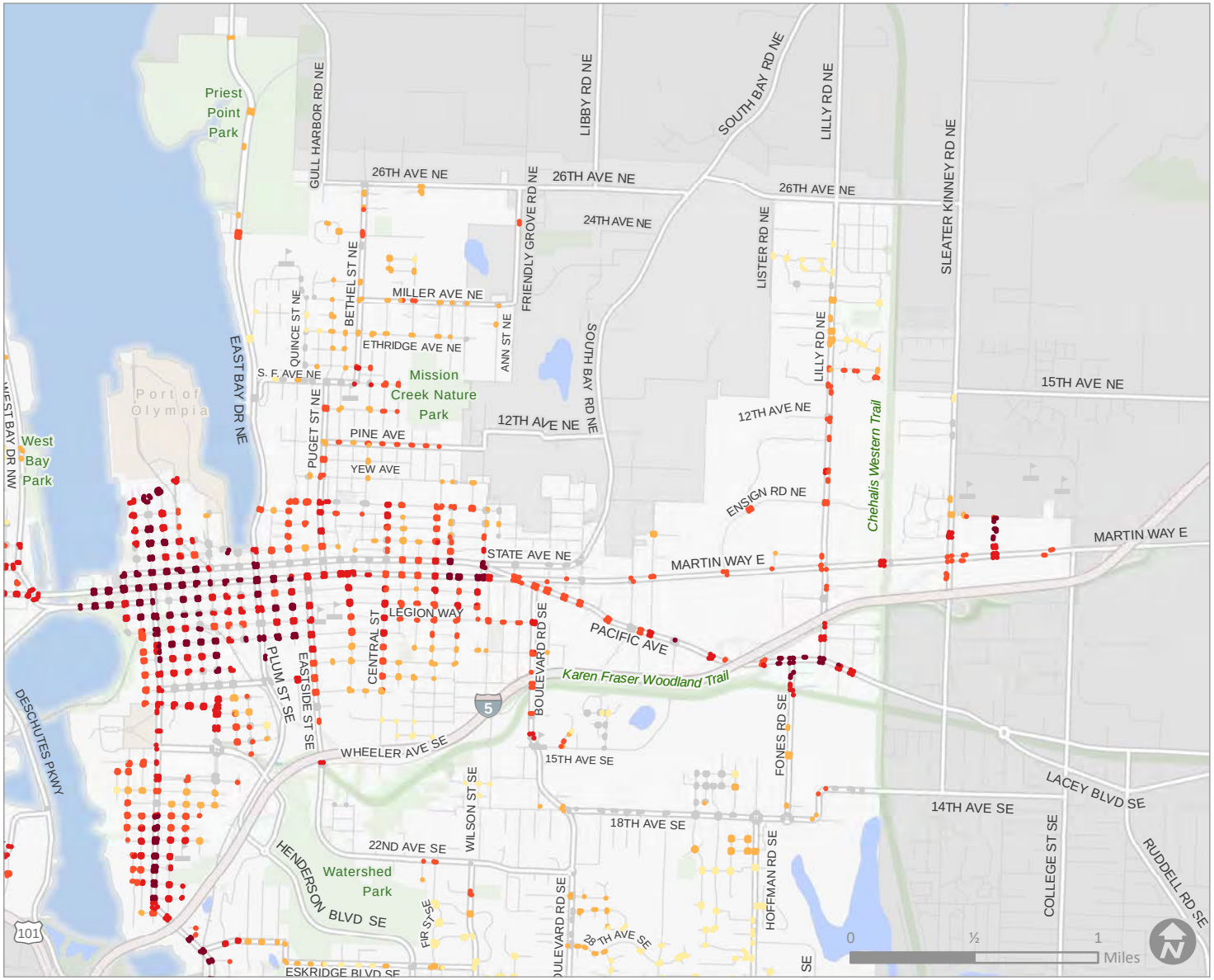
Curb ramps

Higher score = higher priority

- 66 - 81
- 53 - 65
- 38 - 52
- 18 - 37
- 0 - 17
- Compliant with current standard

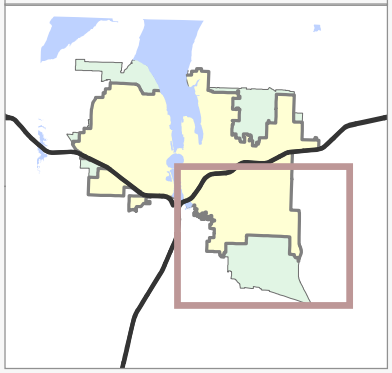
City Limits

Urban Growth Area



Curb Access Ramps | Southeast

Vicinity map



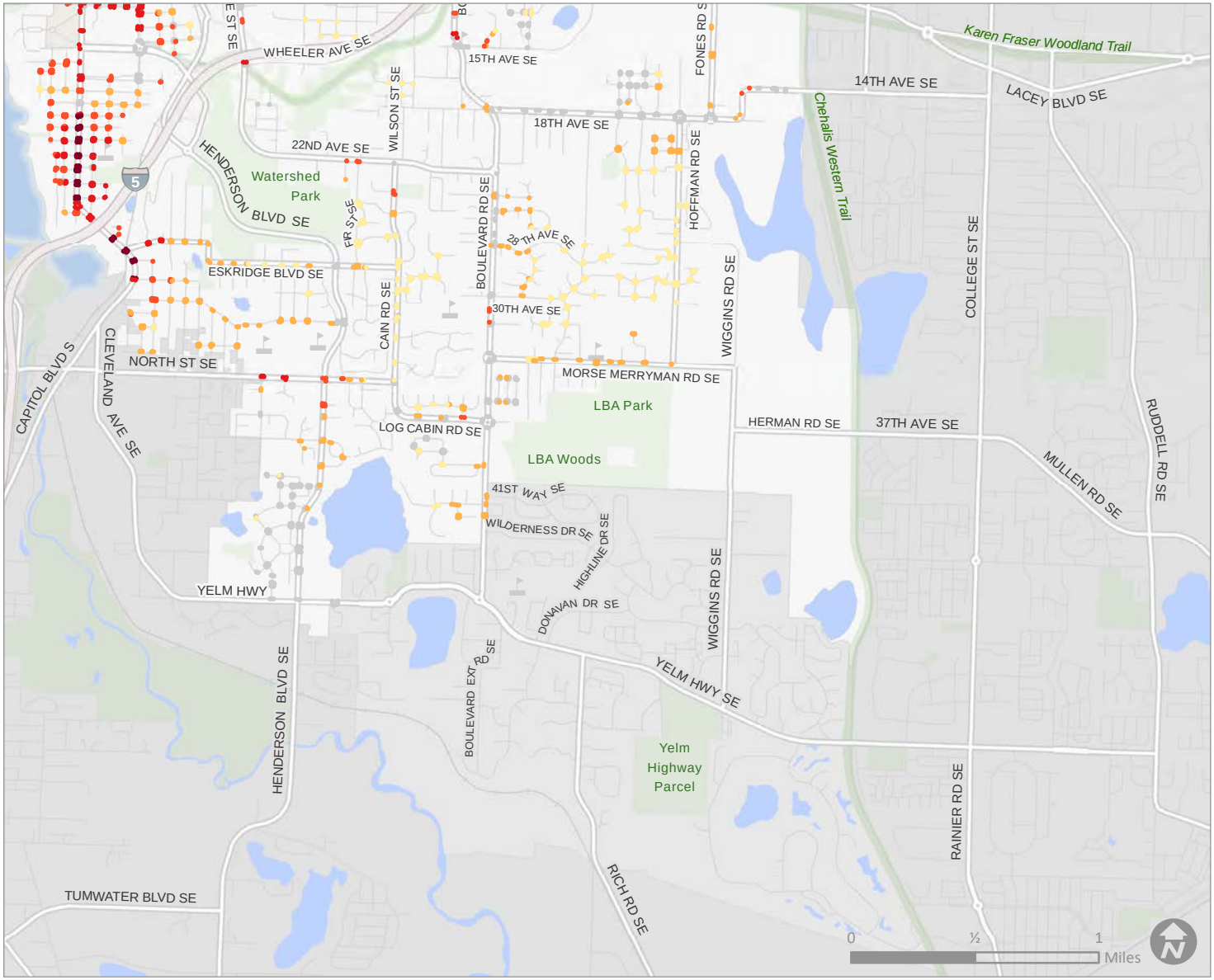
Curb ramps

Higher score = higher priority

- 66 - 81
- 53 - 65
- 38 - 52
- 18 - 37
- 0 - 17
- Compliant with current standard

City Limits

Urban Growth Area



Pathways

Pathways are shortcuts for bicyclists and pedestrians that link streets to parks, schools, trails, shopping areas, and other streets. Pathways give bicyclists and pedestrians safer and more direct routes. Olympia has many existing pathways. Some are formal, or paved and have signs, and some are informal, or dirt paths with no signs. Our approach to pathways is to:

- Improve existing informal pathways, and
- Identify where we need new pathways.

In the first story map, we asked," How important do you think pathways are for people walking and biking?" The average score of the responses was 4.2. (4 was "somewhat agree" and 5 was "strongly agree.")

System target

Existing informal pathways will be improved, followed by building pathways in locations where they are needed (based on a route directness measure).

Identification

The City maintains a GIS inventory of all known existing pathways. We filtered for those that do not have a hard surface, meaning it would be difficult to use the pathways with a walking aid or a stroller.

To identify new pathways that need to be built, we used GIS to analyze whether a pedestrian would have to walk very far out of their way to get to their destination. The result was a "route directness index" (RDI), which we show as a heat map. Places where a pedestrian can walk fairly directly to their destination are blue, and places where a pedestrian has to detour very far out of their way are red. By looking at the red areas of the map, we can see where we need new pathways.

Prioritization

We scored the existing informal pathways and the potential new ones as follows:

Within 2000 feet of a school	35 points
Within 800 feet of a trail	20 points
In a disconnected area (based on RDI)	up to 25 points

Pathways project list

San Mar Drive pathway
from San Mar Drive to the Chehalis Western Trail

Coulter Street pathway
from Coulter Street to the Chehalis Western Trail

Bing Street pathway
from Jackson Avenue to Harrison Avenue commercial area

Vista Avenue pathway
from Vista Avenue to Washington Middle School

Orange Street pathway
from Orange Street to Hazard Lake Place

Morse Road pathway
from Morse Road to Washington Middle School

Shelburne Court pathway
from Shelburne Court to Rejoice Way

Langridge Loop pathway
North from Langridge Loop (north segment) to Ethel Street Pathway

Langridge Loop pathway
South from Fox Run Drive to Langridge Loop (north segment)

Raintree Court pathway
from Raintree Court to Nut Tree Loop Pathway South

Nut Tree Loop pathway
South from Nut Tree Loop to Raintree Court

Nut Tree Loop pathway
North from Nut Tree Loop to Raintree Court

Walnut Loop pathway
from Ethel Street Pathway to Walnut Loop (west segment)

Sherwood Drive pathway
East from Sherwood Drive to Washington Middle School

Sherwood Drive pathway
West from Sherwood Drive to Washington Middle School

Capital High pathway
from Capital High School to Evergreen Villages Apartments

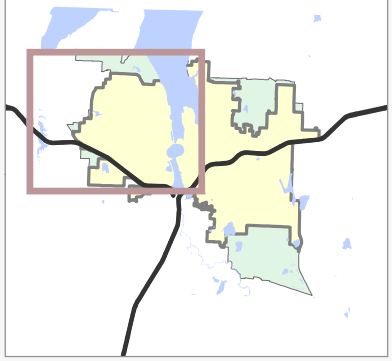
The first set of maps shows the existing pathways we identified as needing to be improved, with those on the 20-year list highlighted.

The second set of maps shows the potential future pathway locations we identified from the RDI analysis, all of which scored lower than the existing pathways on the 20-year list. These will be addressed after existing informal pathways have been improved, or as opportunities arise. The full network, both the existing pathways and the locations of potential future pathways, is over 81 projects.

The Raintree Court and Nut Tree Loop pathways are also priorities in the low-stress bicycle network.

Pathways | West

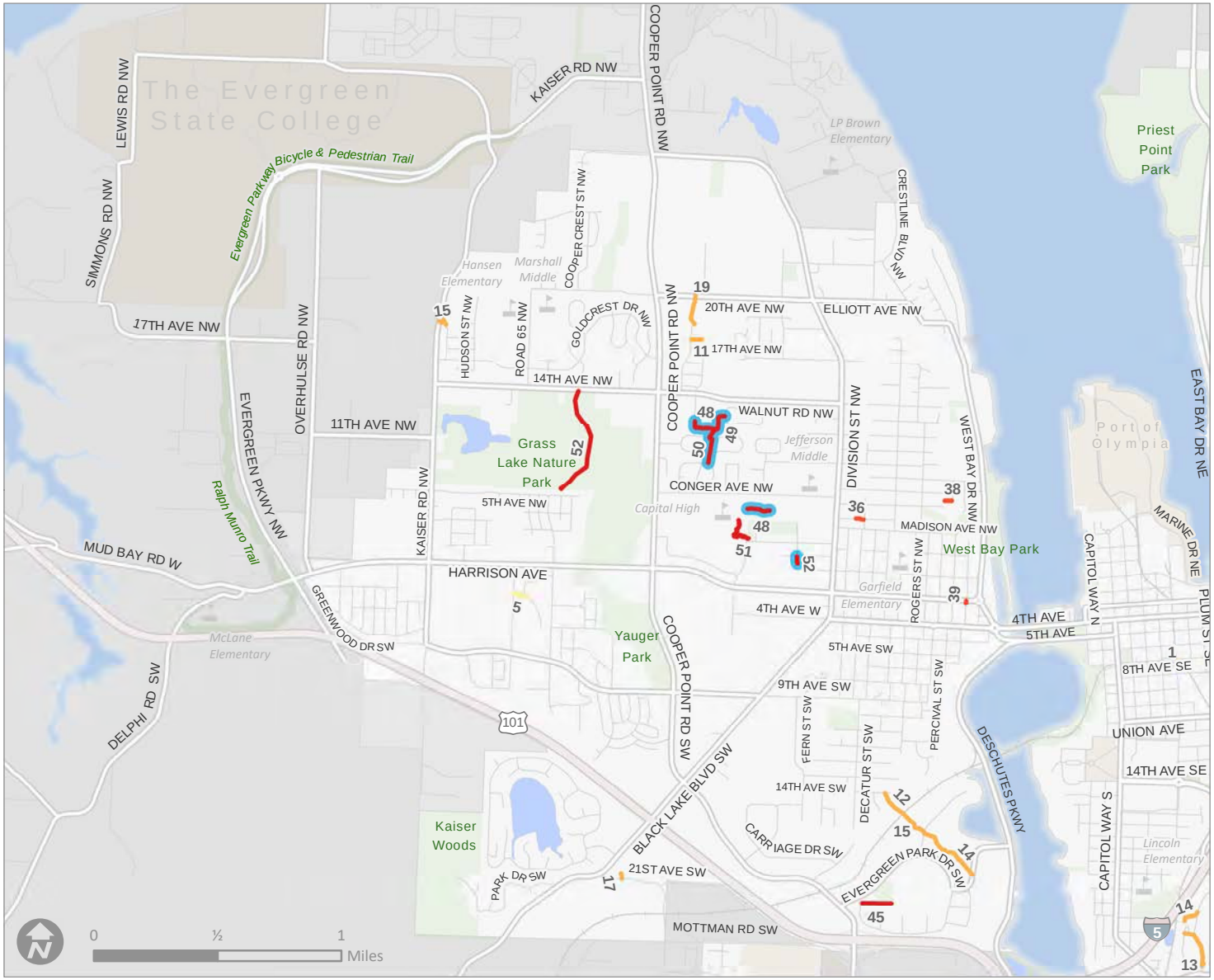
Vicinity map



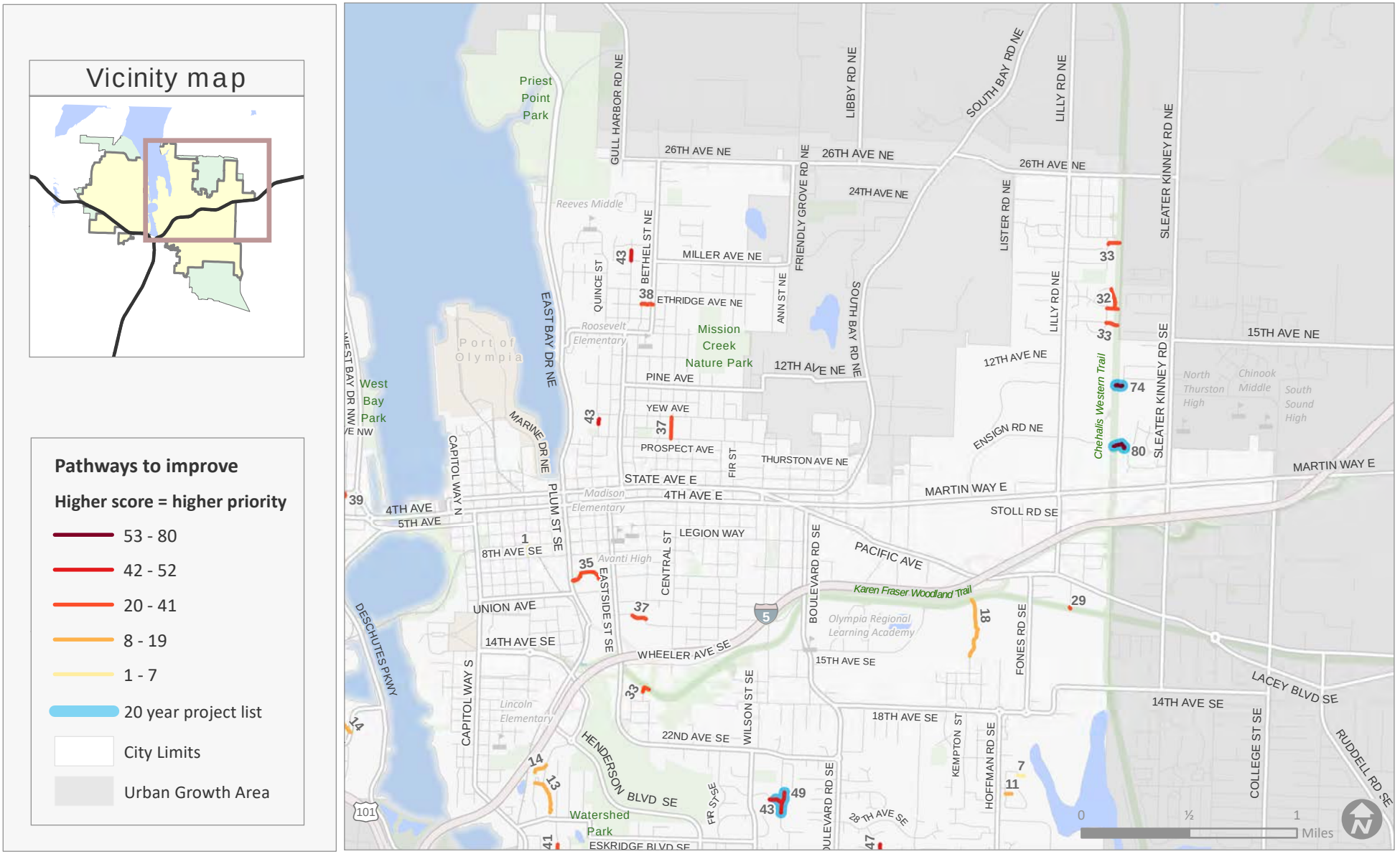
Pathways to improve

Higher score = higher priority

- 53 - 80
- 42 - 52
- 20 - 41
- 8 - 19
- 1 - 7
- 20 year project list
- City Limits
- Urban Growth Area

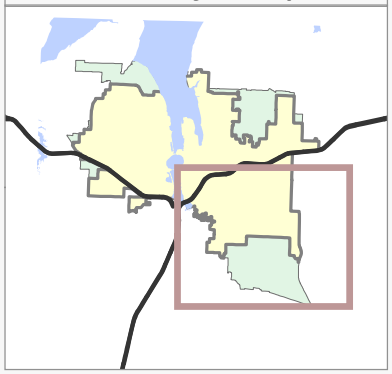


Pathways | Northeast



Pathways | Southeast

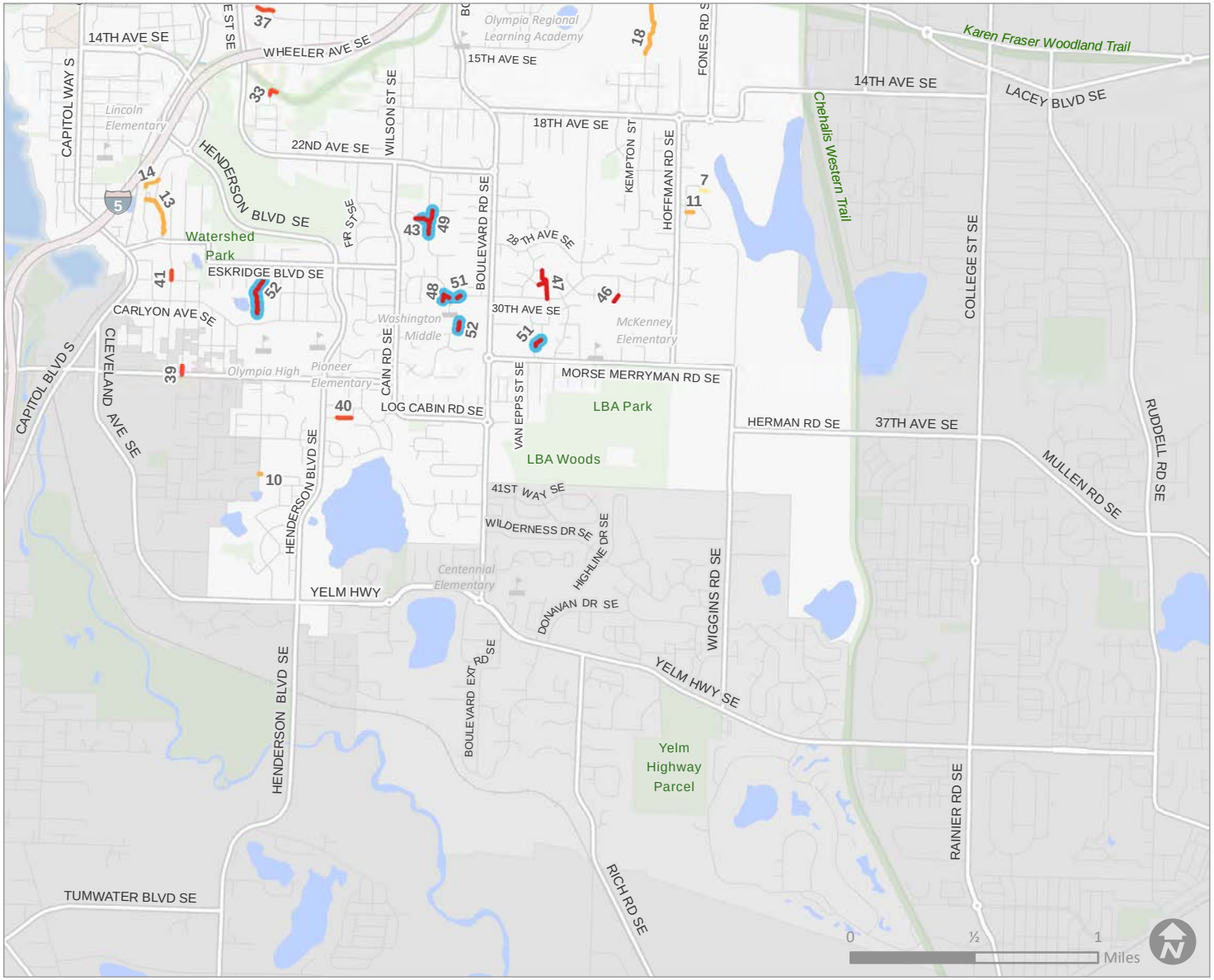
Vicinity map



Pathways to improve

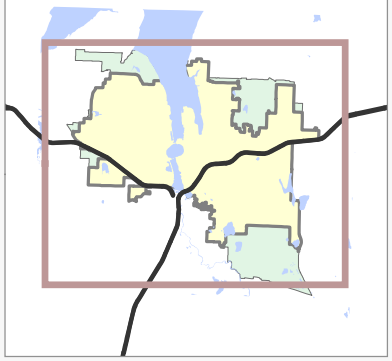
Higher score = higher priority

- 53 - 80
- 42 - 52
- 20 - 41
- 8 - 19
- 1 - 7
- 20 year project list
- City Limits
- Urban Growth Area



Pathways | Heat Map

Vicinity map



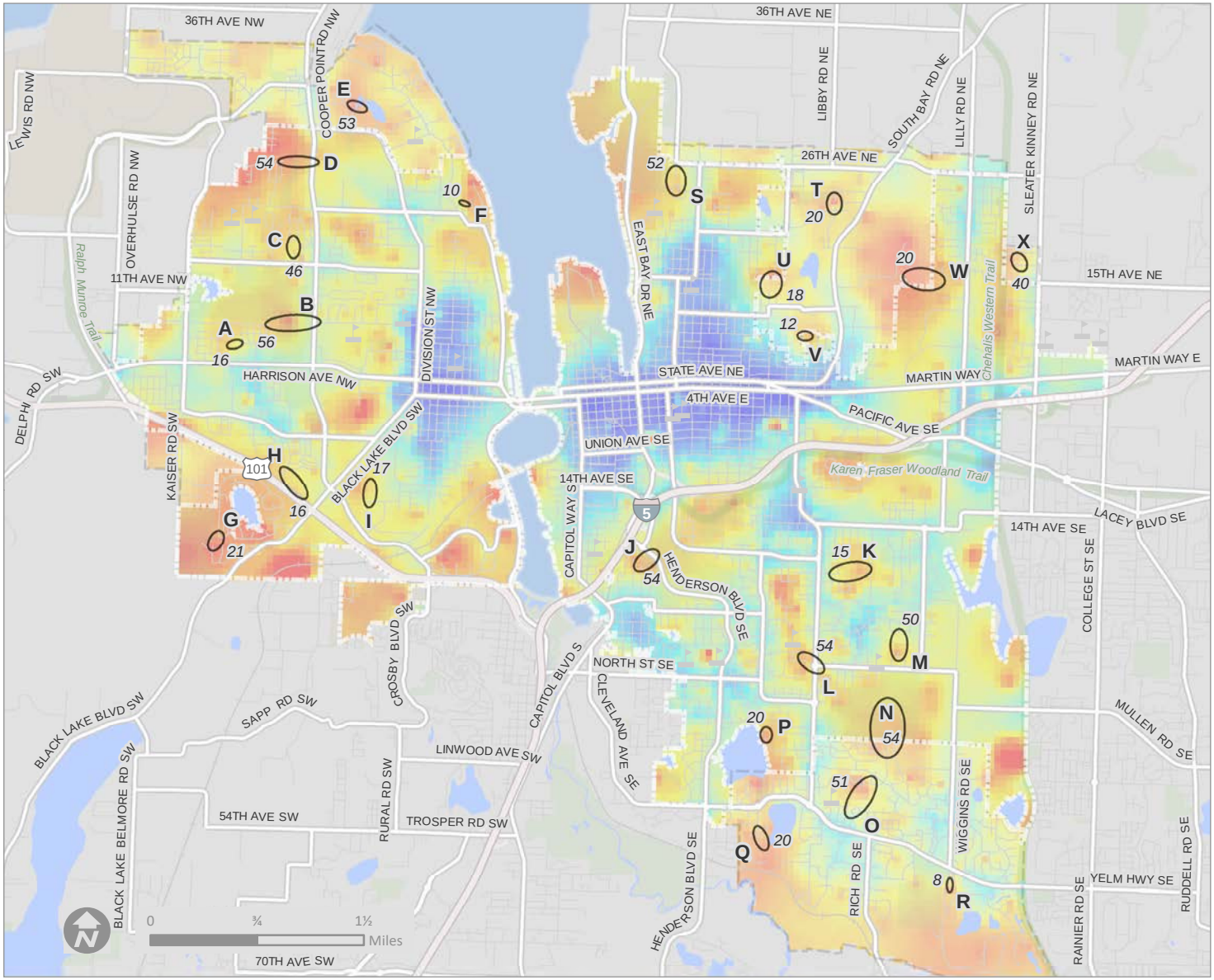
Places where we need a pathway

Higher score = higher priority

- Pathway needed
- City Limits
- Urban Growth Area

Route directness index

- Good walkability
- Poor walkability



Low-Stress Bike Network Projects

The low-stress bike network is for people who want to bike but prefer minimal interactions with cars.

In the first story map, we explained what a low-stress bicycle network is and asked, "Do you agree that it is important to build a low-stress bike network?" The average score of the responses was 4.5. (A score of 4 is "somewhat agree" and a score of 5 is "strongly agree.")

System target

The low-stress bike network provides a route every half mile, so that no one is more than a quarter mile from one.

Identification

A few types of projects make up the low stress bike network:

Bike corridors are on low-volume, low-speed neighborhood streets. We add signs and pavement markings, and we change intersections with busy streets to make them easier to cross. Not every part of Olympia has a grid of low-volume streets that lend themselves to being bike corridors, so we cannot build them every half mile. We need to complement them with other types of bicycle facilities.

Enhanced bike lanes are planned on major streets to link up bike corridors and knit the network together. Enhanced bike lanes are primarily built in coordination with resurfacing projects, when lane reconfiguration can be done. They are also built as part of major street reconstruction projects.

Paved trails separate people biking from traffic. They are typically identified and built by the City's Parks, Arts and Recreation Department. City Transportation staff will communicate the trails that are part of the low stress bike network to the Parks Department to consider in its trail planning.

Pathways and other site-specific improvements are critical links in the network. We will add them to bike corridor and enhanced bike lane projects for construction efficiency.

Prioritization

There is no strict set of prioritization criteria applied to these projects. Considerations for implementation will include:

- Destinations: connecting to schools, downtown, and the existing trail network.
- Network spacing: while half mile spacing will not be achieved in the 20-year timeframe, we evenly distributed the routes throughout the city.
- Coordination opportunities: we will build many enhanced bike lanes with resurfacing and reconstruction projects.

Bike corridor project list:

- South Downtown to I-5 Trail bike corridor
- Northwest Neighborhood bike corridor
- Southwest Neighborhood bike corridor
- 5th Avenue SW bike corridor
- Olympia-Prospect-Fir NE bike corridor
- Tullis-Quince-Reeves Middle School bike corridor
- Pear Street bike corridor connection
- Eskridge-Lybarger bike corridor
- 10th-Union-Wilson bike corridor
- Kempton Street bike corridor
- McKenny Elementary bike corridor
- 7th Avenue SE bike corridor connection
- Boundary Street bike corridor connection
- Fir-Forest Hill bike corridor
- Brown-Beacon-16th bike corridor
- Morse-30th bike corridor
- Nut Tree-Brown bike corridor
- Priest Point Park-26th bike corridor
- Alta Street bike corridor

Photo Credit/source: https://www.flickr.com/photos/nacto

Enhanced bike lane projects

Lakeridge Drive
restriping for enhanced bike lanes

22nd Avenue
from Boundary to Fir

18th Avenue
from Frederick Street to Boulevard Road

9th Avenue
from Black Lake Boulevard to Fern Street

Olympia Avenue/Thurston Avenue
from East Bay Drive to Washington Street

Enhanced bike lanes with proposed lane reconfiguration

Eastside Street
from Legion Way to Wheeler Avenue

Evergreen Park Drive
full loop

Capital Mall Drive
from Cooper Point Road to Black Lake Boulevard

7th Avenue
from Kaiser Road to Cooper Point Road

Fern Street
from 9th to 11th Avenue

Henderson Boulevard
from North Street to Lake Cove Loop

Henderson Boulevard
from I-5 to North Street (proposed with Resurfacing project)

State Avenue
from Central Street to Wilson Street (proposed with Resurfacing project)

4th Avenue
from McCormick Street to Frederick Street (proposed with Resurfacing project)

Capitol Way
from Maple Park to City Limits (standard bike lanes proposed with Resurfacing project)

East Bay Drive
from Olympia Avenue to Howard Avenue (proposed with Resurfacing project)

Photo Credit/source: https://www.flickr.com/photos/nacto

Enhanced bike lanes with proposed major street reconstruction projects

- Fones Road
  from Pacific Avenue to 18th Avenue
- Mottman Road
  from Mottman Court to South Puget Sound Community College
- Washington Street
  from Legion to Marine Drive
- Martin Way
  from Phoenix to Lilly Road

Trail projects

- Grass Lake Trail
- Yauger Park Trail

Pathways project list

Cain Road pathway
from to Cain Road to Morse Road

Onyx Street pathway
from Onyx Street to the I-5 Trail

Garfield Avenue pathway
from Perry Street to Thomas Street

Sherwood Drive South pathway
from Sherwood Drive to Washington Middle School

Boundary Street pathway
from Boundary Street to the Karen Fraser Woodland Trail

Carlyon Avenue pathway
from Henderson Boulevard to Centerwood Drive

McCormick Street pathway
from Centerwood Drive to McCormick Street

Kings Way pathway
from 28th Avenue to Kings Way

Raintree Court pathway
from Raintree Court to Nut Tree Loop Pathway south

Nut Tree Loop pathway south
from Nut Tree Loop to Raintree Court

Nut Tree Loop pathway north
from Nut Tree Loop to Raintree Court

The Raintree Court and Nut Tree Loop pathways are also priorities in the pathways project list.

Other improvements

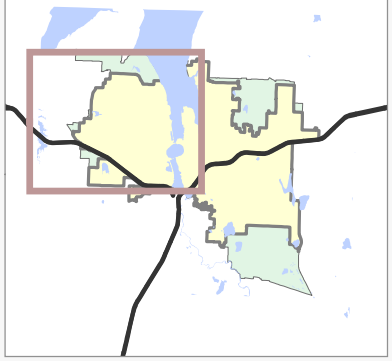
Alley improvements
from Fir Street bike corridor to Ralph's Thriftway commercial area

4th and 5th Avenue isthmus
Connectivity within the isthmus and to the westside. The isthmus is the area roughly from Columbia Street in the downtown to Sherman Street on the westside. See also Chapter 9.

McKenny Elementary bike corridor

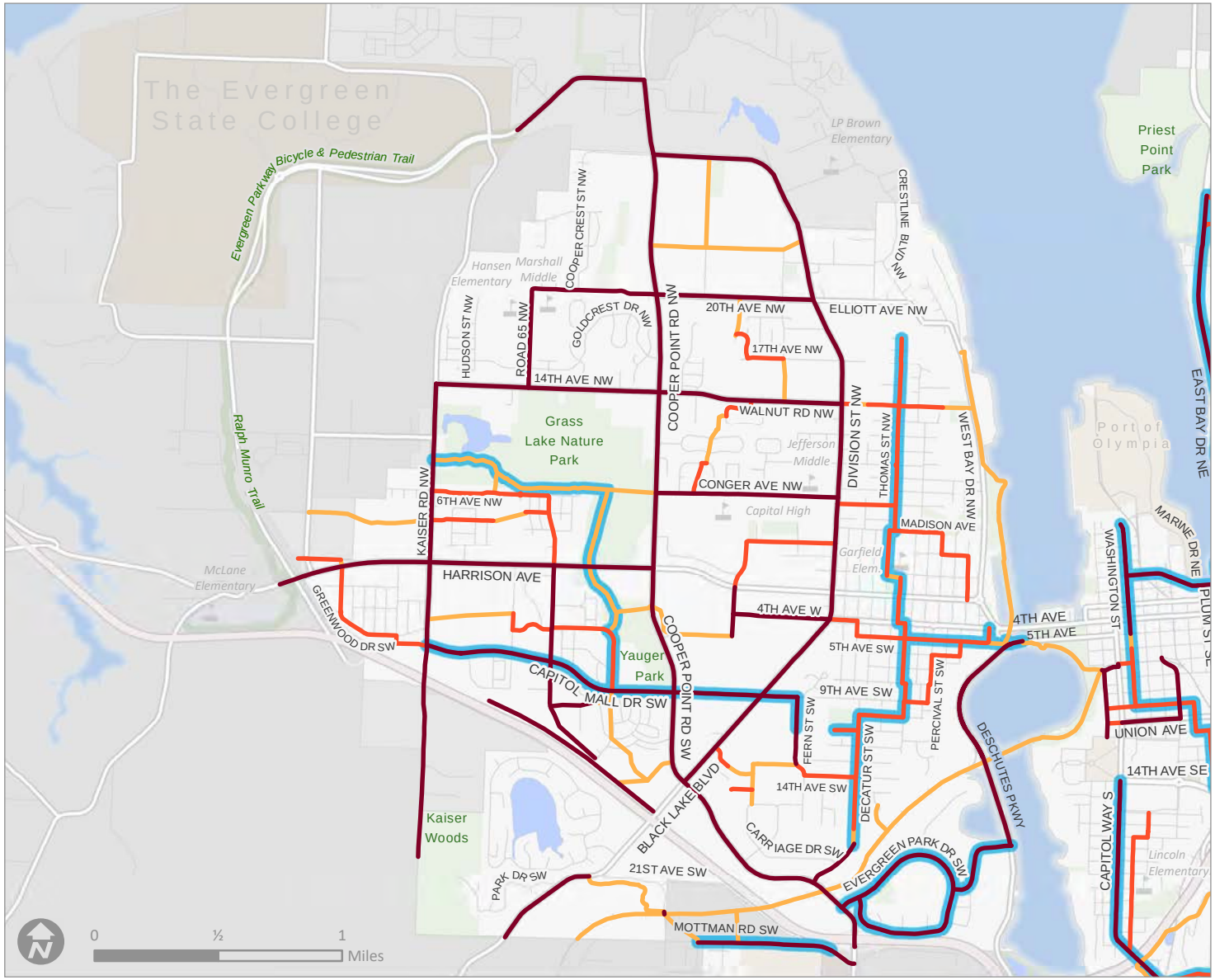
Low-Stress Bike Network | West

Vicinity map

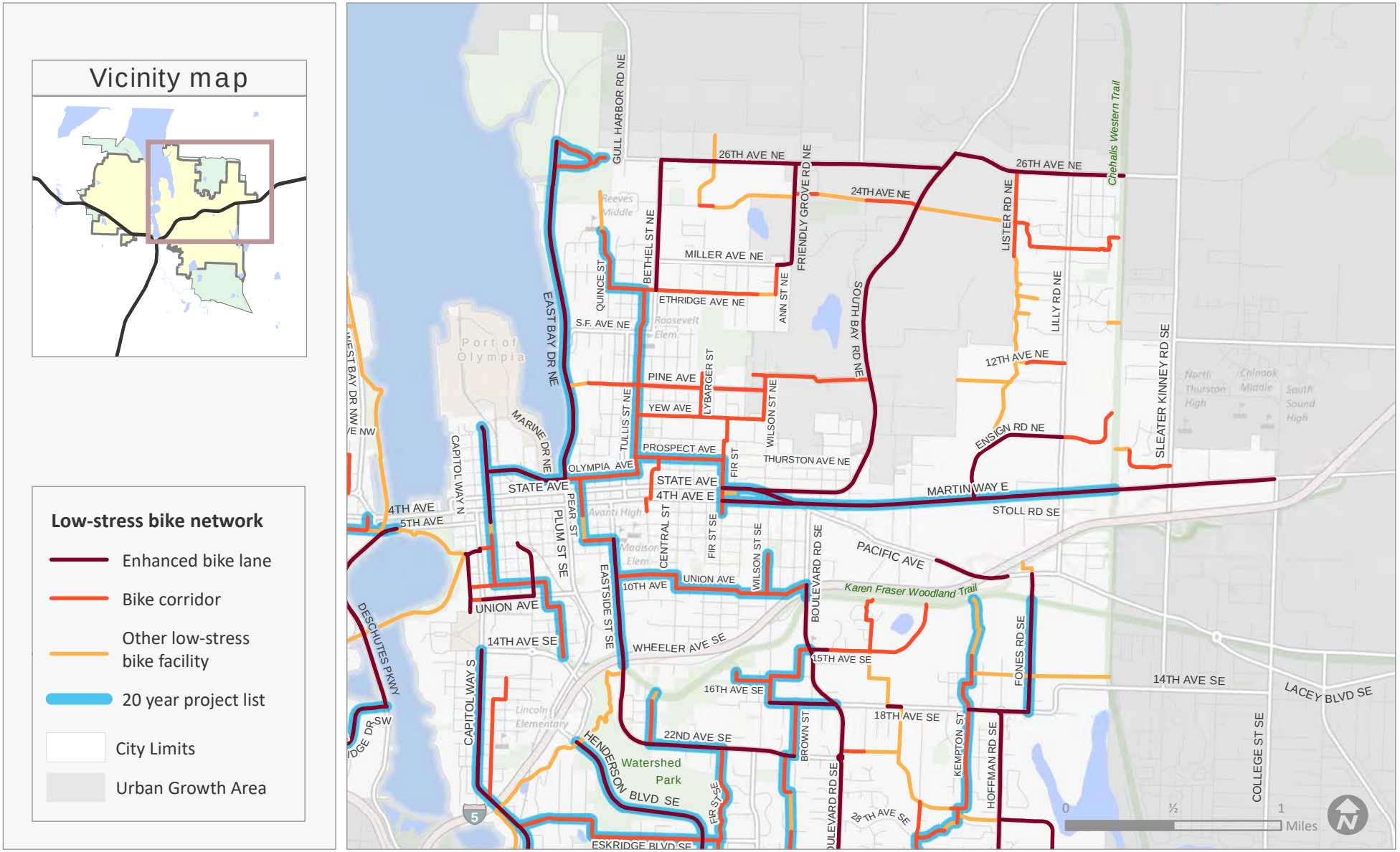


Low-stress bike network

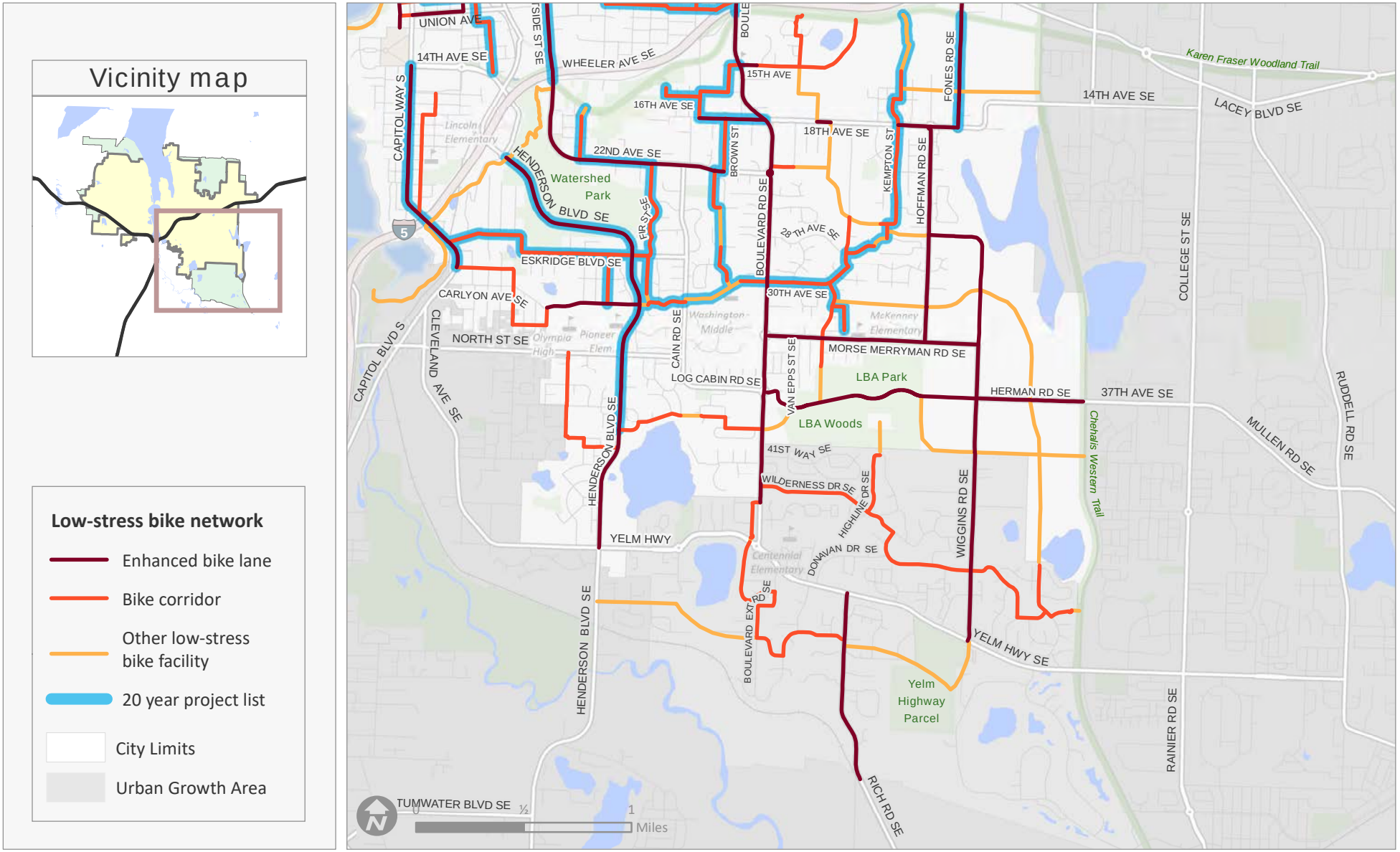
- Enhanced bike lane
- Bike corridor
- Other low-stress bike facility
- 20 year project list
- City Limits
- Urban Growth Area



Low-Stress Bike Network | Northeast



Low-Stress Bike Network | Southeast



Major Street Reconstruction

Street reconstruction projects are projects that combine many elements, such as bike lanes, sidewalks, enhanced crosswalks, curb ramps, intersection improvements, resurfacing, landscaping, and lighting. These projects draw from many funding sources and are significant in scope and cost.

System target

To get an economy of scale by combining many needs on a street into one project.

Identification

These are streets that need resurfacing, sidewalks, enhanced crosswalks, bike lanes, improvements to vehicle safety or flow, and sometimes new utilities under the street.

Prioritization

A range of factors influence the priority of these projects. Many projects are driven by the condition of the pavement, some are driven by the compounded need for additional features such as sidewalks and bike lanes, and some are driven by safety concerns. The US 101/West Olympia Access Project is driven by congestion and US 101 access needs.

Major street reconstruction projects

Franklin Street from Legion Way to State Avenue

The scope of this project includes concrete reconstruction of the street, curbs and sidewalks, adding new landscaping, lighting, street furniture, and public art. Planned for 2021 construction. This project was defined during the 2018/2019 Downtown Street Improvement Project scoping process.

Fones Road from Pacific Avenue to 18th Avenue

The scope of this project includes enhanced bike lanes, sidewalks, planter strips, stormwater swales, new lighting, enhanced crosswalks, a trail crossing improvement, a compact roundabout, an asphalt overlay, lane reconfiguration, and medians. Planned for 2023 construction. The scope of this project is based on the 2018/2019 Fones Road predesign study.

Mottman Road from Mottman Court to South Puget Sound Community College

The scope of this project includes sidewalk and lighting on one side, bike lanes on both sides, and an asphalt overlay. This is a partnership with the City of Tumwater and includes legislatively approved Connecting Washington funding (anticipated 2023-2027).

Martin Way from Phoenix Street to Lilly Road

The tentative scope of this project includes enhanced bike lanes, sidewalks, planter strips, stormwater facilities, new lighting, transit improvements, enhanced crosswalks, and medians. The 2020/2021 Martin Way Corridor Study will further define the needed improvements.

Wiggins Road from 27th Avenue to south City Limits

The tentative scope of this project includes relocating the ditch or building underground stormwater conveyance, and adding sidewalk and bike lanes or a shared use path to at least one side of the street. This is a cooperative project with the City's stormwater utility.

Capitol Way from State Avenue to Union Avenue

The tentative scope of this project includes lane removal and reconfiguration, widened sidewalks or making a pedestrian zone, upgraded landscaping, enhanced crosswalks, and improved bus stops. This scope is based on the 2016 Greening Capitol Way Study and the 2018/2019 Downtown Street Improvement Project scoping process.

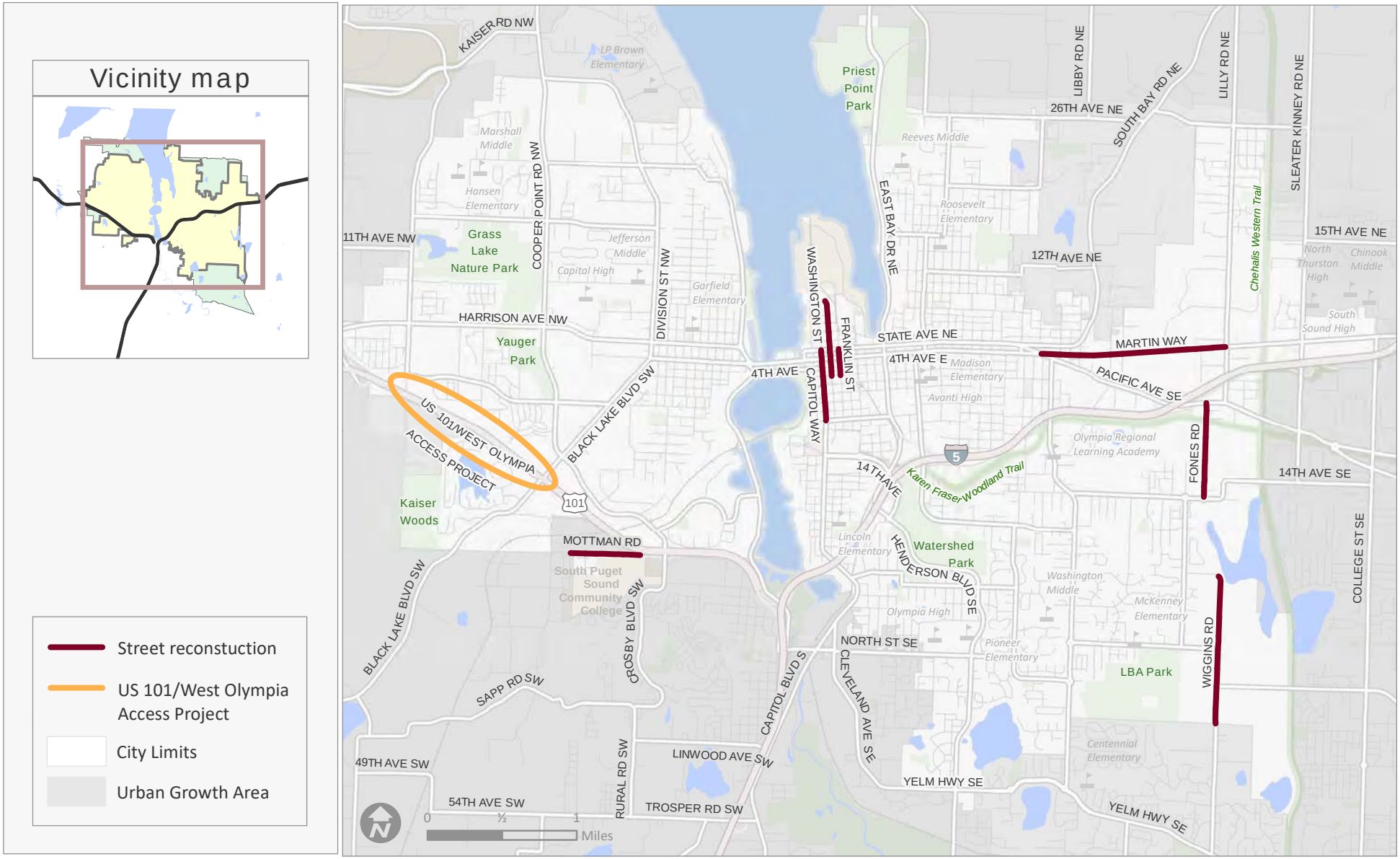
Washington Street from Legion Way to Market Street

The scope of this project includes lane removal and reconfiguration, enhanced bike lanes, curb and sidewalk reconstruction, and new landscaping. The street is proposed to be one lane, one way northbound, with special accommodation of transit buses near the Olympia Transit Center. This project was defined during the 2018/2019 Downtown Street Improvement Project scoping process.

US 101/West Olympia Access Project

Scope includes new access ramps to US 101 at Kaiser Road and Yauger Way. The first phase of this project will complete the design, environmental permit and mitigation work, and right-of-way acquisition. The final project will include a new westbound off-ramp from US 101 to Kaiser Road and an eastbound on-ramp from Kaiser Road to US 101. The project will also construct a new westbound off-ramp from US 101 to Yauger Way via an at-grade connection through the existing interchange at US 101 and Black Lake Boulevard.

Major Reconstruction | Citywide



Resurfacing Projects

We maintain the condition of our streets by resurfacing them with chip seal or asphalt. Chip seal resurfacing is a layer of tar followed by an application of rock that becomes compacted over time. Asphalt overlays are an application of hot asphalt mix which is spread and compacted into place. Chip seals are less costly and less disruptive to apply than asphalt, but they do not last as long.

When we resurface a street, we can also reconfigure the lanes when we paint them back on. Sometimes we can add features such as bike lanes, enhanced crosswalks, wider sidewalks, or bus-only lanes. Below, we propose reconfiguring several street segments when we resurface them, but we will need to do further analysis before pursuing them.

With limited right-of-way and buildings and curbs already built along a street, widening for new features is not always an option. This is one of the reasons repurposing the street space we have is important. Reconfiguration is one way to rebalance the street system to serve more people.

System target

Our current average pavement condition rating on the whole street system is 67, and the target is 75. A rating of 100 means all our streets are in excellent condition. Unlike other projects in this plan that have finite needs, the need for resurfacing projects is ongoing.

Identification

We use the pavement condition rating system to evaluate the condition of the street surfaces. Depending on the level of deterioration, a street may require a chip seal or an asphalt overlay.

Prioritization

We prioritized the projects based on pavement condition ratings. We will adjust resurfacing priorities annually, as pavement conditions can change quickly. Each year, we will update the *Capital Facilities Plan (CFP)* to reflect the near-term projects.

While we list the chip seal projects here before asphalt projects, they are not a higher priority. In any given year, we may do some chip seal and some asphalt projects, as needed.

Resurfacing projects

Chip seal resurfacing projects:

11th Avenue
from Capitol Way to Jefferson Street

Puget Street
from Yew Avenue to San Francisco Avenue

Sleater Kinney Road
full length within City Limits

Central Street
from 11th Avenue to 4th Avenue

Harrison Avenue
from Yauger Way to Division Street

Cooper Point Road
from Harrison Avenue to 14th Avenue

Cooper Point Road
from Black Lake Boulevard to Harrison Avenue

Olympic Way
full length

Columbia Street
from State Avenue to Corky Street

Franklin Street
from Thurston Avenue to Market Street

Plum Street
from Henderson Boulevard to State Avenue

Carlyon Avenue
from Capitol Way to Henderson Boulevard

Eastside Street
from 22nd Avenue to I-5 bridge

22nd Avenue
from Eastside Street to Wilkins Street

18th Avenue
from Wilson Street to Boulevard Road

Hoffman Avenue
from Morse-Merryman Road to 18th Avenue

9th Avenue
from Columbia Street to Adams Street

10th Avenue
from Columbia Street to Cherry Street

7th Avenue
from Capitol Way to Adams Street

Pacific Avenue
from Phoenix Street to City Limits

9th Avenue
from Black Lake Boulevard to Decatur Street

Jefferson Street
from 11th Avenue to 7th Avenue with possible reconfiguration for bike lanes or a sidewalk buffer and on-street parking expansion

4th Avenue
from McCormick Street to Fredrick Street, with possible reconfiguration from Fir Street to Phoenix for bike lanes

Capitol Way
from State Avenue to City Limits, with possible reconfiguration from Maple Park Drive to City Limits for bike lanes

Henderson Boulevard
from I-5 Roundabout to North Street, with possible reconfiguration from I-5 Roundabout to Lake Cove Drive for enhanced bike lanes

East Bay Drive
from Olympia Avenue to Mission Avenue, with possible reconfiguration from Olympia Avenue to Howard Avenue for enhanced bike lanes

Union Avenue
from Columbia to Plum Street, with possible reconfiguration from Capitol Way to Jefferson Street for bike lanes

Asphalt resurfacing projects

4th Avenue
from 4th Avenue Bridge to Plum Street

8th Avenue
from Capitol Way to Chestnut Street

Conger Avenue
from Cooper Point Road to Division Street

4th Avenue
from substation to Sherman Street

Decatur Street
from 9th Avenue to Harrison Avenue

5th Avenue
from Decatur Street to Sherman Street

Elliott Avenue
from Division Street to Crestline Boulevard

Franklin Street
from 11th Avenue to Legion Way

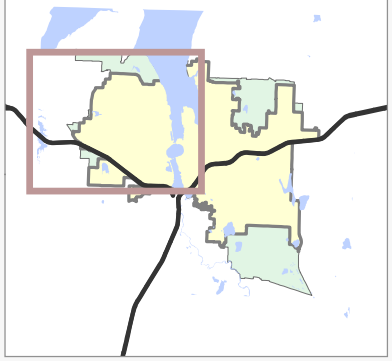
Wheeler Avenue
from Eastside Street to Boulevard Road

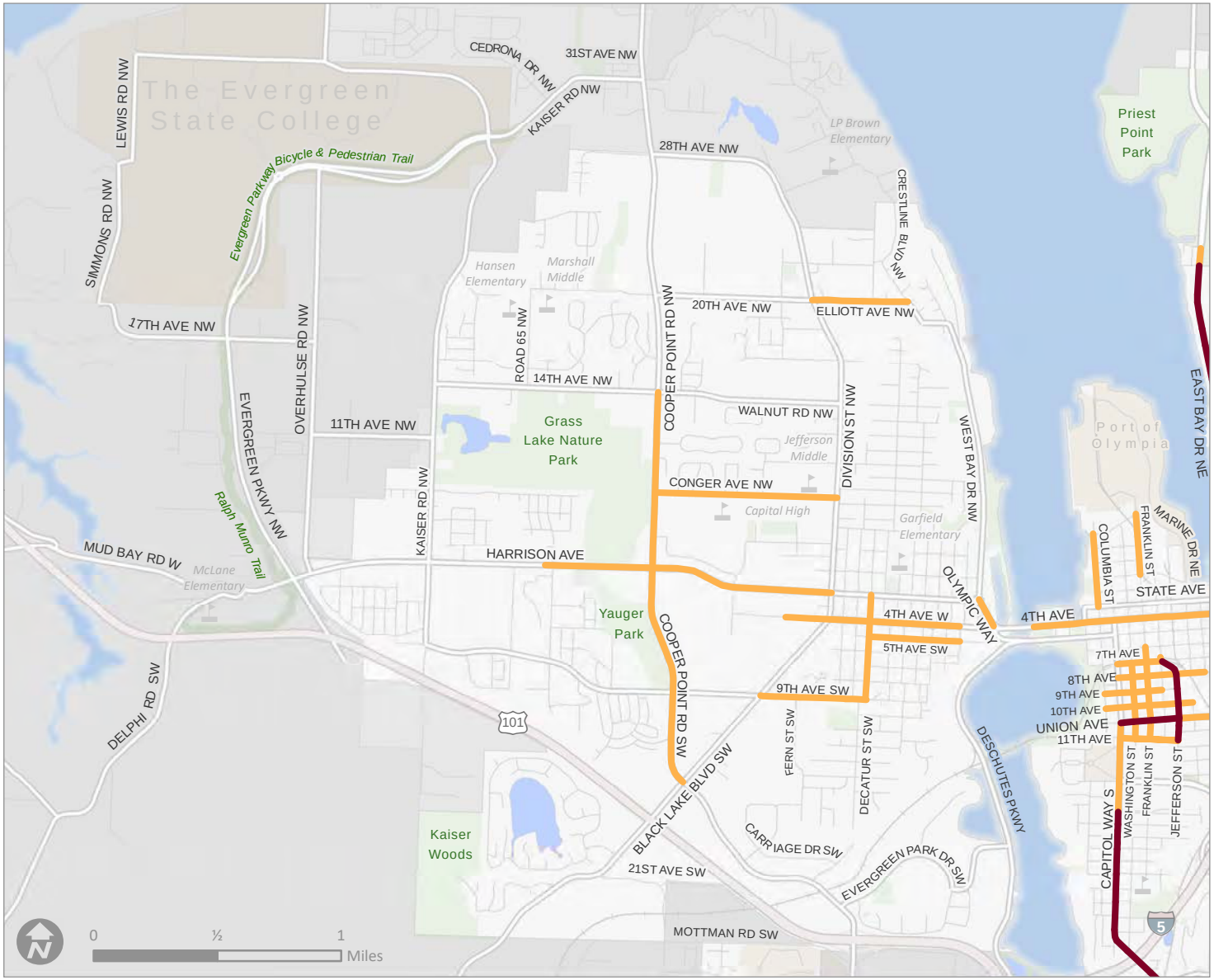
Washington Street
from 11th Avenue to 7th Avenue

State Avenue
from Central Street to Wilson Street, with possible reconfiguration from Fir Street to Pacific Avenue for enhanced bike lanes

Resurfacing/Reconfiguration Projects | West

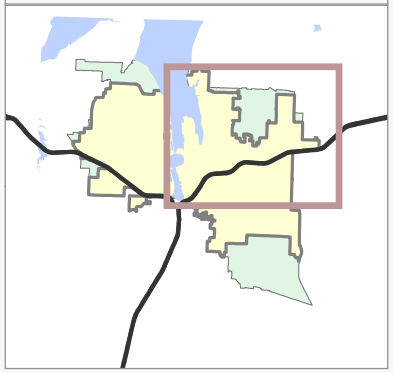
Vicinity map

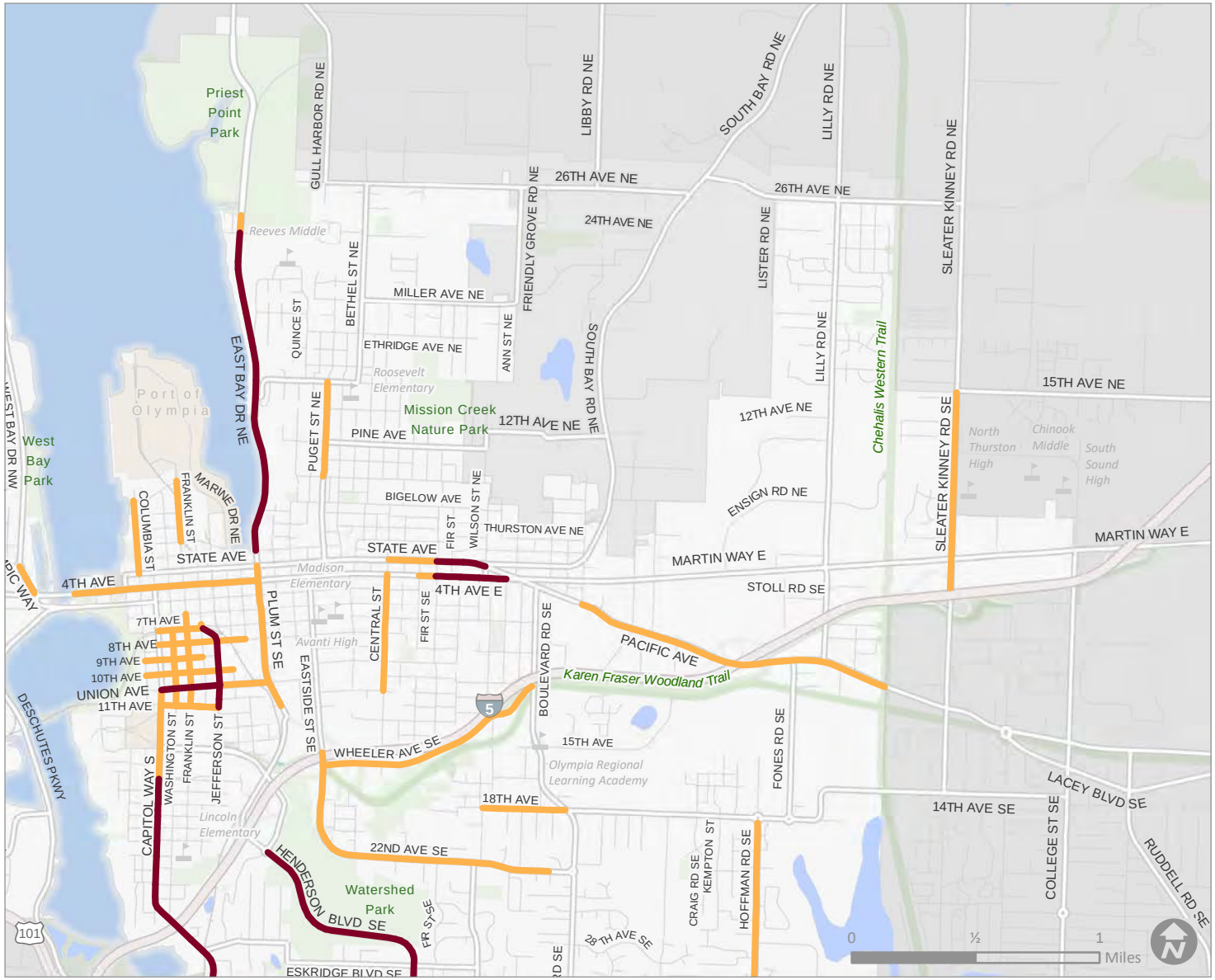




Resurfacing/Reconfiguration Projects | Northeast

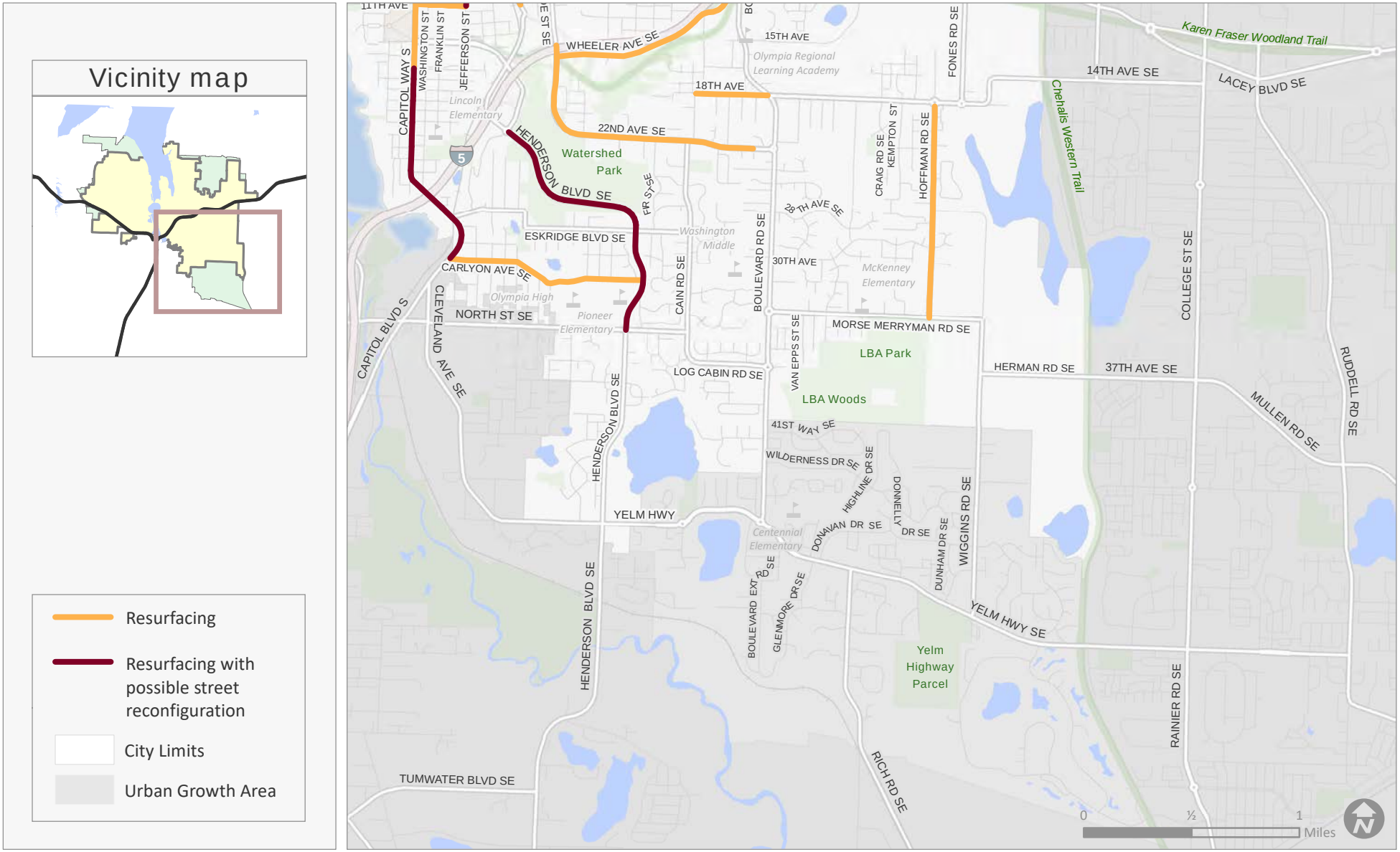
Vicinity map





- Resurfacing
- Resurfacing with possible street reconfiguration
- City Limits
- Urban Growth Area

Resurfacing/Reconfiguration Projects | Southeast



Intersection Improvements

Intersection improvement projects may be either roundabouts or signals. In the 20-year list, we are only proposing roundabouts. Roundabouts are safer and move traffic more efficiently than signalized intersections.

Another possible intersection improvement will be to modify some existing traffic signals to improve transit operations. At some places, we may also add queue jump lanes or bus-only signals.

At traffic signals, we will include accessible devices for people with visual or hearing disabilities when we upgrade them. Accessible signals make a chirping sound, play a recording, or vibrate to tell a pedestrian when they can cross the street.

System target

To improve the safety and function of major intersections for people walking, biking, and driving, and for transit efficiency.

Identification

Intersections needing improvement were identified through an evaluation of:

- Safety issues
- Future vehicle volumes
- Areas of current and future congestion
- Potential street reconfigurations
- Transit routing needs

Prioritization

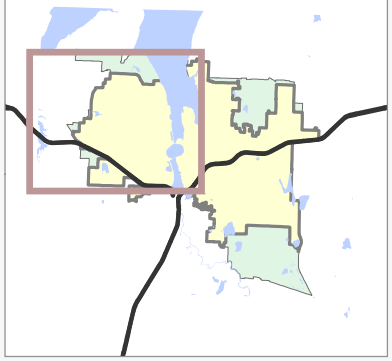
No formal criteria were used. Projects that address multiple needs or that are coordinated with other work were given higher priority.

Roundabout projects

- Fones Road and South Home Depot driveway roundabout
- Lakeridge Drive and Deschutes Parkway roundabout
- Wiggins Road and Herman Road roundabout
- Cain Road and North Street roundabout
- Division Street and Elliott Avenue roundabout
- 4th Avenue and Pacific Avenue roundabout
- Boulevard Road and Pacific Avenue roundabout
- 9th Avenue and Black Lake Boulevard roundabout
- 9th Avenue and Fern Street roundabout
- Eastside Street and Union Avenue roundabout
- Henderson Boulevard and North Street roundabout

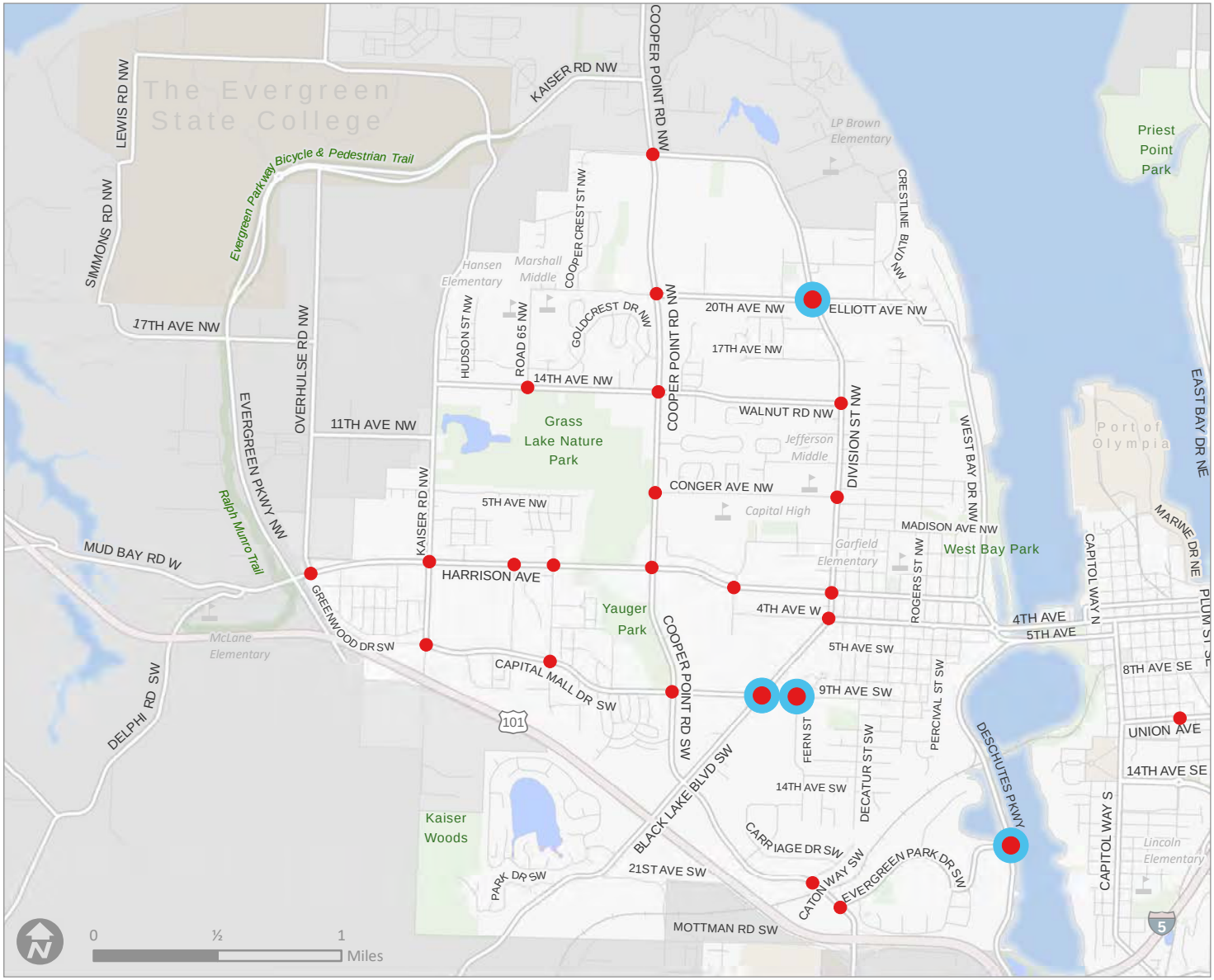
Intersection Improvement Projects | West

Vicinity map

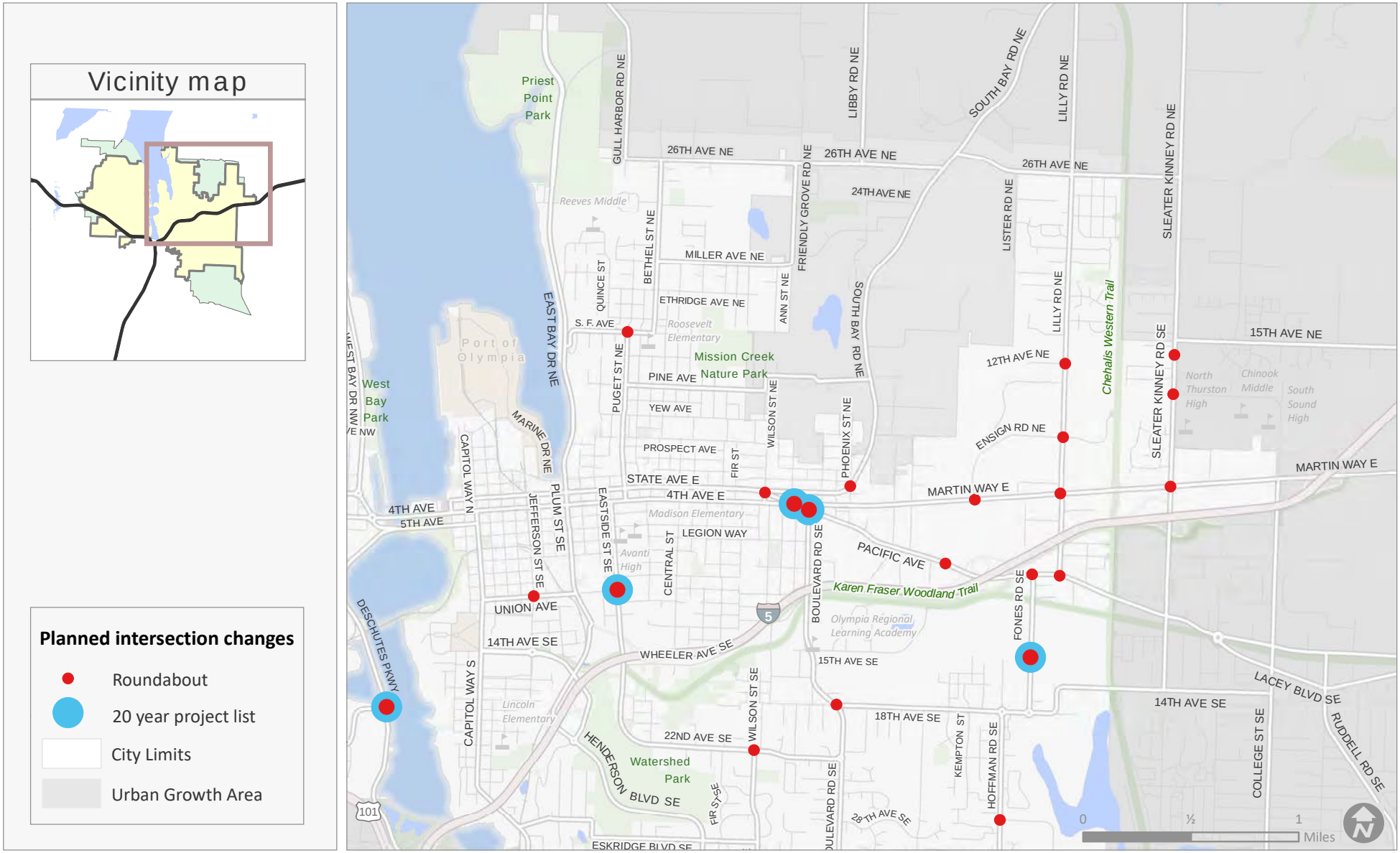


Planned intersection changes

- Roundabout
- 20 year project list
- City Limits
- Urban Growth Area

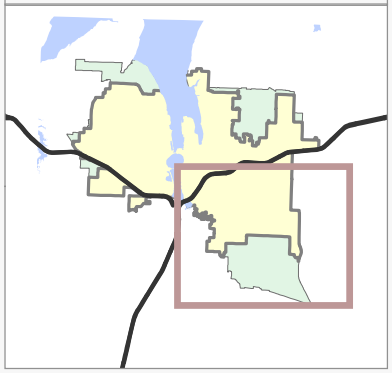


Intersection Improvement Projects | Northeast



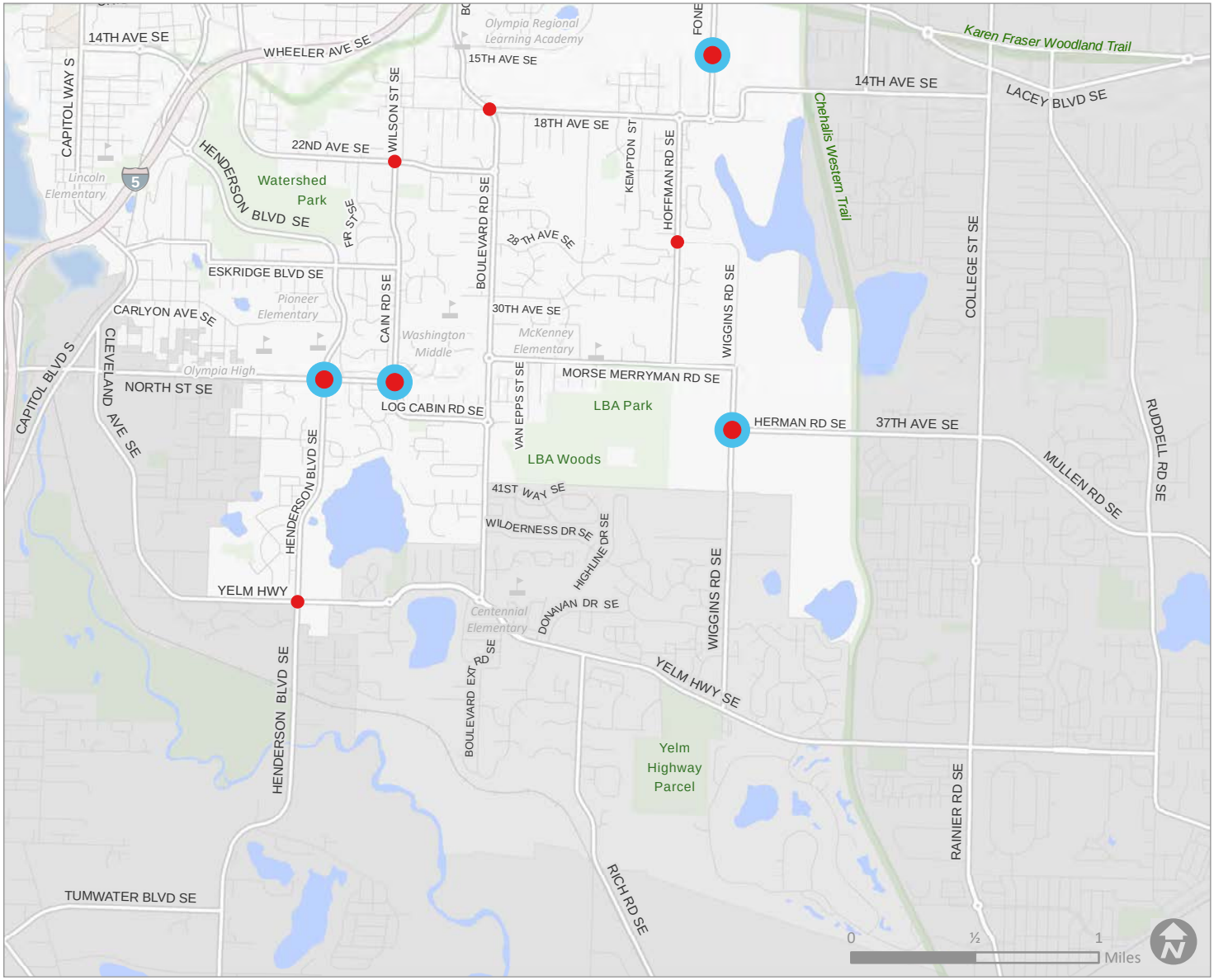
Intersection Improvement Projects | Southeast

Vicinity map



Planned intersection changes

- Roundabout
- 20 year project list
- City Limits
- Urban Growth Area



Safety Projects

While safety is a major emphasis for all projects in this plan, the following are included to address safety at specific locations. These projects are drawn from the *Street Safety Plan*.

System target

Improve the safety of our streets based on a routine analysis of collisions.

Identification

Safety projects are focused on addressing serious and fatal injury collisions, and collisions involving people walking and biking. Every two years, the *Street Safety Plan* will be updated based on an analysis of collisions. Common risk factors will be identified as well as locations of a high number of collisions.

Prioritization

Projects are prioritized based on the risk factors identified either from a systemic safety analysis, or from the number of collisions that have happened at a location.

Safety projects

Pedestrian and bike safety intersection improvements

- State Avenue
  from Pear Street to Chestnut Street
- 4th Avenue and Plum Street
- Lilly Road and Martin Way
- State Avenue and Columbia Street
- Division Street and Conger Avenue
- Plum Street and 8th Avenue

Trail access/crossing improvements

- Boulevard Road and I-5 Bike Trail
  access improvement
- Herman Road and Chehalis Western Trail
  crossing improvement

Bike safety improvements

- State Avenue bike safety markings
  from Tullis Street to Quince Street
- Cooper Point Road and Harrison Avenue
  protected bike intersection improvements

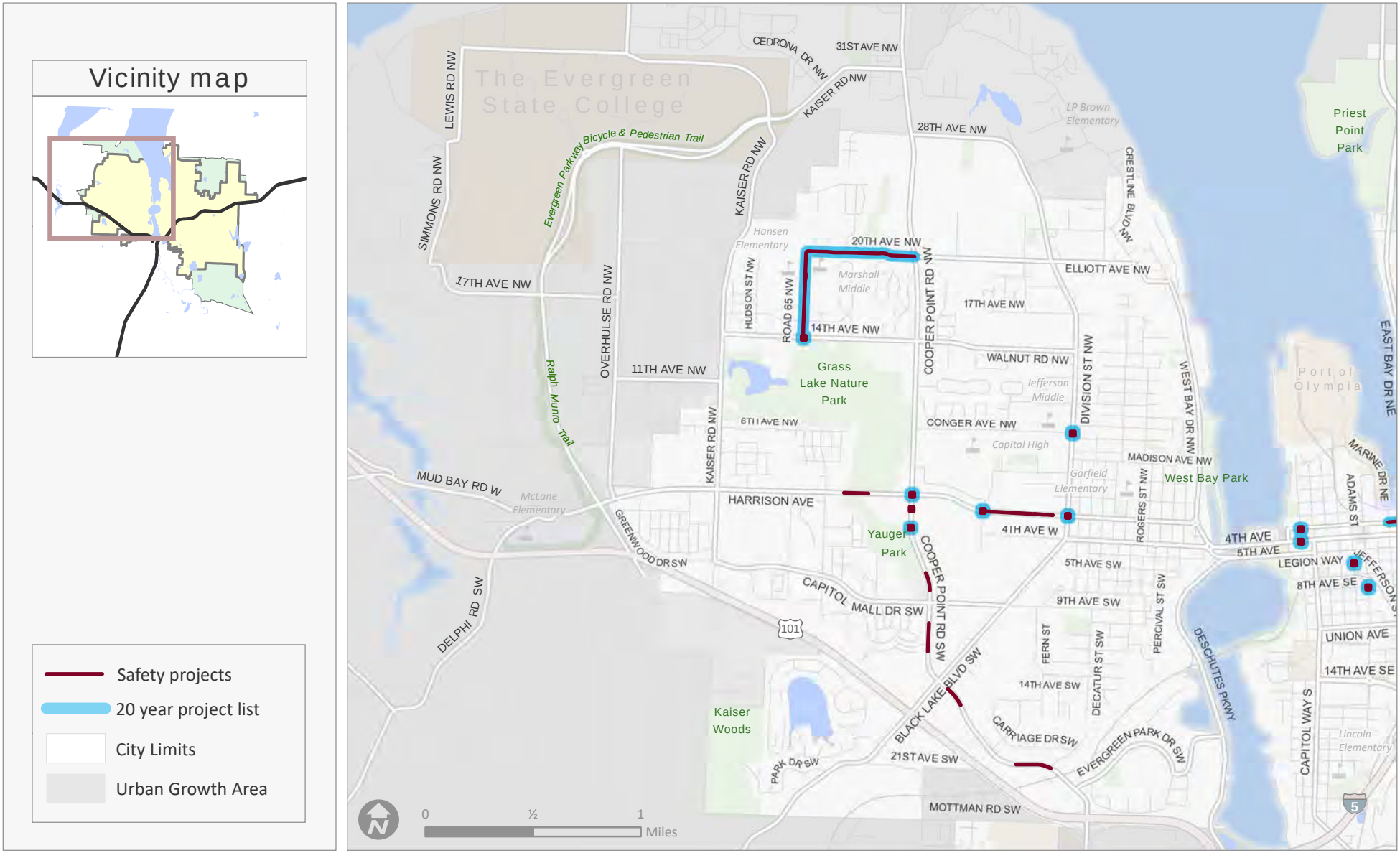
Pedestrian safety improvements

- Harrison Avenue and Kenyon Street
- Harrison Avenue and Division Street
- Cooper Point Road and Skate Park
- Plum Street and 5th Avenue
- Lilly Road and Ensign Road
- 4th Avenue and Columbia Street

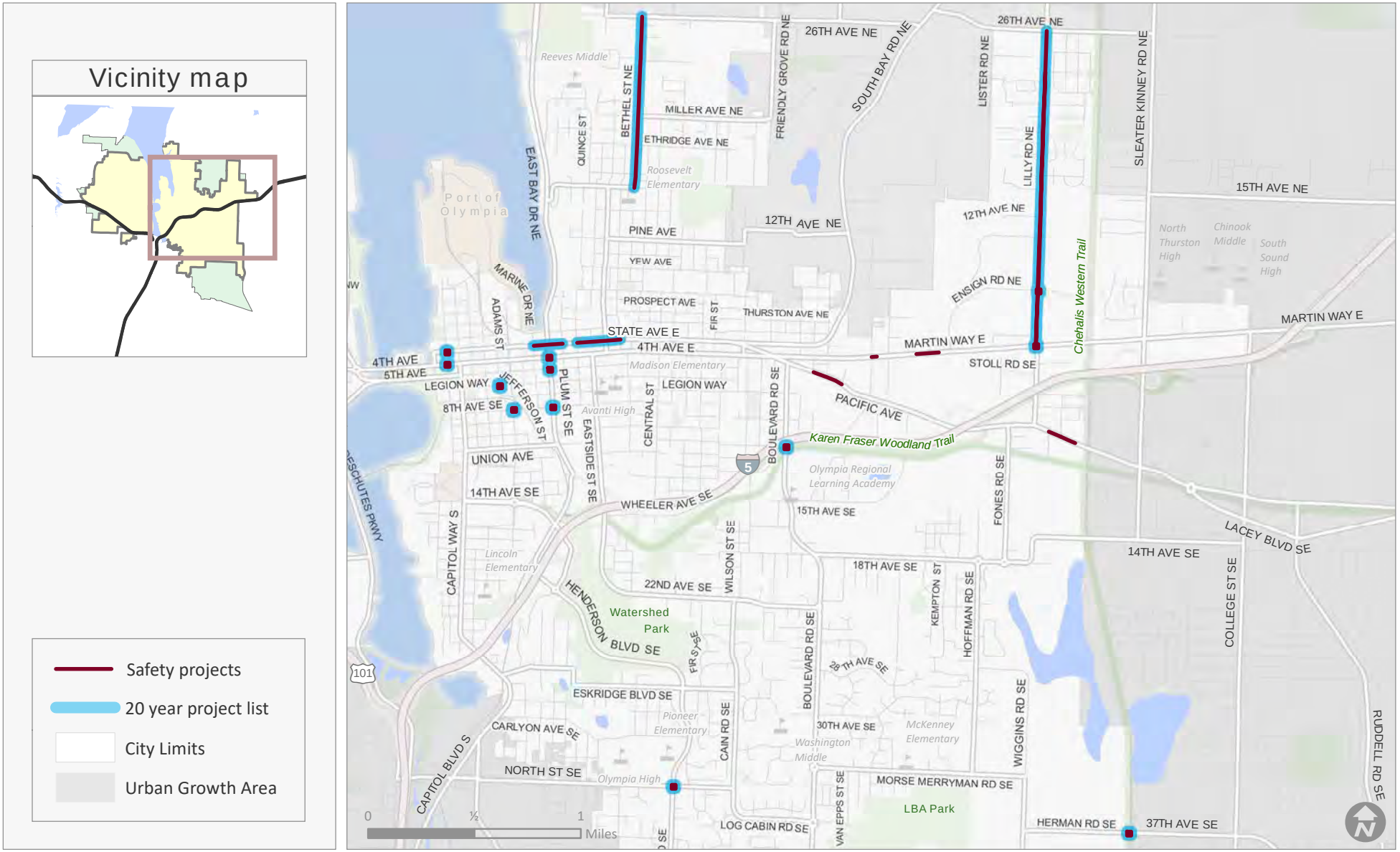
Overall safety improvements

- Lilly Road corridor safety and speed management study
- City-wide plastic striping project
- Henderson Boulevard and North Street
  safety improvements and roundabout
- 14th Avenue/Road 65/20th Avenue
  speed management and corridor safety improvements
- Bethel Street
  speed management and corridor safety improvements
- Adams Street and Legion Way
  intersection improvements
- 8th Avenue and Jefferson Street
  intersection improvements

Safety Projects | West



Safety Projects | Northeast/Southeast



Transit Projects

The City can help make transit more reliable and efficient by adding new features on our streets. The types of projects the City can help implement are listed below. Specific locations will be determined through on-going coordination with Intercity Transit as they implement their *Short- and Long-Range Plan.*

In the first story map, we asked, "Do you agree we should help buses operate more reliably on our streets?" The average score of the responses was 4.4. (A score of 4 is "somewhat agree," and a score of 5 is "strongly agree.")

System target

Improve the efficiency of buses so that transit is predictable and convenient.

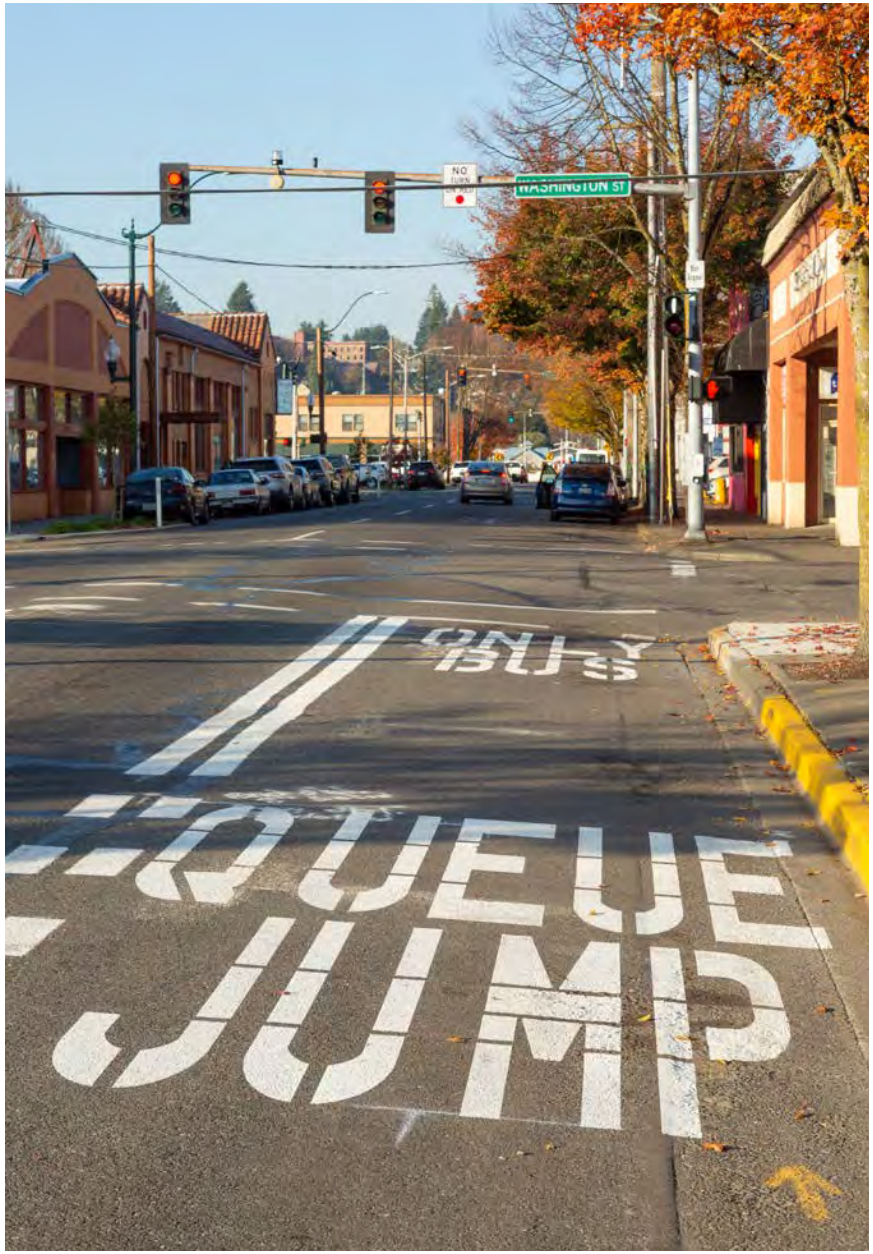
Identification

We will propose projects along the bus corridors identified in the *Olympia Comprehensive Plan*. They are shown on the following map. As needed, we will evaluate other Intercity Transit routes for improvements.

Prioritization

Locations that are a priority for improvements will be based on:

- Bus corridors as defined in the comprehensive plan
- Congestion or operational barriers that delay transit buses
- High ridership
- The number of buses using the street during the afternoon peak hours of 4pm to 6pm



Transit improvements

Intercity Transit and the City will cooperate to improve streets for better transit operations:

Transit Signal Priority (TSP)
Buses and traffic signals have hardware and software that allows traffic signals to stay green for buses, so they are not caught in congestion. The first project for TSP is along Martin Way and Pacific Avenue, which is partially complete. Future TSP corridors may include Capitol Way, Lilly Road, Harrison Avenue, Cooper Point Road, and Black Lake Boulevard.

Signal timing
A traffic signal timing and optimization study around transit hubs and along key corridors can help identify ways to reduce bus delays. The first project for signal timing modifications are the signals surrounding the Olympia Transit Center. A later priority may be signals surrounding a possible future westside transit center.

Queue jump lanes
These lanes allow buses to get around congested intersections by providing an exclusive traffic signal and lane for buses. The first example of this type of treatment is at State Avenue and Washington Street in the downtown. Locations of possible future queue jump lanes may include Cooper Point and Black Lake, Martin and Lilly, Cooper Point/Crosby and US 101.

Business and transit (BAT) lanes
BAT lanes are in the outside or curb lane of a multi-lane street. They are primarily for buses only, with other vehicles allowed to use them for short distances to turn into businesses.

Transit-only lanes
These are lanes for the exclusive use of buses.

In-lane bus stops

These allow buses to stop in the travel lane, which reduces delay when reentering flow of traffic. In-lane stops extend the sidewalk into the parking lane. In some areas, in lane stops will mean removing bus stop pull-outs. While this may result in some traffic delay, it allows buses to operate more efficiently. Examples of near-term locations for in-lane stops are 4th Avenue East and Martin Way.

Transit islands

Transit islands are in-lane bus stops that have a bike lane between the bus stop and the sidewalk, which reduces bus/bike conflicts. Transit islands may be particularly valuable on corridors with frequent transit and enhanced bike lanes.

In addition to on-street improvements that support transit operations, other projects can help support more efficient routing of buses, including:

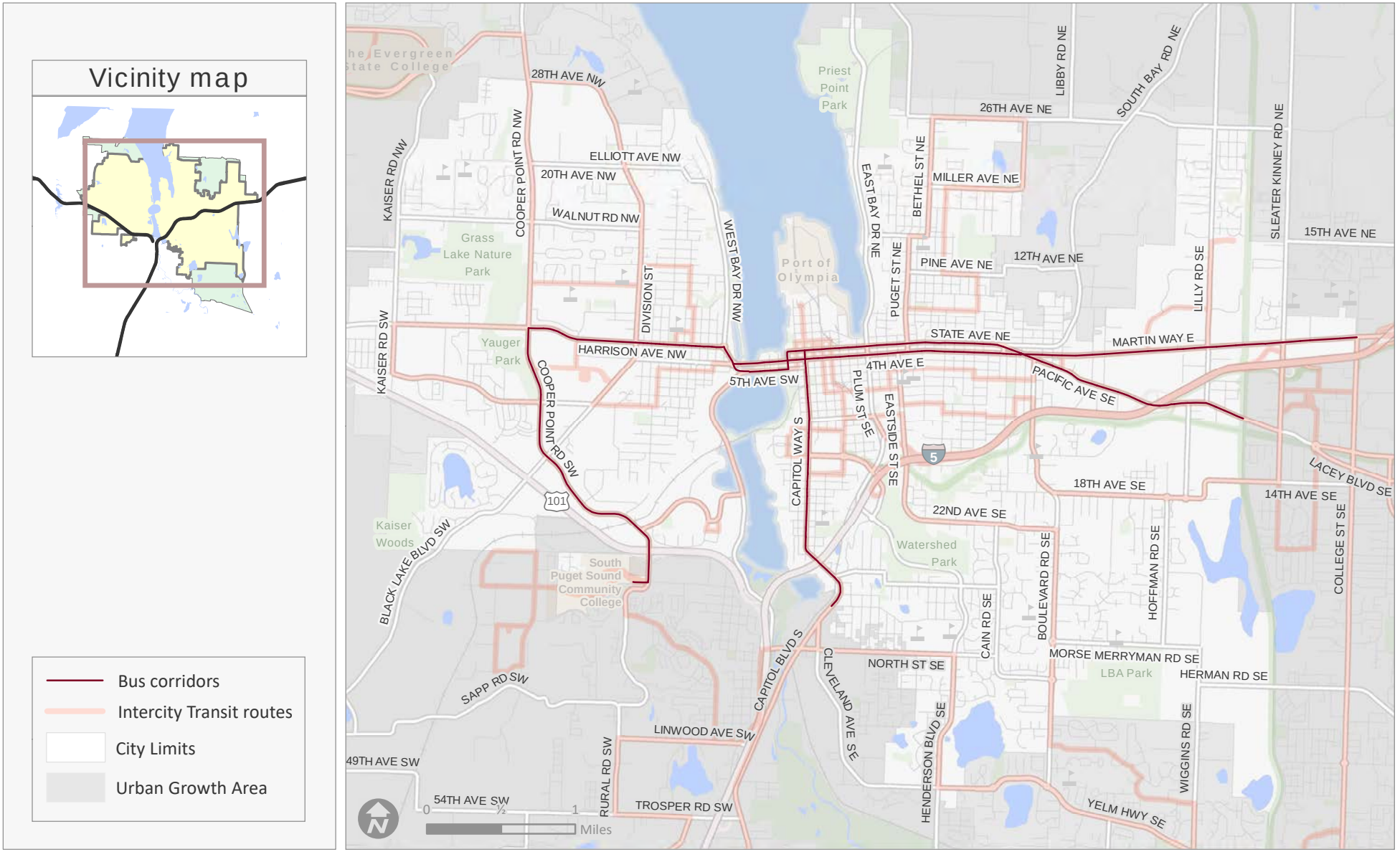
Establish a west Olympia transit center

A transit center in west Olympia, which could be an off-street transit center or an on-street area, would serve multiple routes and transfers. A center in west Olympia would provide convenient access for riders and a place for terminating and transitioning routes.

Route circulation

Turn movements, including being able to turn around, are important for transit efficiency. This is particularly true in areas of the city that lack a well-connected street grid. Examples of areas needing improvements so buses can turn include: Black Lake and 9th Avenue, Harrison and Cooper Point, and Lilly Road. Improvements may include roundabouts or street connections.

Bus Corridors | Citywide



Chapter 5: Funding Overview

Current Funding

This chapter describes the current revenue sources we use in transportation, and how many projects we can afford to build in the next 20 years. This chapter also reviews potential new revenue sources.

This plan does not make any recommendations for new sources of revenue. The purpose of this overview is to help prepare the public and policy makers for further discussion of transportation funding. "Funding" in this context means to identify a revenue source or sources to pay for a category of projects.

Each year, the City updates its *Capital Facilities Plan* (CFP), which shows the projects we plan to build and the revenue we plan to spend. We will pull projects into the CFP from this plan.

The projects shown in Chapter 4 are an estimate of what we can build within 20 years, assuming our revenue stays about the same. The maps in that chapter show the "full network," or all the improvements we have identified, for each type of project. These are projects that are beyond what we can afford to build in 20 years. If more funding becomes available, we can build more of this full network.

Revenue Sources

Revenue can come from taxes and fees the City collects, or it can come from the state or federal government as grants. We often combine grants and local revenue to pay for projects.

The City currently has an annual budget of about $6.5 million for transportation capital projects, the types of projects shown in this plan. This does not include day-to-day operations and maintenance costs, such as pothole repair, signs, paint striping, staff, or supplies, which are covered in the City's Operating Budget.

The table to the right describes the revenue sources we have been using recently, the typical annual amount from these sources, and what we use them for. This analysis is based on funding from 2012-2018.

There are limitations on how the Transportation Benefit District (TBD), private utility tax, and impact fee revenues can be spent. There is some flexibility in how other revenues can be used.

Funding Source	Typical Annual Revenue	Use Of Revenue
Transportation Benefit District (car tabs)	$1.5 Million	Street resurfacing
Grants	$1.2 Million	A variety of projects
Real Estate Excise Tax	$1.1 Million	A variety of projects
Private Utility Tax	$1 Million	Sidewalks and pathways
Impact Fees	$1 Million	Projects that add capacity to streets
General Fund	$700,000	A variety of projects

Transportation Benefit District (TBD)

In 2008, the City Council enacted a TBD to fund street repair and maintenance. Washington State statute authorizes Olympia's TBD to assess a $20, $40 or $50 annual car tab fee on each vehicle owned by residents of Olympia. The City currently assesses a $40 fee. Since the creation of the district, TBD fees have generated approximately $1.5 million per year.

Grants

Grants come from the federal and state government through a variety of programs. Grants are often competitive, which means Olympia competes with other jurisdictions for funding. Grants often require a local match, meaning a certain amount of City funds must also go toward the project. Grant programs change based on the availability of funds, as well as the policy priorities of the state or federal government.

Real estate excise tax (REET)

This is a 0.5 percent tax on real estate transactions, the maximum allowable by law. Historically, Olympia has allocated all REET revenues to transportation capital projects.

Private utility tax

A tax on private utilities generates revenues for a range of uses. Private utilities include electricity, gas, telephone, and cable TV. Olympia charges the statutory limit of six percent on these private utilities. In 2004, Olympia voters approved a three percent increase to the private utility tax to pay for more parks and sidewalks, with two percent for parks and one percent for sidewalks.

Impact fees

These are one-time charges to new development projects, like new homes or commercial buildings. We use impact fees to build new transportation infrastructure to keep pace with the city's growth. The City also collects similar impact fees for parks and schools. See Chapter 6 for how we propose to change the impact fee program.

General fund

These monies are generated by taxes and fees the City collects, primarily sales and property taxes. General fund dollars are also a funding source for services such as fire, parks, police, City administration, and some infrastructure. Compared to other types of large infrastructure, transportation infrastructure relies more on the general fund, because water and sewer infrastructure is largely paid for by utility rates.

The table below summarizes how we distribute funding to projects, based on an analysis from 2012 through 2018. We also pursue grants to help fund these projects, using our local revenue as a grant match:

Type Of Project	Typical Annual Funding	Typical Funding Source
Resurfacing projects	$3.75 Million	Transportation Benefit District revenues, eal estate excise tax, and general fund
Roundabouts, signals, street widening	$1 Million	Impact fees
Sidewalks	$900,000	Private utility tax
Bike facilities	$200,000	General fund and real estate excise tax
Pathways	$125,000	Private utility tax
Enhanced crosswalks	$75,000	General fund and eal state excise tax

What We Can Fund in 20 Years

Through this planning process, we identified a long-term list of prioritized projects. We can now estimate how many of these projects we can build based on current levels of funding, which the table shows below. In this analysis, we assume grant revenues in amounts that have been typical in previous years for that type of project.

Project Type	Average Annual Funding With Grants	Expected Construction 20 Years With Current Funding	Full Network Project List
Sidewalks	$1.2M	8 miles	65 miles
Roundabouts and signals	$1M	12 intersections	52 intersections
Bike Corridors	$200,000	10 miles	34 miles
Enhanced Crosswalks	$157,000	16 projects	350 projects
Pathways	$125,000	15 projects	81 projects
Enhanced Bike Lanes	unfunded	unknown	52 miles
Safety projects	unfunded	unknown	56 projects

This estimate reflects a general approach to estimating the rate at which we construct projects. We did not estimate the cost of every project on our project lists. Instead, we added up the miles of sidewalks, number of pathways, etc., that we built per year to arrive at a rate of construction. For example, we have built four miles of sidewalks in 10 years, so we estimate we can build eight miles in 20 years. Using this rate of construction and typical annual funding, we roughly determined how many projects we could build in 20 years. Many factors, including inflation, and changes to labor and material costs, will influence our ability to construct at this pace in the future.

Because we do not have a history of building either enhanced bike lanes or stand-alone safety projects, we are not able to estimate how many we can build in the future. Revenue has not been identified for these types of projects.

Sidewalks

Our goal is to build sidewalks on both sides of all arterials, major collectors, and neighborhood collectors. We need a total of 65 miles of new sidewalks, and we can build roughly 8 miles in 20 years at current funding levels. At this rate, it would take 161 years to build all the sidewalks we identified on major streets.

Pathways

We have identified and prioritized two kinds of pathways: those that currently exist and need improvement, and new ones we need to build to make some parts of the city more walkable. We have identified 81 projects, and we can build about 15 in 20 years. At this rate, it will take 90 years to build them all.

Enhanced crosswalks

Our goal is to build an enhanced crosswalk within 300 feet of major destinations such as schools, parks, and transit stops on arterials and major collectors. We have identified 350 projects, and we can build about 16 in 20 years at current funding levels. At this rate, it would take over 400 years to build all the enhanced crosswalks we identified.

Bike corridors

We have defined a low-stress bike network on our street system, primarily made up of bike corridors and enhanced bike lanes. This network provides a low-stress bike route about every half mile, so no one is more than a quarter mile from one. We would like to build 34 miles of bike corridors, and we can build about 10 miles in 20 years at current funding levels. At this rate, it would take 68 years to complete all the planned bike corridors.

Enhanced bike lanes

Another piece of the low-stress bike network is enhanced bike lanes, which we plan to build on some high-volume streets. These will link up with the bike corridors, pathways, and trails to create the network. For this analysis we dedicated all the bike program funding to the bike corridor projects. We will build some enhanced bike lanes with street resurfacing or major street reconstruction projects. However, without a dedicated funding source for enhanced bike lanes, it will be challenging to complete the projects identified in this plan.

Bike network — pathways and trails

Many of the trails proposed in the low-stress bike network are projects the Parks, Arts, and Recreation Department has already planned. We are proposing some other trails to complete the low-stress bike network, which are not funded. We are also proposing some pathways for the low-stress bike network that are not funded.

Roundabouts

We need roundabouts at major intersections for capacity and safety. We have identified 52 projects, and we can build about 12 based on our current funding. At this rate, it would take 87 years to build all the roundabouts we identified.

Safety projects

The *Street Safety Plan* identified 56 locations where we need safety projects. We have put 23 projects on the 20-year project list. Because the safety plan will be updated approximately every two years, new needs may emerge. Unlike other projects shown here, safety needs are not finite; we will need to address safety well into the future. So far, safety projects are not funded. In the near term, we may use some of the funding for enhanced crosswalks to pay for safety projects.

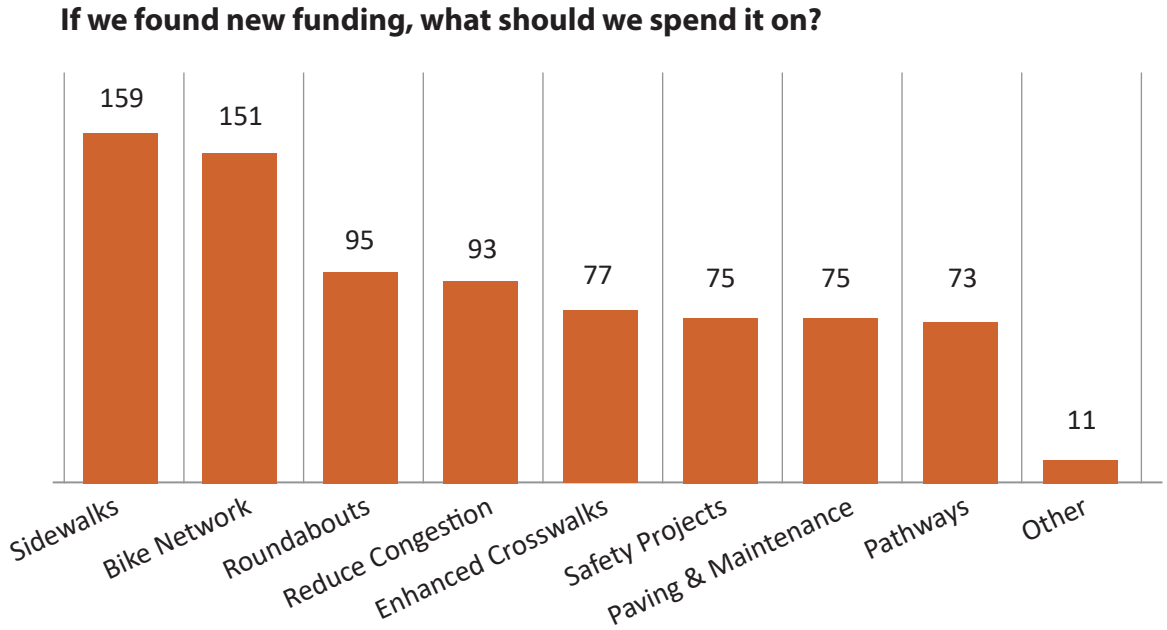
Resurfacing projects

Resurfacing needs are based on pavement condition ratings. Our current average condition rating is 67, and our target is 75. A condition rating of 100 means our streets are in excellent condition. Pavement resurfacing needs do not end, as we need to continuously maintain our streets. Currently, the City does not fund street resurfacing at the level we need to maintain the current condition rating. Therefore, we expect the backlog of resurfacing projects to increase over the coming years.

We periodically update the list of streets that are slated for resurfacing, as pavement conditions change. Because the projects change regularly, we are only showing six years' worth of resurfacing projects in this plan.

Public Input

In the second story map survey, we asked the public "If we found new funding, what should we spend it on?" Respondents could choose up to three topics. Sidewalks and the bike network were the top priorities for funding, as shown on this graph.



Potential New Revenue Sources

There is a range of new revenue sources we could explore in order to build the transportation system this plan indicates we need. None of these sources is simple to implement, and many require voter approval. It will take some time to evaluate them, and policy makers will need to weigh transportation needs against other needs within the City. The potential new revenue sources follow.

Private Utility Tax

A one percent increase to the tax on private utilities, such as phones, gas, and electricity, could be implemented with voter approval. Cable TV taxes could be raised without a vote, but that single tax raises less revenue than the others, and it is expected to decline over time as fewer people use cable.

City Public Utility Tax

The tax on City utilities for drinking water, storm water, wastewater, and waste resources could be increased by one percent. The current tax rate is 11.5 percent, which is relatively high. Public utility taxes provide a stable revenue stream, because the price and the use of utilities does not vary much. Currently, none of the City utility tax revenue is dedicated to transportation infrastructure.

Property Tax Increase

With a few minor exceptions, we cannot increase property taxes by more than one percent annually over what was collected the previous year without voter approval, due to state law. Historically, Olympia has levied this one percent increase each year to support general City operating costs. Going above the one percent increase would require voter approval.

Olympia voters recently approved two proposals to increase property taxes: one was to establish a Metropolitan Park District, and the other was to pay for an increase in public safety services. A voter-approved property tax increase is a potential source of additional transportation revenue.

Transportation Benefit District – Sales Tax

Transportation Benefit Districts are independent taxing districts authorized to impose fees or taxes for transportation purposes. Olympia established a TBD in 2008 that assessed a license fee per vehicle. We have used the revenue from this fee for street repair and maintenance.

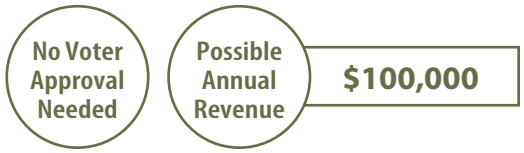
As an alternative funding source, Olympia voters could approve up to a 0.2 percent increase in the local sales and use tax, which could be in effect for 10 years and would need to be reauthorized by voters. The benefit of a sales tax increase is that non-residents who shop in Olympia would help pay for street maintenance.

Local Improvement District

A Local Improvement District (LID) is a way to finance needed capital improvements in an area by forming a special assessment district. The district could be a subsection of the city, or it could include the properties along a street that has been improved with, for example, sidewalks and street trees. A LID allows for improvements to be financed and paid for over a period of time. The City assesses the property owners in the area, based on the benefits to each property.

To establish a LID requires a vote of the affected property owners. LIDs can raise substantial revenues, but they are complex to set up and administer, partially because they require a base assessment and a calculation of the expected benefit to each property. Olympia does not currently have any LIDs.

Commercial Parking Tax



Any publicly accessible parking lot that charges for parking could be subject to this tax. With a commercial parking tax, there is no limit on what rate can be charged. Typically, cities charge between 15-25%, which is in addition to sales tax. A common type of lot that could be taxed is a public parking lot where people can buy a daily or monthly permit.

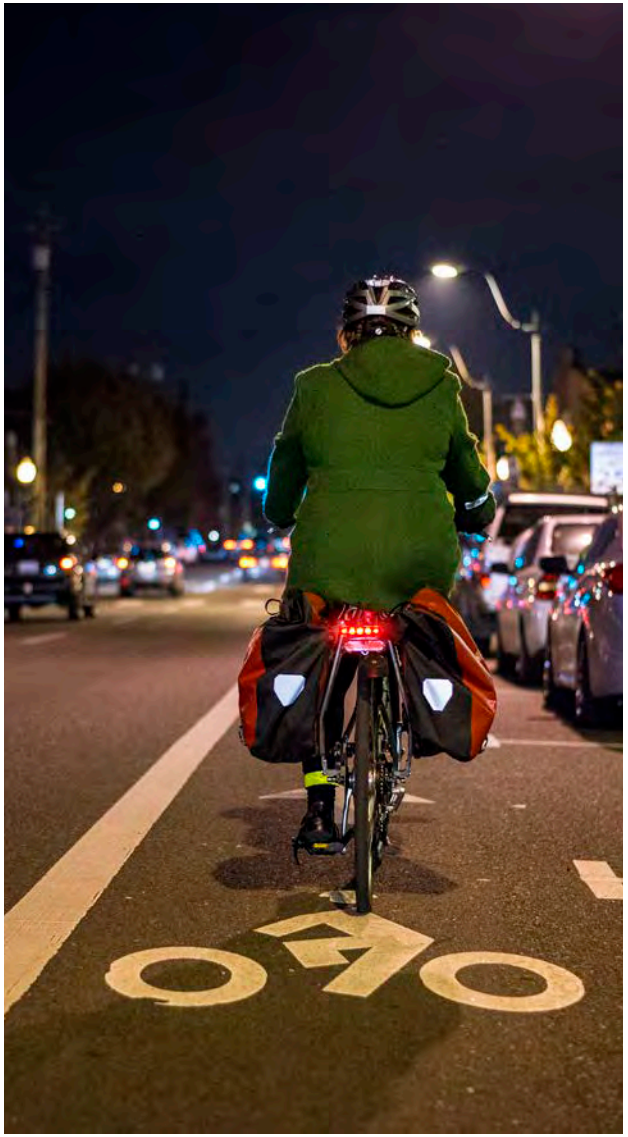
Bonds

Bonds are a way to finance capital projects. Their debt service can span decades. Bonds can be either general obligation bonds (both voted and non-voted) or revenue bonds. Revenue bonds are generally used to finance utility projects, and debt service is paid by utility rates.

General obligation bonds are a common way to fund transportation projects. General obligation bonds can be issued in two ways: one is voters can approve bonds with a property tax increase to pay the debt service, and the other is the City Council issues them and obligates the City to pay them back with general fund revenue. As of 2019, based on the assessed value of property in Olympia, the City has a maximum combined debt limit capacity of about $535 million for both voted and non-voted general obligation debt. Olympia is currently paying debt service on outstanding debt of about $70.5 million, which leaves capacity of about $464.5 million for both voted and non-voted general obligation bonds.

Gas Tax

The State of Washington collects a gas tax on each gallon of gas or diesel sold. Once collected, the revenue is distributed to cities and counties, based on population. Gas tax revenue can only be used for transportation purposes: operations, maintenance, and capital projects. Revenue generated by gas taxes has leveled off over the past several years. Despite a rising state population, people are using more electric or fuel-efficient vehicles. While this is not a funding source the City can implement; City policy makers and the public could communicate to state policy makers the need to increase the gas tax or to develop an equivalent fee system, such as a road user fee or tax on vehicle miles traveled.



Summary

What we can build over 20 years with our current level of revenue represents a small portion of what is needed on our street system, based on the targets this plan defines. The targets are strategic and do not prescribe every type of facility for every street. For example, the pedestrian-related targets focus on making just major streets more accessible and safer for pedestrians. Of the over 1,600 intersections in the city, we have identified 52 as needing a roundabout or traffic signal. Also, not every piece of our street system has a clear target. For example, the need for safety projects will be ongoing.

The public has indicated that sidewalks and the bike network are the top priority for new revenue. We will not be able to make progress on the low-stress bike network at our current revenue levels. All of the funding for bicycle facilities in this analysis is directed toward bike corridors. To build many of the enhanced bike lanes in this plan will require widening streets, which is costly. If we just rely on resurfacing or reconstruction projects to build enhanced bike lanes, progress will be slow, and the results will be disconnected.

We have pulled in safety projects from the *Street Safety Plan*, which is a new and more comprehensive approach to addressing safety than we used in the past. Additional funding for safety projects is one of the many funding decisions we will need to make.

Funding street resurfacing is a priority. To prevent a backlog of resurfacing projects, we may need to look for additional funding sources. If resurfacing projects get delayed too long, the streets could deteriorate to the point that they will need full reconstruction in the future, which is costly.

The City does not currently fund transit projects. These projects will be jointly pursued with Intercity Transit, and they will likely need to draw on grant funding. We may implement some transit projects through street resurfacing by reconfiguring lanes.

As additional revenue sources are developed, we can begin to fill the funding gap identified in this plan. Should we have additional revenue in the future, we can consider doing more to improve our street system. For example, we can build more sidewalks on more streets or more low-stress bicycle routes.

Chapter 6: Concurrency and Impact Fees

The Washington State Growth Management Act (GMA) requires that cities plan for growth. The GMA provides two tools to help cities respond to increased demand on the transportation system caused by growth: concurrency and impact fees. This TMP and the long-term project lists it contains positions the City to update both our transportation concurrency and impact fee programs.

Concurrency

The GMA requires the City to plan for its share of growth by developing a transportation concurrency program. The term concurrency means that as the city grows, the transportation system must be expanded concurrent – or roughly at the same time – with that growth.

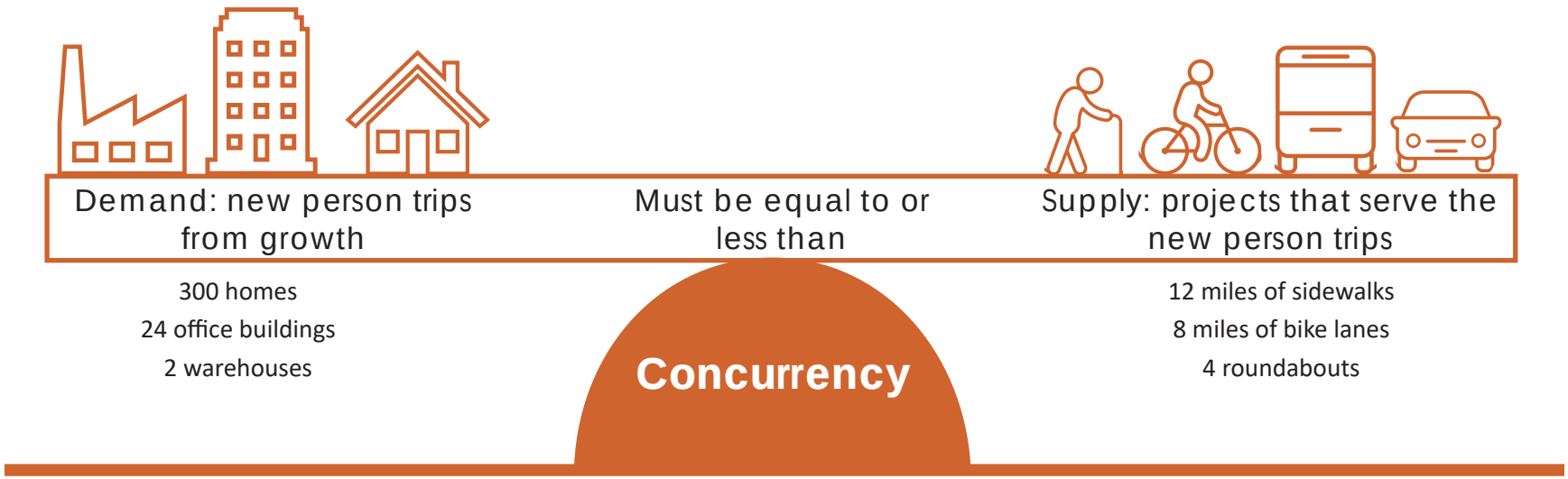
Our concurrency program evaluates the commercial and residential growth that we expect in our city. Then we estimate the number of new trips on our streets that will happen because of the growth. We must address the impacts of the new trips associated with the growth by building transportation improvements. Our concurrency program is a commitment to build 20-years' worth of transportation projects to help serve that growth. These projects add capacity to our transportation system and accommodate new trips.

The goal of our comprehensive plan and this TMP is that, as more people live and work in Olympia, people will make fewer trips by car and more trips by walking, biking and transit. For decades we have invested heavily in the auto transportation network. As the city matures, it is more cost effective, environmentally sound, and equitable to improve the street system for other ways of getting around.

Transportation concurrency projects will increase the capacity of our street system by adding bike, pedestrian, and transit improvements, in addition to improvements for cars and trucks. This is how we will accommodate the trips from new development.

This concurrency program functions like a ledger, where new supply stays in balance with new demand. Supply is capacity on our streets, and demand is the new trips on our streets from new development. We refer to the demand on our system as “person trips.” These are trips made by any mode of travel – walking, biking, driving, riding in a car, or transit. We add new supply to accommodate these new person trips by constructing concurrency projects. Those projects are shown in the table on the following page.

As this illustration describes, we will build projects or "supply" to keep pace with the growth of person trips or "demand" on our street system.



Impact Fees

Impact fees are a tool that cities can use to help fund the new infrastructure they need because of growth. As new development occurs, the city can charge the developer impact fees to help improve parks, schools, and transportation. The projects built with transportation impact fees must be capital projects that expand the capacity of our street system. The projects do not have to be in the concurrency program, but they often are.

The City charges transportation impact fees for a range of land use categories: single-family homes, retail businesses, and offices, for example. We use a methodology to determine how many trips different land uses are likely to generate, based on national research and data. A retail store generates more trips than a single-family home, for example.

The City identifies capital projects that are eligible to be funded by impact fees for a 20-year time period. The size of the list of projects reflects the growth we anticipate. We determine the portion of the project cost that can be paid by impact fees (grants and other City funds are also used to fund these projects.) We develop a fee for each land use type by using the total eligible project costs and number and type of trips that are expected with new growth.

The revenues from impact fees depend on the amount and type of new development we have. Since the pace of development fluctuates, revenues from one year to the next will vary. We will update the impact fee program approximately every six years. That will be an opportunity to change the program to reflect the most current growth estimates. With that update, we will remove projects that have been built and may add new projects, depending on growth projections.

The table below shows all the projects that will be partially funded by impact fees, and the subset of projects that are also in the concurrency program. With the exception of some sidewalk projects, all concurrency projects will be funded by at least some impact fees. All the projects are drawn from this TMP and can be found in Chapters 4 or 9. The projects were generally selected because they are a priority in the TMP, add capacity for multiple modes, and because they are dispersed geographically throughout the city.

Project	Impact Fee Program	Concurrency Program
Fones Road from Pacific Avenue to 18th Avenue	●	●
US 101/West Olympia Access Project Design	●	●
Martin Way from Boulevard to Lilly	●	●
Mottman Road	●	●
Wiggins/Herman Intersection	●	●
North/Cain Intersection	●	●
Debt finance on earlier projects	●	
Bike corridors (9 miles for impact fees; 4 miles for concurrency)	●	●
Isthmus Multimodal improvements	●	
Eastside/22nd Avenue from Boulevard Road to Union Avenue sidewalks and enhanced bike lanes	●	
Division Street from 26th Ave to Conger Ave sidewalks and enhanced bike lanes	●	
Roundabout (3-5 projects)	●	
Sidewalks (4 miles)		●

Chapter 7: Future Policy Considerations

Introduction

The following are transportation policy issues that need further evaluation. Some are emerging issues that we need to monitor, and others are ongoing but need greater emphasis or attention. Addressing these will take staff time to evaluate, and they may require decisions from the City Council. In some cases, we will need to develop work program items, so that staff can dedicate the time needed to explore the issues further.

New Technology

We are on the cusp of some new technologies that have the potential to disrupt our transportation system. The last time the American transportation system faced this kind of disruption was in the 1920s, when mass-produced automobiles became common and accessible for middle-class Americans to buy.

The response to the advent of the automobile was reactive. We quickly reshaped cities to accommodate cars, often at the expense of human health and the environment. The lesson from this example is we need to be proactive in preparing for the new technologies on the horizon. If we are going to achieve the goals of a more walkable, bikeable, and transit-friendly city, we will need to evaluate the new technologies through the lens of whether they move us closer to or farther away from that goal.

Ride hail services (transportation network companies)

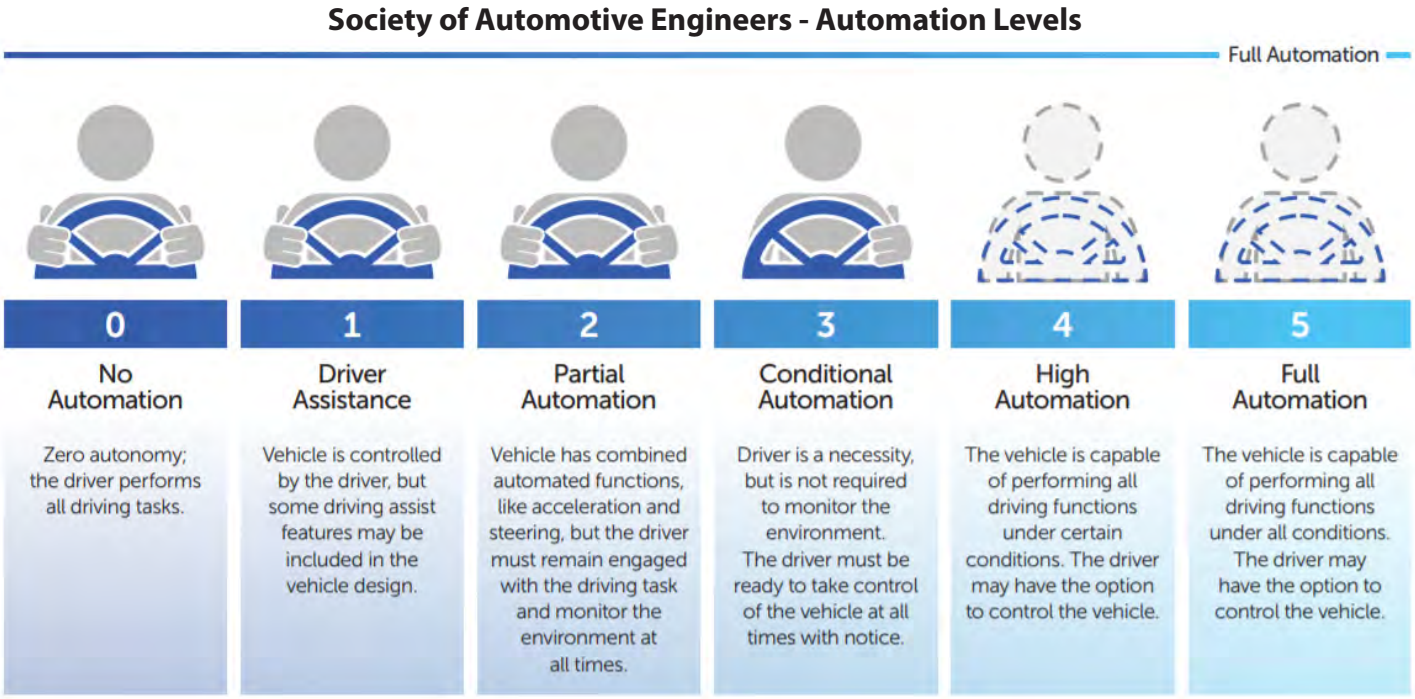
Two ride hail companies currently operate in Thurston County, as well as some traditional taxi services. A ride hail service is typically based on a phone app people can use to contract a ride, such as with Uber or Lyft. So far, no ride hail company has been profitable[1], and the long-term viability of ride hail companies is questionable. Given that the biggest operating expense for ride hail companies is the labor of the drivers, the future viability of ride hail companies may depend on the advent of autonomous vehicles.

We believe that the use of ride hail services in Olympia is minor at this point, because our market is small. In reviewing data from large American cities, we found that widespread use of ride hailing services may result in:

- Fewer trips taken by transit
- Increased vehicle miles traveled on the transportation system, as ride hail drivers cover the distance from one customer to the next
- Pressure for curb space to be used as pick-up and drop-off zones, sometimes resulting in blocked bike lanes, travel lanes, or sight distances at corners
- Greater flexibility for people who do not have access to a car
- More responsive service than traditional taxis

Ride hail services can be a lifeline to some people. Some possible actions the City could consider include:

- Requiring ride hail companies to share anonymized data with the City about how their services are being used, so that we can better plan for them
- Requiring that ride hail companies have vehicles that people with disabilities can ride in
- Looking for ways to disincentivize trips made without passengers
- Reviewing the need for passenger load/unload zones in high-use places
- Prohibit ride hail services from collecting and selling personally identifiable data
- Exploring a partnership with ride hail companies to cover the first/last mile between bus stops and people's destinations, as Olympia's density increases



Source: National Highway Traffic Safety Administration. (2017, September). Automated Driving Systems 2.0: A Vision for Safety. Retrieved from nhtsa.gov: https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/13069a-ads2.0_090617_v9a_tag.pdf

Autonomous vehicles

The shift to autonomous vehicles (AV) will be gradual and is already underway. There is a continuum of AVs, from no automation to full automation that requires no human driver.

Many new cars currently have features of Level 1 automation, such as lane departure warnings, adaptive cruise control, automatic braking, and collision alert systems. Other cars have Level 2 and Level 3 technology, a type of partial automation, which allows the car to operate all aspects of driving under some circumstances, with a human driver present to intervene.

Level 2 and Level 3 systems may pose serious safety risks, because they can lull drivers into complacency. News stories have reported several tragic fatalities involving cars with Level 2 or 3 systems. This follows a similar pattern seen when the airline industry moved toward automation. When commercial jet airplanes were in a similar stage of partial automation, at times pilots were not fully engaged, which resulted in some tragic and avoidable crashes.

Fully human-controlled vehicles may also pose serious safety risks, as about 94% of serious crashes nationally[2] are considered to have human error as a contributing factor, resulting in 36,120 people losing their lives in 2019[3]. A transportation system with mostly Level 4 and 5 vehicles will likely be a safer transportation system than today's, and a transportation system with mostly Level 3 vehicles may be safer.

As Level 4 vehicles become more feasible, they may be useful within discrete, pre-mapped areas. How these vehicles handle rain and snow, and whether they will recognize and avoid bicyclists and pedestrians, are a few known limiting factors to where they can be deployed.

We do not know the full impacts that AVs will have on the transportation system. A lot depends on how they will be regulated at the federal and state levels. Currently, the United States is taking a light touch with regulations affecting the development of AVs. Here in Washington, companies have broad latitude to test AV technology.

A lot also depends on whether people will own their own AVs or share them, perhaps by paying into a subscription service. One likely impact as more level 4 vehicles enter the market will probably be less demand for parking. If people own their own AVs, we may also face much more traffic congestion as zero-occupancy vehicles clog the streets, circling the block while people run an errand, or heading home after dropping someone off at work. There may be pressure to convert on-street parking into additional travel lanes, or to prioritize getting as many vehicles as possible through the streets, instead of prioritizing pedestrian safety and convenience. In some distant future, if all AVs are fully autonomous and able to interact with each other, there may be greater efficiencies that compensate for the greater demand for street space. This possible scenario is likely a couple of generations into the future. For the life of this plan, we expect to see a mixture of vehicles on the street, possibly as high as Level 4.

AV technology is expensive and will significantly increase the cost of vehicles for the foreseeable future. Given the increased cost, we assume that AVs will be priced too high for most people to be able to afford, likely for at least the first 20 or so years that they have entered the market. Unlike other types of technology, such as cell phones and computers, the time horizon to recover the investment costs of AV technology is measured in decades, not years[4].

Since the highest cost for ride hail services is labor, the ride hail market seems likely to be the first industry to broadly adopt AV technology. In order to make ride hailing economically viable, it may shift to resemble a privatized version of a fixed-route bus system. This has implications for transit authorities. The City will continue to support Intercity Transit and the public fixed-route bus system.

While we do not know exactly what changes AVs will bring to our system, we do know what kind of city people want to live in: one in which it is easy to walk, ride a bike, or take the bus, whether it is an AV bus or one with a human operator. People want to live in a city where the street is a place to be, not pass through as quickly as possible.

One of the biggest challenges for AV technology comes in interactions with pedestrians and bicyclists. There may be pressure to remove pedestrians and bicyclists from the street and into separate spaces, to make it easier for Level 3 and Level 4 vehicles to operate. In Olympia, people walking and biking on local access, or neighborhood, streets will have to share the space with motor vehicles for the foreseeable future. We simply cannot build sidewalks and separated bike lanes on every street in the city. We are also working to make it easier for pedestrians and bicyclists to cross our major streets, by building more enhanced crosswalks and other features. AVs that cannot adjust for pedestrians and bicyclists will result in a city built around AVs, rather than a city built around the people who inhabit it.

Here are some possible actions we can pursue as more of the vehicles on our streets incorporate AV technology:

- Continue to monitor state and federal safety regulations and consider lobbying for more stringent ones if necessary, including regulations that mandate technology that recognizes and protects pedestrians and bicyclists
- Create a policy framework for reallocating on-street parking that prioritizes pedestrians, bicyclists, transit, green stormwater infrastructure, and placemaking over more vehicle lanes
- Develop a framework to ensure that people have equitable access to shared AVs, including ensuring equal service to all areas, enough vehicles to accommodate people with disabilities and their mobility aids, and that cost does not prevent people from making essential trips
- Require ride hail services using AV technology to share anonymized data with the City that includes travel patterns and safety incidents
- Prohibit ride hail services using AV technology from collecting and selling personally identifiable data
- Develop a cybersecurity plan that ensures signals and other City infrastructure cannot be hacked
- Create a policy framework to disincentivize zero-passenger trips
- Continue to work to diversify the local economy to minimize the impacts of decreased sales tax revenue from the sale of personal vehicles

Scooter and bike share

In larger cities, scooter and bike share systems have given people more options to move around. As with ride hail services, scooter and bike share have struggled with profitability[5]. The scooters and bikes are typically used for short trips, replace transit trips, and can go as fast as 20 mph, since most of them also have an electric motor.

The City may consider:

- Developing a permit process for scooter or bike share companies to operate in Olympia that would defray the cost of addressing scooters or bikes parked inappropriately
- Developing and enforcing policies prohibiting people riding scooters and bikes from going faster than pedestrians on sidewalks, particularly in the downtown
- Converting on-street car parking and city-owned off-street car parking spaces into scooter or bike parking spaces
- Ensuring that a certain percentage of the scooters or bikes are adapted to serve people with disabilities
- Requiring that scooters or bikes be provided equitably
- Requiring anonymized data on trip origins and destinations
- Prohibiting vendors from collecting and selling personally identifiable data

Source: pedbikeimages.org / KristenBrookshire

Drones

Drones, or small robots designed to either travel on the ground or fly in the air, can either be autonomous or operated remotely by a person. Both types are currently being tested and used in other cities.

It remains to be seen if there is enough market demand to support the expense of airborne drone delivery. Airborne drones are regulated by the Federal Aviation Administration. We assume the FAA will continue to work to ensure that they are operated safely. We do not know if FAA regulations will adequately address other concerns about drones, such as noise, pollution, or surveillance.

A lesser-known type of drone is one that can travel on the ground. Some companies in other cities have tested food delivery drones that travel on sidewalks.

In the future, the City may consider developing regulations for on-street drones to:

- Address how they interact with other users of the street, including pedestrians, bicyclists, and drivers
- Set speed limits, whether they are traveling on sidewalks, in bike lanes, or in a travel lane
- Ensure they do not become a barrier for people with disabilities

Online commerce

The increase in online commerce has changed our travel patterns. We now have many products delivered to us, rather than going out to buy them from a store.

Typically, having goods delivered results in fewer vehicle miles traveled on the transportation system than when people drive to buy those goods. The reason is delivery vehicles are more efficient[6], because they are making several deliveries in an area. This means that the vehicle miles travelled per item are much lower.

While fewer vehicle miles traveled means less traffic congestion, the increase in delivery vehicles could impact our ability to maintain the pavement on our streets. Heavier vehicles are harder on pavement. Since maintaining the pavement is very important for economic growth and public safety, developing a long-term funding strategy for addressing our street resurfacing needs is a priority.

Additionally, the long-term effects of the shift toward online commerce will impact several aspects of life that go beyond the scope of this plan, including the built environment, sales tax revenues, and the mix of businesses and services within our city.

Summary

We can only partially understand the ways in which new technologies will impact our transportation system. Ride-hail services, autonomous vehicles, changes to freight and transit, and increased digital access instead of being physically present at a location all will influence the future use of our streets.

The policies we shape around new technology will need to have people, rather than the technology, at their center. As pressures emerge to redesign our streets to serve new technologies, we will need to ensure streets are inviting and comfortable to the pedestrian, the most vulnerable user of our transportation system. We will also need to retain the value of streets as public spaces, vital to our community's sense of place.

There may also be resource implications. Whether we are managing curb space for transportation network companies, pavement markings for AVs, or parking for scooter share, our responses to new technology can put new pressures on our operating budget.

Street Safety

In 2019, the City developed its first *Street Safety Plan*. The safety plan focuses on fatal and serious injury collisions, as well as all collisions involving people walking and biking. The increased emphasis on these types of collisions is appropriate, given the trends nationwide. Between 2008 and 2017, bike and pedestrian collisions increased by 32 percent in the US, a time when total traffic fatalities decreased by 0.8 percent[7]. In Olympia, between 2014 and 2018, collisions involving people walking and biking accounted for 45 percent of the fatal and serious injury collisions. This raises several safety issues for future policy consideration.

Impact speed and a pedestian's risk of severe injury or death *(Tefft 2011)*

Source: Publication Small Town and Rural Multimodal Networks, U.S. Department of Transportation Federal Highway Administation, 2016, https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf

Speed limits

When a vehicle collides with a person walking or biking, their risk of serious injury or death significantly increases with the speed of that vehicle. As shown in the graphic above.

In order to promote safety for everyone, whether walking, biking, driving, or riding the bus, we should consider lowering the speed limits on some streets. This would require exploring a new methodology and policy basis for establishing speed limits.

Speed management program

The speed that a person feels most comfortable driving is often influenced by the design of the street, and the "friction" caused by roadside features such as trees, parking, or buildings. Traffic calming devices such as traffic circles, bulb-outs, chicanes, and raised intersections or crossings can help keep speeds at or below speed limits. When drivers are consistently exceeding the posted speed limit on a particular street, a program to add traffic calming devices can help manage the problem. To do this work, we would need to identify where we need speed management, develop a prioritization methodology to install traffic calming devices, and identify funding for a speed management program.

Automated traffic safety cameras

At least 11 cities in Washington have authorized the use of automated traffic safety cameras for red light and school speed zone enforcement. The State provides rules and guidance about operating these automated cameras. Automated infractions are processed in the same ways as parking infractions. Revenue generated from fines can be applied to speed management and other safety improvements, including those near schools.

Climate Change

Sea level rise

The Olympia Sea Level Rise Response Plan outlines how we plan to address the sea level rise we expect in the coming decades. While some sea level rise is inevitable at this point, it is still vitally important to reduce greenhouse gas emissions to prevent even worse effects of climate change. Decreasing vehicle miles travelled and increasing the percentage of electric vehicles is one way to do that.

Some of the adaptations proposed in the response plan will impact the transportation system, whether it is raising some streets to serve as barriers to flooding or creating landscaped berms along the shoreline that might also serve as walking paths. We need to further integrate these proposed changes into the projects in this master plan.

Climate mitigation

Transportation-related emissions are the second-largest source of greenhouse gas emissions in Thurston County. One way to reduce greenhouse gas emissions is by making walking, biking, and transit more safe and inviting, which this plan outlines. We will also need to do more to aggressively reduce greenhouse gas emissions, which could include travel demand management to reduce motor vehicle trips made in single-occupancy, internal-combustion cars, or encouraging the transition to electric vehicles.

Olympia, along with regional partners, will implement the *Thurston Climate Mitigation Plan*. Chapter 2 of this TMP defines the regional goals described in the mitigation plan.

Electric vehicles

Widespread adoption of electric vehicles could have a big impact on reducing greenhouse gas emissions. The actions the City has taken to advance the use of electric vehicles include purchasing 11 electric vehicles in the City fleet and installing public electric charging stations at three City buildings: City Hall, the Lee Creighton Justice Center, and the Farmers Market.

The City also requires electric vehicle charging stations with many new developments, including multi-family housing and some commercial buildings.

The City may consider:

- Working in partnership with Puget Sound Energy and other entities to install more electric vehicle charging stations
- Reviewing regulations for opportunities to remove barriers for others to install charging stations in the public right-of-way
- Developing an incentive program to encourage private property owners to install charging stations
- Working with the state and Puget Sound Energy to ensure our electricity come from renewable sources
- Working with the state and regional partners to adopt a replacement for the motor vehicle fuel tax

The *Thurston Climate Mitigation Plan* includes a number of actions the City will take to encourage the use of electric vehicles. While electric vehicles reduce vehicle emissions, the continued use of single-occupancy vehicles will result in congestion, wear and tear on our streets, and have water quality impacts.

Land Use and Transportation Integration

As reflected in our comprehensive plan, one of the underlying principles of managing growth and preventing sprawl is to concentrate growth in urban areas. This takes development pressure off rural and wild lands, but it does mean allowing greater density in urban areas.

To meet the community's greenhouse gas and vehicle miles travelled reduction goals, land use development and transportation infrastructure must be strategically built together. For people to walk, bike and use transit, land development must be diverse, compact, and well-designed. Through zoning, site planning, and street layout and design, we will create places where people feel it makes the most sense to walk, bike, or use transit.

Urban Corridors

The Urban Corridors planning concept integrates land use and transportation along our arterials with higher-frequency transit. See the comprehensive plan Transportation Corridors map. Along these corridors, we expect more intensive development, to increase the area's vitality and make better use of our transit and street system. "High Density Corridor" zoning along these corridors allows a greater density and mix of land uses. See the comprehensive plan Future Land Use map. Over time, these places will become more attractive to shop, live, and work. The goal is that more people can live near these corridors and walk or bike to more services they need, or they can easily take the bus to places farther away.

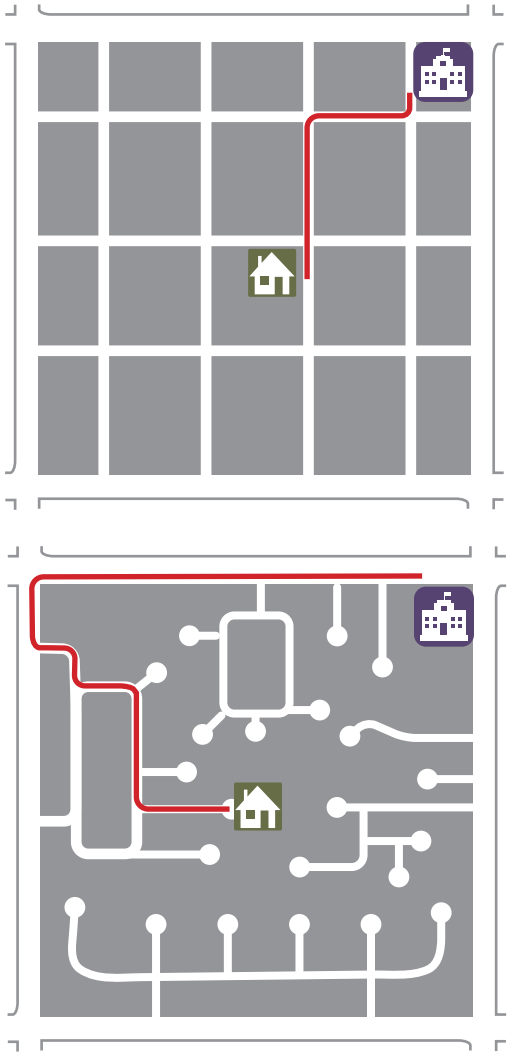
Future work is needed to increase density along these corridors. The City could continue to expand incentives to support attractive, human-scale design when sites along these corridors redevelop. Strategic land use actions could influence an increase in trips by walking, biking, and transit. Conversely, improving streets with sidewalks, safe crossings, and bicycle facilities can draw denser developments to these areas.

Street connections

On the surface, connecting streets may seem inconsistent with policies to make it easier to walk and bike. Intuitively, it seems that a new street gives cars another place to go, creates more impervious surfaces, and seems contrary to the City's goals around climate mitigation. However, connecting up our street grid actually advances those policies in several ways. A well-connected street grid means:

- Short, direct routes for all users
- People can easily walk, bike, and access transit
- More efficient access for emergency vehicles and other services
- More route options during construction or street closures
- Reduced need to widen roads and intersections, because there are more streets that have lower volumes
- Narrower streets with fewer lanes, which minimizes vehicle speeds
- Smaller intersections, which are easier for bicyclists, pedestrians, and motorists to navigate
- Reduced vehicle miles travelled by motor vehicles, due to more direct routes, which also reduces pollution

This figure demonstrates how a well-connected street grid allows for shorter trips.



Currently, street connections are primarily built by private developers to link to adjacent developments. The comprehensive plan proposes street connections in both residential and commercial areas throughout the city. People have opposed street connections in residential areas, and many street connections that were called for by comprehensive plan policy, and required by code, have been dismissed.

We need to do future work on street connections, which could include:

- Exploring the use of capital funds to build street connections
- Emphasizing street connections in commercial areas, in order to make progress in connecting up the grid
- Evaluating City-owned property for opportunities to build street connections
- Surveying public attitudes about street connections
- Developing an educational strategy about the importance of connecting up the grid
- Revising comprehensive plan policy and development codes to reflect a more proactive approach to street connections

Equity

In the online story map we shared with the public in fall 2018, we asked some open-ended questions. Many people responded to those questions by telling us they wanted to see a more equitable transportation system.

In many ways, our current transportation system reflects long-standing inequalities. During the 20th century, when much of our street system was built, people thought that cars would be the way people of the future would get around. We are the people of the future, and we now see the wide range of detrimental effects the car has had, environmentally and socially. Our challenge is retrofitting a transportation system built around cars to be safer and more inviting to people walking, biking, and taking the bus. This is an even bigger challenge, because the majority of people in Olympia drive most places. Yet the public outreach we did for this plan shows very clearly that people see the value in investing in other ways to get around.

Therefore, the first layer of inequality in a transportation system could be viewed as *modal inequity*, or the historic investment in one mode of transportation, motor vehicles, without making equivalent investments in others. The projects in this plan aim to address this by:

- Building more infrastructure for people walking, biking, and taking the bus
- Keeping travel lanes for cars at a minimum, by building roundabouts and connecting our street grid

Modal inequity often reflects a deeper *social inequity* in our culture. For example, people who cannot afford a car have no choice but to walk, bike, or take the bus. Many people with disabilities are unable to drive. Children under 16 do not drive and often lack the judgment to safely negotiate a transportation system that prioritizes cars. Some seniors find they need to stop driving and find their mobility – and often quality of life – curtailed.

People who do not drive face limited mobility, which often translates to limited opportunities, whether those opportunities are jobs, social connections, getting to services, or enjoying the freedom of going where you want to go, when you want to go.

Source:kuow.org | credit: NW News Network

For those who do walk, bike, and take the bus, the experience of being outside a car can be different, depending on gender, gender conformity, race, ethnicity, sensory processing, and other factors. While we, the authors of this plan, are focused on solving the problem of insufficient infrastructure, we acknowledge there are complexities beyond infrastructure that impact people's experiences and how they get around.

The way we are distributed geographically also reflects inequities in our built environment. We can call this *spatial inequity*. The story of spatial inequity in our region is one we are only just beginning to understand. Because of historic zoning laws, where we work, where we live, where we shop, where we go to school, and where we worship are in different areas of the city. This requires us to travel longer distances, making it harder to walk, bike, or take the bus. The Urban Corridor zoning mentioned earlier is a strategy to bring housing closer to jobs and services. It can also allow trips to be shorter and more easily made by walking, biking, or transit.

Continuing to support high-frequency transit along Olympia's Urban Corridors is one way Olympia can support access to employment for the whole region. However, the Thurston region will need to have an in-depth policy discussion to address the racial inequalities we have inherited from previous generations, and which may be embedded into some of our current land use patterns. We look forward to supporting the Thurston Regional Planning Council's effort to develop an Environmental Justice and Social Equity in Transportation Planning and Project Selection strategy when it is funded.

Spatial inequity also has a gendered aspect. To date, the transportation patterns and needs of trans or non-binary people have not been studied. Most of the research about gender and transportation has focused on how cis-gendered women's travel patterns are typically different from cis-gendered men's. In general, women:

- Do more trip-chaining, or stop at multiple locations[8]
- Drive other people places, such as to school, medical appointments, or shopping[9]
- Ride bicycles less[10]
- Are more likely to report feeling unsafe while walking[11], biking[12], and riding the bus[13]

Since the focus of this plan is building infrastructure, we took into account destinations that women are more likely to travel to than men, such as schools, grocery stores, and medical offices[14]. We used transit routes and stops to determine where supportive infrastructure, such as sidewalks, enhanced crosswalks, and curb ramps should go.

We know that one reason women ride bicycles less than men is they tend to have a higher sensitivity to traffic stress, or interacting with motor vehicles. That is one of the reasons why we are proposing a low-stress bike network, which will have a network of separated bicycle lanes, bike corridors, trails, and pathways to help people navigate the city by bike. When planning the network, not only did we focus on spacing these facilities every half mile, so that no one would be farther than a quarter mile from one, but we also worked to link them to the same destinations we know women travel to more frequently.

Future work is needed to:

- Continue to learn about who in our community has physical, social, cognitive or economic challenges to mobility
- Identify sub-areas where there is a high proportion of barriers to walking, biking, or riding the bus, and people living with mobility challenges
- Remove barriers so that people can safely walk, bike, and ride the bus on our streets

Advisory Committee Involvement in Transportation

Since 1992, formal community involvement in transportation policy has been facilitated in part through the Bicycle and Pedestrian Advisory Committee (BPAC). The BPAC provides policy and programmatic recommendations to the City Council based on a work plan approved annually by the Council.

Since 1992, Public Works Transportation Planning and Engineering has evolved to better integrate walking and biking into the design of the street system. Increasingly, we find that we need to plan for all modes of transportation in an integrated manner, as decisions about one mode inevitably affect the others.

Future work is needed to explore whether a Transportation Advisory Committee, advising on a full range of transportation policy, would better serve the City Council.

Transportation Demand Management (TDM)

Transportation demand management is a set of tools designed to more efficiently use the transportation system we have before making costly expansions to it. TDM is designed to address motor vehicle trips, since those are the most costly trips for the public to support. TDM often results in fewer motor vehicle trips, which means:

- Less congestion
- Less pollution in the air and water
- Fewer greenhouse gas emissions
- Less pressure to widen streets
- Less wear and tear on our streets
- Safer streets, as fewer vehicle trips means fewer traffic collisions
- A healthier population, due to better air and water quality
- A more active population when people walk, bike, or take the bus (taking the bus also typically means walking to and from the bus stop)
- Lower development costs, since parking typically makes up about 20% of the cost of a project

The *Regional Transportation Plan* and the *Olympia Comprehensive Plan* both call for TDM programs and policies. Additionally, the state's Commute Trip Reduction Act requires Olympia to work with large employers to reduce drive-alone commute trips and vehicle miles travelled. In the past, we have focused TDM programs on the downtown and Capitol Campus, our largest employment centers. Strong TDM programs and policies at worksites can offset the need for costly street improvements to relieve peak hour congestion.

The City may consider expanding TDM efforts, including:

- To other employment centers beyond the Capitol Campus and downtown, such as the Capital Mall area and around Lilly Road
- Increasing parking management on public streets in employment hubs and encouraging parking management programs at large worksites
- Continue to encourage employers to provide incentives for employees to walk, bike, or take the bus, such as cash or prizes
- Working with the Olympia Downtown Alliance to provide incentives to walk, bike, or ride the bus to jobs downtown
- Partnering to expand school-based programs to encourage students to walk, bike, or ride the bus
- Encouraging staggered or flexible start and stop times at schools and worksites to reduce congestion
- Reduced parking requirements, especially for new development in areas with frequent transit service
- Building more infrastructure to support walking, biking, and taking the bus
- Encouraging telework

Parking Management

Olympia's Parking Strategy outlines the City's approach to managing parking downtown. Some of the strategy's goals include supporting local businesses, new housing, and creating active streets.

Managing parking is complex and requires balancing many competing needs. In the downtown, the City manages the on-street parking and three off-street parking lots. To support the local businesses, short-term parking is provided for customers. Long-term parking serves employees.

Parking management is one of the most effective transportation demand management tools, and it is one way to reduce drive-alone commute trips. When the *Parking Strategy* is updated, changes to the cost and supply of employee parking could be considered. This could help align the strategy with the City's goals of reducing emissions and vehicle miles traveled. In addition, a reduction in commute trips will help us minimize the growth in traffic congestion downtown, which impacts downtown's vitality.

Currently, the City offers downtown employees either monthly parking passes for leased lots or monthly permits to park at nine-hour meters. The monthly leases and permits are less expensive than parking at a nine-hour meter and paying for a day's worth of parking. To pay at a nine-hour meter is $6.75 per day. A monthly leased lot pass or nine-hour meter permit equates to $1.25 to $3.50 per day.

This difference in parking costs creates a financial incentive to buy a parking pass for the month instead of paying for parking as you use it each day. Once monthly parking is paid for, there is no incentive for a downtown employee to do anything but drive to work. Eliminating monthly payment systems and managing long term parking so that it is paid on a daily basis would increase the incentive to ride the bus, carpool, walk, or bike on any given day.

The City has already begun efforts in this direction. Paying for parking each day is more convenient with the new pay-by-phone system, which also means users do not need exact change to pay. The City has also begun converting portions of its parking lots into hourly parking. This is now possible, because the pay-by-phone system does not require the costly installation of parking meters.

To better support transportation goals, here are the changes the City may consider to parking management downtown:

- Gradually increasing the cost of permits and leased lot passes, so they are the same cost as daily parking
- Continue phasing in nine-hour metered parking into City parking lots, so that more people are paying on a daily basis
- Eliminate monthly meter permits and leased lot passes
- Eliminating discounts on permits or passes to employees of large worksites downtown

Online Work

In response to the COVID-19 pandemic, many more people suddenly began teleworking, which decreased traffic volumes on our streets. We assume that, post-COVID-19, many people will continue to telework more than they did before the pandemic. Since state agencies on the Capitol Campus are Olympia's largest employers, continued support for teleworking for state agency workers can significantly reduce traffic congestion on our streets, especially during morning and evening peak hours.

Should a reduction in commute trips continue after the pandemic, the City may consider reallocating space on some streets from vehicles to other uses, such as wider sidewalks, bike lanes, green stormwater infrastructure, or placemaking.

Freight

Freight movement is crucial to our economy. Investments made by previous generations have left us a strong freight network that we will continue to maintain.

Truck Routes are designated in the Olympia Municipal Code, 10.48. Trucks currently make up about 6.9 percent of all traffic on our arterials. We take into account large vehicle movements when designing arterials and major collectors, particularly at intersections. In places where we are considering adding bicycle lanes on truck routes, we will try to build enhanced bike lanes, which will increase the separation between cyclists and large trucks.

Two rail lines move freight through Olympia: one that goes to the Port of Olympia and another that goes to the Mottman Industrial Park. The *Regional Transportation Plan* states the region will support an increase to the amount of freight that is moved by rail for efficiency and safety, among other reasons. Should the rail lines be decommissioned, converting them into pedestrian and bicycle trails or other uses could be evaluated.

Some changes we may see in freight mobility in the next 20 years include: shifts to smaller vehicles for urban deliveries, a faster changeover to automated vehicle technology than in the general fleet, and increased demand for loading docks, curb space, and other delivery space to respond to larger changes in the retail sector.

The City may consider:

- Coordinating with the Port of Olympia and private businesses to consider shifting the schedules of log truck deliveries to times of the day when they would have less interaction with other users of the streets
- Incentivizing deliveries at certain times of the day, if delivery traffic leads to significant traffic congestion
- Implementing a curb space management program to balance delivery needs against other demands at the curb
- Updating code language about truck routes to reflect current and future freight needs

Sidewalk Repair

Many of Olympia's sidewalks are several decades – in some cases, even a century – old, and they are showing signs of wear. In other places, newer sidewalk panels are being lifted by street tree roots. We have changed our standards to reduce the likelihood that street trees will damage new sidewalks, but the backlog of needed repairs is significant.

Sidewalk repair is currently the responsibility of the adjacent property owner (OMC 12.36.010). On certain designated arterials and in the downtown, where there is more pedestrian traffic, the City repairs sidewalks as resources allow. See Chapter 8 for more about City sidewalk repair work.

Some property owners are either not aware of or not willing to comply with the code that requires them to maintain sidewalks. For some property owners, sidewalk maintenance can be a large financial burden. While the code requires property owners to make sidewalk repairs, it is not enforced routinely. In cases where is it clear that the damage was caused by a property owner's actions (parking large vehicles on a sidewalk, for example), code enforcement is used. Some homeowners associations will repair sidewalks within their boundaries.

Sidewalk damage can make it difficult for people with physical limitations or using walking aids to get around. Sidewalk damage is consistently raised as a concern by residents and business owners. Future work is needed to explore new policy approaches to sidewalk repair.

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Chapter 8: Maintenance and Operations Review

Introduction

Our transportation system is more than the new improvements we build out of asphalt and concrete. Once a project gets built, it needs to be maintained and operated. This chapter reviews the maintenance and operations of our transportation system, describes our current practices, how we establish priorities, and how we make decisions.

This review does not cover every aspect of transportation operations and maintenance. It focuses on more significant and challenging areas of work, and it presents opportunities for improvement. Rather than making recommendations, the statements in this section can inform future decisions by staff and policy makers.

Background

The City operates and maintains 526 lane miles of street. "Lane mile" includes all the lanes in our street system. For example, one mile of a four-lane street is four lane miles. Each mile of street surface must be maintained, along with the associated markings, signs and streetlights. The lane miles of street increase as new streets are built, as streets are widened for more lanes, or as parts of the Urban Growth Area are added, or "annexed," into the City.

The City's Street Operations Program in Public Works maintains street surfaces, City-owned rights-of-way, and selected sidewalks and pathways. The Street Operations Program has 11.5 staff members and an annual budget of $2.4 million for staff, materials, and equipment.

The City's Traffic Operations Program in Public Works maintains over 12,000 signs, 7,000 markings, 96 signals, 39 crossing beacons systems, 46 school zone beacons, and over 2,500 streetlights. This program has 8.5 staff members and an annual budget of $2.1 million.

These staffing and funding levels have remained relatively constant in recent years. As the City annexes new areas, these staff levels and resources should be evaluated. Asset management programs will help quantify future staff and resource needs.

Asset Management

An asset management program is a way to systematically plan for the maintenance of assets. It provides predictability in scheduling and funding. The steps to build an asset management program include: inventorying the assets, rating their condition, determining repair and replacement schedules, and providing adequate funding for it.

The City has an asset management program for street pavement, and we are developing programs for street lighting, signals, signs, and markings. Asset management programs could also be developed for alleys, pathways, and street trees.

Public Requests

Public requests tell us the concerns people have about the operations and maintenance of our street system. In 2019, some of those concerns were:

- **Vegetation**
  The greatest number of calls or emails we received had to do with trees or shrubs blocking sidewalks, bike lanes, intersections, signs, lights, or signals.
- **Speeding**
  We heard many concerns about speeding and received several requests for traffic calming.
- **Crosswalks**
  Some people requested new crosswalks, while others asked for improving the safety of existing crosswalks.
- **Sidewalks**
  We get regular requests to maintain sidewalks. Sidewalk repair is currently the responsibility of the adjacent property owner.
- **Lights not working**
  We get reports of streetlights, crosswalk beacons, and traffic signals that are not working.
- **Parking**
  Neighborhood parking concerns include blocked driveways, crosswalks, sidewalks, and bike lanes.

Review of Maintenance Practices and Operational Procedures

Sweeping

Current practice

The City has one street sweeper that rotates through out the City. The typical sweeping schedule is downtown streets, twice a week; arterials and streets with bike lanes, every other week; residential streets, one to two times a year. The Chehalis Western Trail is cleared by Thurston County. The Karen Fraser Woodland Trail is cleared by the City's Parks Department. The surface of the I-5 Bike Trail is maintained by the City's Street Operations Program, which also clears pathways as needed.

Issue

More routine sweeping would keep debris from entering the stormwater system and our waterways. More sweeping of bike lanes would improve bicycling, since bicycle tires are vulnerable to puncture from glass or other debris that gets blown into bike lanes from passing vehicles. More sweeping in neighborhoods would improve aesthetics. Routine sweeping of pathways would benefit people walking and biking.

Future considerations

The City's Stormwater Utility has received a grant to enhance our sweeping operations for five years starting in 2021. The grant includes the purchase of a second sweeper. This will allow us to sweep more frequently and remove more fine debris from our streets before it enters the stormwater system and our waterways.

On-going funding will be needed to address stormwater and other sweeping needs. In the future, we will also need a new, smaller sweeper, and potentially more staff, in order to sweep enhanced bike lanes.

Sidewalk Repair

Current practice

Sidewalk repair is currently the responsibility of the adjacent property owner (OMC 12.36.010). On certain designated arterials and in the downtown, where there is more pedestrian traffic, the City repairs sidewalks. These streets generally correspond with the streets where the City has agreed to maintain the street trees.

Issues

The City repairs sidewalks using $11,000-$20,000 in operations funds and grants. While this approach has been effective in addressing three to six sites of repair per year on designated arterials and downtown, the need for repair far exceeds the time and resources of City crews.

Future considerations

We could explore a new approach for sidewalk repair, including additional funding. With increased funding, we could implement a more formal process to inventory, prioritize, and systematically make sidewalk repairs. Chapter 7 also discusses sidewalk repair.

Street Tree Maintenance

Current practice

City street standards require street trees, which means we add them as part of public street improvement projects, and private developers add them with frontage improvements. Trees are either planted in a planter strip between the sidewalk and the street or in a tree grate that is part of the sidewalk. Street trees are important for streetscape aesthetics, and the visual friction they provide along a street can slow traffic. Street trees also shade the street surface, which can minimize asphalt degradation, as well as make the sidewalk cooler for pedestrians on hot days. The City's Urban Forestry program sets aside some funding for street tree planting and replacement. On some arterials and in the downtown, the City's Parks Department maintains the street trees. In all other areas, the adjacent property owner is required to maintain trees in the planter strip, including leaf pick up (OMC 8.24.050).

Issues

If trees are planted in compacted soils, their roots will travel laterally, seeking air. This causes cracks and lifts in sidewalks and streets. Leaves from street trees are a periodic complaint from the public. Some property owners are not aware of, not willing, or not able to comply with the code that requires them to maintain trees and associated debris.

Future considerations

Continue to require street trees as part of City street standards. Continue to improve the design standards to provide appropriate conditions for healthy trees and prevent damage to sidewalks from tree roots. Continue or increase education and enforcement of maintaining street trees and leaf clean-up.

Alternatively, the City could take a larger role in maintaining more street trees, which would require more funding. A street tree asset management program would provide predictable maintenance and could overlap with sidewalk repair efforts.

Alley Maintenance

Current practice

Alleys are public rights-of-way, part of the street system used for access and circulation. Alleys provide access to properties for deliveries, loading, and services, like garbage and recycling pick up. Alleys in residential areas are not routinely maintained. In the downtown, we only maintain the alleys that waste collection vehicles use.

Issues

Alleys can provide improved access for people walking, biking, and driving. Increased maintenance of alleys may improve the aesthetics and function of an area. As the downtown densifies and intensifies in activity, the use of alleys will increase, and maintaining them will become more important.

Future considerations

An asset management program for alleys would provide more predictability to the public and staff for alley maintenance. Routine maintenance of alleys would require an increase in funding.

Pathways Maintenance

Current practice

Pathways are short bicycle and pedestrian connections separate from the street system. These pathways are important to bicycle and pedestrian travel because they shorten routes and separate users from car traffic. The City has an inventory of 63 pathways on public property. Maintenance of these pathways is done on an ad hoc basis and is informed by public requests. Of the 63 pathways, three have lighting.

Issues

Lighting and routine maintenance would increase pathway safety and accessibility.

Future considerations

Consider development of an asset management program for maintaining pathway surfaces and lighting. Consider funding to add lighting to pathways that are not currently lit.

Volunteer Maintenance in Right-of-Way

Current practice

Some community members are interested in helping maintain pathways, landscaping in medians and traffic circles, and other features in the right-of-way in their neighborhood, but there is no program to administer volunteer right-of-way maintenance.

Issue

For community members to work in the right-of-way, they either must be supervised by a City staff person or they must be part of a formal organization. That organization must have liability insurance and maintain and submit volunteer records to the City. The organization cannot allow volunteers to use power tools, nor allow minors to participate, among other requirements.

Future consideration

A program that makes it easier for community members to help maintain features in the right-of-way may help people feel invested in their neighborhoods. This program could be modelled after the City's Parks Department's Volunteers in Parks Program. A new program would require budget and staff resources and it should be weighed against increasing funding for City crews to do this work.

Public Request System

Current practice

The public contacts City staff with concerns and requests that are far-ranging in topic. In addition, about five percent of the calls to the Public Works Dispatch phone line are transportation related. Many people also submit requests online through the QAlert system.

Issue

Concerns and requests from the public tell Transportation staff how well the system is serving the community. However, responding to requests is time intensive. Approximately 1.5 staff people in Public Works Transportation are dedicated to receiving and responding to requests, with many other staff regularly involved. On any given day, approximately 30 requests are outstanding and require staff research in order to resolve.

Future considerations

Explore opportunities to reduce the number of calls or emails by increasing public information and education. Use the City website and other tools to answer common questions and explain how decisions about common types of requests are made.

Safety Analysis

Current practice

In 2019, the City developed its first-ever *Street Safety Plan*. This plan is an evaluation of collisions that occurred in the previous five years. From the analysis, staff identified improvements to increase safety. The analysis also identifies the risk factors that lead to collisions, so that we can use proactive measures to prevent collisions and allocate resources most effectively.

Issue

The development of a *Street Safety Plan* is a new approach to addressing safety needs. It has increased workload, both in routinely evaluating the collisions as well as implementing improvements with operations staff.

Future considerations

Consider a routine update of the *Street Safety Plan* every two years to identify risk factors and needed improvements. Use the plan to communicate safety priorities to the public. Use the plan to help establish priorities for maintenance and operations work. Allocate staff time and resources to addressing needed safety improvements.

Crosswalk Markings Installation and Maintenance

Current practice

There is a legal crosswalk at the intersection of any two streets whether marked or not, and pedestrians have the right-of-way in crosswalks. We do not mark crosswalks in all intersections, because of the cost to maintain the markings, and because crosswalks are not needed on streets with low traffic volumes. We base decisions on marking crosswalks on proximity to a school or major destination, or if there is a high volume of pedestrians crossing at a particular location. The City has a total of 417 marked crosswalks, and we maintain them as needed.

Issues

Marked crosswalks support walking, but there are limitations to installing crosswalks at every intersection.

Future considerations

Developing a methodology to identify the highest priority crosswalks to mark would make decisions more consistent. An asset management program would help manage the maintenance of crosswalk markings. Maintaining more crosswalk markings will require more operations funding.

Vegetation Maintenance

Current practice

In the spring and summer months, vegetation is typically the public's top concern, based on what we hear from phone calls and emails. Vegetation creates problems when it blocks signs, signals, streetlights, beacons, sidewalks, bike lanes, or visibility at intersections. We handle vegetation complaints differently, depending on whether the tree or shrub is in right-of-way or on private property. Usually, City staff clear vegetation in the right-of-way, and vegetation that originates on private property is typically addressed through code enforcement. The exception is vegetation on private property that blocks a regulatory sign, signal or beacon, in which case City crews will trim it back.

Issue

Managing the obstructions created by vegetation is a staff-intensive task. Each incident requires staff to research property boundaries and often make a site visit to measure sight distance. When the vegetation is on private property, Code Enforcement sends a letter requesting that the vegetation be removed or trimmed. From there, communication with the property owner often takes additional time to explain the code, discuss options, and reinforce the time-frame for response.

Future considerations

Evaluate options and costs for more efficiently addressing vegetation issues. Options to consider include: developing educational messages and campaigns to encourage residents and business owners to trim vegetation; streamlining the code enforcement process to reduce staff resources and time to resolve issues, and defining a broader range of conditions under which City crews can trim vegetation in the right-of-way without consulting adjacent property owners.

Temporary Traffic Control for Bicycle and Pedestrians

Current practice

Construction and maintenance on or near streets can obstruct travel lanes, sidewalks and bike lanes. Workers are required to put up temporary traffic control (cones, signs, and barricades) in order to manage access and the flow of people on the sidewalk and street. Sometimes they establish temporary detour routes when streets are closed.

Issues

There is very little federal or state guidance or training for guiding pedestrians and bicyclists through temporary traffic control zones. Without that guidance, it is difficult for the City to require pedestrian- and bike-specific temporary traffic control, which often makes managing access and safety near these sites a challenge. Sidewalks and bike lanes are closed much more often than travel lanes, because they are often immediately adjacent to construction sites. Pedestrians often have to detour at awkward or inconvenient locations, and bicyclists have to negotiate entering travel lanes, often while keeping an eye on pavement hazards. Also, what may be a minor detour for a motor vehicle driver can be significant additional time and effort for a person walking or biking.

Future considerations

Consider developing and enforcing temporary traffic control standards that address bicycle and pedestrian safety.

Art in Crosswalks

Current practice

Some communities may use non-standard crosswalk painting or "crosswalk art." The art is intended to draw attention to the crosswalk, express a particular identity for an area, or enhance the sense of place in a district. Olympia has not approved art in crosswalks due to regulatory concerns and liability.

Issues

The Federal Highways Administration (FHWA) does not allow art in crosswalks. The City of Olympia complies with FHWA policy. In addition, managing the number of requests for art in crosswalk would require staff resources that detract from other priority work. Even if painted by volunteers (see section on volunteer work in rights-of-way), art in crosswalks will have an impact on staff time and budgets.

Future considerations

Should FHWA allow art in crosswalk, consider developing a program with a methodology to prioritize projects. Consider other opportunities for art in the street or right-of-way when it does not present traffic safety issues or conflict with regulations. Funding for staff resources to manage a program would be needed.

Snow and Ice Removal

Current practice

Snow and ice on our streets can significantly impact the mobility of people going about everyday life, as well as commerce, emergency services, and transit. Each year, City staff prepares for winter weather by storing sand, salt, and deicer. We store and maintain snowplow equipment until it is needed, and then we attach it to maintenance trucks. We update the City's *Snow and Ice Plan* every year to guide staff on a wide range of functions during snow events.

Issues

Each year, it is challenging to predict the level of snow and ice removal we will need and its impacts to the operating budget. In addition to removing snow and ice, City crews often need to clear fallen tree limbs. While adjacent residents and business owners are responsible for clearing sidewalks of snow, ice, and tree limbs, many do not. (OMC 12.36.060) This makes access to transit difficult at a time when people may prefer taking the bus to driving.

Future considerations

Having budget and staffing flexibility to respond to winter storms will need to be an ongoing aspect of planning and budgeting. Consider increased education and enforcement of the code that requires property owners to clear adjacent sidewalks of snow and ice.

Special Events

Current practice

Special events sponsored by private organizations or co-sponsored by the City of Olympia are held on City streets. These are primarily held in the spring and summer, and typically in the downtown. As a capital city, and because downtown is the urban center for Thurston County, more events that draw regional participants occur in Olympia than neighboring communities. The City supports these events to varying degrees by closing streets and monitoring traffic flow. Typically, the events are on weekends, which requires paying staff overtime. In 2019, 18 events took place. Examples include the Capital City Marathon, Lakefair, a variety of parades, and demonstrations.

Issues

The number of events can be unpredictable from one year to the next, which results in unpredictable costs to the operations budget. Because they occur in the summer months, they can conflict with other important maintenance work that needs to be done when the streets are dry. The costs for overtime pay in 2019 for the 18 events that were held was $29,107.

Future considerations

To reduce the budget impacts of special events, some labor charges could be passed on to organizations sponsoring the events. We could also consider permitting fewer special events, but this would need to be weighed against the benefits to the community that the events often bring.

Street Striping

Current practice

The City refreshes the yellow and white paint stripes on public streets annually. The paint provides positive guidance for drivers, particularly at night. Each year this is a major task for City crews. In recent years, we have contracted with Thurston County Public Works to provide some staff and equipment for street striping. City staff remain involved by operating equipment, coning off streets that have been recently painted, and providing follow vehicles behind the striper.

Issues

To deter drivers from crossing freshly-painted lane lines, the striping operation involves multiple City staff for several days.

Future considerations

The use of reflective buttons adhered to the pavement may be an alternative to paint striping. The use of buttons may result in less regular maintenance. A review of streets for missing buttons and replacement procedures would need to occur regularly. Some potential issues with buttons are the impacts of snow plow blades the potential for buttons to increase vehicle speeds , and in some locations, they can pose a hazard to people bicycling.

Signal Technology

Current practice

The City operates and maintains 96 traffic signals within the City Limits. This includes the lights, the computers or "controllers" at each signal, programming systems, and electrical connections. Some signals are on timers and some are activated with detection devices, which can be overhead cameras or loops of wire embedded in the pavement.

Issues

While controllers were upgraded in 2019, the signals and electrical systems are of varying age. Older equipment is prone to malfunction. For example, a signal that is operated by a timer can become out of cycle because the power supply is old and inconsistent. Loops in the pavement that detect vehicles can lose sensitivity or be damaged by construction or maintenance activities. Cameras are increasingly being used at intersections for vehicle and bike detection because they require less maintenance and can more reliably detect bikes. Other sections of this plan recommend the use of roundabouts over signals. This is primarily because roundabouts are safer for all roadway users. An additional benefit is that roundabouts can function when the power is out.

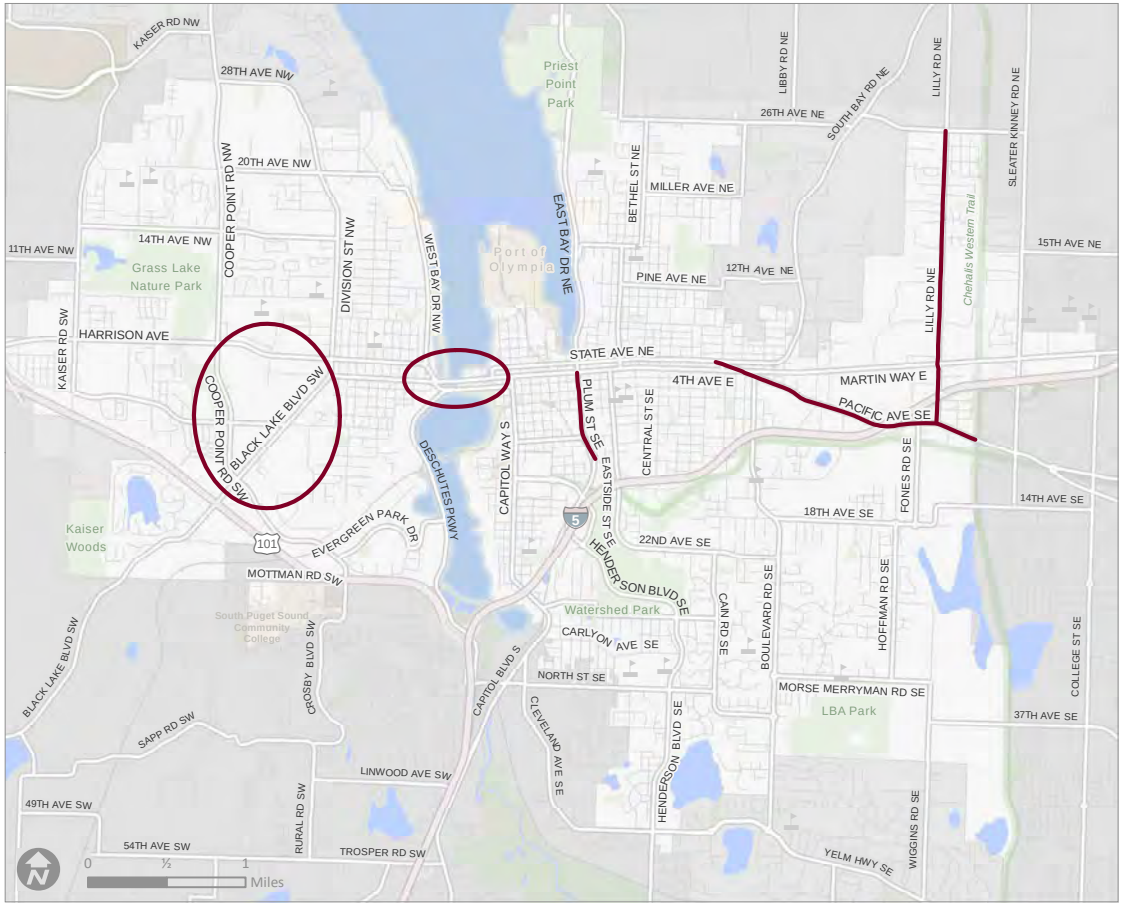
Future considerations

Consider upgrading signal systems with more reliable equipment and technology, including fiber optics for improved programming and remote communications, and cameras for detection. Prioritize technological upgrades that give priority to transit buses at traffic signals along bus corridors.

Chapter 9: Future Areas of Study

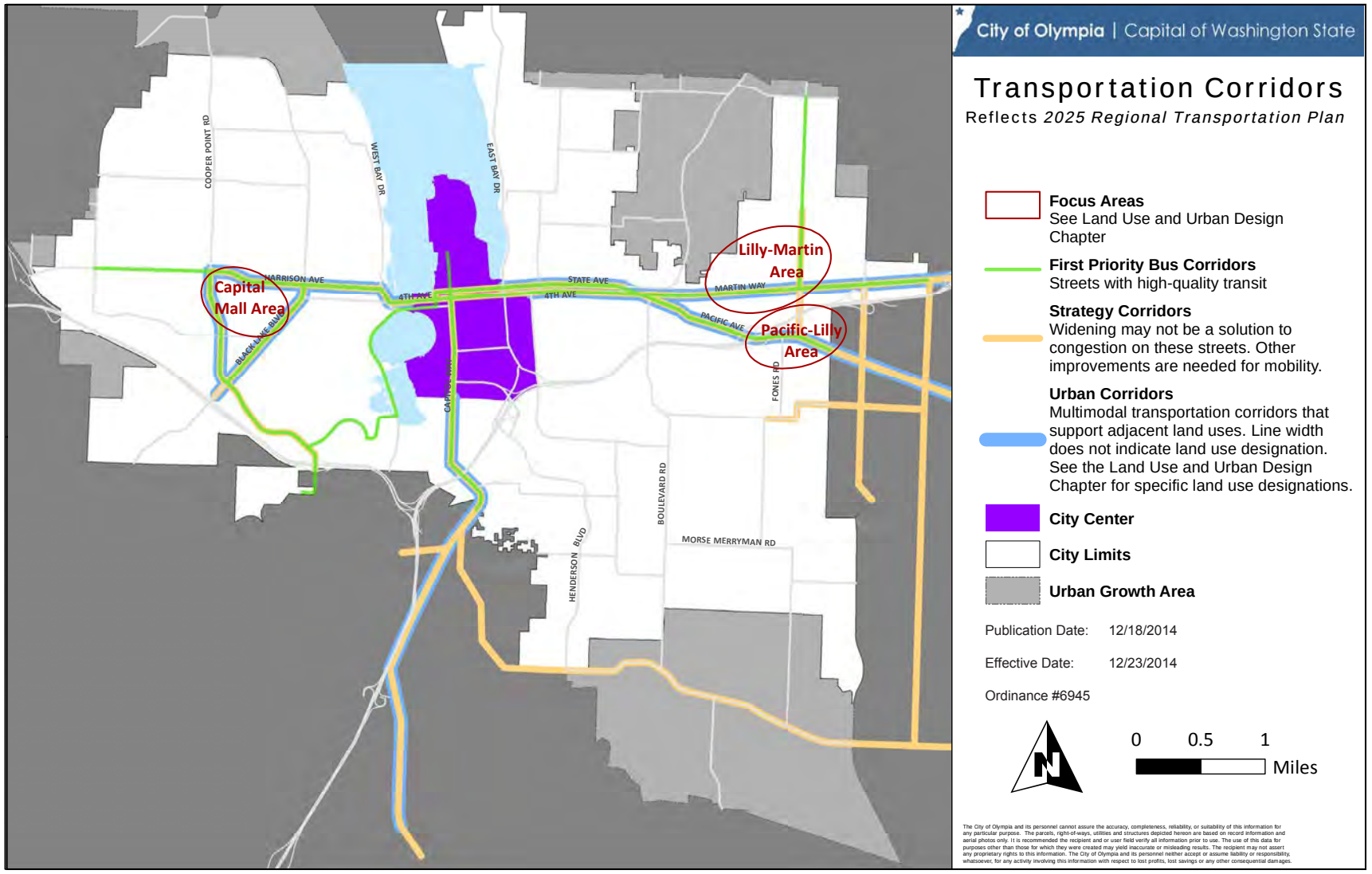
Throughout the development of this plan, we identified some areas of the city where the transportation challenges are complex and need further study. The outcomes of these studies may result in new projects that we will add to the TMP in the next update. The studies may also lead to changes to the comprehensive plan and the Regional Transportation Plan.

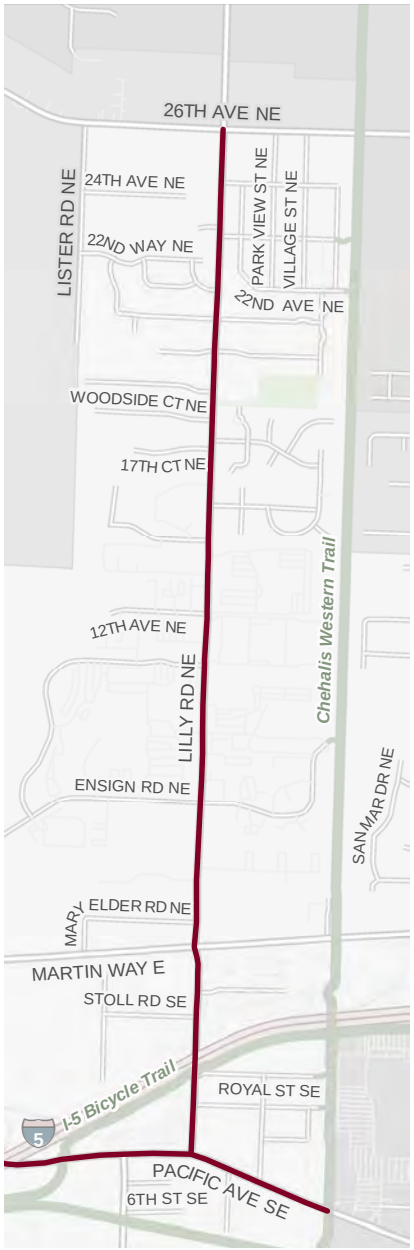
The studies should examine the needs of people walking and biking, the needs of transit riders and overall transit route operations, vehicle flow improvements, and solutions to places where collisions are occurring.



Comprehensive Plan Focus Areas

Several of the streets and sub-areas that need study coincide with focus areas identified in the comprehensive plan. These focus areas are places where we hope to strategically guide new development, both residential and commercial, and integrate street improvements and other public facility needs with land use changes. Below is a comprehensive plan map of focus areas.





Lilly Road

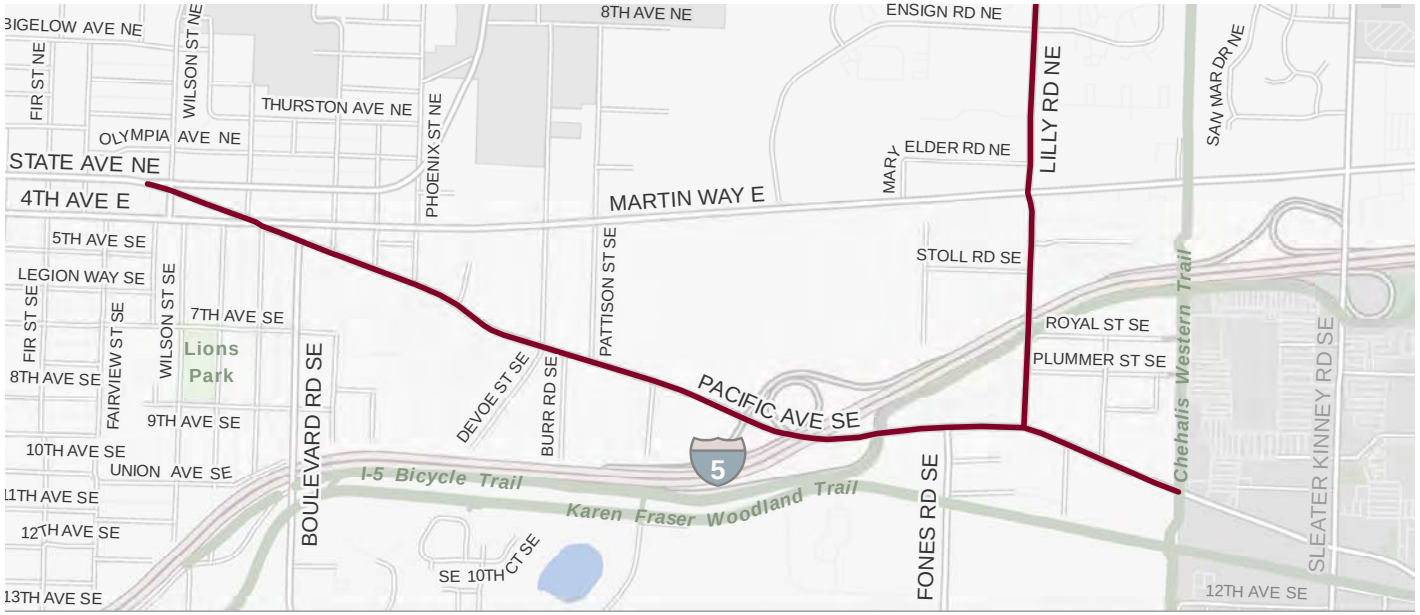
Lilly Road is a major employment and medical hub in Olympia, and it is the main route to a regional hospital. There are also many single- and multi-family homes along Lilly Road. This corridor includes two of the focus areas for additional planning identified in the comprehensive plan. Any study should integrate land use goals for these focus areas.

We have identified many transportation needs for Lilly Road. Among them:

- Two sections are missing bike lanes
- Sidewalks are either missing or uncomfortable to walk on, because they are too narrow and have no buffer from the travel lanes
- Support for improved transit operations
- During some times of the day there is traffic congestion, which impacts drivers, bus riders, and emergency vehicles

Because there are no parallel streets to Lilly Road, all traffic in this area must use it. A better-connected street grid adjacent to Lilly Road would help disperse vehicle traffic and provide shorter route options for people walking and biking. A street grid would also provide more detour opportunities during construction or emergencies.

The poor street connectivity in this area contributes to safety problems, because without a street grid to provide access to properties, many driveways must intersect with Lilly Road. The *Street Safety Plan* identifies Lilly Road as a corridor for further evaluation to improve the safety of all users of the street.



Pacific Avenue

Pacific Avenue is an arterial that currently does not support people walking, biking, and using transit very well. Since it is a bus corridor, we should prioritize improvements for people walking and using transit. Streetscape improvements that buffer pedestrians from motor vehicle traffic will make walking safer and more inviting. The enhanced crosswalks included in Chapter 4 will also improve walkability. A study of Pacific Avenue would coincide with the Pacific-Lilly focus area identified in the comprehensive plan, and any future study should integrate land use goals.

Roundabouts along this corridor would improve the traffic congestion that the traffic model forecasts for the future. Long-term, a roundabout at Fones Road would improve safety and traffic flow.

In addition, street connections east of that intersection (the area around 6th Avenue and Poplar Street) could help disperse traffic, helping to ease traffic congestion at Pacific Avenue and Fones Road.

We are planning a roundabout within 20 years at Boulevard Road, as shown in Chapter 4. Long term, we recommend replacing the current signalized intersection at Lilly Road with a roundabout. These projects will improve traffic flow and overall safety of users along the corridor.

Plum Street

Plum Street is an arterial and freight route on the edge of downtown that serves as an important access point to Interstate 5. It is immediately adjacent to many large state agencies. Plum Street is a barrier for people walking, separating the downtown from the eastside neighborhood. Many of the collisions on Plum Street are due to the high volume of turn movements on and off the corridor. Some of these safety issues are addressed with projects shown in Chapter 4, but we need to study this corridor further.

To improve the street for people walking, we should explore increasing the buffers between the sidewalk and travel lanes. While there are several signalized crossing opportunities along the corridor, a person walking must cross multiple lanes, and often turning vehicles pose threats to a person who is crossing with the "walk" signal. We should also look for opportunities to modify signals and intersections to protect people walking across Plum. To help slow vehicle traffic, improve the aesthetics of this corridor, and enhance pedestrian comfort, we should look for ways to improve the landscaping.

The traffic model predicts additional vehicle congestion and delay along Plum Street in the next twenty years. At large worksites adjacent to this corridor, commute trip reduction efforts, flexible start and stop times, and telework can reduce the morning and evening peak congestion. The downtown grid adjacent to this corridor can also help to disperse traffic. Long-term, we may consider a roundabout at Union and Plum for safety and vehicle flow.

4th and 5th Avenue Isthmus

The bridges that connect downtown Olympia with the westside of Olympia, and the street segments on either end, are a pinch point in our transportation system. We need to improve mobility through this area, which stretches from roughly Columbia Street downtown to Sherman Avenue on the westside.

The top priority is to identify a low-stress bike route through this area. Trails, shorter off-street pathways, and enhanced bike lanes are likely needed. We also need to ensure that transit can continue to move through the corridor predictably, because as congestion increases, transit delays will occur. Re-routing transit is not a good option, as the only reasonable alternate route in the city's street network for transit buses is Lakeridge Drive, which is a significant detour.

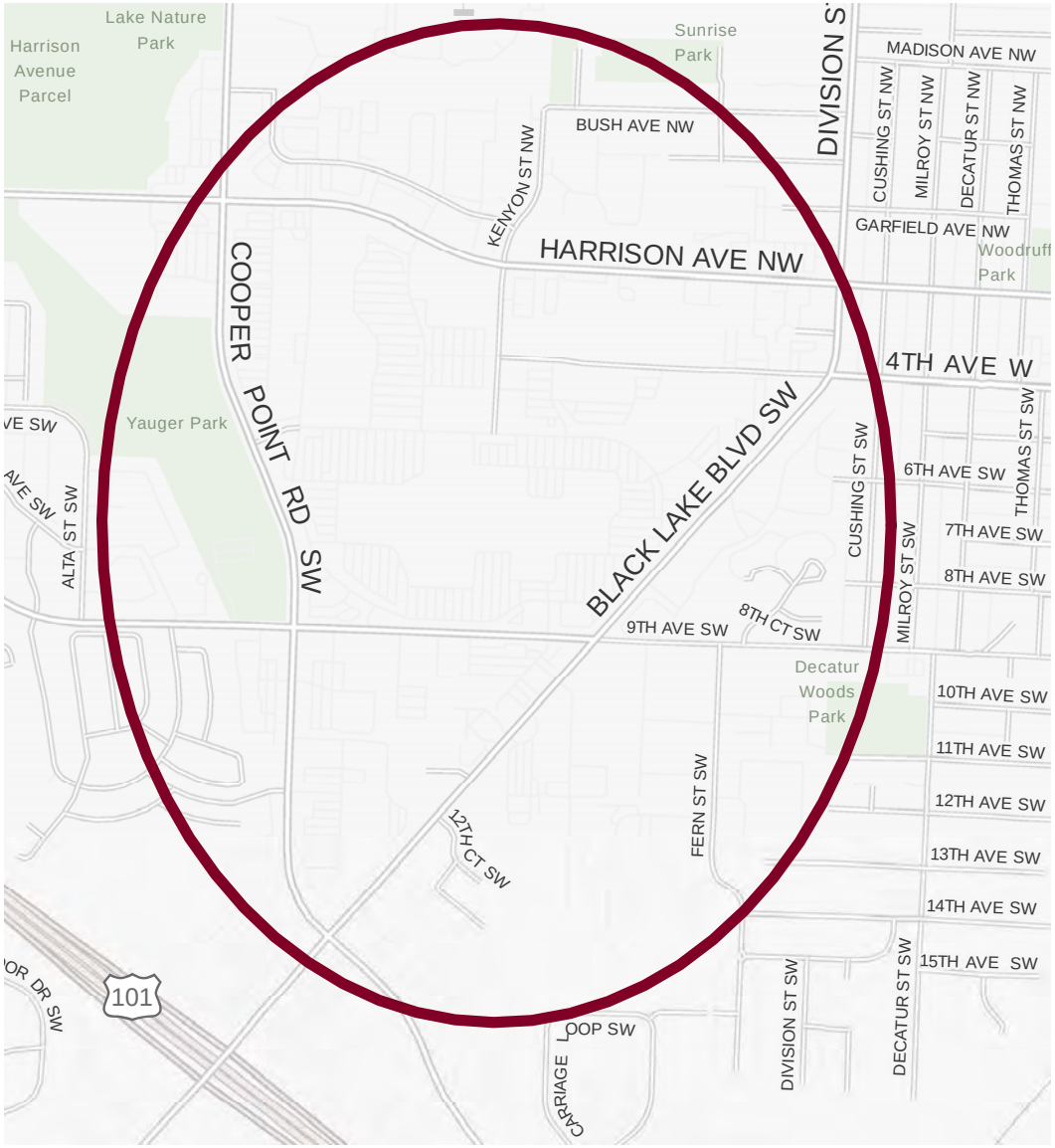
This study of the isthmus will need to be coordinated with other future plans for the area. The City's *Sea Level Response Plan* identifies the need to modify 4th and 5th Avenues to prevent the flooding that is expected to be the result of sea-level rise. Flood prevention will need to be considered and possibly integrated into any design changes to the streets across the isthmus. The State of Washington is examining potential changes to the Capitol Lake-Deschutes River Estuary which could result in changes to the 5th Avenue Dam and bridge. An Environmental Impact Statement that examines options for addressing the issues in the area is expected to be finalized in 2022.

Westside Sub-Area

The westside sub-area formed by the triangle of Harrison Avenue, Black Lake Boulevard, and Cooper Point Road coincides with the Capital Mall focus area identified in the comprehensive plan. Any study here should also integrate land use goals.

This area is characterized by wide, high-volume streets, large commercial properties, and multifamily housing. There is no grid of low-volume streets, and the land use patterns are not human scale. This means the area was built with cars, not people, as the focus, and it is not an inviting place to get around outside of a car. Because this is a part of the city with a high concentration of jobs, homes, and services in a relatively small area, it could become a place where people can walk and bike to get many of their needs met locally, and catch the bus to get to places farther away.

As part of the safety analysis in the *Street Safety Plan*, we identified Harrison Avenue, Cooper Point Road, and most of Black Lake Boulevard as Tier 1 corridors, meaning they have a high priority for safety improvements due to their collision history and street characteristics. Those safety improvements will make the area more comfortable for everyone, especially people walking and biking.



Connecting the street grid in this area will also help improve safety, disperse traffic, and allow detours for construction or emergencies. A better street grid will shorten trips, which is key to making it easier for people to walk and bike. The large blocks also increase the distances for people accessing transit stops. Some ways we can improve the street grid include:

- Pursuing new street connections, including those identified in the comprehensive plan.
- Continuing to require that smaller, low volume streets be built when land is developed or redeveloped.
- Considering the conversion of private streets to public with redevelopment.

Long term, many roundabouts are proposed in this area, including replacing some traffic signals with roundabouts. For example, in Chapter 4, we propose a roundabout to replace the traffic signal at 9th Avenue and Black Lake Boulevard. Roundabouts move traffic more smoothly and safely than intersections with traffic signals. By increasing the throughput of motor vehicles at an intersection, we can sometimes remove a travel lane along a street, which provides space for bike lanes or wider sidewalks. Roundabouts also allow us to remove turn lanes at intersections, which makes them easier for pedestrians to cross.

Building the low-stress bicycle network defined in Chapter 4 will make this area easier to get around by bike. This includes enhanced bike lanes on large streets, as well as trails, bike corridors, and pathways that will eventually link up and provide a seamless network. At some signalized intersections, we will consider adding separated bike intersection treatments.

The enhanced crosswalks proposed in Chapter 4 will help people cross the large streets in this area. While many of the streets have sidewalks, the sidewalks are often not buffered from the vehicle travel lanes, which makes them uncomfortable places to walk. We should explore ways to better buffer people walking from vehicle traffic. We should also consider landscaping to enhance the pedestrian environment.

The three arterials that form this area are bus corridors, as defined by the comprehensive plan. Routes operate on Cooper Point Road and Harrison Avenue, but service on Black Lake Boulevard is only on the section north of 9th Avenue. The pedestrian improvements in this sub-area, including those proposed in Chapter 4, will help riders access bus stops. However, we need to work with Intercity Transit to address their operational needs in this area. In addition to addressing traffic congestion that impacts reliability, transit service would also benefit from a turnaround location for buses at the western end of routes on Harrison Avenue, and/or a westside transit center. We should also examine improving transit access to Capital Mall, which is a major destination both for shopping and employment.

Lastly, the changes that come with the construction of the new on- and off-ramps as part of the US 101/West Olympia Access Project should be integrated into the local street system with sensitivity to the surrounding context. The elements of this project that interface with the local street system should be designed to be human scale. Design of the ramps and associated improvements should improve bicycle, pedestrian and transit access across US 101, better integrating west Olympia neighborhoods and commercial areas. The design of this project should prevent high speeds as vehicles transition from the highway to the street system.

Other Areas of Study

As the low stress bicycle network proposed in this TMP is further refined, several areas will require further study in cooperation with other agencies, property owners, and stakeholders.

In addition to the low-stress bike route needed across the isthmus, we also need to look for a north-south connection across the Capitol Campus for people biking. We will need to plan cooperatively with the Department of Enterprise Services to identify on- and off-street low-stress bike projects.

The City's Downtown Strategy identifies the "Big W Trail," a combination of on- and off-street facilities for people walking and biking along Olympia's waterfront. This trail could provide a significant benefit for transportation and recreation, and it could promote economic development downtown. We need to do more work to identify the alignment and specific improvements, and that work needs to be done with downtown property owners, the City's Parks Department, and the Port of Olympia.

Chapter 10: Metrics

We have established metrics to measure our progress toward implementing this plan. Other metrics show progress meeting comprehensive plan goals and regional targets. Some of these metrics may be used as Community Indicators and shared on the City's website.

Implementing This Plan

As we build projects each year, we are one step closer to completing the list of projects Olympia needs.

The column for "20-year project list" shows what we believe we can build based on current revenue. The column for "Full Network" refers to all the projects we have identified in developing this plan. Please see Chapter 4 for more information.

Each year, we will track our progress towards meeting the 20-year project lists and full network needs. How soon we can build these projects will primarily depend on revenue. Should more become available, we will be able to build more projects sooner. If we finish the 20-year project list in 15 years, then we will build projects on the full network lists.

Type of Project	20 Year Project List	Full Network Project List
Sidewalks	8 miles	65 miles
Pathways	15	81
Enhanced crosswalks	16	350
Curb access ramps	NA	4,014
Accessible signals	NA	79
Bike corridors	10 miles	34 miles
Enhanced bike lanes	7 miles	52 miles
Roundabouts	12	52
Resurfacing	69 miles	NA
Safety projects	23	56

Annual Indicators

These annual indicators show a snapshot of how our street system is working. They will give us a sense of the system's safety and how people are using it.

Safety

The *Street Safety Plan*, which we expect to update every two years, will have the latest collision numbers. Our goal is to see a reduction in the number of collisions. We will use a five-year rolling average to try to even out the peaks and valleys in the data. This five-year period is 2014 to 2018.

	2020 Baseline
Pedestrian collisions	31
Bicycle collisions	26
Vehicle collisions	884
Serious and fatal injury collisions	14

Use of the transportation system

Broadly, we hope to see an increase in the number of people walking, biking, and riding the bus, and a decrease in the number of trips people make by driving alone. Right now, for walking and biking, we have a small sample size, so it is hard to know if there are any trends in the use of those modes. Over time, we hope to see growth in walking, biking, and transit trips due to the improvements we are going to build, and because of changes to land use patterns. Both will make it easier for people to get to their destinations by walking, biking, or riding the bus.

Because we count pedestrians, bicyclists, transit use, and motor vehicles differently, we cannot compare them against each other. They are all stand-alone indicators. Transit use, for example, shows how the transit system is used in the broader urban area of Thurston County, whereas the pedestrian, bicycle, and vehicle counts are collected in Olympia. Some are based on a three-day average of 24-hour counts, while others are based on a three-day average of six-hour counts.

These individual indicators are meaningful when we compare several years of data. While just one year of data is shown below, it will be the change over time that will be interesting to observe. More background to these indicators can be found in Chapter 2.

	2020 Baseline	Source
Pedestrian counts	1,549 (2019)	Number of people walking at 11 locations on a day in September
Bike counts	2,182 (2020)	Number of people biking at 18 locations on an average day in June
Vehicle counts	20,250 (2019)	Average daily arterial traffic based on monthly counts at nine locations
Freight traffic	6.85% (2019)	Truck traffic as a percentage of total traffic at 26 locations
Transit ridership	4.03 million (2019)	Based on annual fixed route ridership from Intercity Transit

Long-term indicators

These long-term indicators help us understand how much people in Olympia and Thurston County are driving relative to population growth, and how well we are meeting a regional land use target. More background to these indicators can be found in Chapter 2. The Thurston Regional Planning Council (TRPC) is the source of much of this data.

	2020 Baseline	Target	Notes
Olympia population relative to vehicle control counts (ratio)	0.38 (2019)	A smaller number indicates we are driving less relative to population growth in Olympia	Based on population numbers from Office of Financial Management and nine vehicle count locations in Olympia.
Thurston County VMT	2,534,097,128 (2019)	2,673,027,459 by 2035	Based on TRPC's Sustainable Thurston Report Card.
Per Capita VMT Thurston County	8,876 (2019)	7,542 by 2035	Based on TRPC's Sustainable Thurston Report Card.
Households within half a mile of urban center, corridor or neighborhood center in Lacey, Olympia and Tumwater	46% (2019)	72% by 2030	Based on TRPC's Sustainable Thurston Report Card.