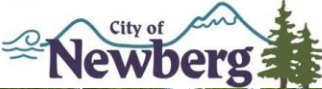


City of Newberg Transportation System Plan



Prepared for:



Prepared by



Adopted December 19, 2016
Addendum - Riverfront Master Plan, Kittelson
& Associates Inc., March 1, 2021

**Prepared for:
City of Newberg
Oregon Department of Transportation**

Adopted December 19, 2016

**Addendum – Riverfront Master
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Volume 2 of the TSP includes all background memos and technical data that was the basis for the Newberg TSP Update and Addendum Riverfront Master Plan. In some cases, these memos include additional information and details than what was included in Volume 1.

The contents of Volume 2 represent an iterative process in the development of the TSP and Addendum Riverfront Master Plan. Refinements to various plan elements occurred throughout the process as new information was obtained. **In all cases, the contents of Volume 1 supersede those in Volume 2.**

Memo 1: Public Involvement Plan Memo 2:

Background Document Review

Memo 3: Goals, Objectives, & Evaluation Criteria

Memo 4: Existing Conditions

Memo 5: Future Forecasting

Memo 6: Future Needs Analysis

Memo 7: Stakeholder Interviews #1

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Memo 10: Finance Program

Memo 11: Transportation Standards

Memo 12: Code Amendments

Addendum Riverfront Master Plan 2021

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Useful Abbreviations and Acronyms

30 HV – 30th Highest Hourly Volumes
AASHTO – American Association of State Highway and Transportation Officials
ADA – Americans with Disabilities Act
ADT – Average Daily Traffic
ATR – Automatic Traffic Recorder
CAC – Citizen Advisory Committee
FHWA – Federal Highway Administration
HCM – Highway Capacity Manual
HDM – Highway Design Manual
HSIP – Highway Safety Improvement Program
LOS – Level of Service
NTM – Neighborhood Traffic Management
ODOT – Oregon Department of Transportation
OHP – Oregon Highway Plan
ROW – Right of Way
SPIS – Safety Priority Index System
TAZ – Transportation Analysis Zone
TDM – Transportation Demand Management
TSP – Transportation System Plan
UGB – Urban Growth Boundary
URA – Urban Reserve Area
V/C – Volume to Capacity
VMT – Vehicle Miles Traveled
VPH – Vehicles Per Hour

Introduction

Newberg, Oregon is a city of about 23,000 residents located in the Willamette Valley between Portland and the Oregon Coast. The City abuts the Willamette River and the renowned vineyards and farmlands of the Willamette Valley. The City was incorporated in 1889, when the population of Yamhill County was less than 10,000 residents, and it was the boyhood home of President Herbert Hoover.



Photo 1: OR 99W Entering Downtown Newberg

Today, Newberg is the home of George Fox University (3,700 enrolled students), and the city has become a regional destination for wine tourism, with several wine tasting rooms within the city and numerous nearby wineries.

Newberg is a junction for three of Oregon’s highways: OR 99W, OR 240, and OR 219. In addition, Phase 1 of the Newberg-Dundee Bypass (OR 18), which is planned to open in 2017, will provide a major alternate route for through traffic.

What is a Transportation System Plan

The Transportation System Plan (TSP) provides a long-term guide for City transportation investments by incorporating the vision of the community into an equitable and efficient transportation system. The plan evaluates the current transportation system and outlines policies and projects that are important to protecting and enhancing the quality of life in Newberg through the next 20 years. The TSP represents a collection of past and current ideas, incorporating projects, policies, decisions, and standards from past and current plans into a single document.

A TSP is required by the State of Oregon to help integrate local plans into the statewide transportation system. The plan balances the needs of walking, bicycling, driving, transit, freight, and rail into an equitable and efficient transportation system.

What has Changed since the Last Plan

Newberg’s previous TSP was adopted in 2005. Since then amendments have been made to the Oregon Transportation Plan, Oregon Highway Plan, and other state regulations, the first phase of the Newberg-

Dundee Bypass is under construction, and other local vision and master plans have been developed. Additionally, Newberg has grown and transportation priorities and goals have changed. These ten years of regulatory, land use, and transportation system changes have been incorporated in this TSP update.

The travel forecasting model for the Newberg area was updated from its previous 2025 horizon year to reflect expected 2035 land use and street system changes for Newberg, Dundee, and surrounding areas.

One of the most significant changes is related to the opening of Phase 1 of the Newberg-Dundee Bypass, which provides an alternate route to OR 99W from OR 219 in

Newberg to just south of Dundee, and is scheduled to open in 2017. The 2005 TSP evaluated only the full Bypass build-out scenario. However, the full build-out of the Newberg-Dundee Bypass is uncertain due to limited funding, and future phases are not included as “planned improvements” in ODOT’s 20-year construction funding horizon, although partial funding for the Phase 2 right-of-way acquisition has been secured and included in the State Transportation Improvement Plan (STIP). This TSP update assumes that only Phase 1 of the Bypass is built by 2035, and it evaluates the changes to the Newberg transportation system once Phase 1 has been completed and is in operation.



Photo 2: Examples of Street Amenities, Landscaping and On-Street Parking in Downtown Newberg

What Issues Still Need to be Resolved

Traffic will increase in the Newberg area through 2035 and beyond. The first phase of the Newberg-Dundee Bypass will alleviate some pressure on the transportation system; however, it will not resolve all the traffic growth issues, particularly east of Springbrook Road. Major intersections along the highway corridor already have (or are planned to have) a generally built-out footprint, with multiple approach lanes and turn lanes. Continued monitoring and management of the system will be needed to maximize the efficiency of the existing and planned transportation system.

The Bypass also brings opportunities for the community to reallocate existing travel lanes through downtown for other purposes to match the local vision. As part of the TSP process, the City considered some options for temporary improvements in downtown Newberg that will be possible after the Bypass opens. The City Council passed a motion¹ supporting a general concept that would remove one lane of

¹ Newberg City Council, File No CPTA4-11-001, February 27, 2015

travel in each direction along the couplet (road diet). The City has initiated a separate planning process (Newberg Downtown Improvement Plan) to refine options for the Downtown Area, which is currently in progress. ODOT is participating in this process and is willing to explore various options, but numerous operational and design details will need to be satisfactorily addressed before such changes could be approved.

Engaging the Public

The Newberg TSP Update was a collaborative process among various public agencies, key stakeholders, and the community. Throughout this process, the project team took time to understand multiple points of view, obtain fresh ideas and resources, and encourage participation from the community through community meetings, stakeholder interviews, and the project website. Figure 1 provides an overview of the public review process.

Project staff hosted six Citizen Advisory Committee (CAC) meetings, met individually with project stakeholders at two key stages during the process, held regular meetings with decision makers, and conversed informally with members of the community. Project staff also held three community meetings at key stages of the TSP process to give residents an opportunity to learn about the project, advise project staff of their concerns about the transportation system, and provide feedback on possible transportation solutions.



Photo 3: Trains Cross OR 99W Daily

Public Review Process

The TSP update involved gathering information and ideas from residents, business owners, and stakeholders in Newberg through semi-regular meetings of a Citizen Advisory Committee (CAC), two rounds of stakeholder interviews, three community open houses, and public hearings to adopt the updated TSP.

The CAC was comprised of members of the Newberg Planning Commission and a representative from the Traffic Safety Committee. The CAC reviewed the technical memoranda and other documents related to the TSP update, discussed the various issues, and gave feedback to the project team about issues, priorities, and alternatives. The project team then revised the memoranda in accordance with the CAC feedback and posted the documents to the TSP website.

In addition to CAC feedback, the project team relied upon information from stakeholder interviews and from the general public at the community open houses to inform the project. The project team conducted the stakeholder interviews in March 2014 and September 2015. The community open

houses were held at different junctures of the project – one to kick off the process and gather initial information in January 2014, one to present the proposed project alternatives and options in December 2014, and one to give an overview of all the data and the draft plan in September 2015.

The complete public review process is summarized below.

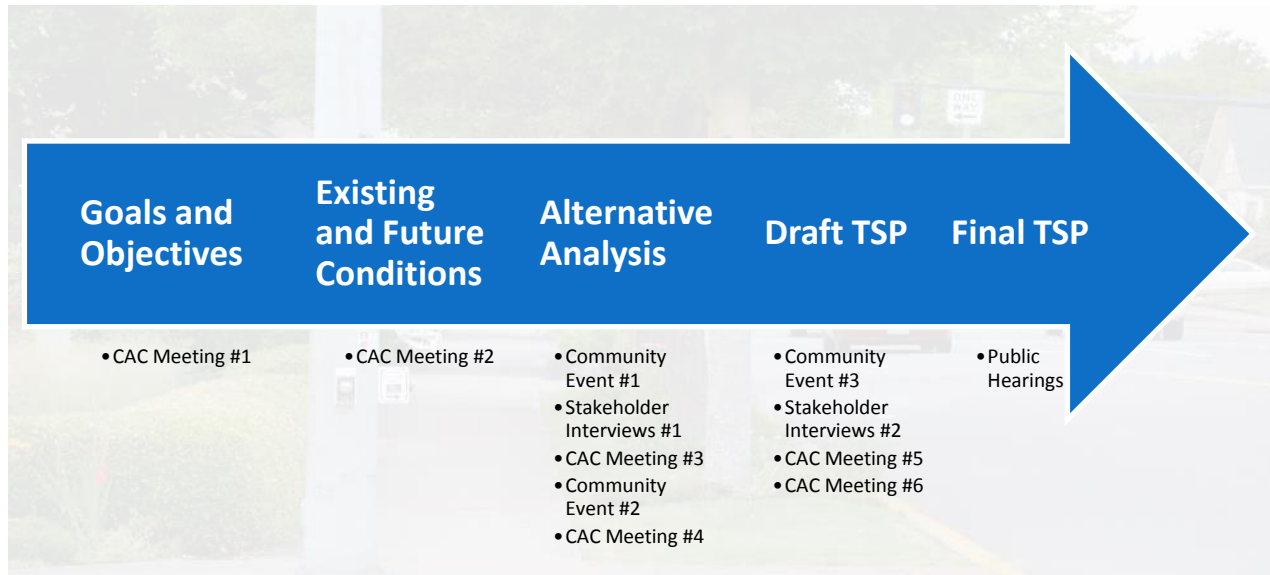


Figure 1: Public Review Process

Public Website

Throughout the project, a website, www.newbergtsp.org, was maintained for the TSP where all project news, documents, and meeting notices were posted. The website also featured a comment map where residents could tell the project team what they thought about the transportation system in the City.



Photo 4: Herbert Hoover Park

Compliance with Title VI Outreach Requirements

Public Involvement was subject to requirements and guidance found in ODOT's Title VI (1964 Civil Rights Act) Plan. Specifically, Title VI identifies measures to reach and solicit comments from disadvantaged populations within a community. Although Newberg has relatively limited concentrations of minorities and low-income residents, these populations are present in the city.

Based on The U.S. Census Bureau's 2009-2013 American Community Survey 5-Year Estimates, the racial makeup of the city was about 79.6% Caucasian and about 14.4% Hispanic. This is a higher percentage of Caucasian and Hispanic, and lower percentages of nearly all other ethnic groups compared to Oregon as a whole.² Materials were made available by request for Spanish-speaking community members.

Approximately 13.7% of individuals in the city were recorded as below the poverty line, compared to 16.2% for the state as a whole.³

Snapshot of Newberg Demographics (2013)

Population: 22,300

Caucasian: 79.6%

Hispanic: 14.4%

Asian: 1.6%

Other: 4.3%

Persons Below Poverty

Level Income: 13.7%

² US Census Bureau, <http://factfinder.census.gov>

³ Ibid

TSP Goals

The City identified five transportation goals and supporting objectives to guide development of the transportation system (Volume 2 Appendix – TM 8). The goals are broad, high-level statements describing the community’s intentions for the future. The project team evaluated each proposed transportation program and improvement to determine its level of benefit relative to the goals and objectives. Future capital improvement projects should also be consistent with the goals and objectives.



Photo 5: Downtown Newberg Sign

Transportation projects were selected and prioritized with consideration given to the five goals and objectives described in this section. Each project was scored based on evaluation criteria developed for each goal and objective. Project alternatives were compared by summing and weighting the scores for each potential project. Scores for each criterion ranged from +2 to -2 with +2 representing a clear positive impact, 0 indicating no impact, and -2 representing a clear negative impact.

The Transportation System in Newberg will:

- **Goal 1:** Maintain or improve access to existing properties and employment areas; improve freight traffic and/or minimize downtown trips for through traffic; have minimal impact on adjacent properties.
- **Goal 2:** Emphasize visual and aesthetic qualities in their design; minimize any potential energy, social, environmental, and economic impacts; improve rail, water, and air transportation systems where possible.
- **Goal 3:** Enhance access for emergency response; include improvements meant to reduce crash frequency and severity and/or to enhance pedestrian/bicyclist safety.
- **Goal 4:** Include “complete street” principles with both vehicle and pedestrian/bicycle improvements; improve the connectivity of the street and/or sidewalk system; improve access to public transit.
- **Goal 5:** Provide the most cost effective improvement option and identify stable funding sources for improvements; repair, maintain, and/or improve existing facilities and protect needed right-of-way for future projects; or constructed as a mitigation requirement by private development.

Trends

The project team reviewed Newberg’s travel patterns and system operating conditions, and projected future traffic forecasts were made to illustrate how conditions will change by 2035.

Newberg Today

Understanding where Newberg residents want to go is vital for planning a transportation system that meets the City’s needs. This requires an understanding of key travel destinations – locations that create demand for travel because they are where people go to work, school, or take care of other daily needs. These key destinations can be thought of as activity generators or trip attractors. The most common types of activity generators in Newberg are:

- Recreational
- Schools
- Places of employment
- Shopping
- Public transportation

As seen in Figure 2, many Newberg residents either work within Newberg (40%) or commute to Portland (36%). A higher proportion of workers in Newberg have longer commutes (30 minutes and longer) than is the case for typical Oregon workers.⁴

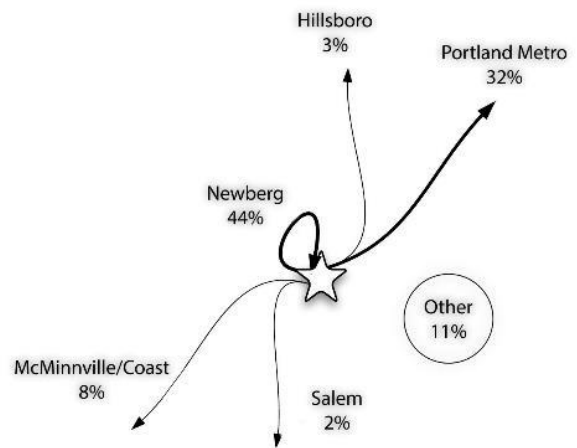


Figure 2: Newberg Commute Patterns

The percentage of Newberg workers driving alone and carpooling are higher than Oregon as a whole, while the proportion of residents commuting by public transit or bicycling is lower than Oregon generally.⁵ Newberg residents working outside the City are more likely to commute by motor vehicle due to the long commute time and distance.

Deciding how to get to a destination involves a variety of factors, including which modes are available and a person’s habits. When considering whether a trip will be taken by motor vehicle, walking, bicycle, or transit, the underlying factors affecting choice are typically ease and convenience of travel, travel cost, and travel time. These factors in turn depend on the particular destination, barriers to travel, and demographic characteristics such as age and income.

Work Commute Mode Choice:

- Drive alone: 70%
- Carpool: 15%
- Walk: 7%
- Work from home: 5%
- Public Transit: 1%
- Bicycling: <1%

⁴ Census Transportation Planning Products 2006-2010 American Community Survey 5-Year Estimates, <http://ctpp.transportation.org>

⁵ US Census Bureau 2009-2013 American Community Survey 5-Year Estimates, <http://factfinder.census.gov>

Transportation Modes

Newberg residents rely on the City's existing transportation infrastructure to travel to work, school, recreational, and other destinations every day. The infrastructure includes sidewalks, off-street paths, bike lanes, roadways, and transit service.

Walking and Biking

People who choose to walk or bike to their destination in Newberg may use sidewalks, shared paths, bike lanes, or roadway shoulders.

Sidewalks and Crosswalks

Sidewalks on arterial and collector streets are generally available near commercial areas but decrease with distance from downtown. Sidewalks are present along most of OR 99W as it transitions from Portland Road through the downtown area as the Hancock Street and First Street couplet. New commercial and residential areas have sidewalks, but older areas frequently do not, so there are numerous gaps in the sidewalk network. Figure 3 shows the existing sidewalk network on collector and arterial streets as well as pedestrian activity during the evening peak hour at select locations⁶.



Figure 3: Pedestrian Volumes and Existing Sidewalk Network

⁶ Pedestrian count data was limited to the 20 study intersection locations and collected during the evening peak hour in April 2012.

Downtown Newberg has a fairly complete pedestrian network with sidewalks, curb ramps, pedestrian way finding signage, and amenities such as benches and street trees. Crosswalks are striped for a majority of the intersections downtown and traffic speeds are low, which promotes walking. While crosswalks are provided with ramps at most locations, some of the crosswalks and ramps are in poor condition. Additionally, the number of travel lanes along the couplet (three in each direction) and perceived driving behavior (lack of yielding to pedestrians) creates a barrier that makes crossings difficult at unsignalized intersections.

Shared-Use Paths

Shared use paths and trails are currently limited within the City of Newberg. However, the Chehalem Park and Recreation District has developed a plan called the Chehalem Heritage Trail Plan, which would ultimately develop a 70-mile plus system between Dundee and Newberg that will link parks, historical sites, schools, libraries, Willamette River, and regional trails.

Bike Facilities

Newberg adopted the *Newberg ADA/Pedestrian/Bike Route Improvement Plan* in 2007 by Resolution No. 2007-2718, which incorporates ODOT, American Association of State Highway and Transportation Officials (AASHTO), and Manual on Uniform Traffic Control Devices (MUTCD) guidelines to guide bikeway improvements. Figure 4 shows p.m. peak hour bicycle volumes⁷ at study intersections and the existing network of bike lanes in Newberg. The bicycle facility inventory is limited to bike lanes on collectors and arterial roadways⁸.

⁷ Bike volume data was limited to the 20 study intersection locations and collected during the evening peak hour in April 2012.

⁸ Figure 12 shows bicycle gaps and denotes where sharrows existing in place of full bicycle lanes.

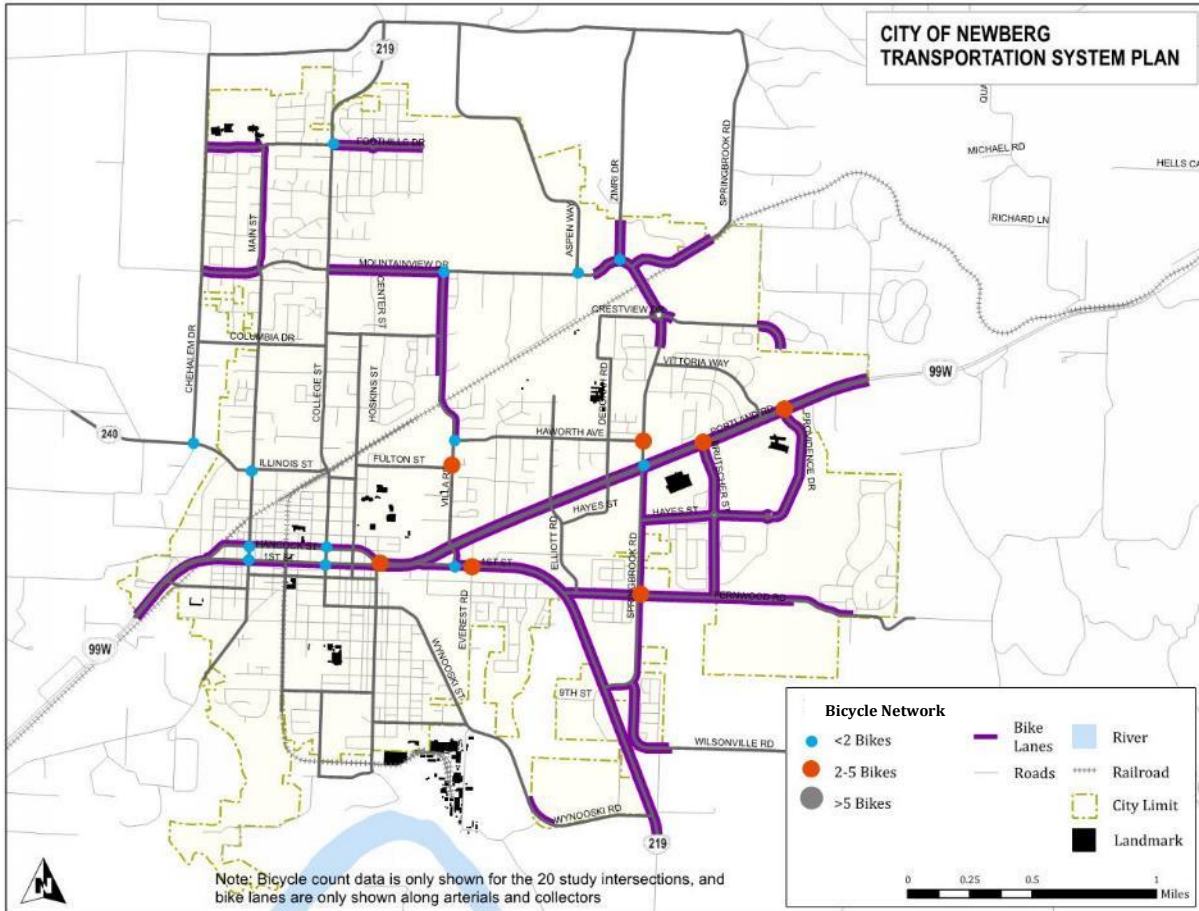


Figure 4: Bicycle Volumes and Existing Bike Network

Bike Lanes

A bike lane width of six feet is used for most public streets. The bicycle network in Newberg includes several bike lanes on city streets. The most continuous bike path is along OR 99W. Much like with sidewalks in the city, there are bike lanes near the newer commercial and residential areas with fewer bike lanes in the more established areas of town.



Photo 6: Bike Lane on OR 99W

Shared Roadways

Shared roadways occur where bicycles and motor vehicles share the same travel lane. The most appropriate roadways for this type of shared use are those with low speeds (< 35 mph) and low traffic volumes (3,000 vehicles per day or fewer)⁹. Signed shared roadways are where facilities are designated and signed as bicycle routes and serve to provide continuity to other bicycle facilities (e.g., bicycle lanes) or to designate a preferred route through a community. Such a route typically has warning signs and often has shared roadway pavement markings.

All local streets in Newberg are low speed, low volume roadways that could be classified as shared roadways. Minor collector streets can also be appropriate for sharrow markings in lieu of bike lanes where certain conditions exist, such as low traffic speeds and volumes. There are several existing local streets and minor collector streets with bicycle route designations, including signed shared roadways in the neighborhood just south of Downtown, a bike boulevard (sharrows and/or bike route signage, wayfinding signage) from Springbrook/Haworth to Ewing Young Park, and on Meridian to Joan Austin Elementary (using Crestview and Center). These roadways allow cyclists to use quieter, more comfortable streets.

Bike Parking

Where you store your bike when you get to your destination is an important part of bicycle infrastructure. If there is nowhere safe and secure to park your bike, then you are less likely to ride even if your trip distance and the roadway facilities are right for cycling. Newberg has colored bike racks within the right-of-way throughout the downtown area, which have been implemented through the

⁹ The Federal Highway Administration's *Manual on Uniform Traffic Control Devices* guidance states that shared lane markings should not be placed on roadways with a speed limit above 35 m.p.h. <http://mutcd.fhwa.dot.gov/>

downtown bike rack cost-share program. In addition, the Development Code requires that new development outside of downtown is required to provide off-street bike parking.

Transit

Transit service is provided in Newberg by Yamhill County Transit Area (YCTA), which provides bus routes connecting Newberg to destinations along the OR 99W corridor, including McMinnville, Dundee, Sherwood, and Tigard. YCTA provides five transit lines that provide transit to and from various locations within the city. YCTA also provides an Americans with Disabilities Act (ADA) dial-a-ride service.

Table 1: Newberg Bus Service

	Route 44	Route 46s	Route 45x	Route 5	Route 7
Route	Downtown McMinnville to Tigard Transit Center with three stops in Newberg northbound near Springbrook Road, Villa Road, and Main Street	Same as Route 44	Express between McMinnville and Tigard Transit Center	George Fox University to Foothills Drive	Along OR 99W Providence Hospital to downtown
Frequency	One-hour frequency a.m. and p.m. peak hour, and two-hour frequency mid-day	Four trips each way	Once a.m. and once p.m.	One-hour frequency	One-hour frequency
Hours	5:00 a.m. to 7:00 p.m.	8:00 a.m. to 7:00 p.m.		7:30 a.m. to 6:00 p.m.	7:00 a.m. to 6:30 p.m.
Service days	Weekdays	Saturdays	Weekdays	Weekdays	Weekdays

Motor Vehicle

Within Newberg, roadways are under the jurisdiction of the City, Yamhill County, and ODOT. Road jurisdiction is shown in Figure 5. OR 99W has by far the highest traffic volumes in Newberg. Other higher volume roads include OR 219, Springbrook Road, Mountainview Drive, and OR 240. These roads are used by residents to connect to locations outside the city, as well as provide major connections within the city. Newberg also has a network of collector and local roadways that provide access to neighborhoods and direct access to residences.

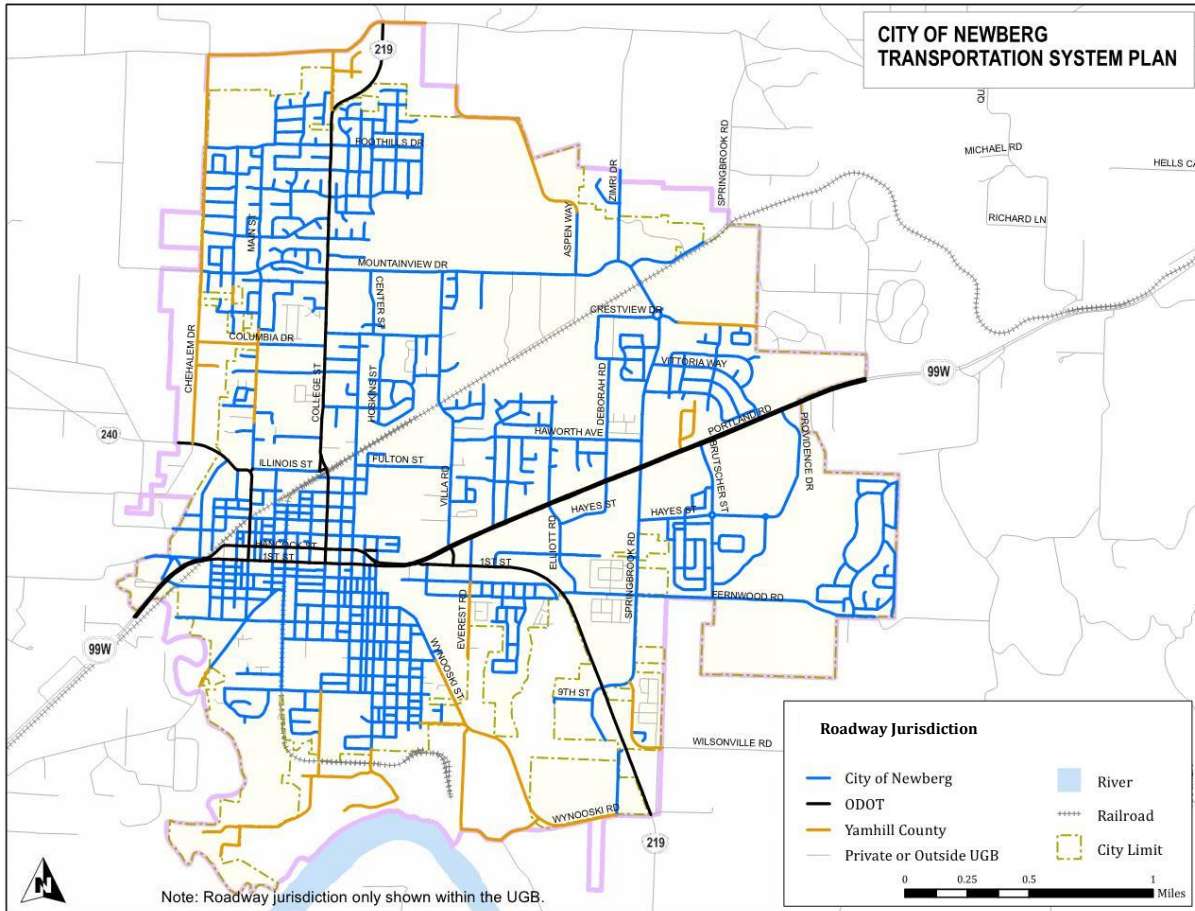


Figure 5: Roadway Jurisdiction

Freight

Freight traffic in Newberg include traffic traveling through the City as well as shipments to and from locations in the City. ODOT classifies OR 99W as a Statewide Freight Route through the City of Newberg, and the Phase 1 Bypass will also be a designated freight route. OR 99W has local and statewide economic significance, providing freight movement to commercial and industrial destinations between the Portland-Vancouver area and the Oregon coast. Medium and heavy trucks make up six to seven percent¹⁰ of the daily traffic on OR 99W, approximately 2,800 trucks per day. Congestion on OR 99W slows freight shipments going to the City and passing through to other destinations. OR 219 and OR 240 also provide routes for trucks traveling to and through the City of Newberg. In addition to functional classification, the Municipal Code¹¹ defines local freight routes, shown in Figure 6, which allow vehicle loads exceeding 10,000 pounds. Such loads are prohibited on other streets, unless making deliveries.

¹⁰ Newberg-Dundee Bypass Tier II EIS

¹¹ Newberg Municipal Code 10.10.100

<http://www.codepublishing.com/OR/Newberg/html/Newberg10/Newberg1010.html#10.10.100>



Figure 6: Local Freight Routes

Rail

The Willamette & Pacific Railroad (WPRR) operates a rail line that runs parallel to OR 99W through Newberg. Rail freight originating in the western Willamette Valley is carried on WPRR tracks through Newberg, and on Portland & Western Railroad (PNWR) tracks the rest of the way into Portland. The rail crosses OR 99W in Newberg at-grade on the west end of the downtown couplet, as well as a spur that runs along Blaine Street.

The Federal Railroad Administration designates six classes for rail tracks to set maximum speeds for the trains based on the conditions of the tracks. The tracks within Newberg are designated as Class 2, which limits freight speeds to 25 miles per hour. The tracks within the City of Newberg are currently used for freight movement, and have one train operating daily in each direction with up to two additional smaller trains operating periodically. There are no passenger rail services near the study area, with the nearest Amtrak stations located in Portland, Oregon City, and Salem.

In 2008, Yamhill County completed a feasibility study for development of an improved rail system for passengers and freight.¹² Objectives were to evaluate infrastructure and develop a ridership estimate for a Yamhill County commuter rail service. One recommendation of this study was to take actions to

¹² Feasibility Study for Development of an Improved Yamhill County Rail System for Passengers and Freight, Final Report. Yamhill County, 2008.

preserve the integrity of existing rights-of-way to retain and enhance passenger and freight transportation options in the future.

Air

Within Newberg there is one airport that is privately owned but available for public use. The Sportsman Airpark in the southeast corner of the city has one paved 2,800-foot runway and averages 14,000 operations (takeoffs or landings) per year. Approximately 55 aircraft are based at the airport. The Sportsman Airpark provides general flight instruction and airplane rental and maintenance services, as well as private helicopter and recreational hot-air ballooning services.

A larger general aviation airport is located approximately 20 miles north of Newberg, in Hillsboro. The Hillsboro Airport serves approximately 200,000 operations annually. It is owned by the Port of Portland and has two paved runways (6,600 feet and 4,000 feet). There are three fixed-base operators at the airport, and the airport provides all the facilities to support jet- and propeller-driven aircraft and helicopters.

The nearest airport with scheduled passenger service is the Portland International Airport, located approximately 34 miles northeast of Newberg. This airport is also owned by the Port of Portland and has three runways (7,000 feet, 8,000 feet, and 11,000 feet). The Portland International Airport serves more than 13.7 million passengers and 270,000 tons of cargo annually.

Waterway

The Willamette River is located south of Newberg and provides potential opportunities for recreational boating. Rogers Landing County Park, operated by Yamhill County Parks and Recreation, takes access to the river at the end of Rogers Landing south of Downtown Newberg. Rogers Landing provides a three-lane boat launch.

Pipeline

Northwest Natural currently runs several high-pressure natural gas transmission lines within the City. The first is a 6-inch high-pressure (400 pounds per square inch) line through Newberg south of OR 99W that feeds the distribution systems within the city. The distributions systems operate at 60 psi or lower and range in size from 1 to 4 inch diameters. Additionally, there is a 12-inch high-pressure line that runs south of OR 99W and serves the WestRock site. This 12-inch line also supplies the 6-inch line that serves the west side of town.

Performance Measures

Maintaining an acceptable level of performance for Newberg's transportation infrastructure requires a variety of analytical tools and assessment types. The measures used to monitor the transportation system include safety analysis and mobility.

Safety

A safety review was conducted as part of the TSP process for both intersections and roadway segments to identify potential for safety problems.

Collisions at intersections are typically proportional to the number of vehicles entering it. Therefore, a crash rate describing the frequency of crashes per million entering vehicles is used to compare locations and assess if the number of crashes should be considered high. Further, a critical crash rate, a threshold value that allows for a relative comparison among intersections with similar characteristics, is computed for each intersection. The sites that have a higher crash rate than this critical rate are flagged for further review. In Newberg, two intersections were flagged for further review for exceeding the critical crash rate: OR 99W/Springbrook Road and Haworth Avenue/Springbrook Road.

For roadway segments, a crash rate identifying the number of crashes per million vehicle-miles traveled is developed and then compared with similar facilities in Oregon. Both OR 99W and OR 219 through Newberg had greater crash rates than similar ODOT facilities in four of the five years analyzed.

OR 99W in Newberg contains four segments that rank among the top ten percent and two that rank among the top five percent for state highways in Oregon according to the Safety Priority Index System (SPIS) for 2013.

- OR 99W between mile points 21.71 and 21.87 including the Brutscher Street intersection (top 10%).
- OR 99W between mile points 21.95 and 22.14 including the Springbrook Road intersection (top 5%).
- OR 99W between mile points 22.11 and 22.26 including the Deborah Road intersection (top 10%).
- OR99W between mile points 22.36 and 22.54 including the Elliott Road intersection (top 10%).
- OR 219 between mile points 20.71 and 20.82 including the Everest Road intersection (top 10%).
- OR 219 between mile points 21.11 and 21.28 including the OR-219 and 2nd Street intersection (top 5%).

Mobility

Mobility measures how freely vehicle traffic can move along to its intended destination. In general, roadway systems have their highest degree of conflicts and associated congestion at intersections, so the performance of a system is often defined by how well the intersections function. There are two methods used to gauge these conditions – one is numeric, and one is a letter grade. ODOT uses the numeric volume-to-capacity (v/c) ratio method, while Yamhill County and the City use a letter grade derived from the Level of Service (LOS) method.

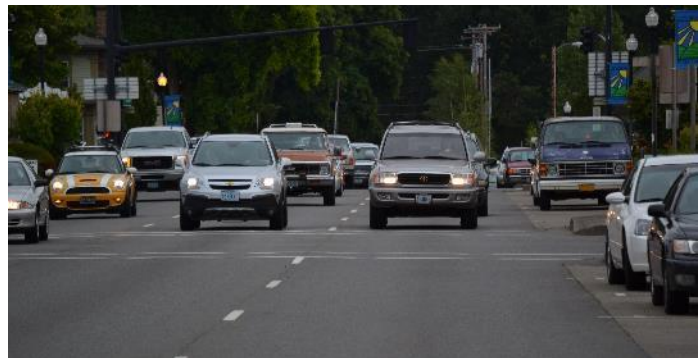


Photo 7: Motor Vehicle Traffic on OR 99W

Volume-to-capacity (v/c) ratio is a decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or an intersection. It

is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually experiences excessive queues and long delays. The Oregon Highway Plan (OHP) dictates the mobility target for ODOT roads based on classification and speed (which range from 0.8 to 0.95 in Newberg).

Level of service (LOS): A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays. Newberg’s LOS standard is LOS D, based on the Design Standard and Details and Specifications Manual¹³.

Capacity analysis indicates that the majority of the intersections are meeting mobility targets during peak travel times, as shown in Figure 7. The intersection of Haworth Avenue/Springbrook Road exceeds the Newberg mobility standards. The intersection of 1st Street (OR 219)/Everest Road meets mobility standards during the average weekday, however, it exceeds that target during peak seasonal traffic.

¹³ City of Newberg Design Standard and Details and Specifications Manual (2015), <http://www.newbergoregon.gov/engineering/page/2015-newbergs-public-works-design-construction-standards>

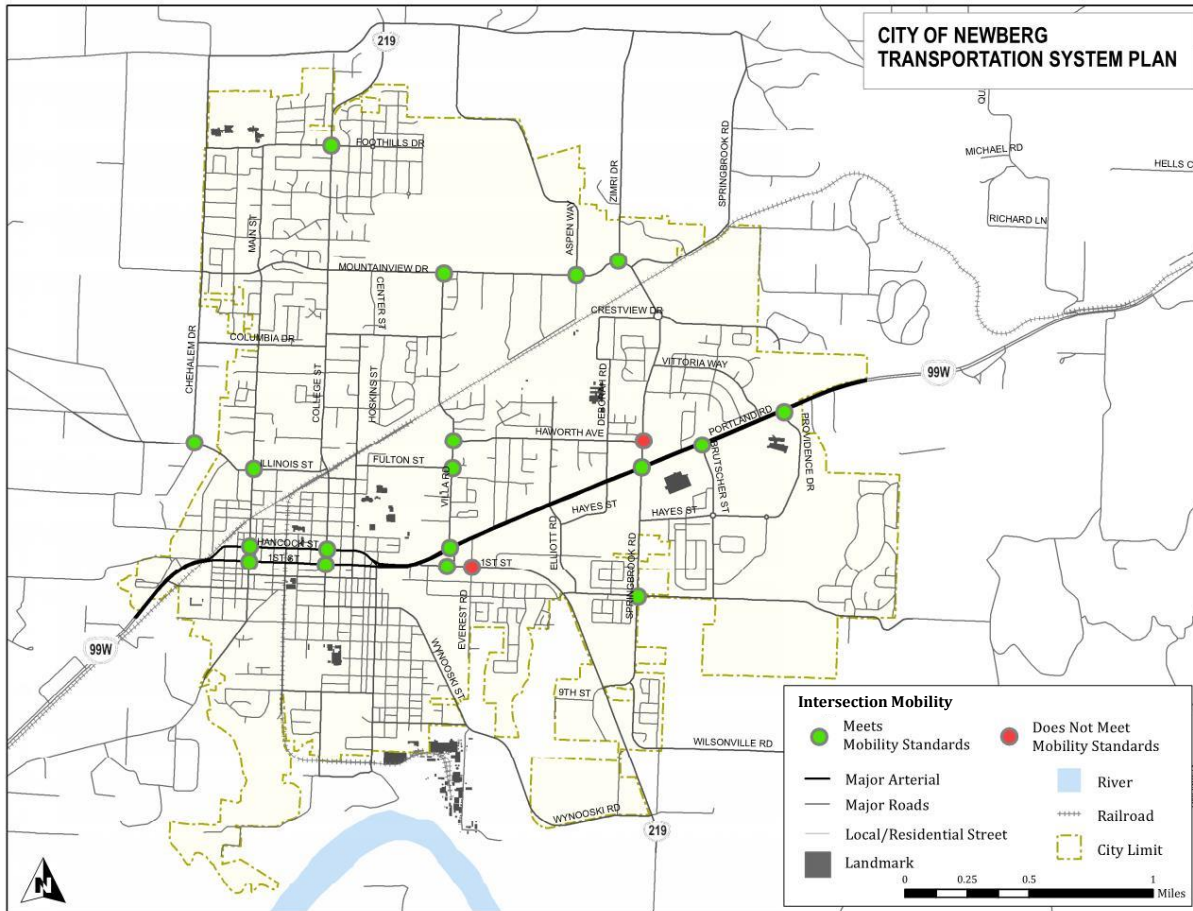


Figure 7: Existing Intersection Mobility (2015 Peak Hour Conditions)

Newberg in 2035

In 2010, Newberg had about 7,400 households and 7,800 jobs. Both population (households) and employment in Newberg are expected to grow significantly in the coming years. By 2035, Newberg is expected to grow to about 14,050 households and 16,150 jobs, an increase of about 85% from the year 2010¹⁴. The increase in people and jobs in Newberg, together with the construction of the Newberg-Dundee Bypass, will change travel patterns between 2015 and 2035.

The number of people and jobs in Newberg is expected to grow by 85%

Population and Employment Growth

Figure 8 provides an overview of anticipated population and employment growth through year 2035¹⁵. Much of the household growth is expected to occur outside of the downtown core, primarily in the north and southeast parts of town. While some employment growth is expected in the downtown core,

¹⁴ Memo: Population and Employment Capacity in URA for TSP, Barton Brierley, City of Newberg, May 13, 2013

¹⁵ The distribution of growth shown here is relative to year 2000, which is the base lane use inventory included in the regional travel demand model.

most of the future employment growth will occur in the existing employment areas in northeast and southeast Newberg. It should be noted that some predefined analysis zones extend beyond the UGB boundary. The analysis zone south of Portland Rd. and east of Vittoria Way extends beyond the UGB boundary, but the employment growth is expected in only the portion within the UGB.

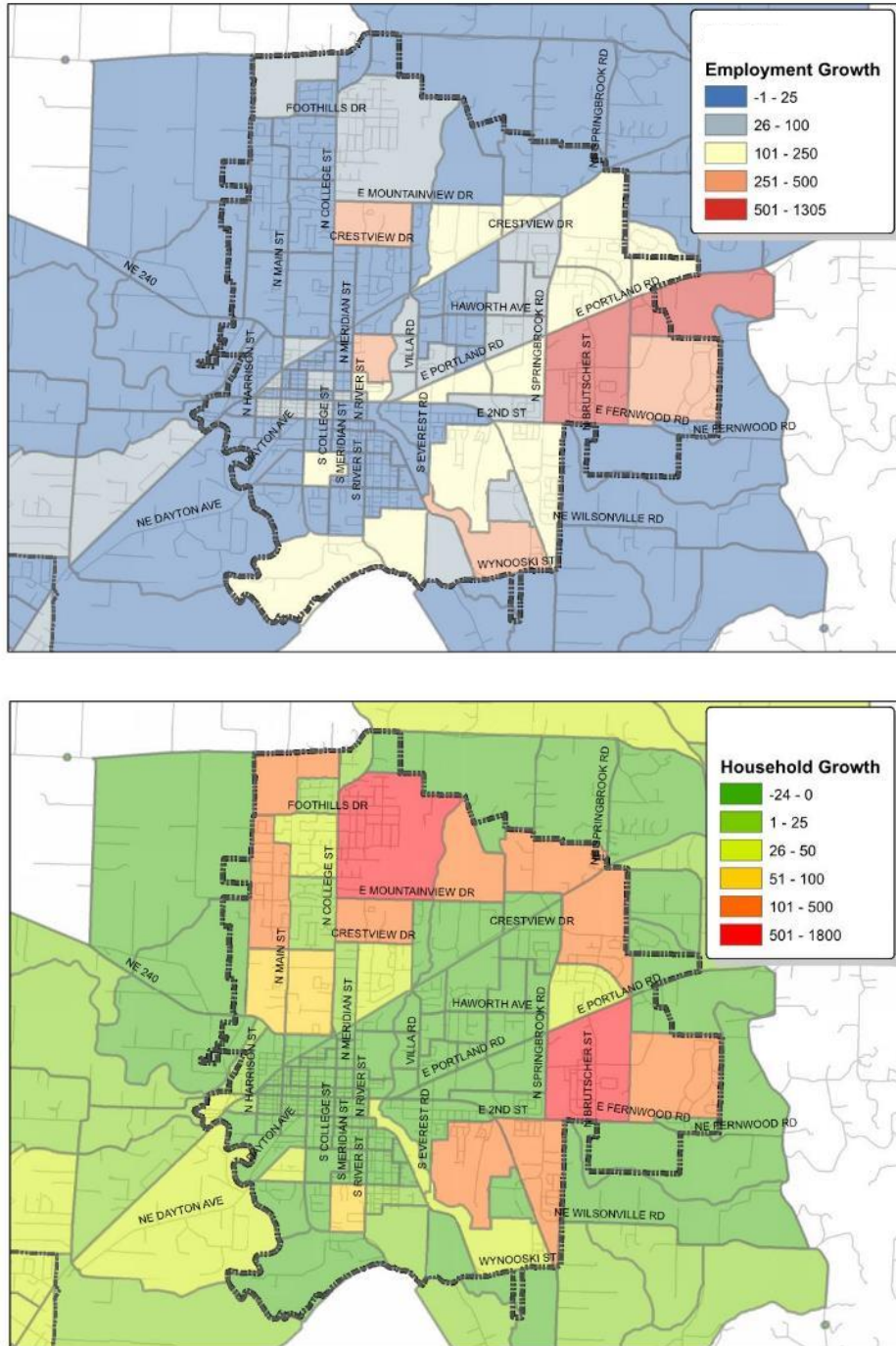


Figure 8: Population and Employment Growth

Newberg-Dundee Bypass

Phase 1 of the Newberg-Dundee Bypass shown in Figure 9 is a key regional highway improvement that will be completed in 2017 and will service much of the traffic currently passing through the Newberg-Dundee area on OR 99W. The Phase 1 Bypass includes one travel lane in each direction from OR 219 in Newberg to south of Dundee. Future potential phases of the Bypass (including widening and/or extensions to the north or south) are not currently funded nor considered reasonably likely to be constructed by 2035. However, the Oregon Transportation Commission (OTC) has recently approved \$10.5 million to begin ROW acquisition along the eastern segment of the Bypass (OR 219 to OR 99W). The Statewide Transportation Improvement Program (STIP) now includes initial funding (\$10.5 M) to begin strategic right of way acquisition to protect the future alignment.



Figure 9: Newberg-Dundee Bypass Alignment (Phase 1)

Although local traffic in Newberg is expected to increase, the Phase 1 Newberg-Dundee Bypass is expected to temporarily reduce some of the traffic going through downtown Newberg on OR 99W. After the Bypass's opening, traffic levels on OR 99W through downtown Newberg will drop significantly relative to 2015 levels. As the population and employment within Newberg and the surrounding region increases, so too will the amount of traffic on OR 99W downtown, until traffic levels eventually exceed present day conditions.

In the interim while the Phase 1 Bypass reduces traffic through downtown, there may be an opportunity to temporarily close or restrict lanes on OR 99W in order to repurpose the existing right of way (such as making room for long-term temporary pedestrian and bicycle improvements). Eventually, as traffic levels return to pre-bypass levels, these improvements may need to be removed to accommodate traffic

growth. ODOT is willing to explore the potential for these kind of changes with the City, but numerous operational and design details will need to be satisfactorily addressed before such changes could be approved.

The Phase 1 Bypass will terminate at OR 219 north of Wyooski Road. Traffic continuing east on OR 99W will be routed north on OR 219 and Springbrook Road. Traffic along both of these corridors is expected to grow significantly from present day levels. The City will continually monitor these corridors as well as parallel routes through neighborhoods in an effort to proactively manage congestion and cut-through traffic problems before they arise. The City will consider using traffic calming and neighborhood traffic management tools to reduce traffic on neighborhood streets.

Future Needs

The majority of intersections in Newberg are currently meeting mobility targets. A few areas experience significant traffic congestion and vehicle queuing today. While the Newberg-Dundee Bypass is expected to divert some of the through traffic away from OR 99W west of Springbrook Road, traffic is expected to increase in the Newberg area over the next 20 years, particularly between Springbrook Road and Rex Hill, resulting in traffic volumes significantly higher than today at many locations, as shown in Figure 10.

Traffic volume growth (relative to present conditions) at select locations includes:

- OR 219 (south of Foothills Drive): 110%
- OR 240 (west of Chehalem Drive): 70%
- Springbrook Road (north of Haworth Avenue): 60%
- OR 99W (east of Providence Drive): 45%
- Mountainview Drive (west of Villa Road): 40%
- OR 99W (west of couplet): 20%
- OR 99W (east of Villa Road): 10%
- OR 99W (both directions) west of College Street: -5%



Photo 8: Elliot Road

The locations above represent three relative levels of growth:

- Higher Growth Areas – Many of the collector and arterial facilities outside the downtown area will have higher growth due to a combination of lower existing traffic levels and more opportunities for adjacent land use development.
- Moderate Growth Areas – Areas along OR 99W outside the couplet will have higher overall traffic volume increases, but relative to existing traffic, growth is more moderate.
- Lower Growth Areas – Some areas, particularly those near the couplet, will have low future growth due to the traffic that will be diverted onto the Bypass. These areas will experience a reduction in traffic following the completion of the Bypass, with traffic returning nearer to present day levels through year 2035.

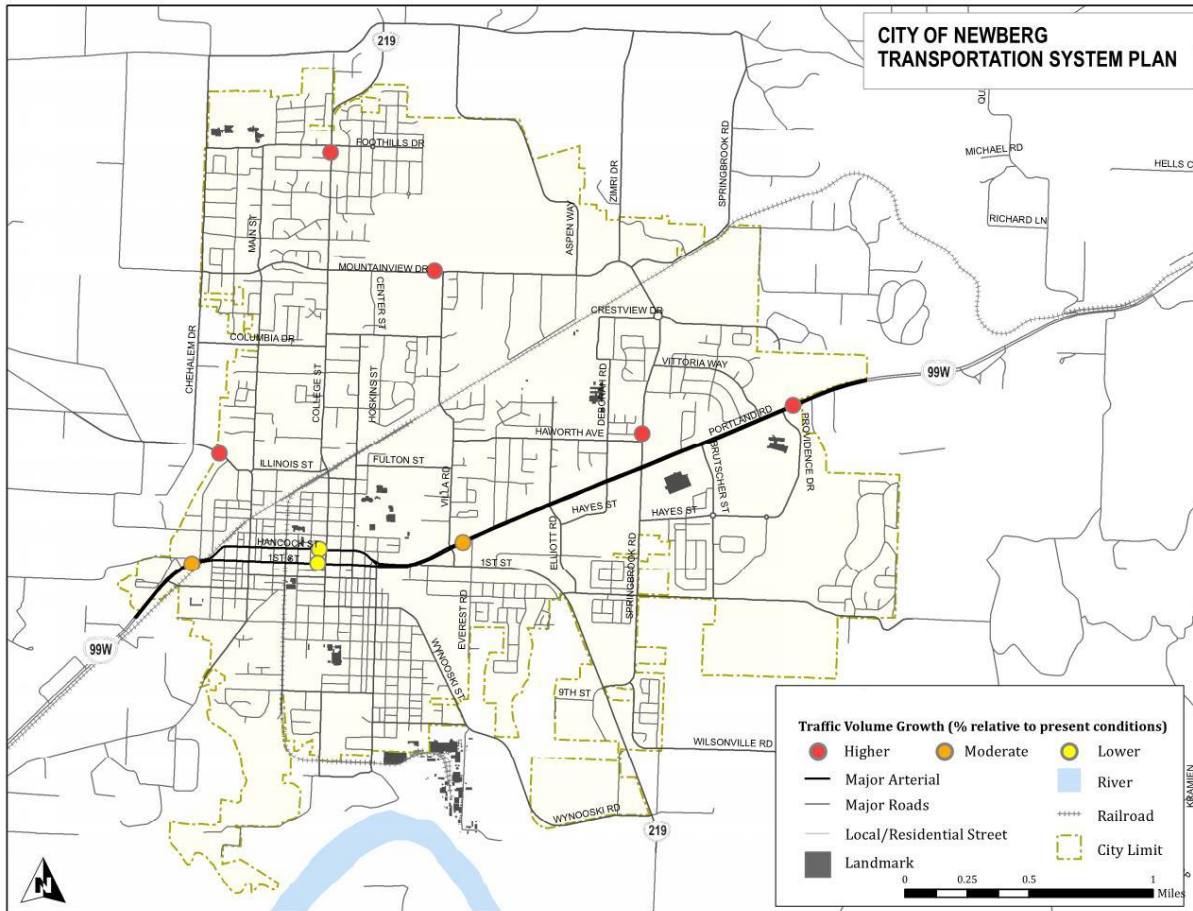


Figure 10: Traffic Volume Growth at Select Locations

Roadway Capacity Needs

Analysis indicates that many locations will fail to meet ODOT and/or City of Newberg mobility targets in 2035. The details of this analysis can be found in Volume 2, Memo 6: Future Needs Analysis. The general trends Newberg can expect to see in different locations over the next 20 years are:

- **OR 99W (East of Downtown)** – Major intersections along OR 99W east of downtown would degrade due to additional traffic along the corridor. These locations would not be relieved by the Bypass and may serve higher turning volumes for trips to and from the Bypass.
- **OR 99W (Through Downtown)** – Most of the study intersections through downtown would meet targets. Even with the expected traffic diversion to the Bypass, Hancock at Main Street and Hancock at College Street would both fail to meet mobility targets. However, the city will pursue alternative mobility standards for the downtown corridor to be applicable once the Phase 1 Bypass is constructed.
- **Stop-Controlled Approaches along Major Corridors** – Growth along major corridors will increase delay for vehicles turning from side streets. These locations may be candidates for intersection improvements (lane channelization or intersection control) or improvements to

parallel corridors to provide other routes that can relieve these corridors. These locations include:

- Mountainview Drive at Villa Road, Aspen Way, and Zimri Drive
- OR 240 at Illinois/Main and Chehalem
- Villa Road at Haworth and Fulton
- Springbrook Road at Haworth

Connectivity Needs

The ability to travel between different areas of the city conveniently and efficiently (a direct route) is an important part of transportation system planning. The following Citywide connectivity needs have been identified for Newberg:

- The extensions of Villa Road to the north and Foothills Drive to the east are planned in the northeast area of Newberg. It will be important to provide these collectors through the development process.
- Developments to the east of Springbrook Road have limited access to OR 99W and Wilsonville Road, which are key routes into and out of Newberg.
- Additional connectivity is needed north of OR 99W between Springbrook Road and Benjamin Road in both the north-south and east-west directions.
- Currently, OR 99W and OR 219 are the only regional roads that serve trips between Newberg and locations to the south. Additional major connections are constrained by the Willamette River. However, there may be options for creating additional connections, particularly for non-motorized travel.

There are several barriers to neighborhood connectivity in Newberg: Hess Creek, which bisects the City north to south; the WPRR railroad line, which runs northeast to southwest through the City; and highways OR 99W and OR219. These barriers make it difficult for bicycle and pedestrian traffic to circulate across the city. The following areas have especially constrained connectivity and access to the surrounding transportation system:

- The neighborhood south of 1st Street to the west of OR219 is constrained by OR 99W to the north, Hess Creek to the west, Fernwood Pioneer Cemetery to the south, and the airport and OR219 to the east. This neighborhood has only two outlets – N Everest Road and E 2nd Street. The 2nd Street exit is expected to be reconfigured to right-in-right-out only with Phase 1 of the Newberg-Dundee Bypass project. Additional connectivity options, including signaling the N Everest Road/E 1st Street intersection, are being explored to improve accessibility and mobility in this neighborhood.
- The Greens neighborhood to the east of the Chehalem Glenn Golf Course has only one outlet at The Greens Avenue and E Fernwood Road. A new connection is proposed to extend The Greens Avenue to NE Corral Creek Road. However, extensions outside the UGB require a goal exception.

Walking Needs

Pedestrian activity is likely to increase as population and employment grows, and some non-local traffic is diverted to the Bypass. This means that correcting deficiencies in the pedestrian network becomes even more important.

- Sidewalks should be added along all collectors and arterials when possible.
- Key sidewalk gaps in the arterial and collector system exist on the following routes as shown in Figure 11a.
- All future improvements should meet ADA requirements.

The Chehalem Heritage Trail system being planned by the Chehalem Park and Recreation District (CPRD) should be considered when prioritizing pedestrian improvements in Newberg.¹⁶ This trail system has facilities planned throughout the CPRD area (including both Newberg and Dundee) and includes existing and new or improved facilities for both pedestrians and bicyclists.

The Newberg ADA/Pedestrian/Bike Route Improvement Plan¹⁷ identifies critical routes (Figure 10b) and deficiencies, and spot improvements (Figure 10c) to address ADA needs. While this prior plan indicates improvement needs and locations, it is not intended to be a guiding document for cross-sections or design details. Future transportation corridor or other improvements should continue to meet ADA requirements. For locations that are currently ADA deficient and are not included as part of a broader transportation system improvement, the Public Works department maintains a list of priority locations that are addressed through the annual improvement program.

¹⁶ See the *Chehalem Heritage Trail Strategic Plan*, Chehalem Park and Recreation District, 2010.

¹⁷ <http://www.newbergoregon.gov/planning/page/adapedestrianbike-route-improvement-plan>

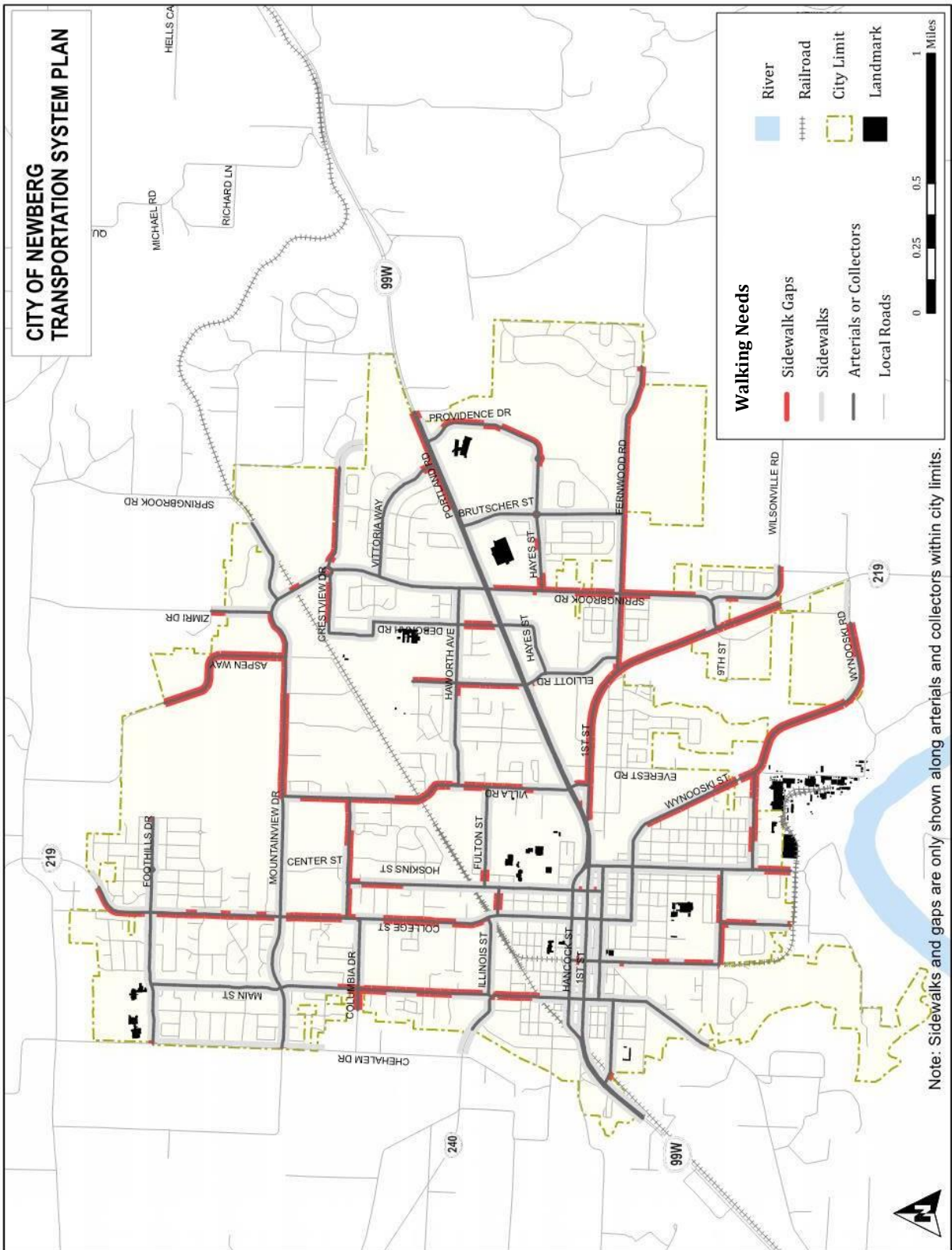


Figure 11a: Walking Needs

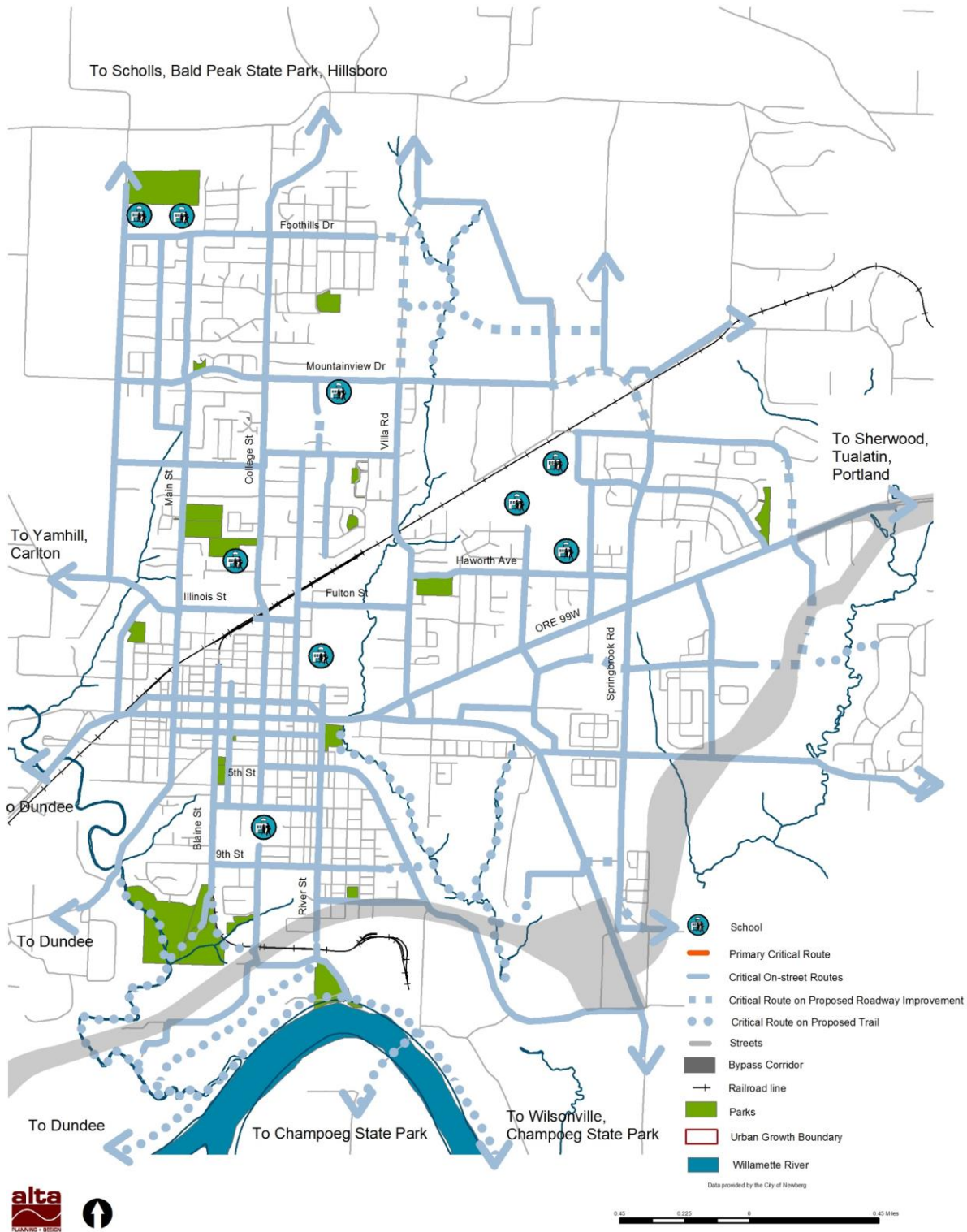


Figure 11b: Critical Bicycle and Pedestrian Routes (Map II-1 of Newberg ADA/Ped/Bike Route Plan)¹⁸

¹⁸ <http://www.newbergoregon.gov/planning/page/adapedestrianbike-route-improvement-plan>

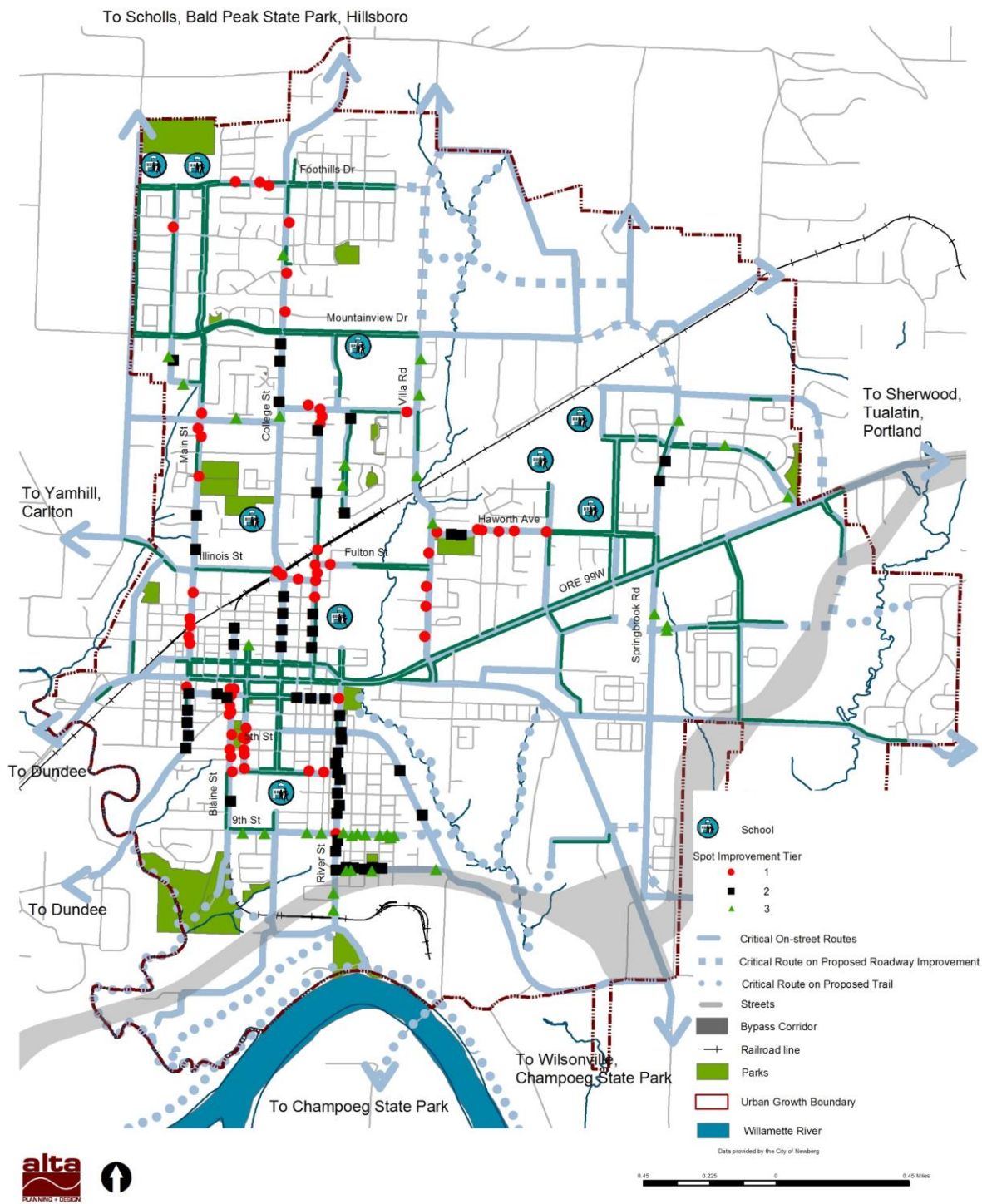


Figure 11c: Identified Spot Improvements (Map III-2 of Newberg ADA/Ped/Bike Route Plan)¹⁹

Biking Needs

As both population and employment increase in the Newberg area, more Newberg residents are anticipated to live closer to work. This may spur an increase in the number of commuters biking and walking to work. This means that Newberg has excellent potential to increase the number of people who travel by bike. It also highlights the importance of identifying and improving key bike connections to the city.

- OR 99W provides the most continuous bike route in Newberg with shoulders and/or striped bike lanes through town. The bike lanes are generally at least 5-6 feet wide.
- Newberg's local street system (away from OR 99W) generally features low volumes of motor vehicle traffic, and is suitable for shared use by cyclists. While some routes are marked and/or signed as shared routes, additional bike routes on the local system can provide continuity to other bicycle facilities such as roads with bike lanes and shared use paths.
- Including wayfinding signs will direct cyclists to key destinations such as shopping, employment centers, and schools. Wayfinding signs can also provide directions and distances to key connections to the bike network such as any trails developed as part of the proposed Chehalem Heritage Trail Strategic Plan.²⁰
- Bike lanes should be considered on all collector and arterial roadways with a priority for higher motor vehicle volume routes (those in excess of about 3,000 vehicles daily) to provide access from outlying areas to commercial and employment centers in town. Arterials and high volume collector routes lacking bike lanes are shown in Figure 12. Some collectors have alternative bike facilities, including shared lane markings (sharrows) and/or bike route signage, due to existing conditions, low traffic speeds, or low traffic volumes.
- Bicycle facilities identified in the Chehalem Heritage Trails Master Plan within Newberg should be considered for potential bicycle treatments (i.e. bike lanes, shared use paths, etc.).
- Bike parking should continue to be considered at key destinations such as the commercial area on OR 99W in downtown Newberg, and in future development areas.

²⁰ See the *Chehalem Heritage Trail Strategic Plan*, Chehalem Park and Recreation District, 2010.

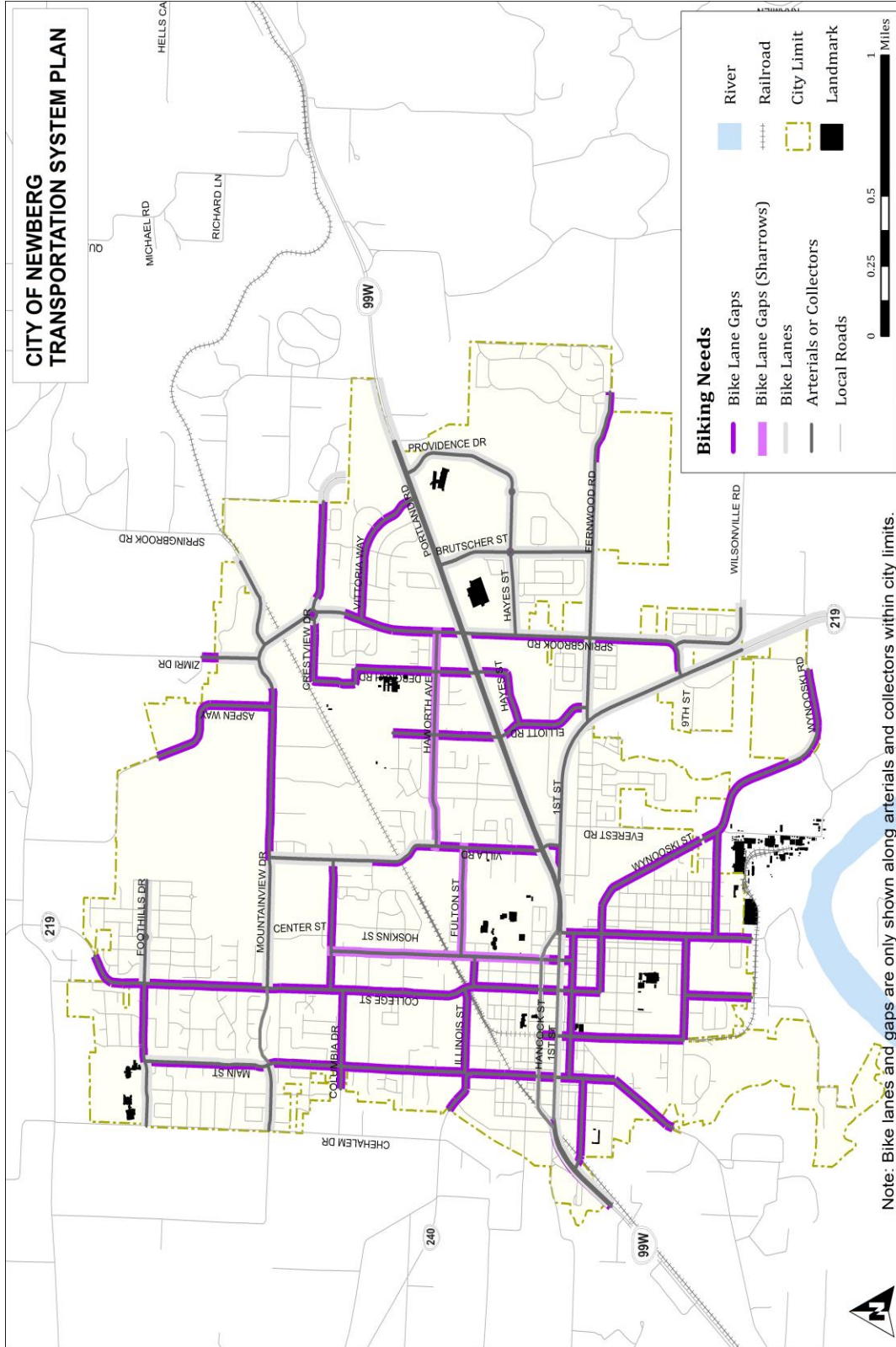


Figure 12: Biking Needs

Transit Needs

Yamhill County Transit Area (YCTA) provides two fixed bus routes connecting Newberg to destinations along the OR 99W corridor, including McMinnville, Newberg, Sherwood, and Tigard (routes 44/46S/45X). YCTA also provides Americans with Disabilities Act (ADA) dial-a-ride service and two routes within Newberg (routes 5 and 7). The following are future considerations as Newberg grows:

- Route 44/46S/45X, a commuter service with limited stops along OR 99W between McMinnville and Tigard, stops at three locations in Newberg (Safeway, J's Restaurant and Naps Thriftway). Improvements to provide comfortable pedestrian crossings and amenities should be considered in coordination with YCTA.
- Bus stops should be clearly identifiable, with amenities provided, such as shelters and information, where appropriate. Prominent stops help increase local awareness of transit options, and can enhance the street environment.
- Routes 5 and 7 provide local service within Newberg. Expansion of the transit network, and potentially these routes in particular, should be considered for new urban growth areas, particularly in the northeast and southeast parts of town. Connections to transit will be vitally important in southeast Newberg area where both households and employment are expected to grow significantly.
- All current routes provide infrequent service with one to two-hour headways between 6:00 AM and 7:00 PM Monday through Friday. Route 44 also makes four trips between 8:00 AM and 7:00 PM Saturday.

Freight Needs

Truck freight movements in Newberg involve regional and local shipments. OR 99W is the primary truck route, however OR 219 and OR 240 also serve trucks. Medium and heavy trucks make up approximately six to seven percent of the traffic on OR 99W, about 2,800 vehicles per day. It is estimated that approximately 65% of through trucks will divert to the Newberg-Dundee Bypass when it is built. As Newberg attracts more commercial and industrial development in the future, the developments and roadways should be designed to accommodate freight traffic. Turning radii, access points, and pavement design will be important along any future freight routes.

Impact of Full Bypass

The future forecasts used for the Transportation System Plan Update to identify needs and projects were predicated on assumptions about land development and roadway system improvements. The 2035 Base Scenario assumed about 85% growth in jobs and housing plus the first phase of the Newberg-Dundee Bypass being open. These assumptions are consistent with current plans and state regulations, however, the City wanted to understand how sensitive these findings might be relative to extension of the full Bypass. This section presents an analysis exploring possible assumptions about impacts greater than the Base Scenario (Phase 1 Bypass only) used for the TSP update. This sensitivity analysis evaluates large trends and patterns, and does not evaluate to the same level of detail as the rest of the Transportation System Plan. The primary value of the outcomes from this analysis helps make better choices about which projects identified in this plan might also work towards also being a benefit to other future growth alternatives.

The full Newberg-Dundee Bypass would extend from the Phase 1 terminus at Springbrook Road eastward to connect to OR 99W near Corral Creek Road. West of Newberg, the Bypass would add an interchange to provide access near Fox Farm Road on the north side of Dundee. The Bypass would also be extended beyond the Phase 1 southern/western terminus on the south side of Dundee to reach Dayton. At that point, the interchange at the southwest end of Dundee near Parks Drive would be disconnected from the bypass. The full Bypass would include two lanes in each direction, which is wider than the Phase 1 width of 1 lane in each direction. Figure 13a shows the full Bypass alignment and design concept from Rex Hill to Dayton.

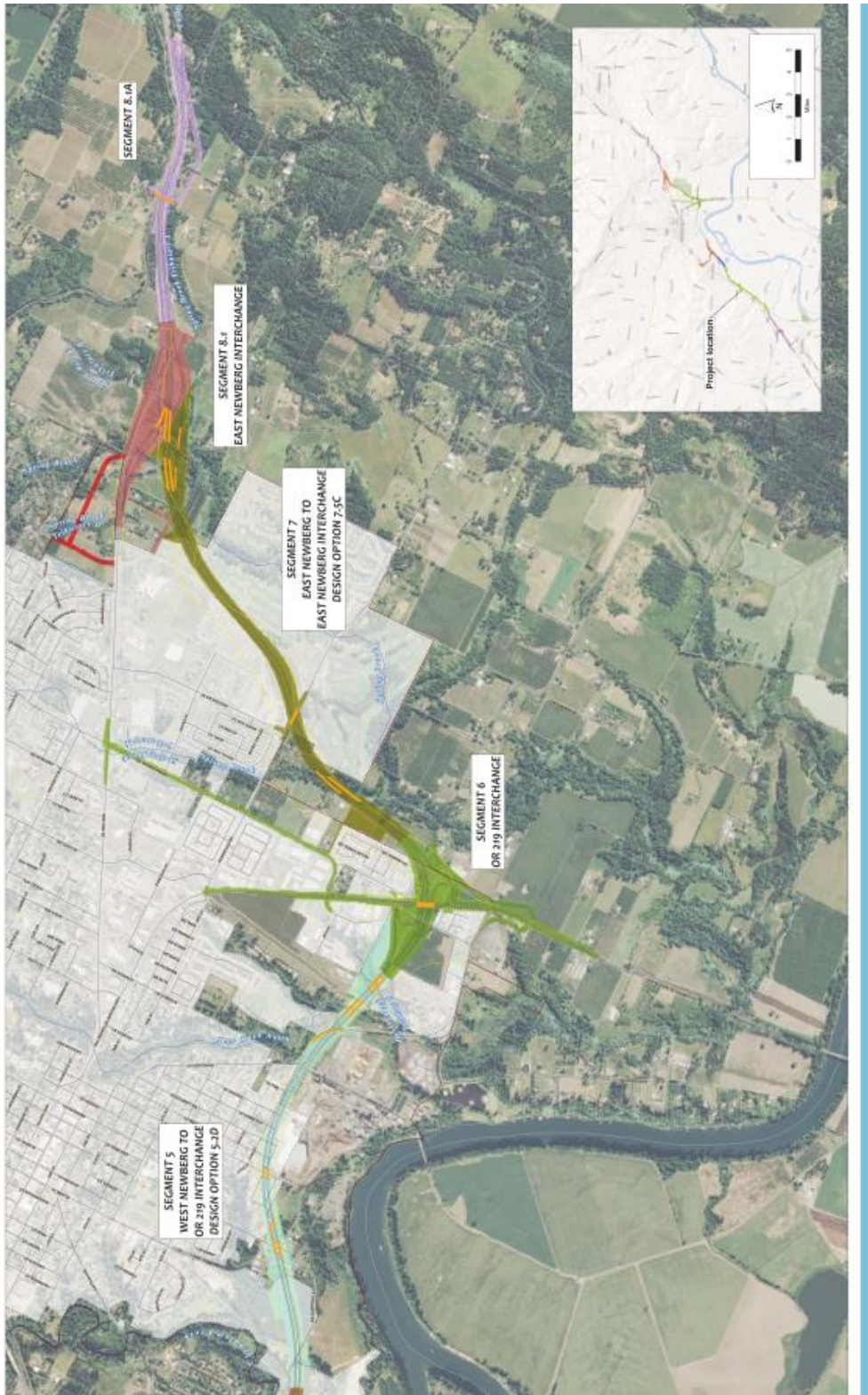


Figure 13a: Full Newberg Dundee Bypass Alignment (East End)

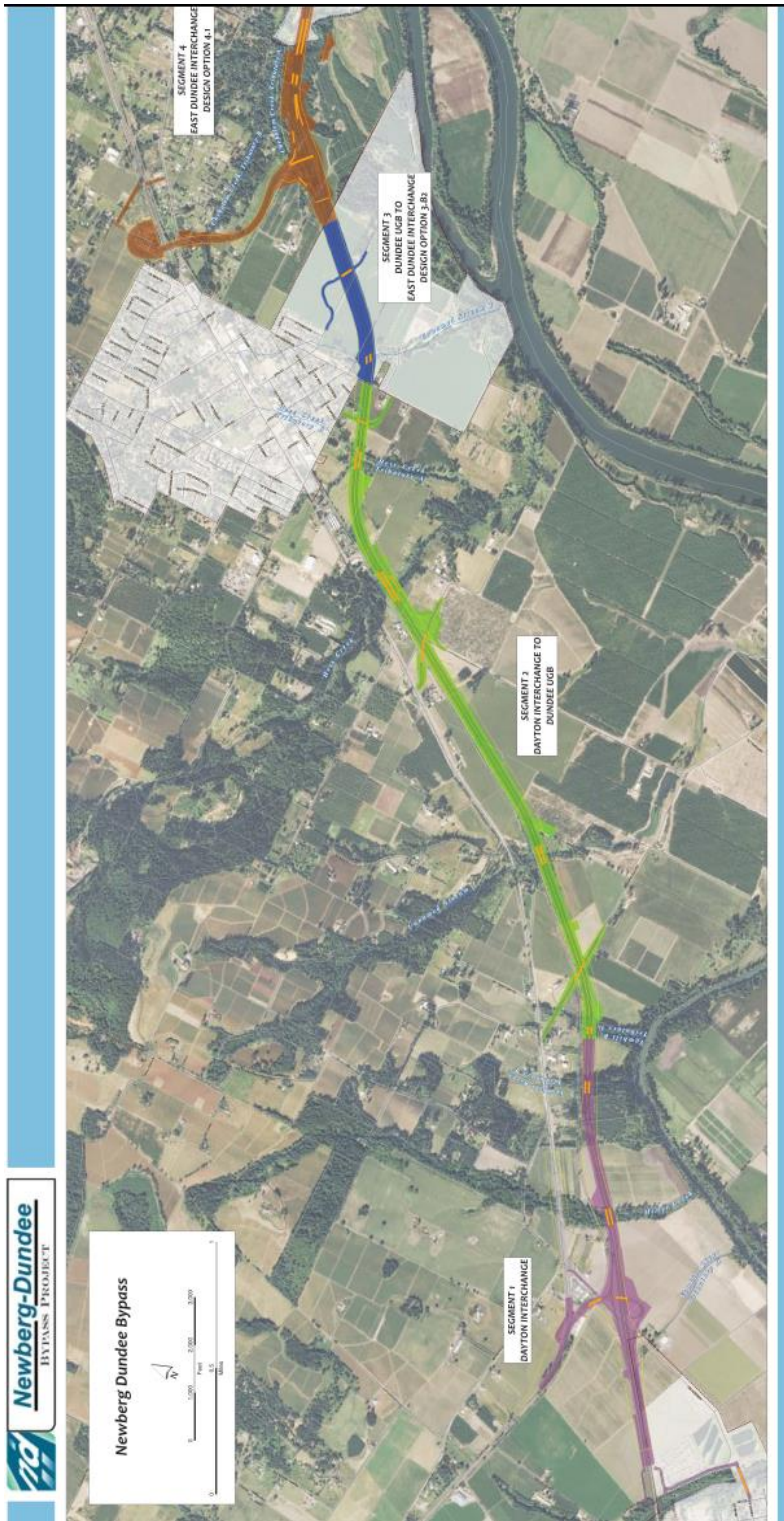


Figure 13a: Full Newberg Dundee Bypass Alignment (West End)

Figure 13 shows the general trends that could result from the full bypass scenario:

- Overall, the Bypass would become a much more attractive route. The Bypass (with increased length and capacity) would serve additional regional traffic growth.
- The largest magnitude of change would occur east of Springbrook Road. The extended Bypass alignment would serve two types of trips: It would remove Phase 1 Bypass trips from the adjacent street network (OR 99W and roadways connecting to the Phase 1 terminus at Springbrook Road), and it would carry additional (new) Bypass trips due to the extension being a more attractive route.
- West of Springbrook Road, the original (Phase 1) portion of the Bypass would serve additional traffic due to the increased attractiveness of the full Bypass route. The parallel OR 99W route through the couplet would have considerably less traffic.
- Study intersections impacted by this scenario include two general groups: those along OR 99W (less traffic) and those located north of OR 99W (less traffic).

Without future Bypass improvements (beyond Phase 1), Newberg’s transportation system will be strained as the City and region continue to grow. The City strongly supports completion of the full Bypass from Rex Hill to Dayton and adopted Ordinance No. 2011-2734 adopting amendments to reflect the Tier 2 bypass corridor.

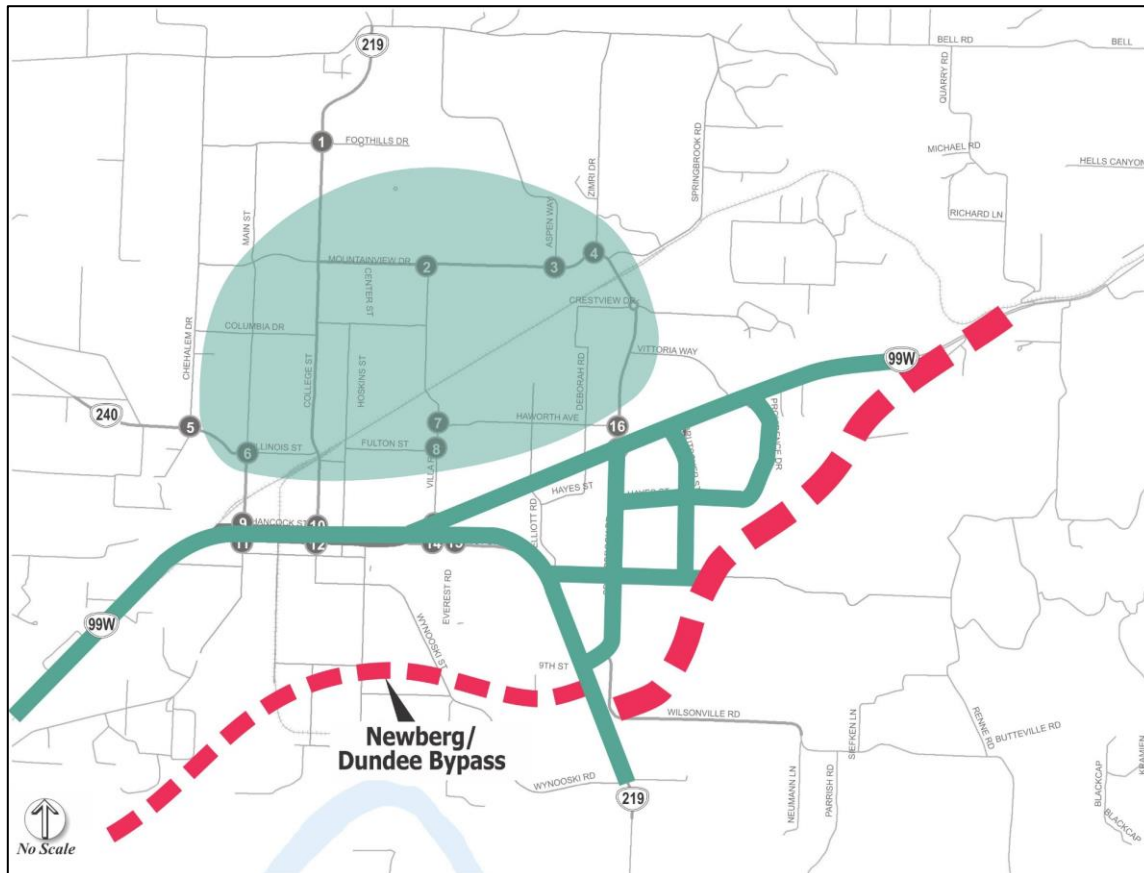


Figure 13b: Impacts of Full Bypass Extension

Standards

With Newberg’s vision and resulting transportation investment priorities established, this chapter sets out the standards and regulations to ensure that future land development and redevelopment is consistent with this plan.

Transportation Standards

A transportation system is a hierarchy of streets organized by functional classification and area type. These classifications reflect a scale and design appropriate to the character of the neighborhood, abutting properties and land uses, and also identify design cross-sections that take into account the needs of all travel modes, including pedestrians, bicyclists, transit riders, and motorists. A sound multi-modal street classification system should also enable the city to vary design elements in a manner that is sensitive to the context, character, and constraints of the surrounding property.

Functional Classification

Traditionally, a roadway is classified based on the type of travel it is intended to serve (local traffic versus through traffic). The roadway functional classification determines the level of mobility for all travel modes, defining its level of access and usage within the City and region. The street functional classification system recognizes that individual streets form a network that works together to serve travel needs on a local and regional level. From highest to lowest intended traffic volume, the classifications are arterials, collectors, and local streets. Roadways with a higher intended traffic volume generally have a classification and related standards that promote more efficient vehicle movement through the City, while roadways with lower intended usage are classified to provide greater access to local destinations such as businesses or residences.

- **Arterial Streets** in Newberg are classified as either Major or Minor Arterials.
 - **Major Arterials** in Newberg include OR 99W, which is owned by ODOT. OR 99W has the highest traffic volumes in Newberg. It is the roadway that residents use to connect to locations outside the City, and the roadway that visitors use to reach and travel through Newberg.
 - **Minor Arterials** in Newberg include ODOT-owned OR 219 and OR 240, City-owned Mountainview Drive and Springbrook Road, and Yamhill County-owned Wilsonville Road. These Minor Arterials also carry some of the higher traffic volumes of any roadway in the City and are used by residents to connect to locations outside the City, as well as provide major connections within the City.

The posted speed along arterials in Newberg may vary from 45 miles per hour as you enter the city to as low as 25 miles per hour through the downtown core.

- **Collector Streets** in Newberg connect the neighborhoods and major activity generators to arterial streets. These streets provide greater accessibility to neighborhoods than arterials, and provide efficient through movement for local traffic. The City of Newberg has two classifications for collectors: Major and Minor Collectors. Villa Road and Haworth Avenue are examples of Major Collector streets providing connections between commercial areas of town and the surrounding neighborhoods. Minor collectors (such as Meridian Street and Columbia Drive) provide the primary connections between neighborhoods and the major road system, but generally span shorter distances than major collectors.
- **Local Streets** provide direct access to residences in Newberg. These roadways are often lined with residences and are designed to serve lower volumes of traffic with posted speeds of 25 miles per hour.

Figure 14 shows the current functional classifications of streets in Newberg.

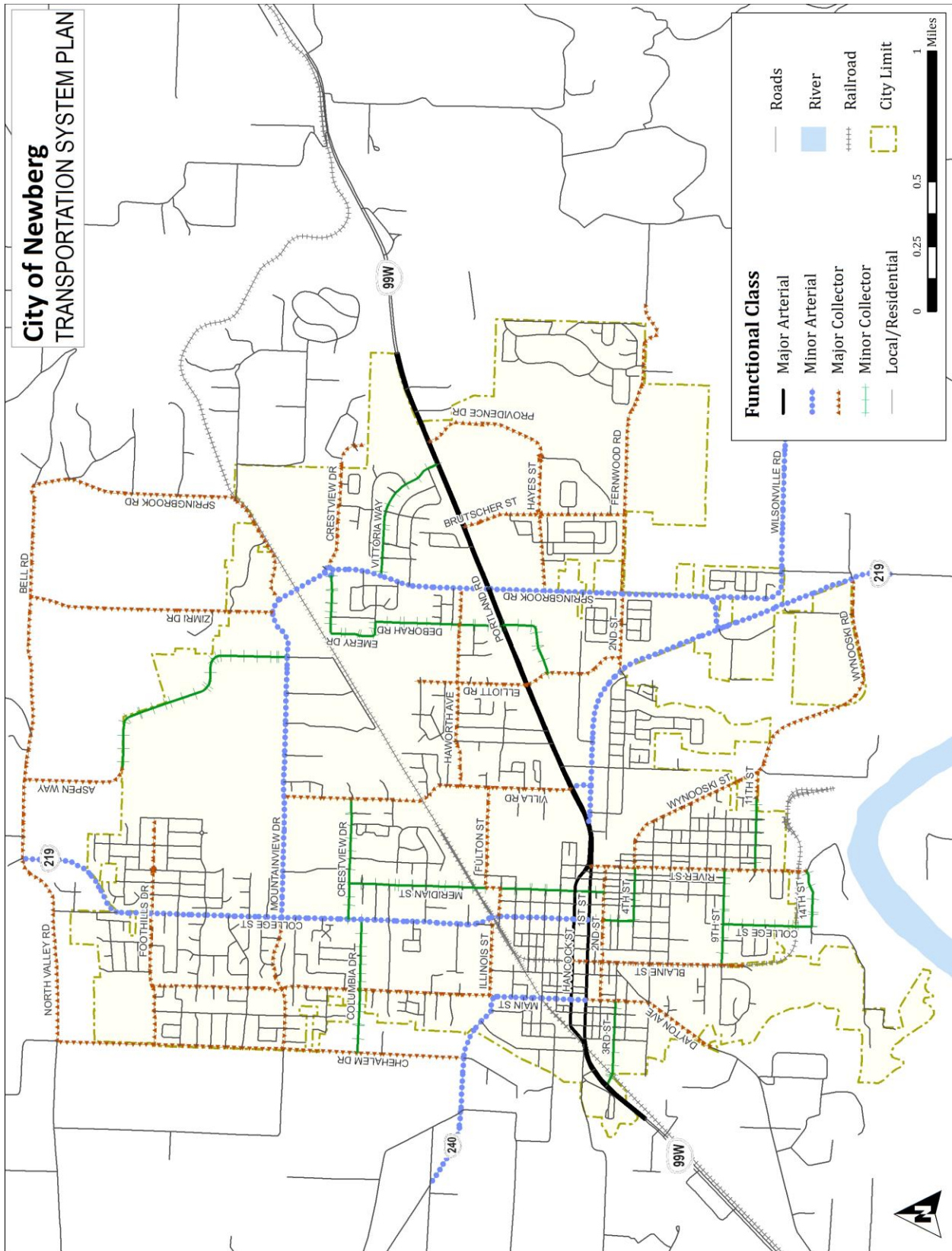


Figure 14: Functional Class Map

Street Type

In addition to functional class, the surrounding uses provide context for how roads are intended to function for pedestrians, bicyclists, and transit riders. The street type of a roadway defines its cross-section characteristics and determines how users of a roadway interact with the surrounding land use. Since the type and intensity of adjacent land uses and zoning directly influence the level of use by pedestrians, bicyclists, and transit riders, the design of a street (including target speed, intersections, sidewalks, and travel lanes) should reflect its surroundings. The street types attempt to strike a balance between street functional classification, adjacent land use, zoning designation and the competing travel needs by prioritizing various design elements.

- **Mixed-Use Streets** typically have a higher amount of pedestrian activity and are often on a transit route. These streets should emphasize a variety of travel choices such as pedestrian, bicycle, and transit use to complement the development along the street. Since Mixed-Use Streets typically serve pedestrian-oriented land uses, walking should receive the highest priority of all the travel modes. They should be designed with features such as wider sidewalks, pedestrian amenities, transit amenities, attractive landscaping, on-street parking, pedestrian crossing enhancements, and bicycle facilities.
- **Residential Streets** are generally surrounded by residential uses, although various small commercial uses may be embedded within the neighborhood. These streets often connect neighborhoods to local parks, schools and mixed-use areas. They should be designed to emphasize walking, while still accommodating the needs of bicyclists and motor vehicles. A high priority should be given to design elements such as traffic calming, landscaped buffers, walkways/pathways/trails, on-street parking, and pedestrian safety enhancements.
- **Commercial/Industrial Streets** are primarily lined with retail and large employment complexes, and often serve industrial areas. These uses serve customers throughout the City and region and may not have a direct relationship with nearby residential neighborhoods. Although commercial streets will be somewhat auto oriented, they should still accommodate pedestrians and bicyclists safely and comfortably. Roadway widths are typically wider to accommodate a high volume of large vehicles such as trucks, trailers, and other delivery vehicles. Design features should include sidewalks and pedestrian crossing enhancements. Bicycles should be accommodated through shared-lane markings and plentiful bicycle parking. Sidewalks should be constructed in accordance with Newberg's Development Code.

Multi-Modal Roadway Cross Sections

Street design in Newberg requires attention to many elements of the public right-of-way and considers how the street interacts with adjoining properties. Four zones comprise the cross-section of streets in Newberg: the context zone, walking zone, biking/on-street parking zone, and driving zone. The design of these zones varies based on the functional classification and street type.

- **Context Zone:** The context zone is the point at which the sidewalk interacts with the adjacent buildings or private property. The purpose of this zone is to provide a buffer for land use adjacent to the street and to ensure that all street users have safe interactions.

- **Walking Zone:** This is the zone in which pedestrians travel. The walking zone is determined by the street type and should be a high priority in mixed-use and residential areas. It includes a minimum five foot wide clear throughway for pedestrian and ADA access, an area for street furnishings or landscaping (e.g. benches, transit stops and/or plantings), and a clearance distance between curbside on-street parking and the street furnishing area or landscape strip (so parking vehicles or opening doors do not interfere with street furnishings and/or landscaping). Streets located along a transit route should incorporate furnishings to support transit ridership, such as transit shelters and benches, into the furnishings/landscape strip adjacent to the biking/on-street parking zone.
- **Biking/On-Street Parking Zone:** This is the zone for biking and on-street parking, and is the location where users will access transit. The biking/on-street parking zone is determined by the street type and use. Major streets that exceed speeds and traffic volumes for safe shared lane use should include designated bike lanes. On-street parking may be present in some cases depending on the adjacent uses, available right of way, and presence of surface parking.
- **Driving Zone:** This is the throughway zone for drivers, including cars, buses, and trucks and should be a high priority in commercial/employment and industrial areas. The functional classification of the street generally determines the number of through lanes, lane widths, and median and left-turn lane requirements. However, the route designations (such as transit street or freight route) take precedence when determining the appropriate lane width in spite of the functional classification. Wider lanes (between 13 to 14 feet) should only be used for short distances as needed to help buses and trucks negotiate right-turns without encroaching into adjacent or opposing travel lanes. Streets that require a raised median should include a minimum 6 foot wide pedestrian refuge at marked crossings. Otherwise, the median can be reduced to a minimum of 4 feet at midblock locations, before narrowing at intersections for left-turn lanes (where required or needed).

Design and Analysis Guidelines

Design and analysis guidelines allow cities to shape the character and functionality of the transportation system. In Newberg, these guidelines are used to provide standards for access spacing, connectivity, roadway and trail cross sections, intelligent transportation systems coordination, traffic impact analysis, neighborhood traffic management, bicycle facilities, enhanced pedestrian crossings, and on-street parking.

Roadway Access Spacing

Access spacing along Newberg streets is managed through access spacing standards. Access management is a broad set of techniques that balance the need to provide efficient, safe, and timely travel with the ability to allow access to individual destinations. Proper implementation of access management techniques will promote reduced congestion and accident rates, and may lessen the need for additional highway capacity enhancing projects in the future.

Table 2 identifies the minimum private access spacing standards for streets in Newberg. Within developed areas of the City, streets not complying with these standards could be improved with strategies that include shared access points, access restrictions (through the use of a median or channelization islands) or closed access points as feasible. New streets or redeveloping properties must comply with these standards, to the extent practical (as determined by the City Engineer).

Table 2: Access Spacing

Roadway Functional Classification	Minimum Public Street Intersection Spacing (Feet)*	Driveway Setback from Intersecting Street†
ODOT Statewide Highway Speeds 30 & 35 (Urban) Speeds 40 & 45 (Urban)	Refer to ODOT Access Spacing Standards	NA
Major arterial Urban (outside CBD) Central Business District	Refer to ODOT Access Spacing Standards	NA
Minor arterial Urban (outside CBD) Central Business District	500 200	150 100
Major collector	400	150
Minor collector	300	100

*Street Spacing measured centerline to centerline

†The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.

Roadway Cross Sections

Roadway standards and cross sections depend on functional classification, and are refined further in this section. Table 3 provides a summary of design standards by functional classification for typical Newberg streets, which are dictated by the Newberg Public Improvements Standards found in Chapter 15.505 of the Newberg Municipal Code and are provided here for reference. All new and rebuilt streets in Newberg must conform to the most current design standards in the Newberg Municipal Code, including but not limited to the required widths of travel lanes, bike lanes, sidewalks, planter strips, and on-street parking. Where a range of values is listed the City will determine the width based on a consideration of the existing constraints and needs for the facility. Illustrations of typical cross sections are shown in Figure 14 through Figure 20. Wider widths may result from enhanced multimodal facilities that may include wider bike lanes, presence of buffered bike lane, wider planting strips, wider sidewalks, or combined bike and pedestrian paths.

Table 3: Functional Classification Design Standards (Typical*)**

Street Classification	ROW (ft) Width	Street Width (ft)	Travel Lanes	Median Type	Striped Bike Lane	Sidewalk	On-street Parking	Planter Strip
Statewide Highway	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT
Major Arterial	95-100	74	4	TWLTL or median	Yes	Yes	No	Yes
Minor Arterial	69-80	48	2	TWLTL or none	Yes	Yes	No	Yes
Major Collector	57-80	36	2	None	Yes	Yes	No	Yes
Minor Collector	61-65	40	2	None	Yes*	Yes	Yes	Yes
Local Residential	54-60	32	2	None	No	Yes	Yes	Yes†
Local Commercial/Industrial	55-65	34	2	None	No	Yes	No	Yes

*Minor collectors shall provide designated shared space for bicycles instead of bike lanes. See Bicycle Facility Treatment Guidelines later in this section for details.

***Actual standards based on the most recently adopted Public Works Design and Construction Standards and Development Code.

†The planter strip may be eliminated on limited residential streets. Curbside sidewalks have additional design requirements.

ODOT: Oregon Department of Transportation-owned facility. The design authority ultimately rests with ODOT.

TWLTL: Two-Way Left Turn Lane

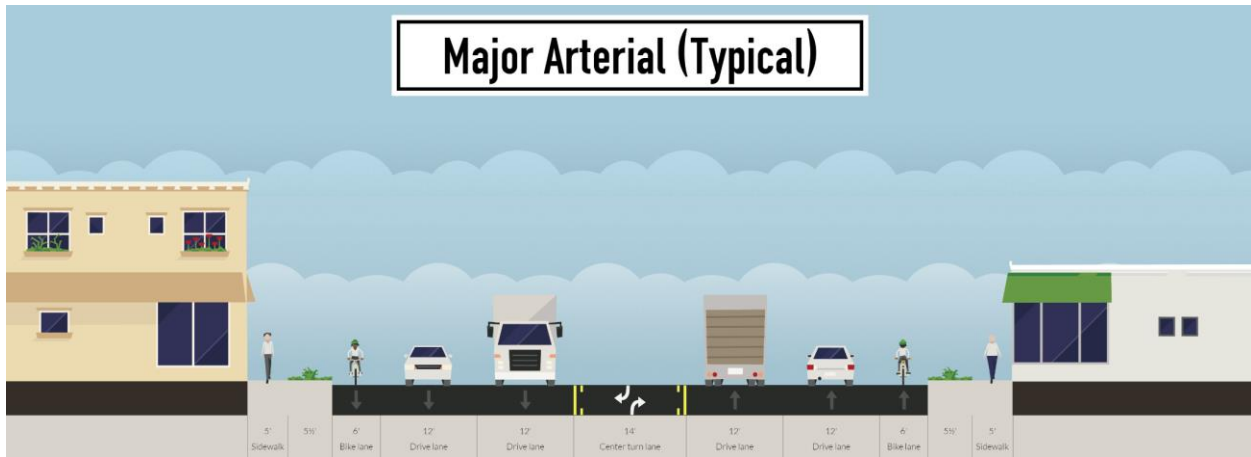


Figure 15: Typical Major Arterial

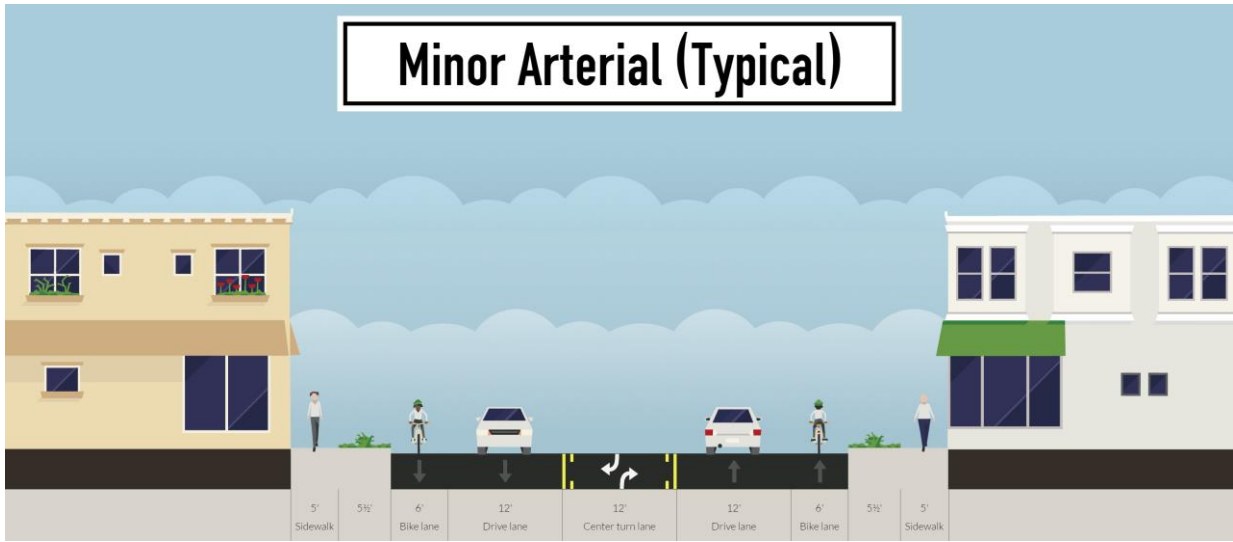


Figure 16: Typical Minor Arterial



Figure 17: Typical Major Collector



Figure 18: Typical Minor Collector

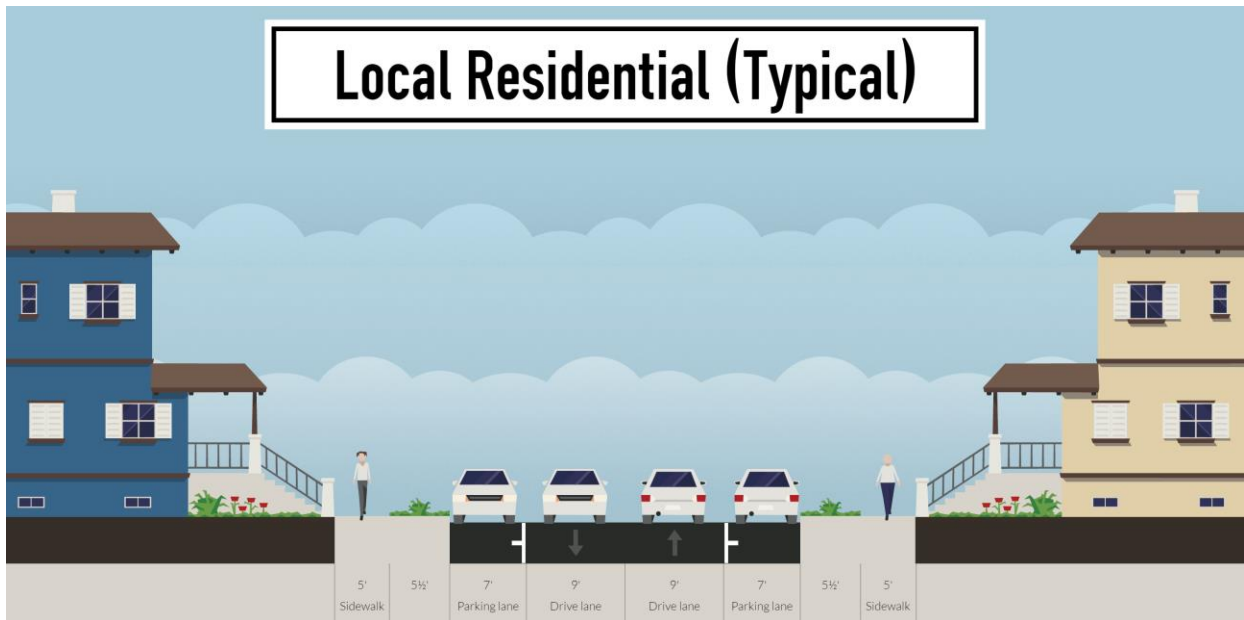


Figure 19: Typical Local Residential

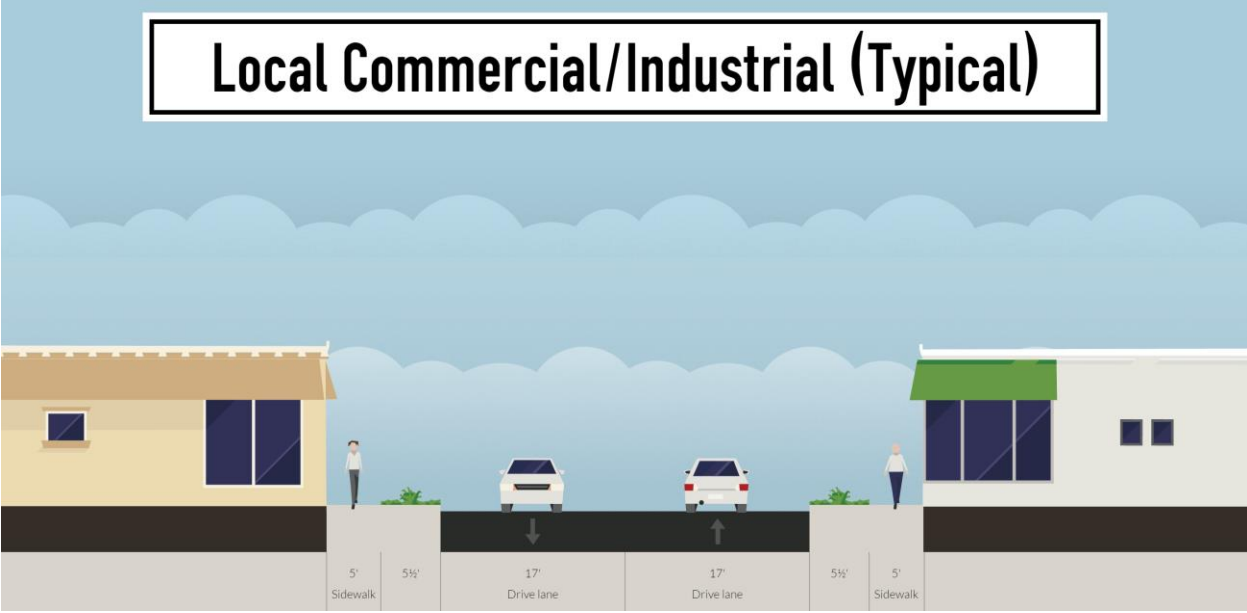


Figure 20: Typical Local Commercial/Industrial

Shared-Use Path Cross Sections

Shared-use paths provide off-roadway facilities for walking and biking travel. Depending on their location, they can serve both recreational and general travel needs. Widths should provide ample space for both walking and biking and should also be able to accommodate maintenance vehicles. The design criteria for shared-use paths are shown in Figure 21. The City may reduce the width of the paved shared-use path as necessary in constrained areas located in steep, environmentally sensitive, rural, historic, or development-limited areas of the City. In areas with significant walking or biking demand, the paved shared-use path should be 16 feet wide. In addition, a variety of amenities can make off-street trails more inviting to the user. These amenities (such as interpretive signs, water fountains, benches, lighting, maps, art, and shelters) would not typically be provided along shared-use paths but may be provided for off-street trails in natural settings that have more flexibility with right of way.

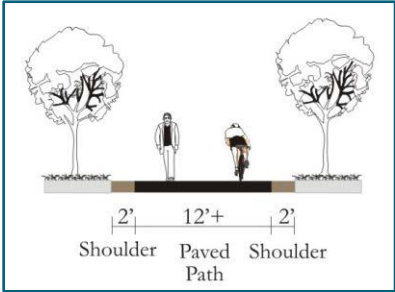


Figure 21: Design Criteria for Shared-Use Paths

ITS Coordination Guidelines

Intelligent Transportation System (ITS) planning and coordination is important for Newberg to consider. The City should follow the Oregon Statewide ITS Plan²¹, including installing conduits for communications systems when building/rebuilding roads along planned ITS corridors. Incorporating ITS improvements for and existing project and/or providing opportunities for future infrastructure (laying conduit in advance of a fully-operational system) are a cost-effective means to provide additional opportunities for managing the transportation system.

Traffic Impact Analysis Guidelines

The City Engineer will require a traffic impact analysis report (TIA) as determined by the type of new development or redevelopment and its potential impact to existing street systems. Details for the scope and requirements of the traffic impact analysis report are located in the City of Newberg Municipal Code and the Newberg Public Works Design & Construction Standards²².

A traffic analysis will be required at the discretion of the City Engineer, and will generally be required for a development:

- When it will generate in excess of 40 trips per p.m. peak hour, or
- When a development's location, proposed site plan, and traffic characteristics could affect traffic safety, access management, street capacity, or known traffic problems or deficiencies in a development's study area.

Neighborhood Traffic Management Tool Guidelines

Traffic calming is a form of neighborhood traffic management that can be used to create safe, slow streets (primarily in residential and mixed-use areas) without significantly changing vehicle capacity. Traffic calming can mitigate the impacts of traffic on neighborhoods and business districts where a greater balance between safety and mobility is desired. It seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques include:

- Narrowing the street by providing curb extensions or bulbouts, or mid-block pedestrian refuge islands.
- Deflecting the vehicle path vertically by installing speed humps, speed tables, or raised intersections.
- Deflecting the vehicle path horizontally with chicanes, roundabouts, or mini-roundabouts.

Narrowing travel lanes and providing visual cues such as placing buildings, street trees, on-street parking, and landscaping next to the street also creates a sense of enclosure that prompts drivers to reduce vehicle speeds.

²¹ <http://www.oregon.gov/ODOT/HWY/ITS/Documents/Oregon%20ITS%20Architecture%20Report%202012.pdf>

²² Guidance here reflects current requirements, and are subject to change. Always consult current code and standards documents before preparing a TIA.

Traffic calming measures must balance the need to manage vehicle speeds and volumes with the need to maintain mobility, circulation, and function for service providers (e.g. emergency response). Table 2 lists common traffic calming applications and suggests which devices may be appropriate along various streets in the City. Any traffic calming project should include coordination with local emergency response agency staff to ensure public safety is not compromised.

Table 4: Traffic Calming Measures by Street Functional Classification

Traffic Calming Measure	Is Measure Appropriate? (per Roadway Classification)**	
	Collector*	Local Street*
Narrowing travel lanes	Yes	Calming measures are generally appropriate on local streets that are infrequent emergency response routes and have more than one way in and out
Placing buildings, street trees, on-street parking, and landscaping next to the street	Yes	
Curb Extensions or Bulbouts	Yes	
Roundabouts	Yes	
Mini-Roundabouts	Yes	
Medians and Pedestrian Islands	Yes	
Pavement Texture	Yes	
Speed Hump or Speed Table	No	
Raised Intersection or Crosswalk	No	
Speed Cushion (provides emergency pass-through with no vertical deflection)	No	
Choker	No	
Traffic Circle	No	
Diverter (with emergency vehicle pass through)	Yes	
Chicanes	No	

*Any traffic calming project should include coordination with emergency agency staff to ensure public safety is not compromised.

** Traffic calming may be considered for state highways but would be required to meet ODOT standards, including any ODOT approved design exceptions.

Bicycle Facility Treatment Guidelines

A network of family-friendly biking routes is envisioned to connect major destinations and neighborhoods in Newberg. All arterial and major collector streets must have bike lanes. Minor collector streets may be designated as a shared space for bicycles and motor vehicles with shared-lane markings (SLMs), or “sharrows”, or they may warrant bike lanes. Bike lanes and sharrows are not required on local roads, but local roads may be designated as shared facilities if they are part of a designated bike route or critical connection.

Designated bike routes, sometimes referred to as Bicycle Boulevards, modify existing low volume, low speed streets to prioritize the through movement of bicyclists and pedestrians while maintaining local access for automobiles. Bicycle Boulevards typically include wayfinding signage, sharrows, and traffic calming features intended to reduce motor vehicle speeds and volumes. Where these facilities cross major roadways it is important to provide safe and comfortable pedestrian and bicycle crossings.



Photo 9: Bicycle Boulevard with Sharrows

Further enhancements may include “green street” features such as bio-swales and street trees, in addition to wider sidewalks and improved pedestrian amenities (e.g., benches and pedestrian-scale lighting). A network of bicycle boulevards helps encourage active transportation by providing comfortable, low-stress routes between neighborhoods and local parks, schools, and shopping areas. The bicycle boulevard network is generally off the main street system and is more attractive to less experienced walkers and bikers. It is generally envisioned to act like a linear park system linking parks, schools, jobs and other destinations in the City through a network of on-street shared-use streets and off-street shared-use paths.

Enhanced Pedestrian Crossing Treatment Guidelines

Enhanced street crossings are generally required on roadways with high traffic volumes and/or speeds in areas with nearby transit stops, residential uses, schools, parks, shopping, and employment destinations. These crossings should include treatments such as marked crosswalks, beacons or signalization, and curb extensions to improve the safety and convenience of street crossings. Crossings should be provided consistent with the connectivity standards.

On-Street Parking Dimensions

On-street parking should be a high priority along Mixed-Use or Residential streets. On-street parking is generally discouraged along Commercial/Industrial streets that have a primary function of traffic mobility (such as an arterial or major collector), although it may be allowed if the adjacent land use would benefit from it and adequate right-of-way is available. In Newberg, on-street parking is provided along all minor collector and local streets, although parking can be removed or reduced to one side if providing parking on both sides is not feasible.

The width of on-street parking should typically be eight feet, but can be reduced to seven feet where circumstances warrant with City Engineer approval.

The Investments

The Newberg approach to developing transportation solutions placed more value on investments in smaller, cost-effective solutions for the transportation system rather than larger, more costly ones, consistent with statewide and Newberg transportation goals. The approach helped to encourage multiple travel options, increase street connectivity, and promote a more sustainable transportation system. The projects in this plan fall within one of several categories:

Walking projects for sidewalk infill, providing seamless connections for pedestrians throughout the City. Newberg identified 45 walking projects. Of these projects, 29 are covered by other projects in this TSP, and 16 are standalone projects. The 16 standalone projects would cost the City a combined total of \$7.6 million to complete.

Biking projects include an integrated network of bicycle lanes and marked on-street routes that facilitate convenient travel citywide. Newberg identified 34 biking projects. Of these projects, 13 are standalone projects and 21 are covered by other projects in the TSP. The 13 standalone projects would cost the City a combined total of \$6.6 million to complete.

ADA Improvements should be a component of all project types identified in other categories as future improvements. Other ADA needs that do not overlap with these projects will be addressed through the Public Works department's ongoing ADA improvement program in order to provide a continuous, connected ADA route through Newberg

Chehalem Trail projects include trails identified under the Chehalem Heritage Trails Master Plan. These trails will provide pedestrian and bicycle connectivity between Newberg and Dundee. There are six Chehalem Trail projects, four within or partially within Newberg, and two within Dundee or Yamhill County. The trail segments within Newberg are expected to cost approximately \$10.5 million to complete.

Intersection projects include safety and mobility improvements for intersections in Newberg. Newberg identified 13 intersection projects with a combined total cost of \$5.2 million to complete.

Expansion projects are those that add or extend new roads or add more lanes to existing roads. Newberg identified 12 expansion projects that are expected to cost \$31.2 million to complete. Many of these expansion projects would be paid for by new development in undeveloped areas of Newberg.

Safety and Standards projects are those that bring an existing facility up to Newberg's most current roadway standards, or address a known safety need. Newberg identified 35 Safety and Standards project that are expected to cost \$53.9 million to complete. Some of these projects would be paid for by new or infill development along existing facilities.

Transit projects are those that expand or add amenities to existing transit service, or that add new transit routes within the City. Newberg identified four transit projects with a total cost of \$205,000.

Figure 22 illustrates the breakdown of all projects by the number of projects in each category and the total expense of the projects in each category.

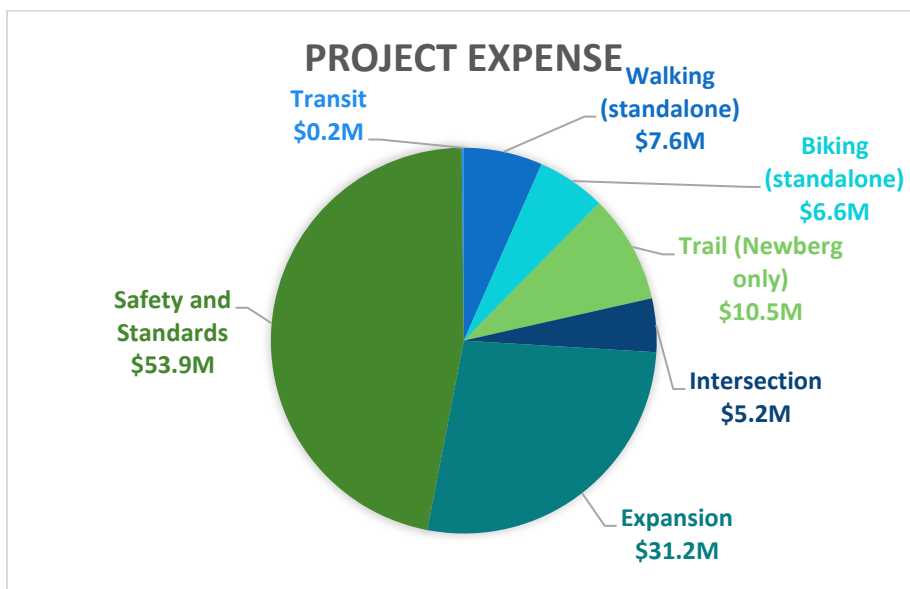
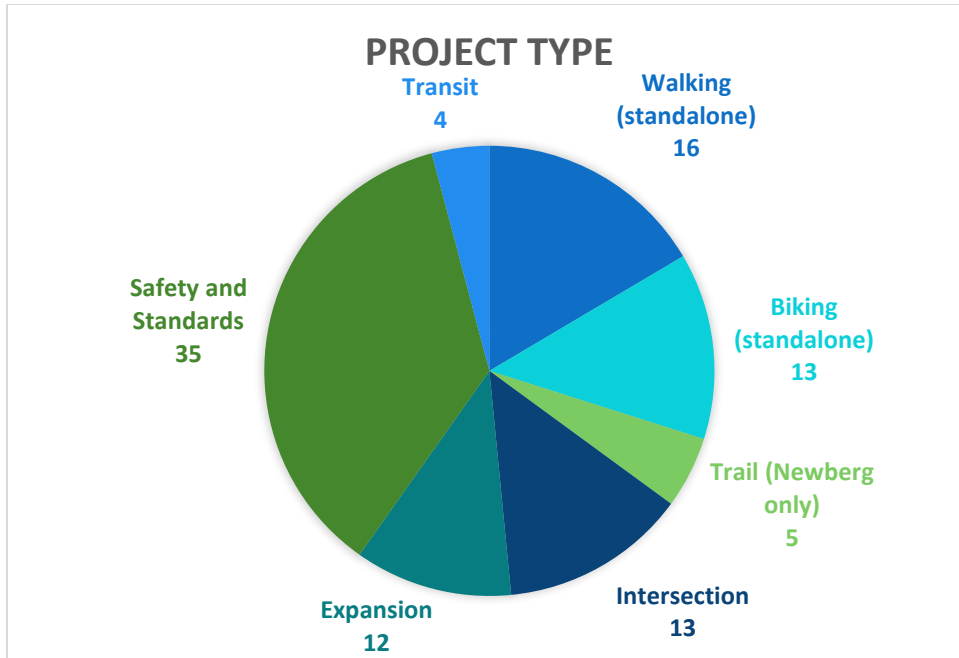


Figure 22: Project Type and Project Expense

Funding

With an estimated \$115 million worth of transportation solutions identified, Newberg must make investment decisions to develop a set of transportation improvements reasonably likely to be funded to meet identified needs through 2035. As shown in Table 5, Newberg is expected to have approximately \$18.7 million available for capital expenditures through 2035 with current funding sources and maintenance/operations expenditures.

Table 5: Newberg Transportation Funding

Revenue Source	Average Annual Amount	Estimated Through 2035
State Highway Trust Fund (Gas Taxes and Registration Fees)	\$820,600	\$16,400,000
Bikeway Taxes (portion of State Highway Trust Fund)	\$12,400	\$250,000
System Development Charges	\$286,700	\$20,700,000
Total Revenues	\$1,100,000	\$37,300,000
Expenditures	Average Annual Amount	Estimated Through 2035
Operations and Maintenance	\$930,000	\$18,600,000
Revenue over Expenditures (Available for Capital Improvements)		\$18,700,000

Current Newberg Funding Sources

Two general funding sources are utilized by the City for transportation: the State Highway Trust Fund and System Development Charges (SDCs). In addition to City-funded projects, new private development will construct and/or fund some of the proposed transportation projects in Newberg. Federal transportation funds received by the City (approximately \$250,000 annually) go towards the debt exchange to pay for a portion of the local contribution of the Newberg-Dundee Bypass.

State Highway Trust Fund monies come from state motor vehicle gas tax, vehicle registration fees and truck weight-mile fees, and are distributed on a per capita basis to cities and counties. By statute, the money may be used for any road-related purpose, including walking, biking, bridge, street, signal, and safety improvements. The state gas tax funds have previously failed to keep up with cost increases and inflation. With increased fuel efficiency of vehicles and the State’s emphasis on reducing vehicle miles traveled, the real revenue collected has gradually eroded over time. The gas tax in Oregon increased on January 1, 2011 by six cents, to 30 cents per gallon. This was the first increase in the state gas tax since 1993.

System Development Charges (SDCs) are fees collected from new development and used as a funding source for all capacity adding projects for the transportation system. The funds collected can be used to construct or improve portions of roadways impacted by applicable development such as upgrading an existing collector road to add additional capacity to serve growth. The SDC is collected from new development and is a one-time fee. The fee is based on the proposed land use and size, and is

proportional to each land use's potential weekday vehicle trip generation. Newberg collects \$3,052 per single-family residence and slightly less for multi-family residences. Commercial and industrial developments are charged based on Institute of Transportation Engineers (ITE) trip generation rates.

Revenue

Current revenue sources are expected to provide about \$18.7 million through 2035. Over the past three years, Newberg averaged \$821,000 in State Highway Fund shared revenue and \$287,000 in SDC revenue. As a conservative estimate,²³ the same levels for State Highway Fund revenue (\$821,000 per year) was assumed in the future, for a total of about \$16.4 million through 2035.

Newberg is expected to receive \$20.7 million from SDC charges through 2035. This figure was calculated by determining the expected household and commercial growth in Newberg over the planning horizon and using Newberg's existing (2015) SDC rates. State law requires that SDC revenue be used only on capacity increasing capital projects that increase the level of performance of an existing facility or provide new facilities.

State law requires that a minimum of one percent of the State gas tax and vehicle registration funds received must be set aside for construction and maintenance of walking and bicycling facilities. In Newberg, this represents approximately \$12,000 per year and over \$240,000 through 2035.

Expenditures

Current operations and maintenance expenditures are expected to top \$18.6 million through 2035 (based on expenditures over the past three years).

Funds for Transportation Improvements

In addition to Newberg funds, ODOT has determined that it is reasonable to assume that \$10 million in state discretionary funds will be available to fund new projects in Newberg over the next 20 years²⁴. Many of the identified transportation improvements are expected to be funded, at least in part, by new development. About \$32 million of the identified projects would be development-led.

ODOT Highway Safety Improvement Program (HSIP) Funding

With Oregon's funding under HSIP increased significantly and direction from the Federal Highway Administration to address safety challenges on all public roads, ODOT will increase the amount of funding available for safety projects on local roads. Safety funding will be distributed to each ODOT

²⁴ ODOT has not committed any future funding for projects in Newberg. This estimate is based on assuming that Newberg will receive a reasonable share of the state/federal funding projected to be available over the 20-year planning horizon in Region 2 and based on ODOT sustaining their current revenue structure. It is used to illustrate the degree of financial constraints faced by ODOT as of the writing of this document. Actual funding through state and federal sources may be higher or lower than the range of this estimate. This estimate does not include projects that might be funded through the federal Highway Safety Improvement Program (HSIP).

region, which will collaborate with local governments to select projects that can reduce fatalities and serious injuries, regardless of whether they lie on a local road or a state highway.

To maintain commitments in the current Statewide Transportation Improvement Program (STIP) for 2013-2015 and because the development of 2016-2018 STIP is well underway, a reasonable expectation is to start the jurisdictionally blind safety approach in 2017. Meanwhile, ODOT intends to implement a transition plan for 2013-2016. The transition will be developed to bridge the gap. Funding for local roads will be allocated to primarily focus on a few systemic low cost fixes that can be implemented in the shorter timeframe.

Potential Additional Funding Sources

Additional transportation funding options include local taxes, assessments and charges, and state and federal appropriations, grants, and loans. All of these resources can be constrained based on a variety of factors, including the willingness of local leadership and the electorate to burden citizens and businesses; the availability of local funds to be dedicated or diverted to transportation issues from other competing City programs; and the availability of state and federal funds. Nonetheless, it is important for the City to consider all opportunities for providing, or enhancing, funding for the transportation improvements included in the TSP.

The following sources have been used by cities to fund the capital and maintenance aspects of their transportation programs. There may be means to begin to or further utilize these sources, as described below, to address existing or new needs identified in the TSP.

Transportation Utility Fee

A transportation utility fee is a recurring monthly charge that is paid by all residences and businesses within the City. The fee can be based on the number of trips a particular land use generates, or as a flat fee per unit. It can be collected through the City's regular utility billing. Existing law places no express restrictions on the use of transportation utility fee funds, other than the restrictions that normally apply to the use of government funds.²⁵ Some cities utilize the revenue for any transportation-related project, including construction, improvements, and repairs. However, many cities choose to place self-imposed restrictions or parameters on the use of the funds, which may designate fund use for a specific purpose (such as street maintenance or overlays, pedestrian/bicycle improvements, or other specific transportation needs).

Assuming a flat fee of \$10.00 per month per residential water meter, the City could collect an additional \$1.5 million for transportation-related expenses through 2035. Additional revenue could be collected from businesses.

Local Fuel Tax

Fourteen cities and two counties in Oregon have adopted local gas taxes ranging from one to five cents per gallon. The taxes are paid to the city monthly by distributors of fuel. Newberg may want to consider implementing a local fuel tax. The process for presenting such a tax to voters would need to be consistent with Oregon State law as well as the laws of the City.

ODOT Statewide Transportation Improvement Program (STIP) Enhance Funding

ODOT has modified the process for selecting projects that receive STIP funding. The new process follows a jurisdictionally blind approach, meaning local agencies can receive funding for projects off the state system. Preferred projects are expected to be those that enhance system connectivity and improve multi-modal travel options. With the updated TSP, the City will be well positioned to apply for STIP funding.

Local Hotel/Lodging Tax

Many Oregon jurisdictions impose a local hotel tax. State law requires that 70 percent of the hotel tax revenue be used for tourism facilities and promotion and 30 percent go to the general fund. Tourism facilities could potentially include transportation projects such as public parking or pedestrian improvement projects that benefit tourism.

General Fund Revenues

At the discretion of the City Council, the City can allocate General Fund revenues to pay for its Transportation program (General Fund revenues primarily include property taxes, use taxes, and any other miscellaneous taxes and fees imposed by the City). This allocation is completed as a part of the City's annual budget process, but the funding potential of this approach is constrained by competing community priorities set by the City Council. General Fund resources can fund any aspect of the program, from capital improvements to operations, maintenance, and administration. Additional revenues available from this source are only available to the extent that either General Fund revenues are increased or City Council directs and diverts funding from other City programs.

Urban Renewal District

An Urban Renewal District (URD) would be a tax-funded district within the City. The URD would be funded with the incremental increases in property taxes resulting from construction of applicable improvements. This type of tax increment financing has been used in Oregon since 1960. Use of the funding includes, but is not limited to, transportation improvements, which are funded by the incremental taxes rather than fees.

Local Improvement Districts

Local Improvement Districts (LIDs) can be formed to fund capital transportation projects. LIDs provide a means for funding specific improvements benefiting a specific group of property owners. LIDs require owner/voter approval and a specific project definition. Assessments are placed against benefiting properties to pay for improvements. LIDs can be matched against other funds where a project has

system wide benefit beyond benefiting the adjacent properties. LIDs are often used for sidewalks and pedestrian amenities that provide local benefit to residents along the subject street.

Debt Financing

While not a direct funding source, debt financing can be used to mitigate the immediate impacts of significant capital improvement projects and spread costs over the useful life of a project. Though interest costs are incurred, the use of debt financing can serve not only as a practical means of financing major improvements, but is also viewed as an equitable funding strategy, spreading the burden of repayment over existing and future customers who will benefit from the projects. The obvious caution in relying on debt service is that a funding source must still be identified to fulfill annual repayment obligations.

The Plan

As detailed in the Funding section, the City is expected to have approximately \$18.7 million in City funds to cover the City’s public portion of project costs (\$40 million) if no additional funding sources are developed. Therefore, most of the transportation solutions identified for the City are not reasonably likely to be funded through 2035. For this reason, the transportation solutions were divided into two categories:

- **Likely Funded** projects are those projects that the City believes are reasonably likely to be funded during the 20-year planning horizon based on the funding threshold established through the City’s funding analysis.
- **Aspirational** projects include all identified projects for improving Newberg’s transportation system that are not reasonably likely to be funded during the 20-year planning horizon, but do address an identified problem and are supported by the City.

Identifying the Investments

Using the five goals identified previously in the TSP, the transportation solutions were evaluated and compared to one another. Greater value was placed on projects stakeholders felt were most important to the community. The investment recommendations attempted to balance projects between different modes, selecting some of the highest rated projects from each mode. Complex and costly capital projects were disfavored compared with low cost projects with more immediate impact and the ability to spread investment benefits Citywide.

Additionally, ODOT will actively monitor key routes through neighborhoods that may be impacted by the Phase 1 Bypass. Future phases of the Newberg-Dundee Bypass are not likely to be built within the funding horizon, and the Phase 1 Bypass will likely alter travel patterns on several routes throughout the City. ODOT may set aside funds that may be used for improvements and traffic control on routes impacted by the Bypass, and improvements to reduce cut-through traffic through neighborhoods. This approach seeks to actively manage the transportation system after construction of the Phase 1 Bypass.

The Likely Funded Plan

The Likely Funded Plan identifies the transportation solutions that are reasonably expected to be funded by 2035 and have the highest priority for implementation. Figure 23 shows the breakdown of different funding sources for the plan, and Table 6 lists all projects by type of improvement and identifies the likelihood of the project being funded (“Likely” or “Aspirational²⁶”). A subset of projects are marked that would add capacity to the transportation system. The project lead identified in Table 6 is the likely lead

²⁶ “Aspirational” designation denotes that the project is included in the plan to address a transportation need in the community but due to limited funding is not assumed to be funded during the planning horizon (2035) under current funding conditions. However, additional funding opportunities such as partnerships or grants may allow these projects to be pursued before 2035.

that will manage the project, but does not commit them to funding the project. All approximate costs are reported in terms of existing year (2016) costs and not year of opening. The City is assumed to spend \$10 million on improvements, while ODOT could contribute approximately \$10 to 15 million²⁷, Chehalem Park and Recreation District (CPRD) would be responsible for \$1.3 million of investments, and Yamhill County would be responsible for approximately \$35,000 of investments. Additionally, \$27 million worth of investments are assumed to be development-led.

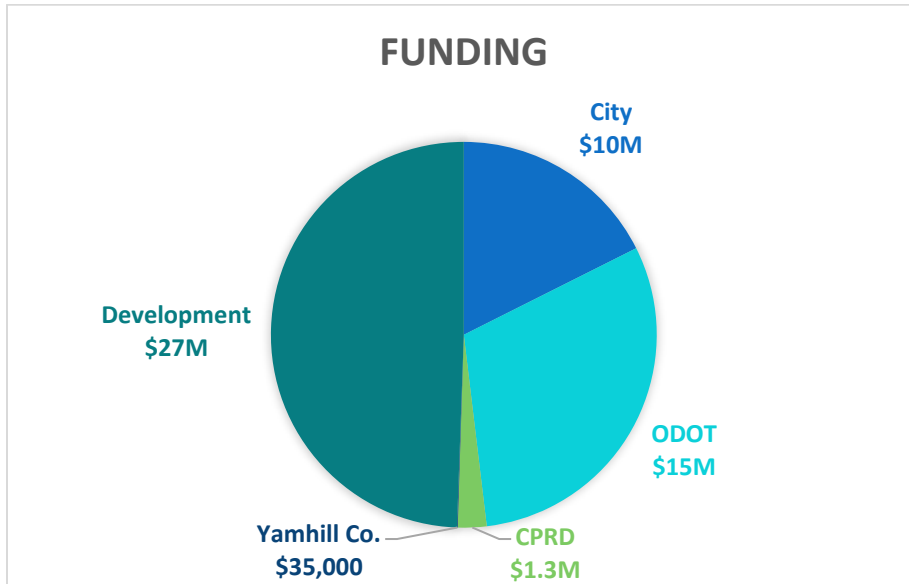


Figure 23: Funding for the Likely Funded Plan

The Aspirational Plan

The projects outlined within the Likely Funded Plan will significantly improve Newberg’s transportation system. If the City is able to implement a majority of the Likely Funded Plan, nearly two decades from now Newberg residents will have access to a safer, more balanced multimodal transportation network.

The Aspirational Plan identifies those transportation solutions that are not reasonably expected to be funded by 2035, but will remain very important to the transportation system and have City support if funding does become available. Table 6 lists all projects by type of improvement, those identified as not likely to be funded comprise the Aspirational Plan. The Aspirational Plan includes approximately \$72.4 million worth of investments.

²⁷ ODOT has not committed any future funding for projects in Newberg. This estimate is based on assuming that Newberg will receive a reasonable share of the state/federal funding projected to be available over the 20-year planning horizon in Region 2 and based on ODOT sustaining their current revenue structure. It is used to illustrate the degree of financial constraints faced by ODOT as of the writing of this document. Actual funding through state and federal sources may be higher or lower than the range of this estimate. This estimate does not include projects that might be funded through the federal Highway Safety Improvement Program (HSIP).

Table 6: Transportation Improvement Projects

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Expansion Projects					
E01*	OR 240 Minor Arterial Improvement	Reconstruct OR 240 for approximately 0.36 miles between the west edge of the Urban Growth Boundary and Main Street to full, 3-lane minor arterial street standards.	ODOT	\$2,160,000	Aspirational
E03*	N Main Street (OR240) Arterial Improvement	Reconstruct to full minor arterial standards between Illinois and 1st to include three travel lanes, bike lanes, and sidewalks.	ODOT	\$1,350,000	Aspirational
E04*	Blaine St Extension	Construct new street between 9th St and River St to major collector standards.	City	\$1,682,200	Aspirational
E05*	College St Arterial Improvement	Reconstruct to minor arterial street standards between 1st St and Bell Rd to include sidewalks and bicycle lanes on each side of College Street.	ODOT	\$8,835,750	Likely
E06*	Rogers Landing Rd Extension	Construct Rogers Landing Rd from Willamette River to UGB to major collector standards.	City	\$1,215,000	Aspirational
E07*	Foothills Dr Extension	Construct Foothills Dr from Aldersgate to Villa Rd.	Developer	\$342,150	Likely
E08*	Villa Rd Extension	Construct Villa Rd from Mountainview Dr to Aspen Way and construct to major collector standards with sidewalks and bike lanes.	Developer	\$2,835,000	Likely
E11a*	Mountainview Dr Arterial Improvement	Safety Improvement: Reconstruct Mountainview Dr between Villa Rd and Alice Way to minor arterial standards. Include bike lanes and sidewalks on both sides.	Developer	\$1,023,000	Likely

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Expansion Projects					
E11b*	Mountainview Dr Arterial Improvement	Reconstruct Mountainview Dr between Alice Way and Aspen Way to minor arterial standards. Include bike lanes and sidewalks on both sides.	Developer	\$1,404,000	Likely
E14*	Crestview Dr Extension	Extend Crestview Dr from southern terminus to OR 99W. Construct to major collector standards (Other Crestview Dr projects S18, S40)	Developer	\$1,830,000	Likely
E15*	Hayes St Extension	Construct Hayes St from its eastern terminus at Deborah St to Springbrook St to minor collector street standards	Developer	\$540,000	Likely
E18*	OR219 Arterial Improvement	Reconstruct OR219 to arterial standards between First Street and the south UGB boundary to include sidewalks and bicycle lanes on each side of OR219.	ODOT	\$7,965,000	Aspirational
Total (All Expansion Projects)				\$31,182,100	
Total (Likely Expansion Projects)				\$16,809,900	
Total (Aspirational Expansion Projects)				\$14,372,200	

Note: * indicates project that would add capacity to the transportation system

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Standards and Safety					
S01*	Dayton Ave Collector Improvement	Restripe Dayton Avenue to major collector street standards between 5th Street and Newberg city limits to include bicycle lanes on each side of Dayton Avenue	City	\$13,500	Aspirational
S02*	3rd St Collector Improvement	Reconstruct 3rd Street to minor collector street standards between OR 99W and Main Street to include sidewalks and on-street parking on each side of 3rd Street	City	\$110,250	Aspirational
S03*	OR 99W Arterial Improvement	Reconstruct OR 99W to major arterial street standards between Harrison Street and 3rd Street to include sidewalks and bicycle lanes on each side of OR 99W.	ODOT	\$1,741,600	Aspirational
S07	Downtown Road Diet	Pending (and contingent upon) coordination and agreement with ODOT, implement components of the downtown road diet. Specific details to be developed through coordination with ODOT ²⁸ and the recommendations of the Newberg Downtown Improvement Plan. This concept would generally remove one lane each from Hancock St and 1st St to use for additional enhancement to pedestrian, bicycle, or other amenities. Enhancements could include improved crossings, wider sidewalks, and curb extensions on 1st St and Hancock St. The road diet and related improvements in the downtown area may be implemented after completion of the Phase 1 Bypass on a temporary basis pending future capacity needs and some locations may retain the existing cross section.	ODOT	\$6,000,000	Likely
S08*	S Main St Collector Improvement	Restripe to major collector street standards between 1st St and 5th St to include bicycle lanes on each side.	City	\$27,000	Aspirational
S09*	2nd St Collector Improvement	Reconstruct 2nd St to major collector street standards between Main St and River St to include sidewalks, bicycle lanes, and on-street parking on each side of 2nd Street	City	\$2,141,600	Aspirational

²⁸ Additional coordination and implementation will also require addressing freight Reduction Review Route (RRR) statutes and approval of Oregon Freight Advisory Committee (OFAC).

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Standards and Safety					
S10*	Blaine St Collector Improvement	Reconstruct Blaine St to major collector street standards between Hancock St and 9th St to include sidewalks and bicycle lanes on each side of Blaine Street.	City	\$2,025,000	Likely
S11*	Chehalem Dr Collector Improvement	Reconstruct Chehalem Dr between OR240 and North Valley Rd to major collector street standards to include bicycle lanes and sidewalks on both sides of the street. Yamhill County and City of Newberg jurisdictions.	Developer	\$4,428,000	Likely
S12*	N Main St Collector Improvement	Reconstruct to full major collector street standards between Illinois St and Mountainview Dr to include sidewalks and bicycle lanes on each side of Main St.	City	\$1,350,000	Aspirational
S13*	Illinois St Collector Improvement	Reconstruct Illinois St between Main St and College St to major collector street standards to include on-street parking, bicycle lanes, and sidewalks on each side of the street.	City	\$945,000	Aspirational
S14*	Columbia Dr Collector Improvement	Reconstruct Columbia Dr between Chehalem Dr and College St to minor collector street standards to include a travel lane in each direction, and sidewalks and on-street parking on both sides of the street.	Developer	\$1,512,000	Likely
S15	OR 219 Routing	Add signs for routing traffic using OR 219 through Newberg to reduce neighborhood cut through	ODOT	\$25,000	Likely
S16*	North Valley Rd Collector Improvement	Reconstruct North Valley Rd to major collector street standards between College St and Chehalem Dr to include sidewalks and bicycle lanes on each side of North Valley Rd.	Developer	\$2,295,000	Aspirational
S17*	Foothills Dr Collector Improvement	Reconstruct to major collector street standards between Main St and Aldersgate Dr to include sidewalks and bicycle lanes on each side.	City	\$3,240,000	Aspirational
S18*	Crestview Dr Collector Improvement	Reconstruct Crestview Dr to minor collector street standards between College St and Villa Rd to include sidewalks and on-street parking. (Other Crestview Dr projects E14, S40)	City	\$1,620,000	Aspirational

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Standards and Safety					
S20*	Vermillion St Collector Improvement	Reconstruct Vermillion St between Meridian St and College St to major collector standards to provide bicycle lanes and sidewalks on each side of the street.	City	\$405,000	Aspirational
S21*	Fulton St Collector Improvement	Reconstruct Fulton St between Meridian St and Villa Rd to major collector standards, providing bicycle lanes and sidewalks on each side of the street.	City	\$174,050	Aspirational
S22*	River St Collector Improvements	Reconstruct to major collector street standards between 1st St and Rogers Landing Rd to include sidewalks and bicycle lanes on each side of River St.	City	\$3,105,000	Aspirational
S23*	Rogers Landing Rd Collector Improvement	Reconstruct Rogers Landing Rd to major collector street standards between River St and the Willamette River to include sidewalks and bicycle lanes on each side of the street.	City	\$540,000	Aspirational
S24	Villa Rd Wayfinding	Improve wayfinding on OR219 directing traffic bound for 99W onto Villa Rd	City	\$5,000	Aspirational
S25*	Villa Rd Collector Improvement	Reconstruct Villa Rd to major collector street standards between OR 99W and Fulton St to include sidewalks and bicycle lanes on each side of Villa Rd.	Developer	\$1,080,000	Aspirational
S26*	Villa Rd Collector Improvement	Reconstruct to major collector street standards between Fulton St and Crestview Dr to include sidewalks and bicycle lanes on each side of Villa Rd.	City	\$2,376,000	Under Construction
S27*	Haworth Ave Collector Improvement	Reconstruct Haworth Ave to major collector street standards between Villa Rd and Springbrook St to include sidewalks and bicycle lanes on each side of Haworth St.	City	\$1,682,200	Aspirational
S28	Villa Rd Collector Improvement	Reconstruct Villa Rd to major collector street standards between Aspen Way and UGB to include sidewalks and bicycle lanes on each side of Villa Rd.	Developer	\$405,000	Aspirational

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Standards and Safety					
S29*	Aspen Way Collector Improvement	Reconstruct Aspen Way to minor collector standards between Villa Rd and Mountainview Dr to include sidewalks and on-street parking on each side of Aspen Way	Developer	\$4,995,000	Likely
S32*	Elliott Rd Collector Improvement	Reconstruct to full, major collector street standards between OR 99W and Newberg High School to include sidewalks and bicycle lanes on each side of Elliot Rd.	City	\$1,215,000	Likely
S33*	Hayes St Collector Improvement	Reconstruct Hayes Street to minor collector street standards between Elliott Road and Deborah Street to include sidewalks and on-street parking on each side of Hayes Street	City	\$87,000	Aspirational
S35*	Fernwood Rd Collector Improvement	Reconstruct Fernwood Rd between Springbrook Rd and Creek to major collector standards to include bicycle lanes and sidewalks on each side of the street	Developer	\$972,000	Aspirational
S36*	OR 99W Arterial Improvement	Reconstruct OR 99W to major arterial street standards between Vittoria Way and Harmony Ln to include sidewalks and bicycle lanes on each side of OR 99W.	ODOT	\$270,000	Likely
S37*	Wynooski St Collector Improvement	Reconstruct Wynooski Street to major collector street standards between River Street and Bypass to include sidewalks and bicycle lanes on each side of Wynooski Street	City	\$4,050,000	Aspirational
S38*	Zimri Dr Collector Improvement - in UGB	Improve Zimri Dr within the UGB to major collector standards, providing bicycle lanes and sidewalks on each side of the street	Developer	\$2,160,000	Likely
S40*	Crestview Drive Improvements	Reconstruct Crestview Drive to collector street standards between Springbrook and the City limits. (Other Crestview Dr projects E14, S18)	Developer	\$1,180,400	Likely
S41	Local System Bypass Monitoring and Enhancements	Monitor traffic use and performance on local system adjacent to bypass (south of OR 99W and east of Springbrook Road) to determine if unintended cut-through traffic between OR 99W and bypass require mitigation. Potential mitigation (placeholder project) may include traffic-calming and/or capacity enhancements, depending on the nature of the impacts	ODOT	\$500,000	Likely

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Standards and Safety					
S42	Hancock Street Arterial Improvement	Reconstruct Hancock Street to major arterial street standards between Harrison Street and Main Street to include sidewalks and bicycle lanes on each side of Hancock Street.	ODOT	\$1,113,600	Aspirational
Total (All Standards and Safety Projects)				\$53,789,200	
Total (Likely Standards and Safety Projects)				\$26,686,400	
Total (Aspirational Standards and Safety Projects)				\$27,102,800	

Note: * indicates project that would add capacity to the transportation system

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Intersection Projects					
I01	College St/Illinois St Intersection Safety	Bar left turns or add bypass lane to prevent queuing vehicles from going across RR tracks	City	\$100,000	Likely
I02*	Foothills Dr/College St Intersection	Intersection control upgrade (roundabout or traffic signal) to address mobility needs	City	\$825,000	Likely
I03*	Mountainview Dr/Villa Rd Intersection Improvement	Add traffic signal and left turn lanes on all approaches.	Developer	\$860,000	Likely
I04*	Villa/Haworth Intersection Improvements	Add southbound left turn lane and northbound right turn lane on Villa to improve safety and operations. Monitor for control upgrade (roundabout or traffic signal)	City	\$320,000	Likely
I05*	Villa/Fulton Intersection Improvements	Add SB right turn lane and NB left turn lane on Villa Rd. Monitor for control upgrade (roundabout or traffic signal)	City	\$345,000	Likely
I07*	Mountainview Dr/Zimri Dr Intersection Improvements	Add SB left turn lane to Zimri Dr	Developer	\$135,000	Likely
I08*	Springbrook Rd/Mountainview Dr Intersection Improvement	Traffic Signal.	Developer	\$270,000	Likely
I09*	Springbrook Rd/Haworth Ave Intersection Improvement	Traffic Signal and left turn lanes on Haworth	City	\$400,000	Likely
I10*	Springbrook Rd/Hayes St Intersection Improvement	Traffic Signal. Add 4th leg on west side of Springbrook.	Developer	\$270,000	Likely

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Intersection Projects					
I11	Vittoria Way/OR 99W Intersection Improvement	Modify intersection to restrict turning movements to RIRO	ODOT	\$27,000	Likely
I12*	Crestview Dr/OR 99W Intersection Improvement	Traffic signal modification to add north leg of Crestview when extended to north.	Developer	\$380,000	Likely
I13*	Everest Rd/1st St Intersection Improvements	Traffic Signal and left turn lanes on all approaches. Additional improvements may be needed at the adjacent intersection of 1st/Villa in order ensure mobility along OR 219, including modify control and/or turn restrictions.	ODOT	\$735,000	Likely
I14*	Main St/ Illinois St	Perform special study to determine appropriate intersection improvements to address future safety and mobility needs triggered by future growth. Possible alternatives include traffic signal, roundabout, or four-way stop control. Realignment of the intersection may be required; alternatively, closure of either the north or east approach may be considered.	City	\$500,000	Likely
Total (All Intersection Projects)				\$5,167,000	
Total (Likely Intersection Projects)				\$5,167,000	
Total (Aspirational Intersection Projects)				\$0	

Note: * indicates project that would add capacity to the transportation system

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Sidewalk Projects					
P02*	OR 99W Sidewalks	From UGB to 3rd Street	ODOT	\$174,150	Likely
P03*	1st St Sidewalks	From UGB to Ore 99W	City	\$74,250	Likely
P08*	9th St Sidewalks	From Blaine St to River St	City	\$66,150	Likely
P09*	14th St Sidewalks	From College St to River St	Developer	\$63,180	Likely
P12*	11th St Sidewalks	From River St to Wynooski St	City	\$59,400	Likely
P13*	College St Sidewalks	From 9th St to 14th St	City	\$171,450	Likely
P15*	Meridian St Sidewalks	From Hancock Street to 2nd Street	City	\$45,900	Likely
P23*	Meridian St Sidewalks	From Crestview Dr to Fulton St	City	\$133,650	Likely
P33*	Crestview Dr Sidewalks	From Emery St to Springbrook St	Developer	\$2,483,100	Likely
P34*	Emery St Sidewalks	From Crestview Drive to Douglas Ave	City	\$1,724,300	Aspirational
P35	Douglas Ave Sidewalks	From Emery St to Springbrook Way	City	\$1,843,200	Aspirational
P36	Springbrook Rd Sidewalks	100 ft section between Douglas Ave and Cedar St, beginning at Douglas Ave to 100 ft S of Douglas Ave	City	\$104,800	Likely
P38*	Springbrook Rd Sidewalks	From Crestview Drive to Ore 99W	Developer	\$112,050	Likely
P42*	Hayes St Sidewalks	From Springbrook Rd to Burl St	Developer	\$166,050	Likely
P44*	S Elliott Rd Sidewalk Infill	From OR 99W to 2nd St	City	\$295,000	Likely
P48*	OR 99W Sidewalk Infill	From Brustcher Street to Vittoria Way	ODOT	\$86,400	Likely
Total (All Sidewalk Projects)				\$7,603,030	
Total (Likely Sidewalk Projects)				\$4,035,530	
Total (Aspirational Sidewalk Projects)				\$3,567,500	

Note: * indicates project that would add capacity to the transportation system

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Biking Projects					
B02*	Main St Bike Lanes - with S12, E03, S08	From 5th St to Mountainview Dr.	City	\$3,760,000	Aspirational
B05*	9th St Bike Boulevard	From Blaine St to River St	City	\$102,600	Likely
B12	Jaquith Park Path	New pedestrian/bicycle pathway adjacent to Jaquith Park between Main St and College St	CPRD	\$135,000	Aspirational
B19*	11th St Bike Boulevard	East of River St	City	\$103,950	Likely
B20	Hess Creek Path	New pedestrian/bicycle pathway along Hess Creek can serve recreational and school bicyclists and pedestrians.	CPRD	\$580,500	Aspirational
B22	New Willamette River Pedestrian-Bicycle Bridge	Extended from Rogers Landing Drive across to Champoeg Park. This new connection would link the Newberg bicycle-pedestrian system with that of Champoeg Park and Marion County	CPRD	\$1,215,000	Likely
B25*	Springbrook Road Bike Lanes - Partially with E16	South of OR 99W on west side and north of OR 99W between Haworth and Middlebrook	City	\$60,000	Likely
B27	Hancock St Bike Lanes	West of Springbrook	City	\$32,400	Likely
B29*	Vittoria Way Bike Lanes	From Springbrook to OR 99W	City	\$145,800	Aspirational
B30*	Aspen Way Bike Lanes	From Mountainview Dr to Springbrook	City	\$130,950	Likely
B31	Benjamin Rd Bike Lanes	From the railroad to UGB	City	\$37,800	Aspirational
B100	Path Improvement	Improve existing path from Hancock to Fulton	CPRD	\$183,750	Aspirational
B101	Trail	Add connection from Ewing Young Park to 14 th St	CPRD	\$160,550	Aspirational
Total (All Biking Projects)				\$6,648,300	
Total (Likely Biking Projects)				\$1,644,900	
Total (Aspirational Biking Projects)				\$5,003,400	

Note: * indicates project that would add capacity to the transportation system

Table 6: Transportation Improvement Projects (continued)

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Trail Projects*					
CH01	Central Newberg Trail Segment	Bicycle boulevard connections to the Chehalem Cultural Center, Newberg Library, Newberg City Hall, city center shops, George Fox University, local parks, and other places. Includes Sheridan, Howard, and Meridian Street. This portion of the project includes signage and pavement markings.	City	\$50,000	Aspirational
CH03	Dayton Ave	Combination of bicycle boulevards, bike lanes/bike shoulders, and multi-use paths to connect Memorial Park in Newberg to Billick Park in Dundee.	CPRD	\$80,900	Aspirational
CH05	Hess Creek Path	Off-street multi-use trail along Hess Creek	CPRD	\$9,941,100	Aspirational
CH06	Chehalem Glenn	Multi-use path that connects the Willamette riverfront with Ewing Young Park	CPRD	\$157,100	Aspirational
CH07	Bypass and river trail system	Coordinate with CPRD, ODOT, and other stakeholders to identify and implement trail connections to and along the river and adjacent to the Newberg-Dundee bypass alignment.	CPRD	\$250,000	Aspirational

Total (All Trail Projects) \$10,479,100

Total (Likely Trail Projects) \$0

Total (Aspirational Trail Projects) \$10,479,100

Note: * trail project locations are approximate and may be refined through coordination with CPRD as opportunities for implementation develop.

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Transit Projects					
T01	Bus Stop Improvements	Amenities and improved pedestrian crossings at bus stops along 99W	City	\$70,000	Likely
T02	Route 5 and 7 Expansion	Expand routes 5 and 7 to new urban growth areas	YCTA	\$15,000	Likely
T03	Rider Information	Enhance information available to riders, including placement of route information and stop location descriptions. Information	YCTA	\$20,000	Likely

Table 6: Transportation Improvement Projects (continued)

		may include a combination of posted material at stops and brochures for riders.			
T05	Transit Amenities [Placeholder Project]	Placeholder project to update/install various transit amenities (signs, benches, shelters, etc.)	City	\$100,000	Likely

Total (All Transit Projects) \$205,000

Total (Likely Transit Projects) \$205,000

Total (Aspirational Transit Projects) \$0

While additional phases of the bypass are not reasonably likely to be funded by 2035, remaining improvements are identified here to provide consistency for future planning efforts. Future improvement to the transportation system should not preclude these improvements in order to accommodate the full Newberg-Dundee bypass when funding is available. ODOT has set aside funds through the STIP to begin right of way acquisition in order to protect the future bypass alignment.

Project #	Project Name	Project Description	Project Lead	Total Cost (2016)	Funding
Bypass Expansion Projects					
BY1	Wilsonville Rd Reroute	Wilsonville Road is to be rerouted to connect to OR 219. Create cul-de-sac section of Wilsonville Road between new extension and Springbrook Road			Funded (Phase 1)
BY2	Springbrook/Fernwood Traffic Signal	New traffic signal at Springbrook Rd and Fernwood Rd			Funded (Phase 1)
BY3	Benjamin Closure	Concurrent with the construction of the interchange at OR 99W and the bypass as part of Phase 2, Benjamin Road will be closed at OR99W and reconnected to a new road that will go under the bypass and connect Crestview to Corral Creek Road (reconnection outside of UGB).		See EIS	Aspirational
BY4	Fernwood Road Crossing	As part of Phase 2, Fernwood Road to be reconnected over the Bypass.		See EIS	Aspirational
BY5	Wynooski Realignment	When the bypass interchange at OR 219 is constructed as part of Phase 2, Wynooski Road will be closed at its current location and rerouted south to create a 4-way intersection with realigned Wilsonville Road (BY17).		See EIS	Aspirational
BY6	Phase 1 Bypass Crossings	Phase 1 crossing locations include Blaine Street, College Street, River Street, Wynooski Street, at milepoint 59.26			Funded (Phase 1)

Table 6: Transportation Improvement Projects (continued)

BY7	RIRO at OR219/2nd	RIRO at OR 219/2nd to limit through traffic, improve intersection safety			Funded (Phase 1)
BY8	Newberg-Dundee Bypass Bike Path	New bicycle facility to be developed in conjunction with the Newberg Dundee Bypass. As part of ND Phase 1G-Springbrook Rd, some areas will have a multi-use path as part of a trail system that CPRD, City of Newberg, City of Dundee and Yamhill County are developing (CH07). ODOT has agreed to allow part of the trail to be constructed within ODOT (Bypass) right of way with the agreement when additional funding is secured to build the other half of the Bypass, the trail will need to move. In the Phase D and E construction contracts, the grading work for the trail has been included.			Partially Funded (Phase 1)
FBY9	OR99W/Springbrook Rd	Construct second westbound left turn lane and second southbound receiving lane on Springbrook Road extending 300 feet from Oregon 99W			Funded (Phase 1)
BY14	14th St Realignment	Preserve access to properties on 14th Street when bypass is built			Funded (Phase 1)
BY18	College St Realignment	Realign College St to create a 3-way intersection with realigned 14 th St (BY14)			Phase 1 (Funded)
BY19	Frontage Road	Construct frontage road north of the Bypass from College Street to about ½ mile west with a cul-de-sac.			Phase 1 (Funded)
BY20	Waterfront Rd Extension	Extend Waterfront Rd about 450 feet west with a cul-de-sac.			Phase 1 (Funded)
BY21	Phase 2 Bypass Crossings	Phase 2 crossing locations include Springbrook Creek		See EIS	Aspirational
BY22	Bypass/Highway 219 Traffic Signal	New Traffic Signal at Bypass and Highway 219			Phase 1 (Funded)
BY23	OR219 Widening	Widen OR219 between Wilsonville Rd and Springbrook Rd to include a 7-lane cross section, bike lane, median and shoulder			Phase 1 (Funded)
BY24	OR 219 Widening	Widen OR219 between Springbrook Rd and 2 nd St to include a 6-lane cross section, bike lane, median and shoulder			Phase 1 (Funded)
BY25	Springbrook Rd Widening	Widen Springbrook Rd between Wilsonville Rd to OR 99W to include a 3-lane cross section, bike lanes, planter strips and sidewalks on both sides.			Phase 1 (Funded)

Table 6: Transportation Improvement Projects (continued)

BY26	Extend Bypass from OR 219 to OR 99W	Obtain right of way (only currently partially funded through STIP) and construct extension of east end of bypass from Phase 1 terminus at OR 219 and extend northeast to OR 99W. The extension will include a new interchange at OR 219 and at OR 99W.			Aspirational (\$10.5M funded for partial ROW)
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Total (All Bypass Projects)	\$0
Total (Likely Bypass Projects)	\$0
Total (Aspirational Bypass Projects)	\$0

GRAND TOTAL (All Projects)	\$115,073,730
GRAND TOTAL (Likely Projects)	\$54,548,730
GRAND TOTAL (Aspirational Projects)	\$60,525,000

Mapping the Projects

The proposed transportation solutions are mapped in Figure 24 through Figure 30. The project numbers are denoted as follows:

- Expansion (E)
- Standards (S)
- Intersection (I)
- Sidewalk (P)
- Biking (B)
- Bypass (BYP)

Figure 30 shows the initial (Phase 1) and additional, unfunded components of the bypass. The remaining maps generally depict the Phase 1 bypass improvements concept only since the remainder of the Bypass is not reasonably likely to be funded during the 20-year planning horizon.

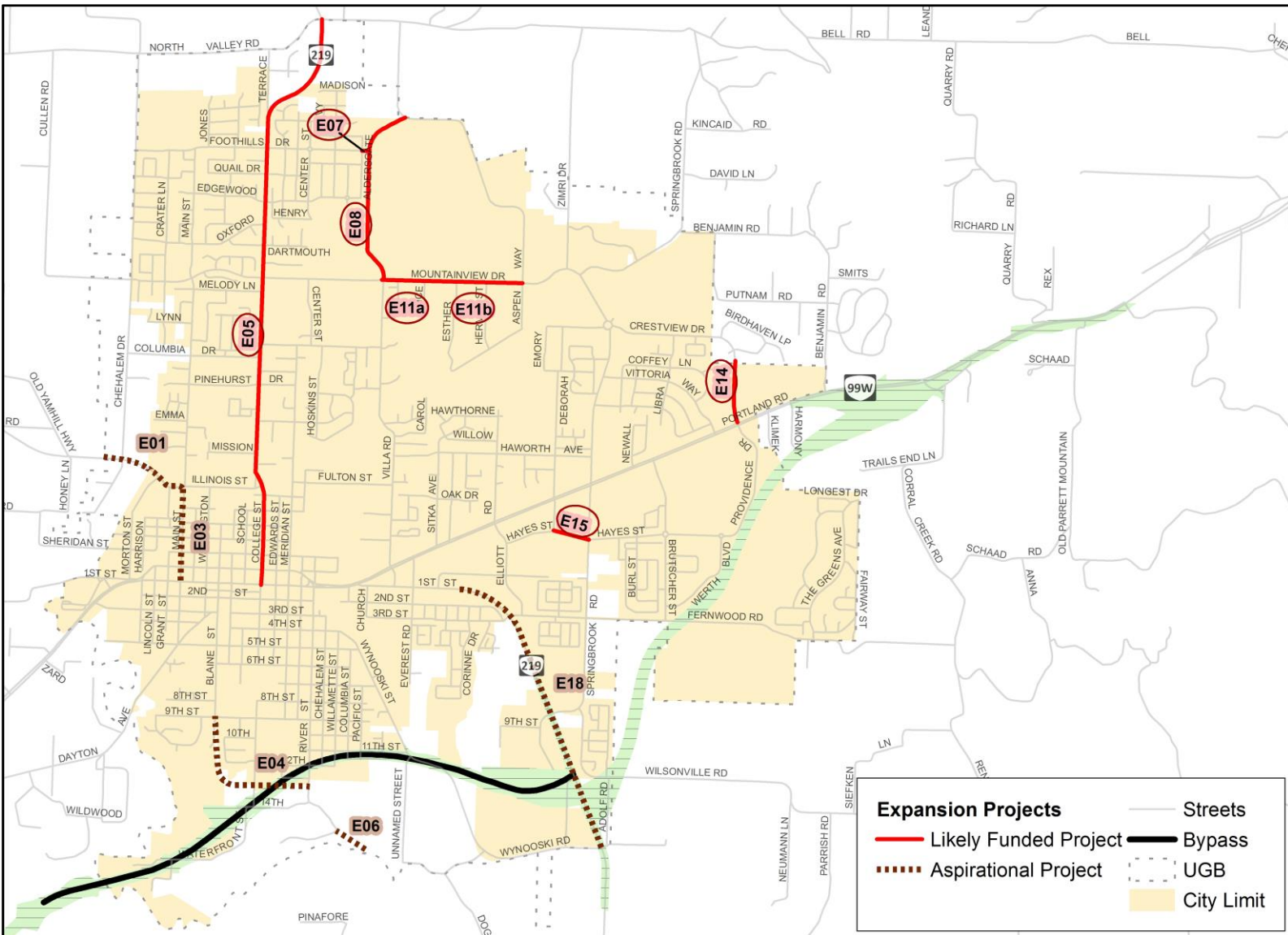


Figure 24: Roadway Expansion Projects

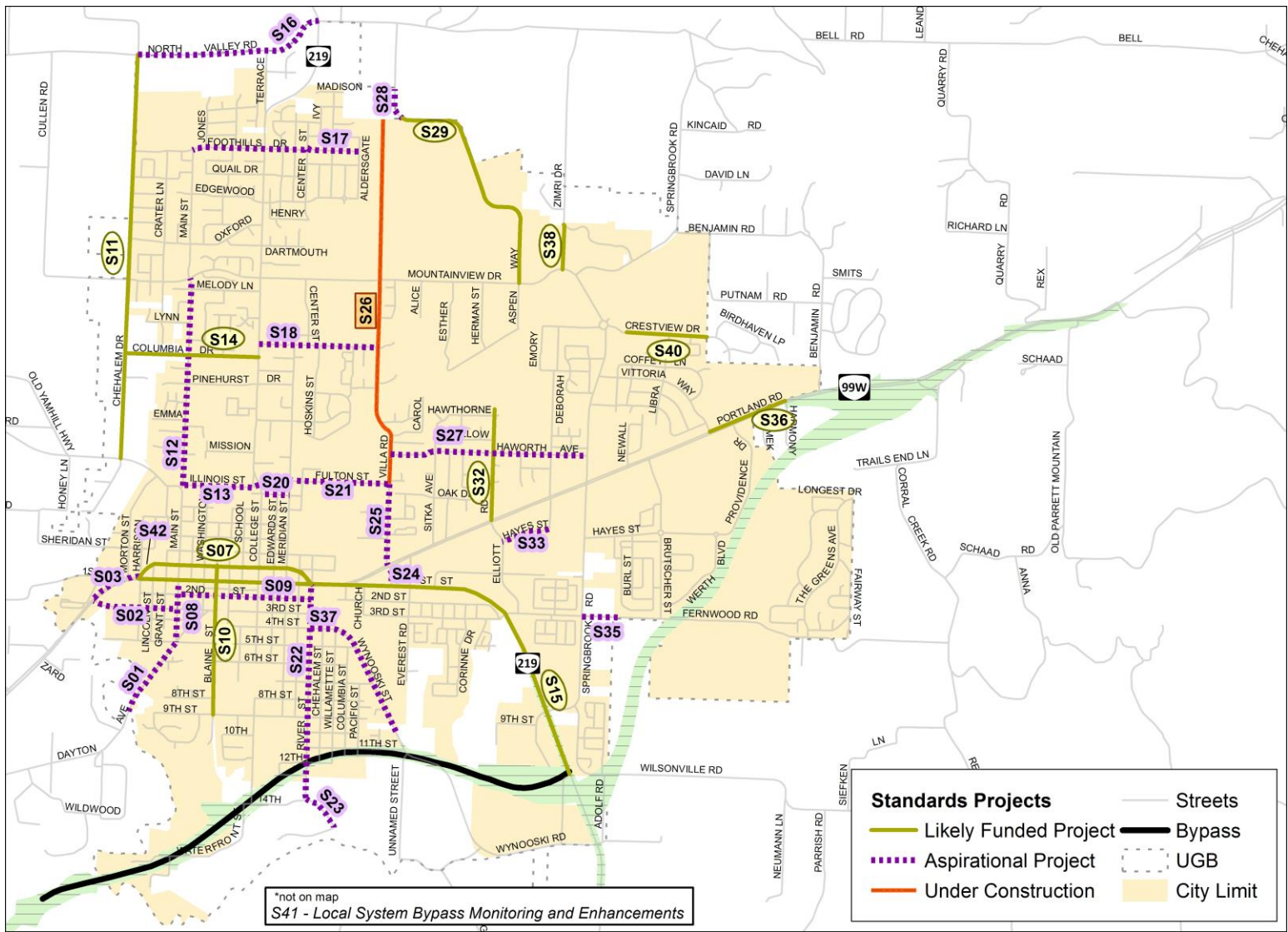


Figure 25: Roadway Standards Projects

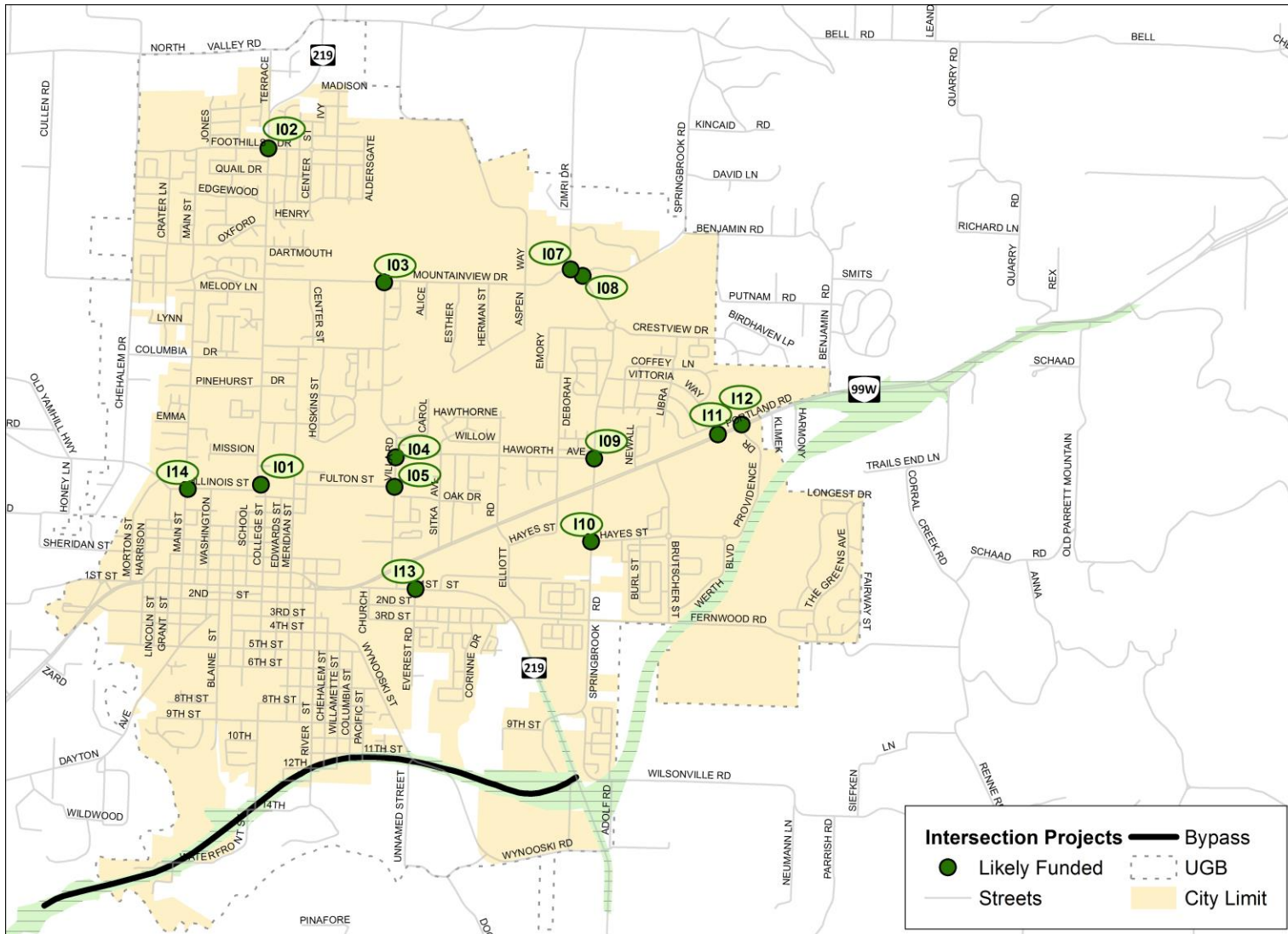


Figure 26: Intersection Projects

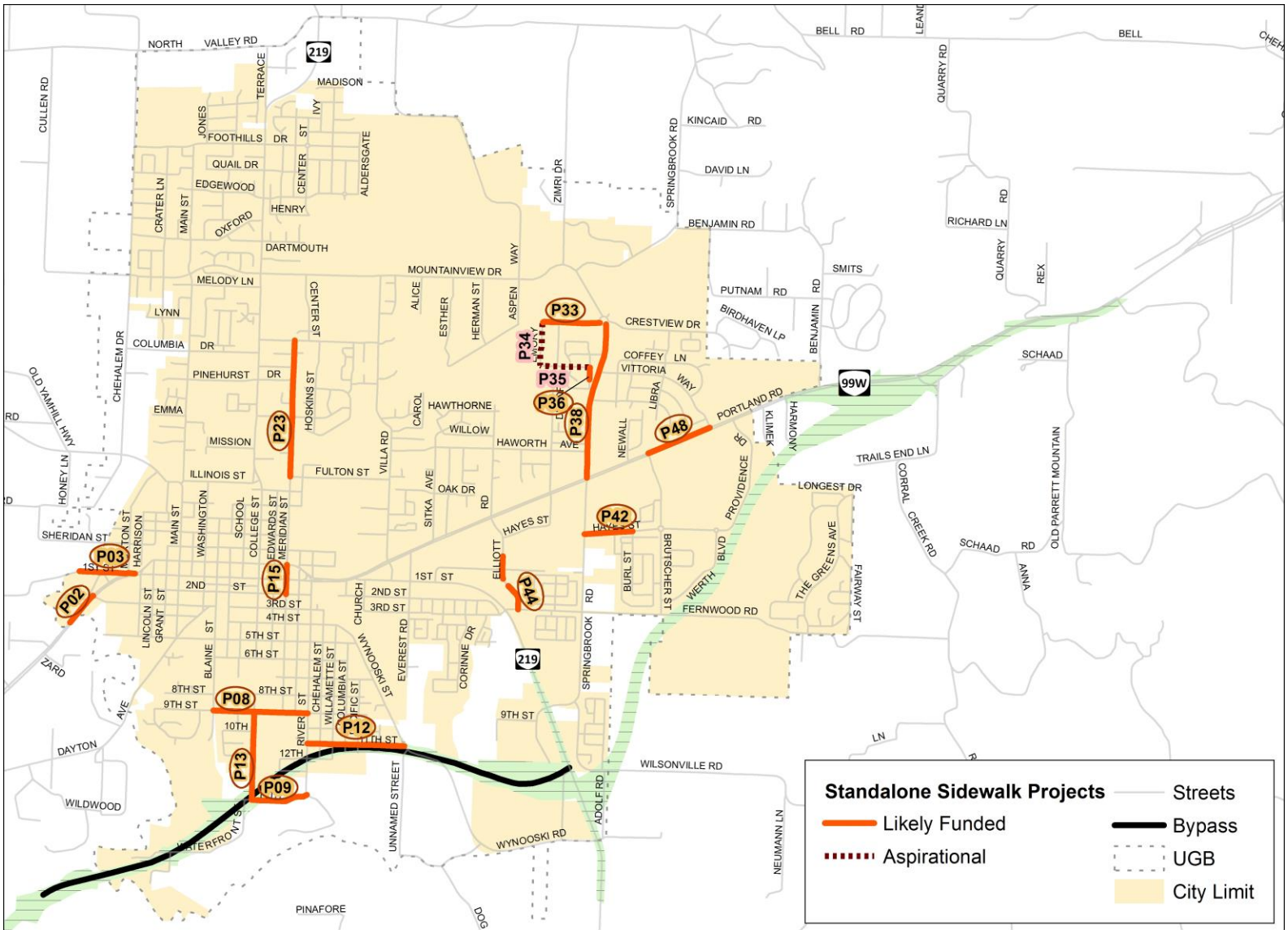


Figure 27: Walking Projects

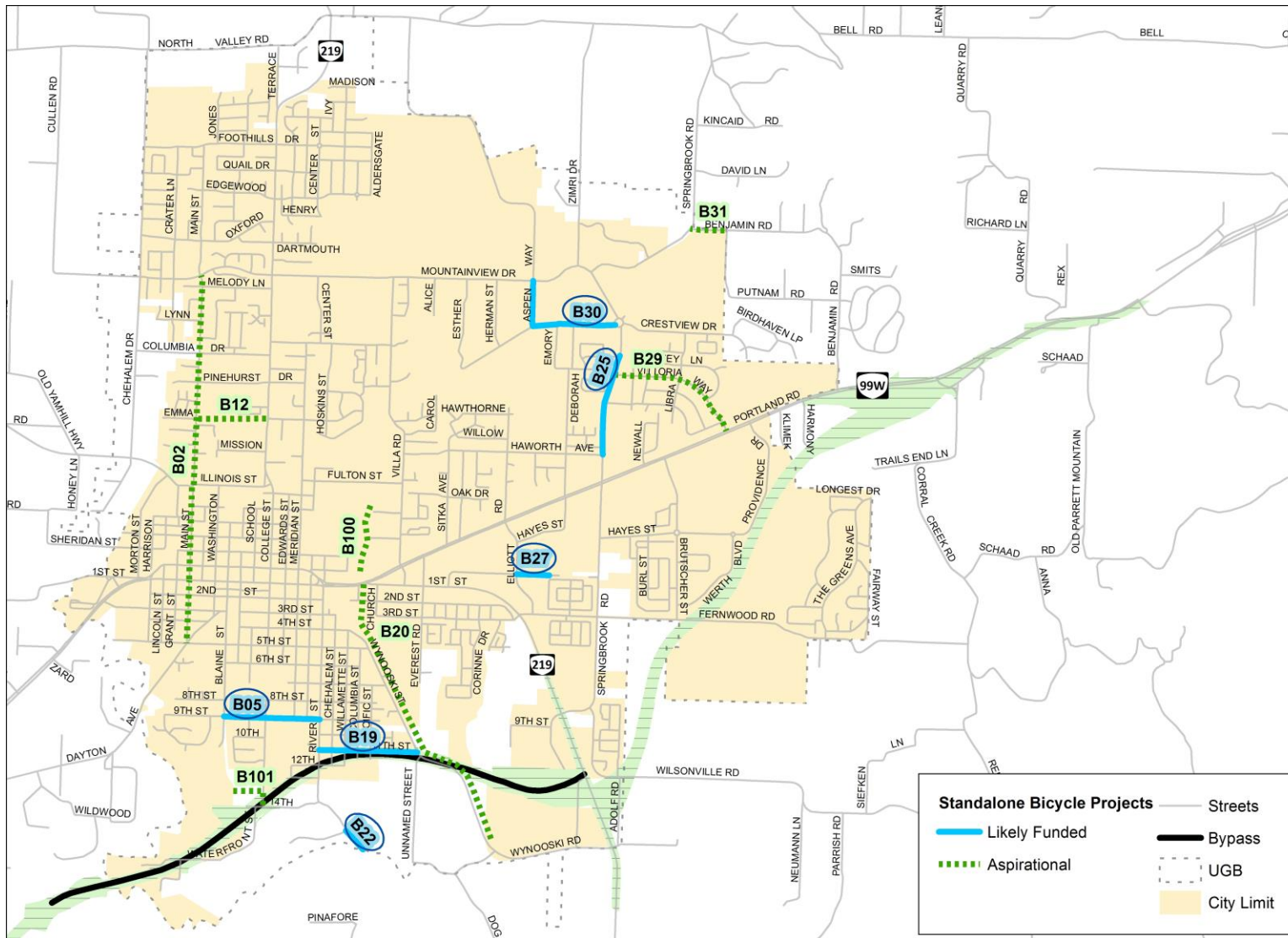


Figure 28: Biking Projects

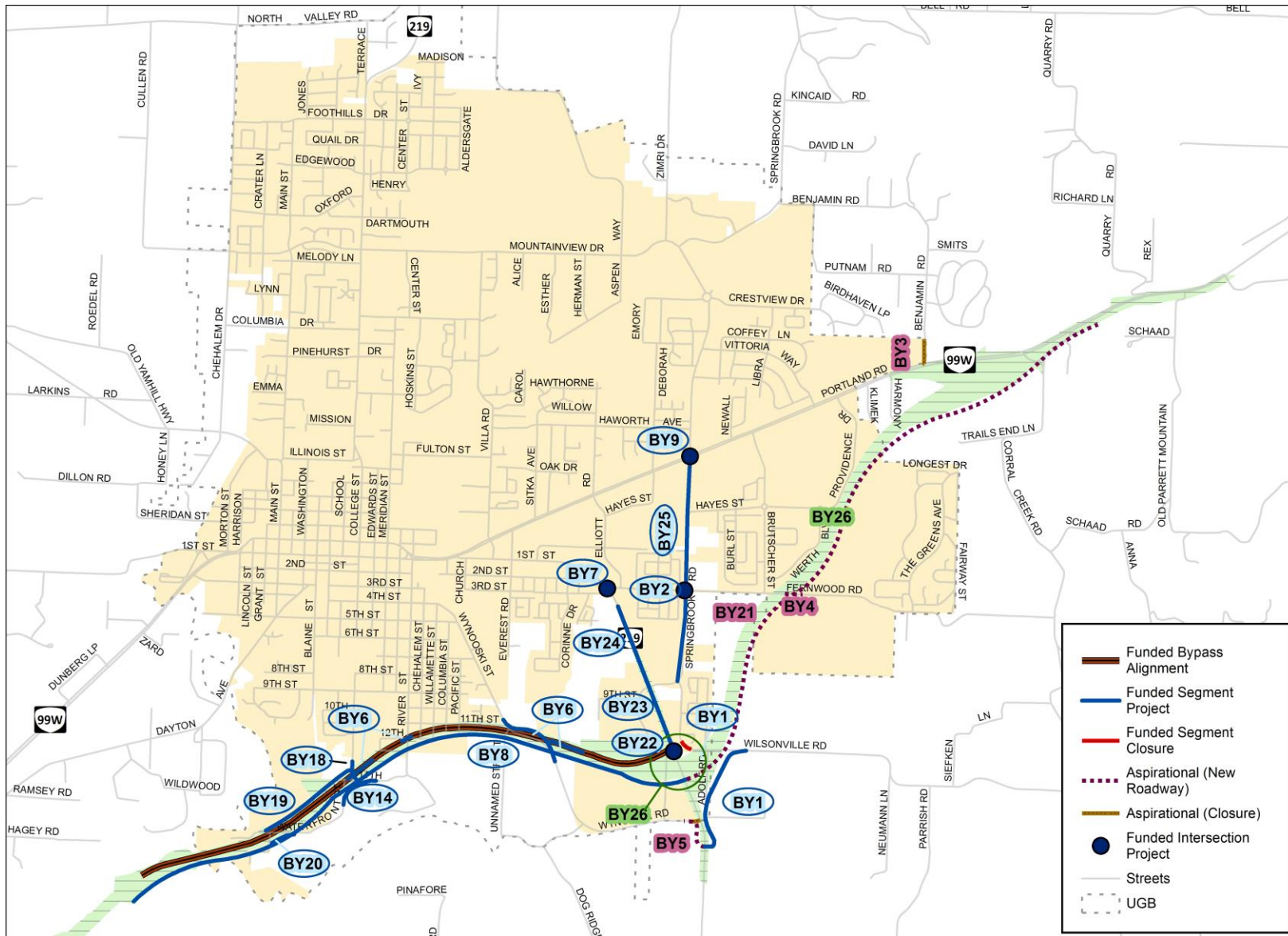


Figure 29: Bypass Projects

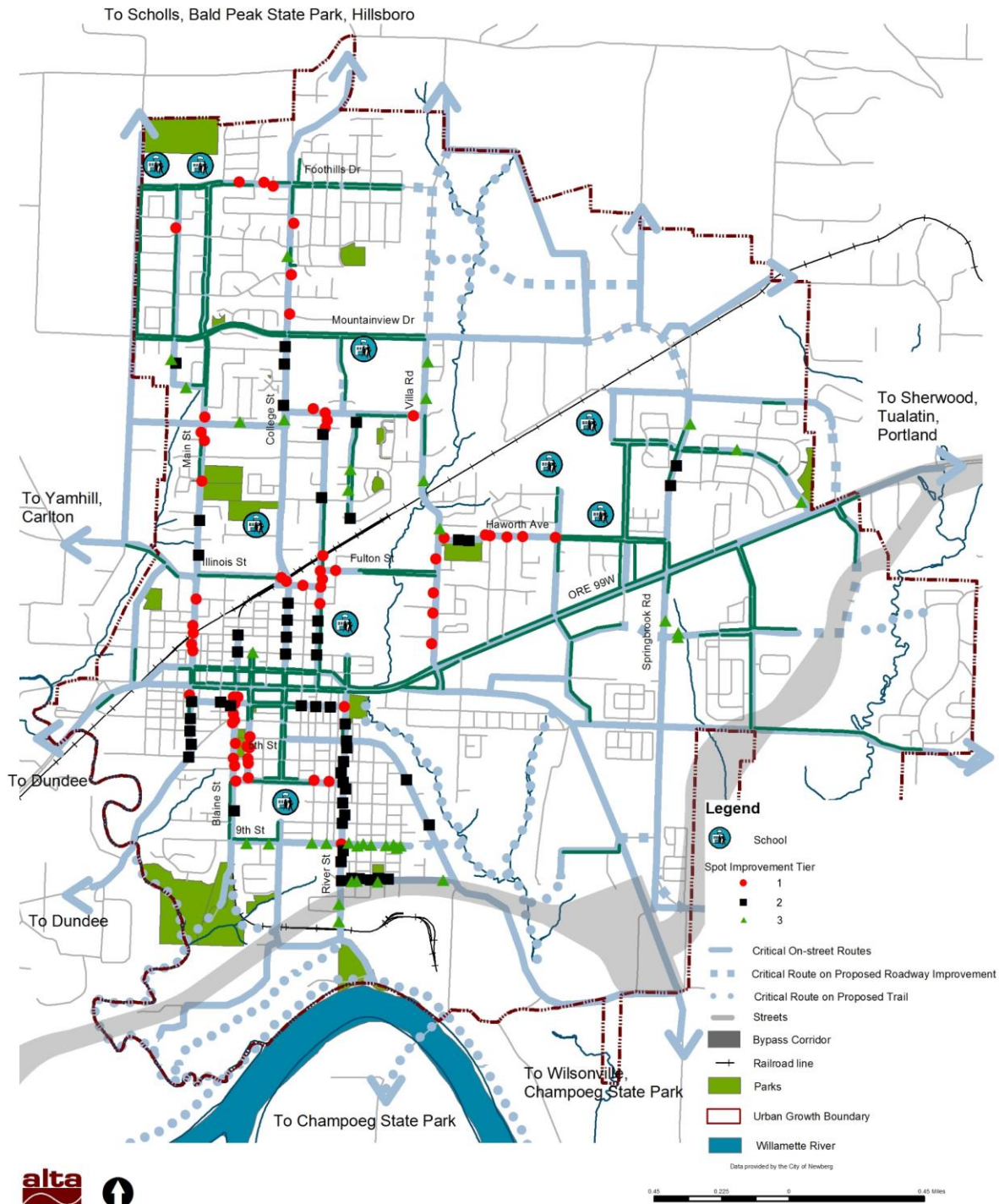


Figure 30: Identified Spot Improvements (Map III-2 of Newberg ADA/Ped/Bike Route Plan)²⁹

The Outcome

This section summarizes the trends and condition of the transportation system in 2035 and future items for consideration.

The 2035 Transportation System

The following general trends are expected in Newberg with the planned transportation projects and strategies included in the TSP:

- **Increased travel options** – Filling gaps in the pedestrian and bicycle system (including connections to transit routes) and expanding the trail system will provide alternatives to driving a motor vehicle.
- **Downtown opportunities** – In the near term, the completion of Phase 1 of the bypass will present an opportunity to reclaim a travel lane along the downtown couplet to use for pedestrian and bicycle improvements, additional street seating, or other amenities. This can make the area more comfortable and attractive, while improving the livability of Newberg.
- **Improved connectivity** – Future street extensions will reduce out of direction travel and provide relief to congested parallel routes.
- **Local system mobility maintained** – The planned roadway improvements will maintain mobility to address growth in most areas of the City. The eastern portion of OR 99W will face additional congestion without further Bypass improvements beyond Phase 1. The city will monitor the local street system to address unintended congestion on the City's system related to cut-through traffic using the Bypass.

The Planning Horizon and Beyond

In addition to the investment decisions in this TSP, further issues will need to be explored through 2035 and beyond.

Future Uncertainty of Bypass and Development

The uncertainty of future land use and Bypass changes beyond the planning horizon of 2035 could significantly affect traffic conditions. In order to provide flexibility for the future, it is important to not preclude future improvements that may be needed to address other future scenarios. Preserving future right of way for the Bypass will improve construction opportunities in the event that funding becomes available. In order to protect the identified corridor, the City and ODOT will work together to conduct strategic purchases as funding allows and will continue to negotiate with prospective developers and seek ways to minimize the impacts of future development on the identified corridor if protective purchase is not possible. Maintaining mobility along collectors and arterials will be important in order to support future growth opportunities.

Geologic Hazards

All proposed new streets or street extensions included in the TSP are shown with conceptual alignments. These alignments represent a planning level illustration of the street connectivity enhancements that are needed in these areas. Before construction of any of the projects can begin, more detailed surveys will need to be undertaken to identify hydrologic, topographic, or other geologic constraints that could hinder the alignment of the planned streets. Final street alignments will be identified after these surveys have been completed.

Policy Considerations

Newberg's future policy decisions will shape the implementation of the TSP and the future transportation system. The following items may be considered as along with the TSP update or through future actions to update relevant transportation policies:

- Downtown Visioning – The Newberg Downtown Improvement Plan is a planning process that started in 2015 and will further explore potential options for improving livability in the downtown area. There may be an opportunity to temporarily close or restrict lanes on OR 99W in order to repurpose the existing right of way (such as making room for long-term temporary pedestrian and bicycle improvements). As part of the TSP process, the City Council has already approved a motion supporting the removal of a lane in each direction along the couplet. While additional coordination, outreach and refinements are needed before ODOT could approve such a change, there may be related policies that need to be considered as this process evolves.
- Local Transportation Fund Opportunities – Several potential funding mechanisms exist that the City could further explore.
 - Street Utility Fee - The City is exploring funding opportunities for improving the condition of local streets. A street fee could be considered to address shortfalls in street maintenance or supplement other transportation programs and needs.
 - Local SDC – The City's SDC program currently collects funds from new development. The program is being updated to address current projected transportation growth needs identified in the TSP to ensure that sufficient funds are available for the identified projects. Along with the rate update, the methodology should be updated.
 - Other Local Funds – In addition to a street fee and SDC, other funds could be considered, such as a local gas tax.

Addendum Riverfront Master Plan 2021

Addendum Riverfront Master Plan 2021

The Riverfront Master Plan was adopted by the Newberg City Council on September 16, 2019. This Transportation System Plan (TSP) Addendum builds on the Riverfront Master Plan on transportation related infrastructure. The Riverfront Master Plan reflects a mixed-use scenario that would increase the number of anticipated homes and jobs beyond that considered in the adopted TSP. Key to creating a vibrant mixed-use neighborhood is the provision of “safe, comfortable, and convenient travel throughout the area and into Downtown.”

The recommended changes to the TSP are those identified to serve the Riverfront Master Plan Area, which is generally bound by E Ninth Street to the north, Wynooski Street/Road to the east and the Willamette River to the south.

Table 1 summarizes the recommended changes to the “Aspirational” list of projects in the adopted TSP. For those projects that are identified as “Aspirational” within the adopted TSP, the table identifies the TSP project number and indicates the recommended course of action as part of the TSP update. Further detail on the recommended projects to serve people walking, cycling, driving and taking transit associated with the Riverfront Master Plan area are outlined in the Technical Memorandum in Volume 2. Figures 25 – 27 of the adopted TSP have been updated to reflect the projects shown in Table 1. Roadway cross-sections are also included for S River Street. Figure 6 Local Freight Route Map has also been updated.

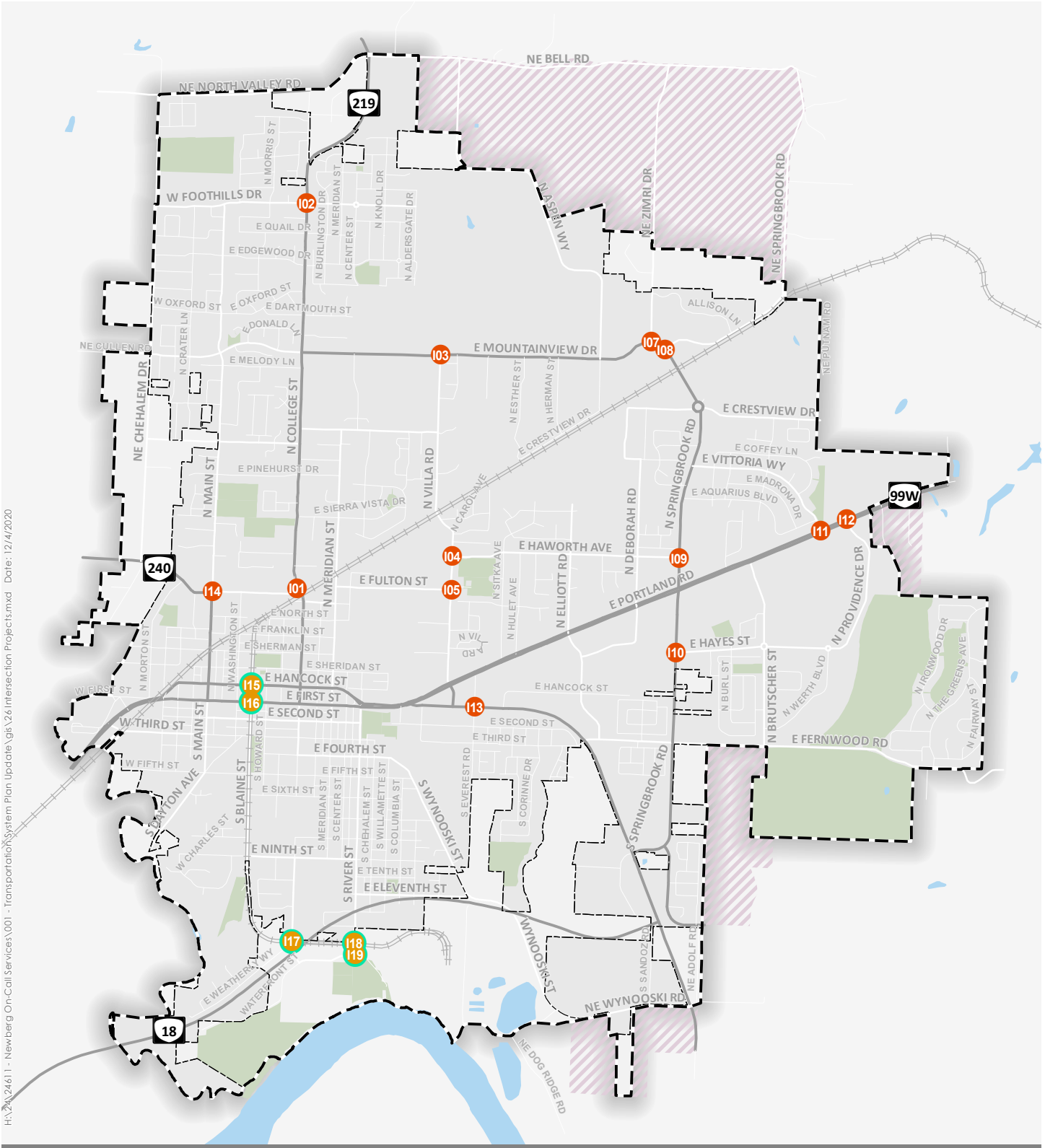
Table 1. Recommended Riverfront Master Plan Transportation Projects for Inclusion into the TSP*

Description	TSP Project #	Recommended TSP Update Action	Estimated Project Cost**
S College St Improvements (E Ninth St to E Fourteenth St) – Minor Collector with parking on both sides	S43	Add to Aspirational Project List	\$2,448,000
S River St Improvements (Bypass to Rogers Landing Rd) – to include two travel lanes, two on-street parking lanes, a sidewalk on the west side, and a shared-use path on the east side	S44	Add to Aspirational Project List	\$2,239,000
Wynooski Road Improvements (Bypass to S Sandoz Road) – Major Collector with sidewalks and bicycle lanes	S45	Add to Aspirational Project List	\$3,875,000
N Blaine/E Hancock Signal	I15	Add to Aspirational Project List	\$900,000
N Blaine/E First Signal	I16	Add to Aspirational Project List	\$900,000
S College St Rail Crossing Improvements	I17	Add to Aspirational Project List	\$450,000
S River St Rail Crossing Improvements	I18	Add to Aspirational Project List	\$415,000
Construction of the Esplanade walking path	P49	Add to Aspirational Project List	\$546,000 ¹
Intersection Control Evaluation at E Fourteenth/Rogers Landing Road/Bluff Street	I19	Conduct study as development occurs; cost of intersection study anticipated to be a joint effort between City and developer	\$40,000
Trolley Feasibility Study	T1	Add a feasibility study to TSP as a joint effort with the potential Urban Renewal District, the Historic Preservation Commission and a non-profit organization interested in operating the trolley	\$90,000 for Feasibility Study

*Note: the street projects only reflect those along collector and arterial streets; like the adopted TSP and consistent with State Planning guidance, local streets are not included.

**The projects in this table will be further evaluated after the City adopts an Urban Renewal Plan.

1. The cost estimate reflects a 10 to 12-foot shared-use path for approximately one-mile.



- Likely Funded
- Aspirational
- New Project
- City Boundary
- Urban Growth Boundary
- Urban Reserve Areas

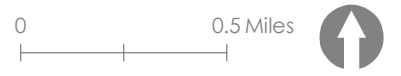
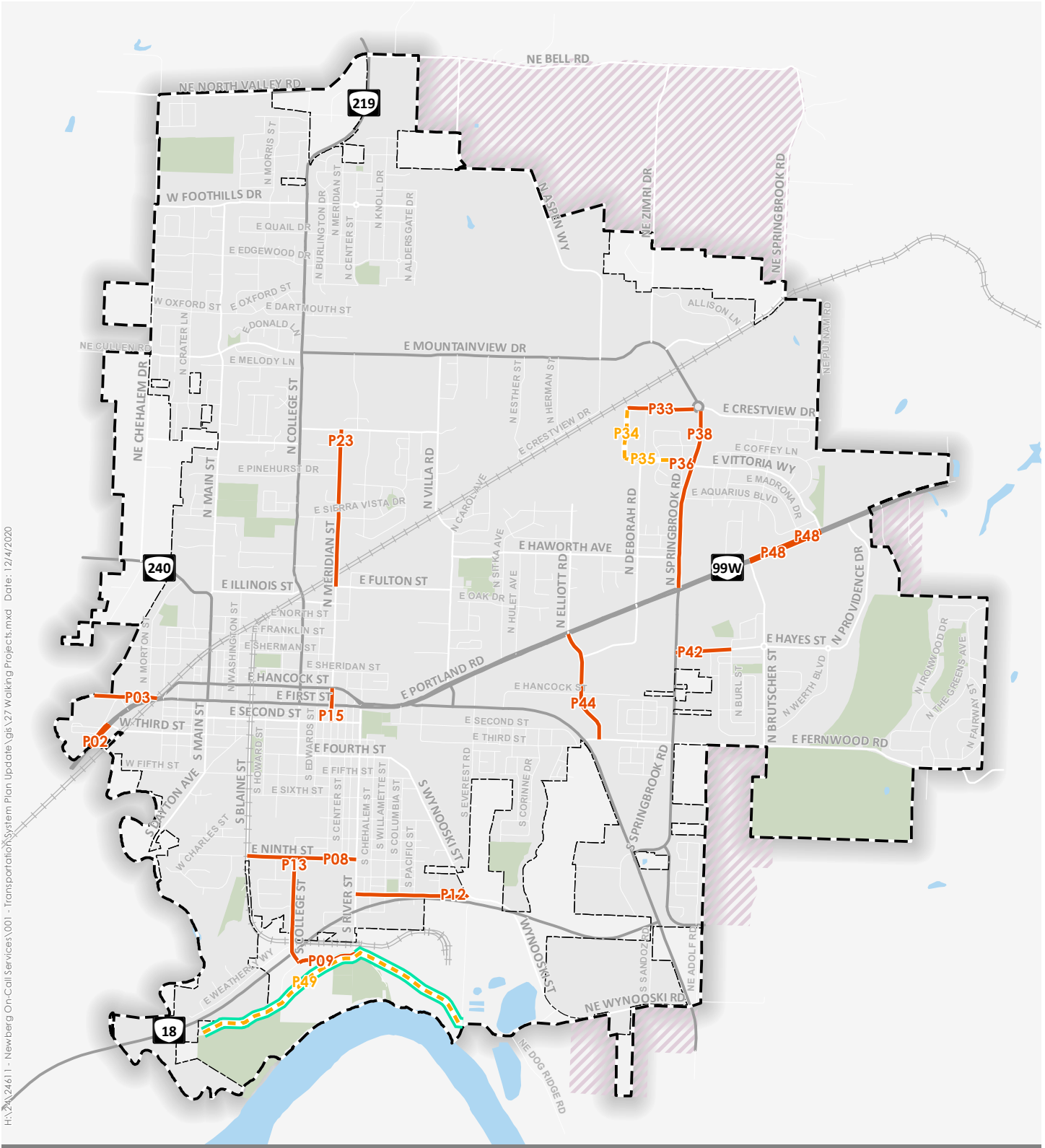


Figure 26

Intersection Projects City of Newberg, Oregon

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- Likely Funded
- - - Aspirational
- New Project
- City Boundary
- Urban Growth Boundary
- Urban Reserve Areas

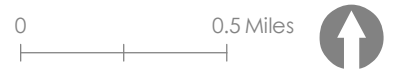
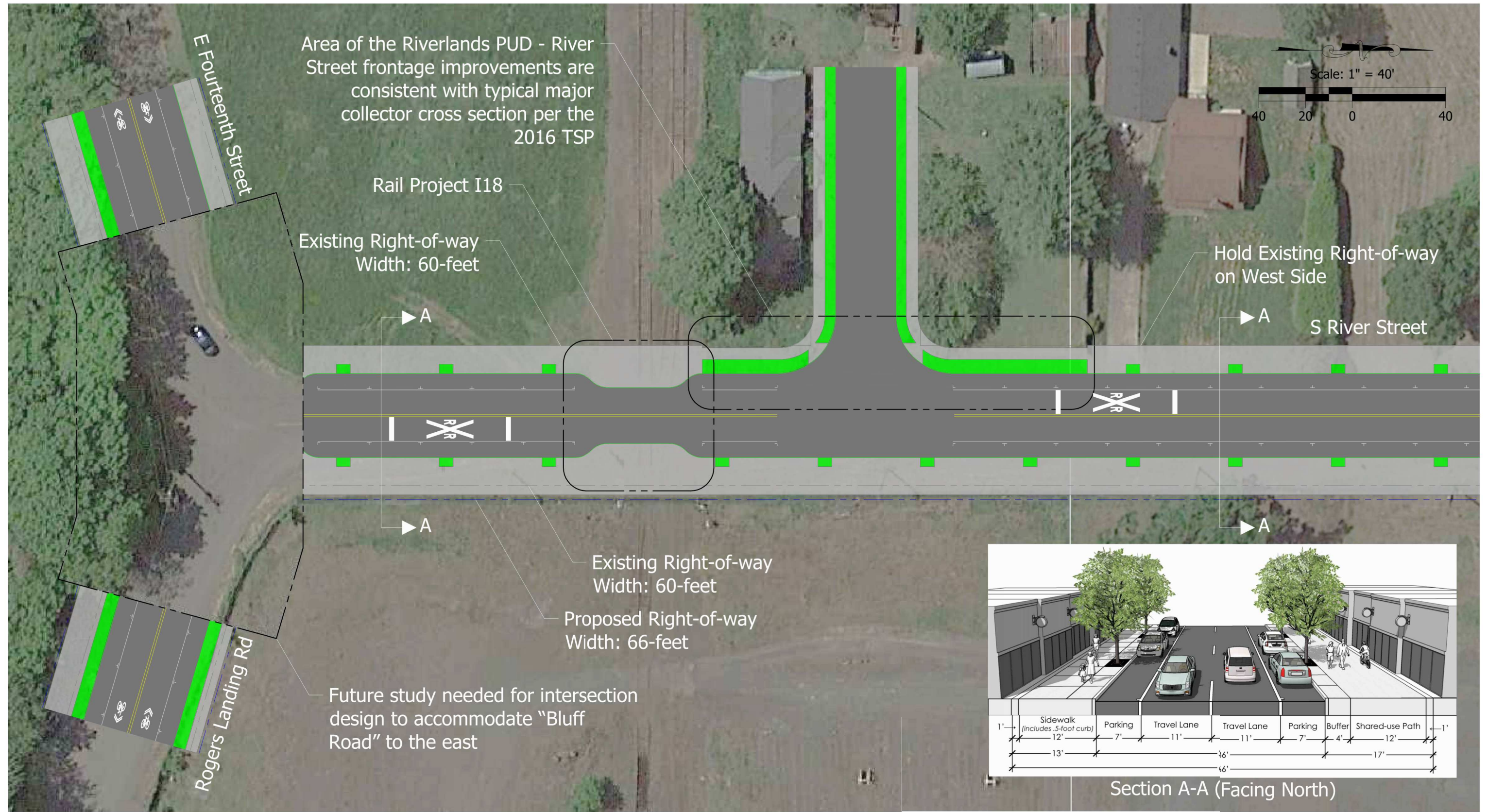
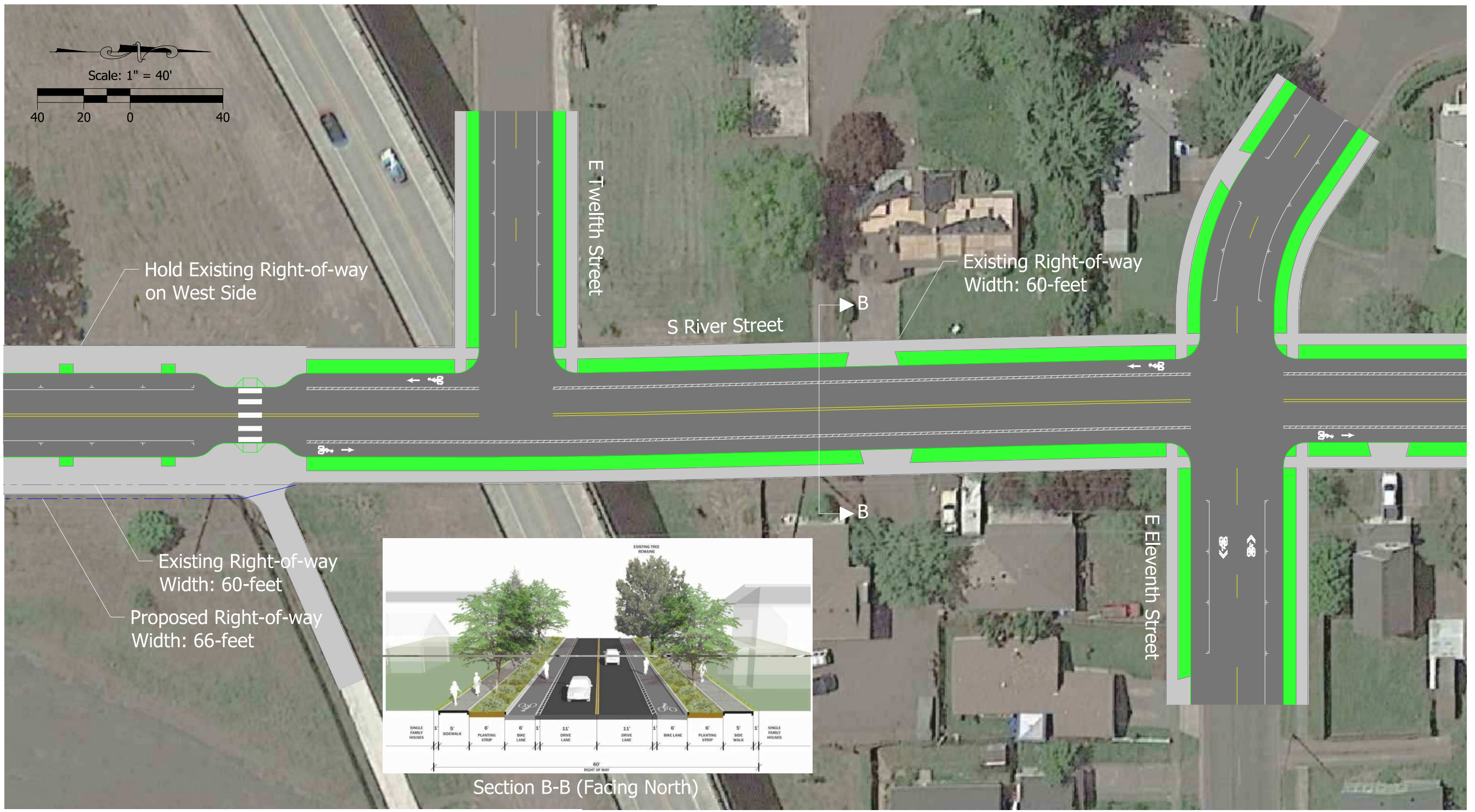


Figure 27

Walking Projects City of Newberg, Oregon



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Newberg Transportation System Plan | Adopted 12/19/16
Addendum Riverfront Master Plan | Adopted 3/1/21

River Street Concept
City of Newberg, Oregon

Exhibit
3