

# 2015 Lincoln City Transportation System Plan: Volume I



November 2015

# **Lincoln City**

## **Transportation System Plan**

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**Prepared for:**

City of Lincoln City

Oregon Department of Transportation

**Prepared by:**

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# Volume I Contents

<b>The Context.....</b>	<b>1</b>
The Challenge .....	1
The Transportation System Plan .....	3
<b>The Process.....</b>	<b>4</b>
The Public Review Process.....	5
<b>The Vision .....</b>	<b>6</b>
Transportation Vision Statement .....	6
TSP Goals.....	7
<b>The Trends.....</b>	<b>11</b>
Lincoln City in 2035 .....	11
<b>The Investments.....</b>	<b>17</b>
Developing the TSP Investments .....	17
Constrained and Aspirational Projects.....	18
Funding Gap.....	21
<b>The Plan .....</b>	<b>24</b>
Prioritizing Investments .....	24
The Financially Constrained Plan .....	25
The Aspirational Plan.....	26
Financially Constrained and Aspirational Projects.....	26
<b>The Standards.....</b>	<b>43</b>
Multi-Modal Street System .....	43
Shared-Use Paths .....	53
Shared Streets .....	53
Access Spacing Standards .....	55
Traffic Calming.....	56
Mobility Targets.....	57
Street Crossings .....	60
<b>The Outcome .....</b>	<b>61</b>
The Improved Transportation System.....	61
To the Planning Horizon and Beyond.....	62

# Volume 2 Contents

The contents of Volume 2 represent an iterative process in the development of the TSP. 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.

<b>Glossary .....</b>	<b>Section A</b>
<b>Memo 1: Transportation Master Plan Review .....</b>	<b>Section B</b>
<b>Memo 2: Background Document Review .....</b>	<b>Section C</b>
<b>Memo 3: Population and Employment Forecasts.....</b>	<b>Section D</b>
<b>Memo 4: Population and Employment Forecast Allocations.....</b>	<b>Section E</b>
<b>Memo 5: Vision, Goals, and Objectives.....</b>	<b>Section F</b>
<b>Memo 6: Existing Transportation Conditions .....</b>	<b>Section G</b>
<b>Memo 7: Traffic Growth Assumptions.....</b>	<b>Section H</b>
<b>Memo 8: Future Transportation Conditions.....</b>	<b>Section I</b>
<b>Memo 9: Alternatives Evaluation Criteria.....</b>	<b>Section J</b>
<b>Memo: Preliminary Alternatives Development.....</b>	<b>Section K</b>
<b>Memo: Finance Program .....</b>	<b>Section L</b>
<b>Memo 10: Transportation System Solutions.....</b>	<b>Section M</b>
<b>Memo: Alternative Mobility Targets.....</b>	<b>Section N</b>
<b>Memo 11: Implementing Ordinance and Policy Amendments.....</b>	<b>Section O</b>
<b>Traffic Calming Toolbox.....</b>	<b>Section P</b>
<b>US 101 Crossing Project Details.....</b>	<b>Section Q</b>
<b>Public Involvement Summary.....</b>	<b>Section R</b>
<b>Traffic Counts .....</b>	<b>Section S</b>

# Figures and Tables

## The Context

Figure 1: Lincoln City Vicinity.....	1
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## The Process

Figure 2: The TSP Process.....	4
Figure 3: Public Review Process.....	5

## The Vision

## The Trends

Figure 4: Household Growth.....	12
Figure 5: Employment Growth.....	13
Figure 6a: 2035 Motor Vehicle Operating Conditions (P.M. Peak) - Summer.....	15
Figure 6b: 2035 Motor Vehicle Operating Conditions (P.M. Peak) – Average Weekday.....	16

## The Investments

Figure 7: Transportation Solutions Identification Process.....	17
Figure 8: Reflecting the Vision in the Plan.....	18

## The Plan

Table 1: Financially Constrained and Aspirational Project List.....	27
Figure 9: Planned Driving Investments.....	40
Figure 10: Planned Walking Investments.....	41
Figure 11: Planned Biking Investments.....	42

## The Standards

Figure 12: Multi-Modal Street Functional Classifications.....	44
Figure 13: Components of Lincoln City Streets.....	46
Figure 14: Up Close View of the Walking Zone.....	47
Figures 15a–15c: Optimum Street Designs for Minor Arterial Streets...	48
Figures 15d–15f: Optimum Street Designs for Collector Streets.....	50
Figures 15g–15i: Optimum Street Designs for Local Streets.....	51
Figure 16: Design Criteria for Shared-Use Paths.....	53
Figure 17: Design Criteria for Shared Streets.....	54
Table 2: Street and Access Spacing Standards.....	55
Table 3: Traffic Calming Measures by Street Functional Classification ..	57

## The Outcome

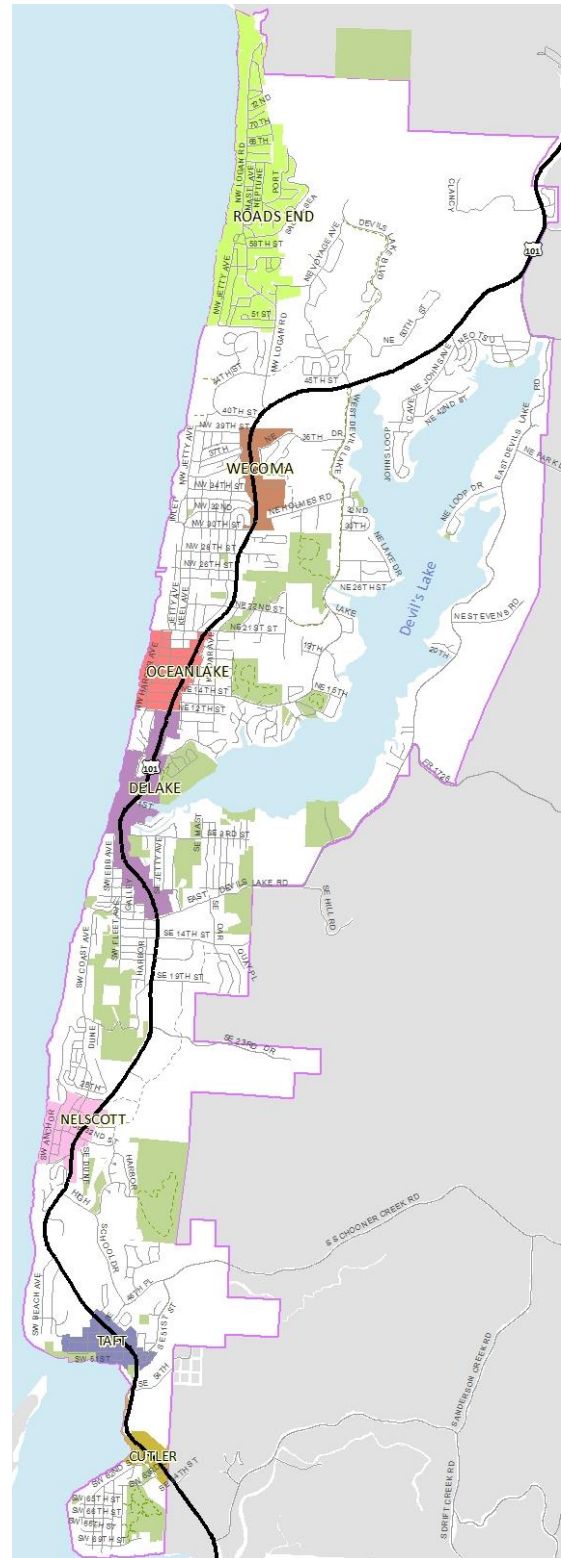
# The Context

**L**ocated along the shores of the Pacific Ocean and Devils Lake, Lincoln City is a tourism-based city. The population of permanent residents in the city is 8,400. Summer population can rise to 30,000, as visitors are drawn to the city's seven miles of beachfront, forest and lake activities, casino entertainment, outlet shopping, and more.

Seven historic neighborhoods, referred to as pearls, comprise Lincoln City (see Figure 1). Each pearl, Roads End, Wecoma, Oceanlake, Delake, Nelscott, Taft, and Cutler City, has its own history, having developed independently before incorporation as Lincoln City in 1965. In recent years, the city has made great investments in the pearls, building upon the unique character of each in an effort to create a string of villages. U.S. Highway 101 (US 101) is the string that connects the pearls and is the spine of Lincoln City's transportation network.

## The Challenge

Lincoln City faces the challenge of accommodating population and employment growth while maintaining acceptable service levels on its transportation network. The transportation system must accommodate highway through traffic, residents, and thousands of tourists who are here in the summer and over holiday weekends. With limited funding for transportation improvements, and built and natural environment challenges, the city must balance its investments to ensure that it can develop and maintain the transportation system adequately to serve the city and everyone who travels in it.



**Figure 1: Lincoln City Vicinity**



# The Context

## Engaging Seniors, Non-English Speakers, and Low Income Populations

As part of the outreach to engage citizens and stakeholders in the TSP project, the city made special efforts to involve seniors, minority and low income groups. (For more information on the public involvement plan for the TSP, see Volume 2, Section R.)

According to the 2012 Census, nearly 84 percent of the population of Lincoln City is White and more than 13 percent of the population is of Hispanic or Latino origin. American Indian and Alaskan Native persons comprise 3.5 percent of the population. (See Volume 2, Section G for more information.)

Given the considerable size of the Hispanic or Latino community in Lincoln City, written materials and translation service were available in Spanish upon request.

To assist those that cannot drive, and help engage senior citizens, public meetings were held at locations accessible via transit, walking or biking when feasible. Materials on the project website were downloadable; hard copies of project documents were available upon request for those without internet access.



# The Context

## The Transportation System Plan

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The 2015 Transportation System Plan (TSP) prepares Lincoln City for accommodating traffic within its urban growth boundary (UGB) in the best manner possible through 2035. The TSP's big picture view allows it to guide the city in developing and maintaining acceptable transportation network performance more efficiently than a piecemeal or unorganized approach.

As the transportation element of the city's Comprehensive Plan, the TSP embodies the community's vision for an equitable and efficient transportation system. The TSP outlines strategies and projects that are important for protecting and enhancing the quality of life in Lincoln City through the next 20 years. The TSP is a collection of current inventory, forecasts, past and current project ideas, decisions, and standards into a single document. Volume 2, Section B and C includes a summary of past improvement ideas. The city, Lincoln County, private developers, and state or federal agencies all have a role in implementing elements of the TSP.

By setting priorities for available and anticipated funds in the 20-year planning period, the TSP provides a foundation for budgeting, grant writing, and requiring public improvements of private development. It also identifies and advocates for the projects and services that the city would like to implement, but cannot reasonably expect to fund during the next 20 years.

The State of Oregon requires a TSP to integrate the city's transportation investment plans into the statewide transportation system. The plan attempts to balance the needs of walking, bicycling, driving, transit, and freight. The TSP reflects community values and protects what makes Lincoln City a great place to call home, do business, and visit.



# The Process

The Lincoln City TSP is the result of a collaboration among various public agencies, key stakeholders, the community, and the project team of city staff, ODOT, and consultants. Throughout this process, the project team took time to understand multiple points of view, obtain fresh ideas, and encourage broad participation (Figure 2), as it collected and analyzed data and possible solutions.

A project advisory committee (PAC), comprised of local residents and business representatives, and a technical advisory committee (TAC) of agency technical staff reviewed and commented on each memorandum and met with the project team at key stages during the project. These groups helped the project team find agreement on project issues and alternatives. The project team met with the PAC five times and the TAC three times, and held several meetings with the Planning Commission and City Council. (For a summary of the meetings, see Volume 2, Section R.) The team conversed informally with members of the community throughout the process and held three public events at key stages to give residents an opportunity to learn more about the project and express their thoughts on how to improve the transportation system.

Goals and Objectives	Transportation Conditions	Transportation Solutions	Draft TSP	Final TSP
Develop project goals, objectives and evaluation criteria. These were revised later in the process based on community input.	Review the transportation system to identify current conditions and problems, and determine future needs through 2035.	Identify and evaluate solutions and projects for the identified needs of the transportation system through 2035.	Incorporate the solutions and projects that best meet the project goals and associated evaluation criteria into a Draft TSP.	Adopt Final TSP.
<ul style="list-style-type: none"> <li>• PAC Meeting #1</li> </ul>	<ul style="list-style-type: none"> <li>• TAC Meeting #1</li> <li>• PAC Meeting #2</li> <li>• Public Event #1</li> </ul>	<ul style="list-style-type: none"> <li>• TAC Meeting #2</li> <li>• PAC Meeting #3 &amp; #4</li> <li>• Public Event #2</li> </ul>	<ul style="list-style-type: none"> <li>• TAC Meeting #3</li> <li>• PAC Meeting #5</li> <li>• Public Event #3</li> </ul>	<ul style="list-style-type: none"> <li>• Public Hearings</li> </ul>

Figure 2: The TSP Process

# The Process

## The Public Review Process

The five-stage process in Figure 2 included a series of technical memoranda that discussed specific topics ranging from existing conditions to funding assumptions to transportation solutions. The project website ([www.lincolncitytsp.org](http://www.lincolncitytsp.org)) linked to each memorandum (Figure 3), giving the community opportunity to provide feedback and keep up to date with the project. The PAC and TAC reviewed and commented on each memorandum and worked with the project team to find agreement on issues and alternatives. The project team revised the draft memoranda based on the feedback from the committees, the public, the City Council, and the Planning Commission. These memoranda, as revised, ultimately became part of the Draft TSP. Public hearings with the Planning Commission and City Council on the Draft TSP led to the adoption of the 2015 Lincoln City Transportation System Plan on October 26<sup>th</sup>, 2015.

Throughout the planning effort, the project website linked to all project news, documents, and meeting notices. Its interactive map received 50 comments from residents about the transportation system, locations of problems, and opportunities for improvement.



**Figure 3: Public Review Process**

# The Vision

**L**incoln City could not properly maintain or improve its transportation system without a vision for what it could or should be. The process avoided the tendency to focus immediately on congestion, pot holes, gaps in sidewalks, and dollars available to fix them by first talking about the ideal transportation system for the community. The project advisory committee and other community members, in initial discussions, expressed desire for a transportation system that supports rather than dominates the community, and accommodates residents and visitors in a safe, friendly, and affordable way. (See Volume 2, Section F.)

## Transportation Vision Statement

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The vision statement provides direction for the future of the transportation system in Lincoln City.

*The design of transportation infrastructure promotes safe, comfortable travel, shows respect for the city's resources, and showcases the beautiful natural environment. All transportation modes flow smoothly and safely to and throughout the city, meeting the needs of residents, businesses, visitors, and people of all physical and financial conditions. Connectivity facilitates travel between and within the pearls, where walking and biking environments complement mixed-use development. The transportation system is reasonable and appropriate for the year round population and inviting to the city's tourists.*

The vision statement and eight goals describe the desires of the community with regard to its transportation system.



# The Vision

## TSP Goals

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The eight transportation goals set priorities for transportation solutions and plan implementation. Objectives provide manageable stepping stones for achieving the TSP's vision and goals.

■ **Goal 1: An equitable, balanced and well-connected multi-modal transportation system.**

Objective 1a: Ensure that the transportation system provides equitable access to underserved and vulnerable populations, and is friendly and accommodating to travelers of all ages.

Objective 1b: Ensure the pedestrian, and bike throughways are clear of obstacles and obstructions (e.g., utility poles, grates).

Objective 1c: Provide connections for all modes that meet applicable Lincoln City and Americans with Disabilities Act (ADA) standards.

■ **Goal 2: Convenient facilities for pedestrians and bicyclists.**

Objective 2a: Incorporate projects from the Lincoln City Walking and Biking Plan into the TSP.

Objective 2b: Allow more walking and biking by providing for their needs (e.g., street lighting, bike parking).

Objective 2c: Improve walking and biking connections to community facilities and amenities.

Objective 2d: Enhance way finding signage for those walking and biking, directing them to bus stops, beaches, and key routes and destinations.

Objective 2e: Promote walking, bicycling, and sharing the road through public information and events.

Objective 2f: Make necessary changes to the land development code to allow compatible uses to locate within walking and biking distance of each other (e.g., residential use and employment).



# The Vision

## ■ Goal 3: Transit service and amenities that encourage a higher level of ridership.

Objective 3a: Locate transit stops where safe and convenient for users.

Objective 3b: Explore tourist-based transit options (e.g., trolley) that operate during the summer.

Objective 3c: Provide additional transit services and coordinate with transit providers to improve the coverage, quality and frequency of services, where needed.

Objective 3d: Provide for transit user needs beyond basic provision of service (e.g., by providing sidewalk and bicycle connections, shelters, benches) to encourage higher levels of use.

Objective 3e: Identify locations for designated Park-and-Ride lots.



## ■ Goal 4: Efficient travel to and through the city.

Objective 4a: Develop and preserve north-south arterial corridors through the city to provide alternative routes to US 101 for local traffic and bike tourists and, where it will not impact adjoining neighborhoods, for through traffic.

Objective 4b: Develop and preserve east-west collector corridors through the city to improve connectivity across US 101.

Objective 4c: Make new or improved transportation connections to enhance system efficiency.

Objective 4d: Distribute travel information for motorists to maximize the reliability and effectiveness of US 101.

Objective 4e: Adopt a standard for mobility to help maintain a minimum level of motor vehicle travel efficiency for local streets. State and county standards for mobility will be supported by the city on facilities under the respective jurisdiction.



# The Vision

## ■ Goal 5: Safe and active residents.

Objective 5a: At high collision locations, improve safety for walking, biking, and driving.

Objective 5b: Enhance existing crossings of US 101 for safe walking and biking (e.g., install rapid flashing beacons, and aids for vulnerable populations, such as chirpers, at signalized pedestrian crossings).

Objective 5c: Provide new crossings for pedestrians and bicyclists where needed.

Objective 5d: Improve and maintain tsunami evacuation and Seismic Lifeline Routes.

Objective 5e: Improve the visibility of travelers in constrained areas, such as on hills and blind curves.

Objective 5f: Promote walking and bicycling by educating users regarding good traffic behavior and consideration for all.



## ■ Goal 6: A sustainable transportation system.

Objective 6a: Reduce reliance on US 101 for local trips.

Objective 6b: Avoid impacts to the scenic, natural and cultural resources in the city.

Objective 6c: Support alternative vehicle types (e.g., with electric vehicle plug-in stations).

Objective 6d: Amend zoning to encourage an arrangement of land use that would shorten trip lengths significantly or reduce the need for motor vehicle travel within the city.

Objective 6e: Maintain the existing transportation system assets to preserve their intended function and useful life.

Objective 6f: Improve travel reliability and safety with system management solutions.

Objective 6g: Establish stable and diverse revenue sources to meet the need for transportation investments in the city.

Objective 6h: Determine transportation system investment





# The Vision



priorities through open and transparent processes.

Objective 6i: Develop and support reasonable alternative mobility targets that align with economic and physical limitations on US 101 and city streets where necessary.

■ **Goal 7: A transportation system that supports a prosperous and competitive economy.**

Objective 7a: Design elements of the transportation system to be aesthetically pleasing to through travelers, residents, tourists, and users of adjoining land.

Objective 7b: Identify transportation improvements that will enhance access to employment.

Objective 7c: Design streets and street improvements to capture and highlight views.

Objective 7d: Improve the freight system efficiency, access, capacity and reliability.

■ **Goal 8: Coordinate with local and state agencies and transportation plans.**

Objective 8a: Work with the Cascades West Area Commission on Transportation and the Valley/North Coast Regional Solutions Center to promote projects that improve regional linkages.

Objective 8b: Develop TSP policy and municipal code language to implement the TSP update.

Objective 8c: Meet the requirements of the Oregon Transportation Planning Rule.

Objective 8d: Coordinate with the Oregon Transportation Plan and associated modal plans.

Objective 8e: Coordinate with the Lincoln County Transportation System Plan.

Objective 8f: Coordinate local neighborhood plans and visions with the TSP.

# The Trends

To determine needed investments for the city's transportation system, the project team reviewed current travel conditions and forecasted future growth and travel trends through 2035. Initial analysis assumed that only the transportation projects with committed funding would be built and that no further investments would be made to the transportation system during the planning period.

## Lincoln City in 2035

Today, Lincoln City is home to 8,400 residents, 7,600 housing units and over 6,200 jobs. Between now and 2035, employment growth likely will increase about two percent per year, outpacing the rate of housing unit growth over the same period (about a half percent per year). By 2035, Lincoln City will have about 8,600 housing units and about 8,800 jobs, a 13 and 42 percent increase respectively from 2012. It will continue to host populations every summer of 30,000 or more tourists at a time. With more people and jobs in Lincoln City and more tourism activity on the coast, the transportation network will face increasing demand through 2035.

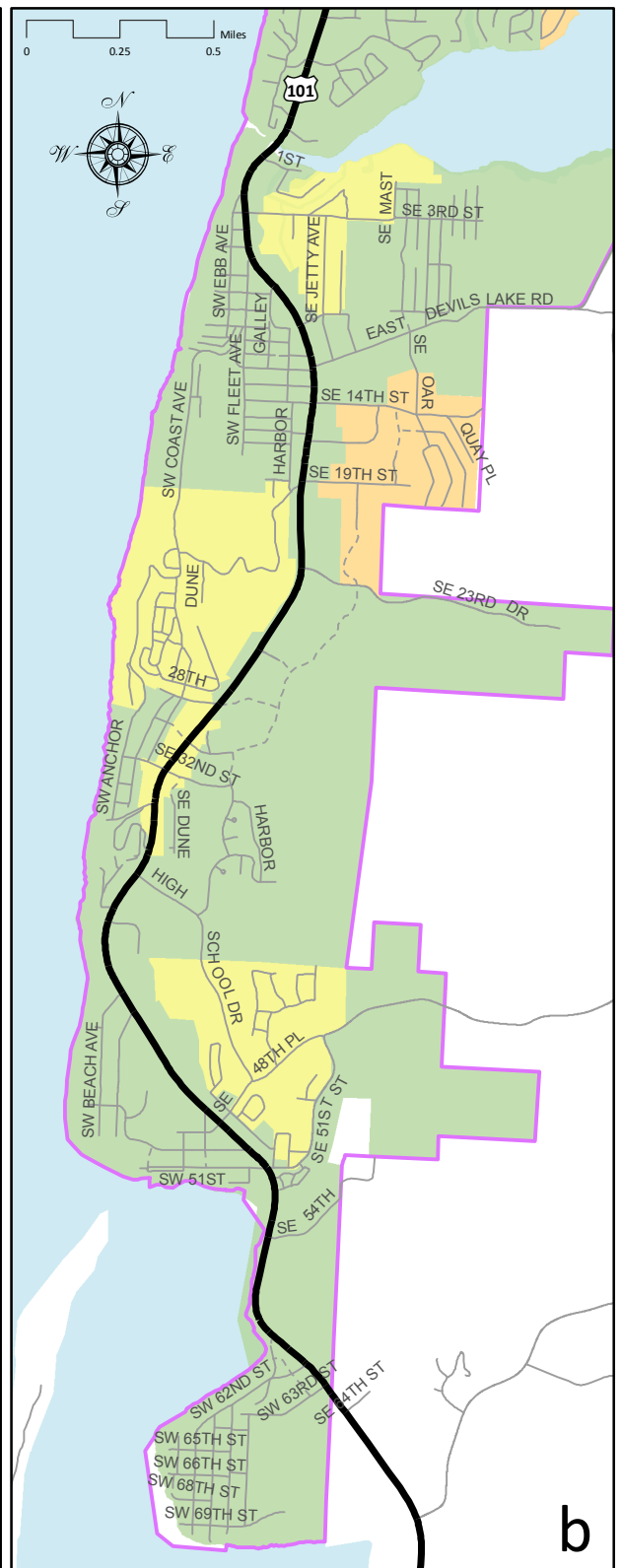
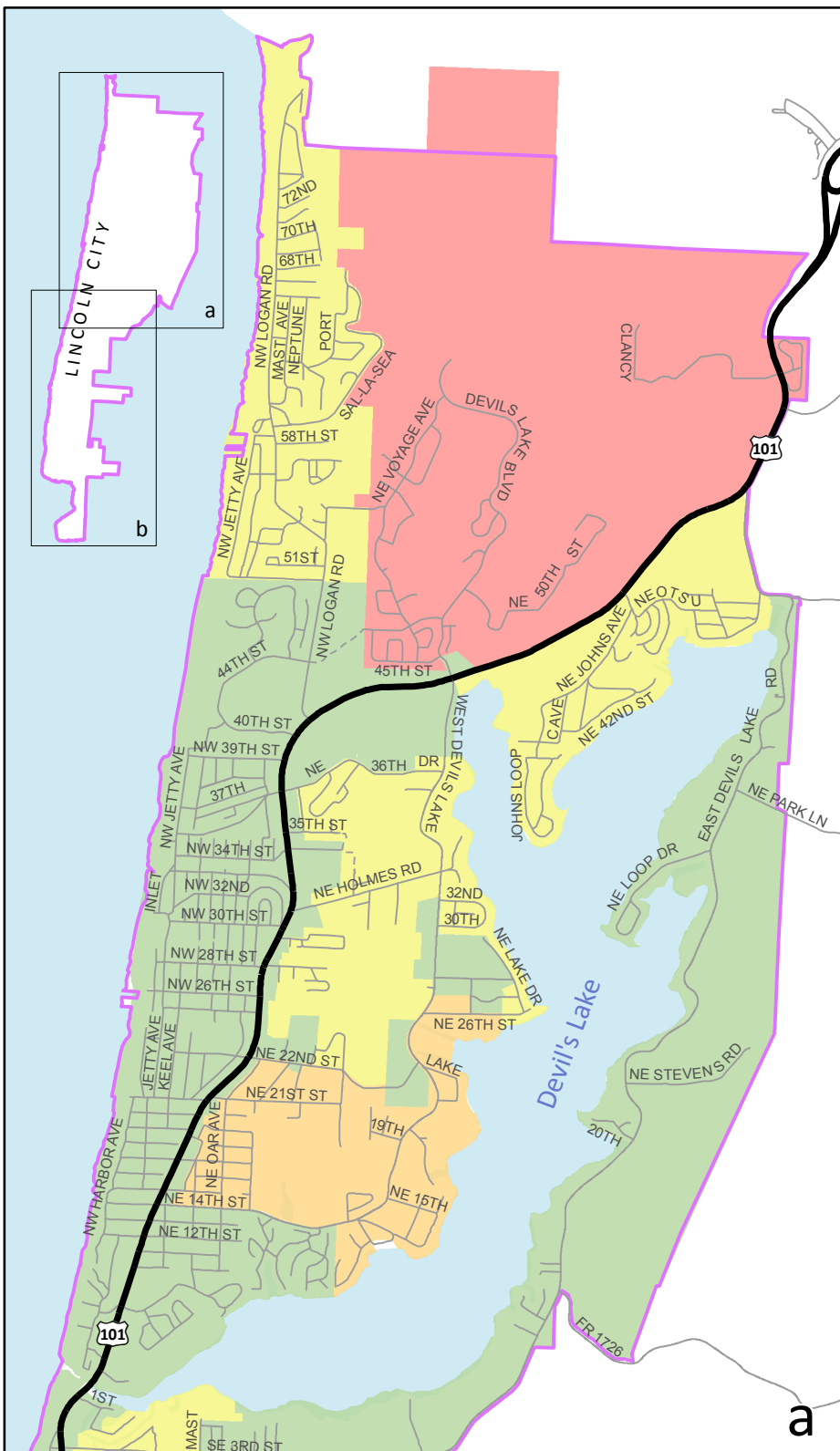
### Population and Employment Growth

Figures 4 and 5 show expected distribution of housing and employment growth throughout the city. They show highest household growth in north Lincoln City, east of Roads End (e.g., along NE West Devils Lake Boulevard), plus high growth in housing near Devils Lake and in the area south of SE 14th Street and the factory outlets. (See Volume 2, Section D and E for more information.)

The figures show employment growth will be highest near the casino on NW 44th Street and along US 101 between SW 29th Street and SE 48th Place in the south end of the city. They also show high employment growth along US 101 from NW 30th Street to NE 21st Street, east of US 101 between SE 12th (East Devils Lake Road near the factory outlets) and SE 28th Street, and near the hospital along West Devils Lake Road.

#### Projects with committed funding included:

- Expanding US 101 to three lanes from SE 23<sup>rd</sup> Drive to SE 32<sup>nd</sup> Street, and realigning SE 32<sup>nd</sup> Street to meet SW 32<sup>nd</sup> Street as a four-leg, signalized intersection.
- Coordinating the signals at the US 101 intersections with NE 22<sup>nd</sup> Street, NE 17<sup>th</sup> Street, NE 14<sup>th</sup> Street, NE 6<sup>th</sup> Street, and SE 1<sup>st</sup> Street.

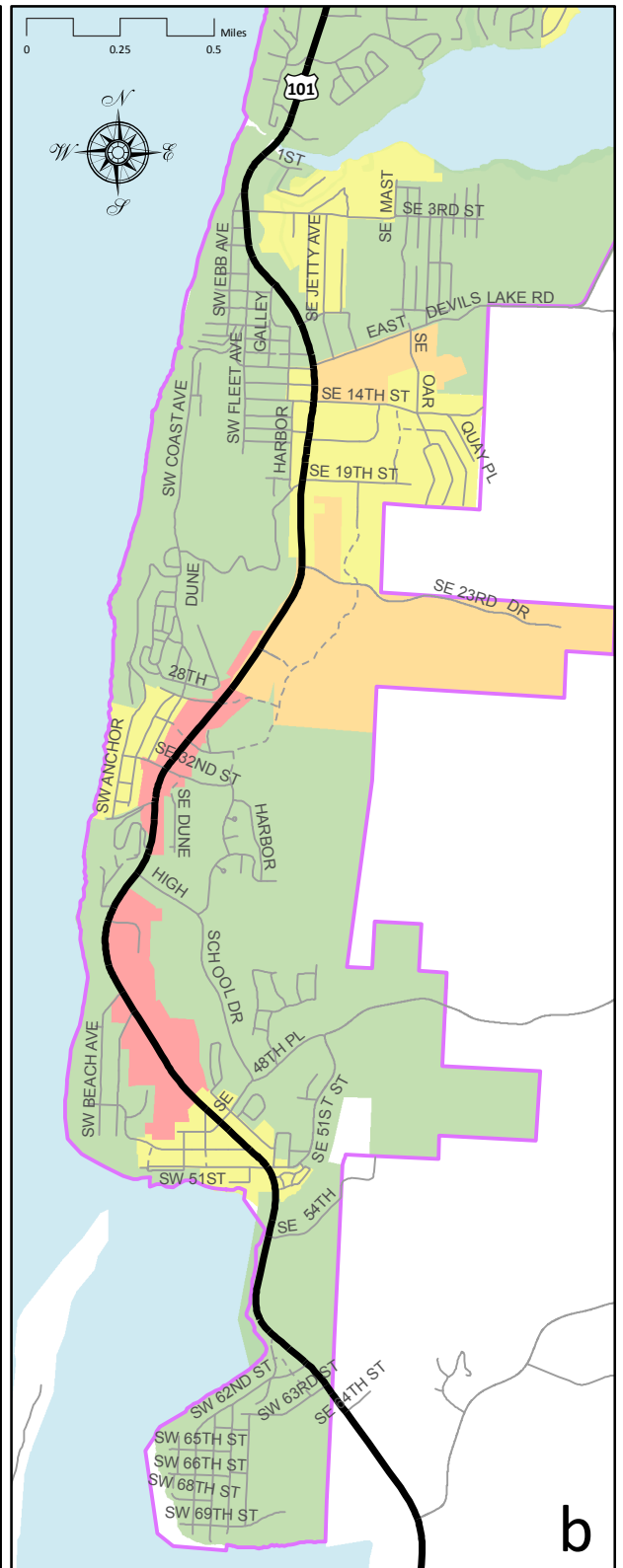
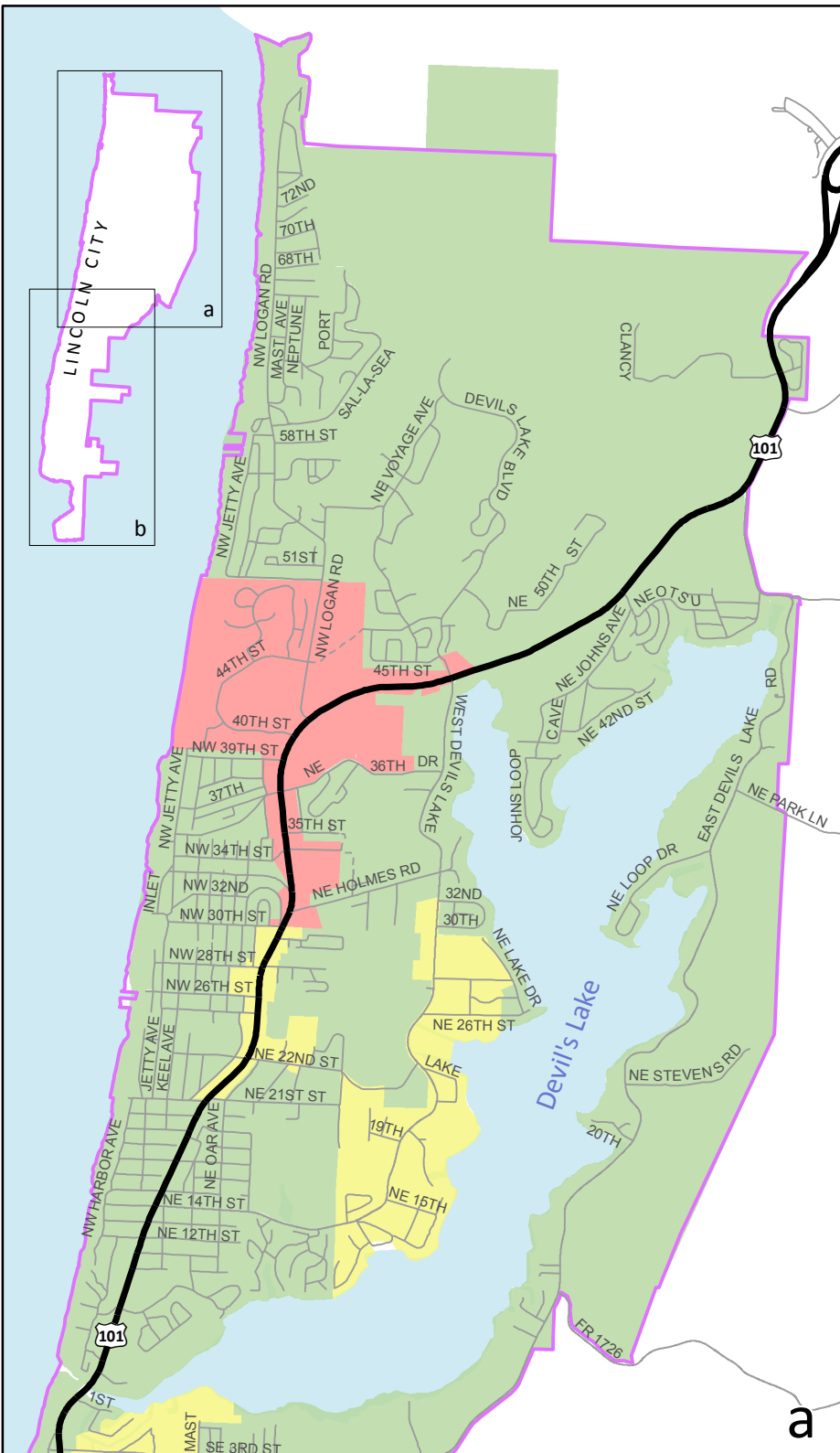


# 4 Household Growth (2012 - 2035)

Household Growth between 2012 and 2035

- Low Household Growth
- Moderate Household Growth
- High Household Growth
- Very High Household Growth

- Urban Growth Boundary
- Potential Alignment for Future Roadway



# 5 Employment Growth (2012 - 2035)

Lincoln City  
Transportation System Plan

Employment Growth between 2012 and 2035

- Low Employment Growth
- Moderate Employment Growth
- High Employment Growth
- Very High Employment Growth

- Urban Growth Boundary
- Potential Alignment for Future Roadway

# The Trends

## More Travel and Tourism

Assuming Lincoln City does not change its mode split, and adds more jobs, residents, tourists, and coastal through traffic, the street network in 2035 must accommodate an additional 2,700 motor vehicle trips during the evening peak hour on an average weekday and 3,000 additional trips during the summer weekend peak hour. Today, the Lincoln City street network generally is able to handle the evening peak hour motor vehicle trips; however, they likely will increase over 50 percent at intersections along US 101 by the end of 2035. Much of the increased travel will begin or end in major residential and/or employment growth areas, including areas near the casino and along US 101 south of SW 29th Street.



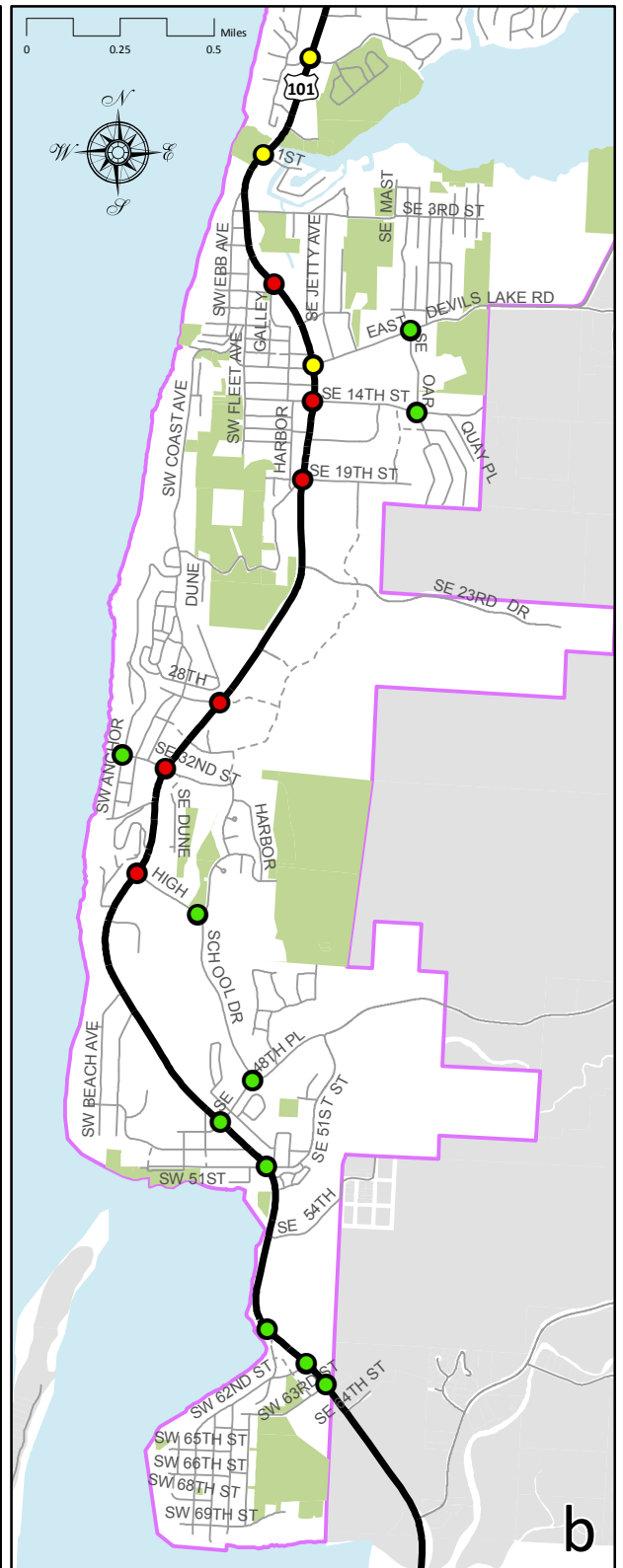
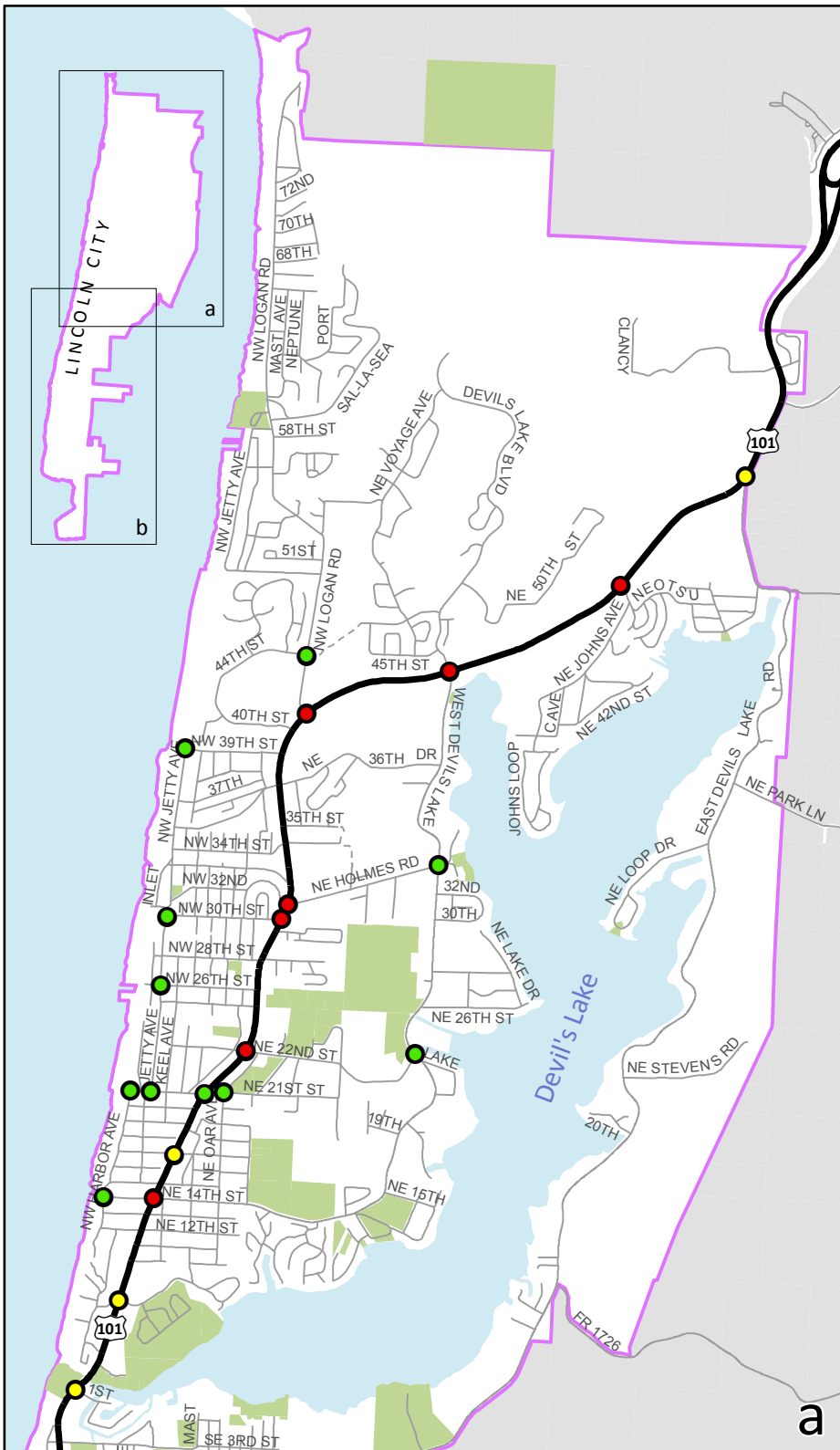
## More Congestion

An increase in motor vehicle travel leads to an increase in congestion. Travel activity, as reflected by evening peak hour motor vehicle trips beginning or ending in Lincoln City, is expected to increase significantly through 2035, especially during the summer months. Through trips (trips that neither begin nor end in Lincoln City) also are likely to increase through 2035, due to increased tourism activity and growth in Oregon generally and in neighboring cities such as Newport. Figures 6A and 6B show that the most congested locations will be along US 101 between its intersections with West Devils Lake Road and NE 22nd Street and from SE 14th Street to High School Drive. (See TSP Volume 2, Sections H and I.)



## More Walking, Biking and Transit Use

The TSP process identified areas of the city in close proximity to key destinations (such as schools, parks, transit stops, shopping, and employment) with potential to attract significant walking and biking trips. It identified these areas with existing deficiencies as priority locations for walking, biking or transit investments. The process also identified transit, walking, and biking as partial solutions to the city's congestion problems, especially during summers and other peak tourist times.



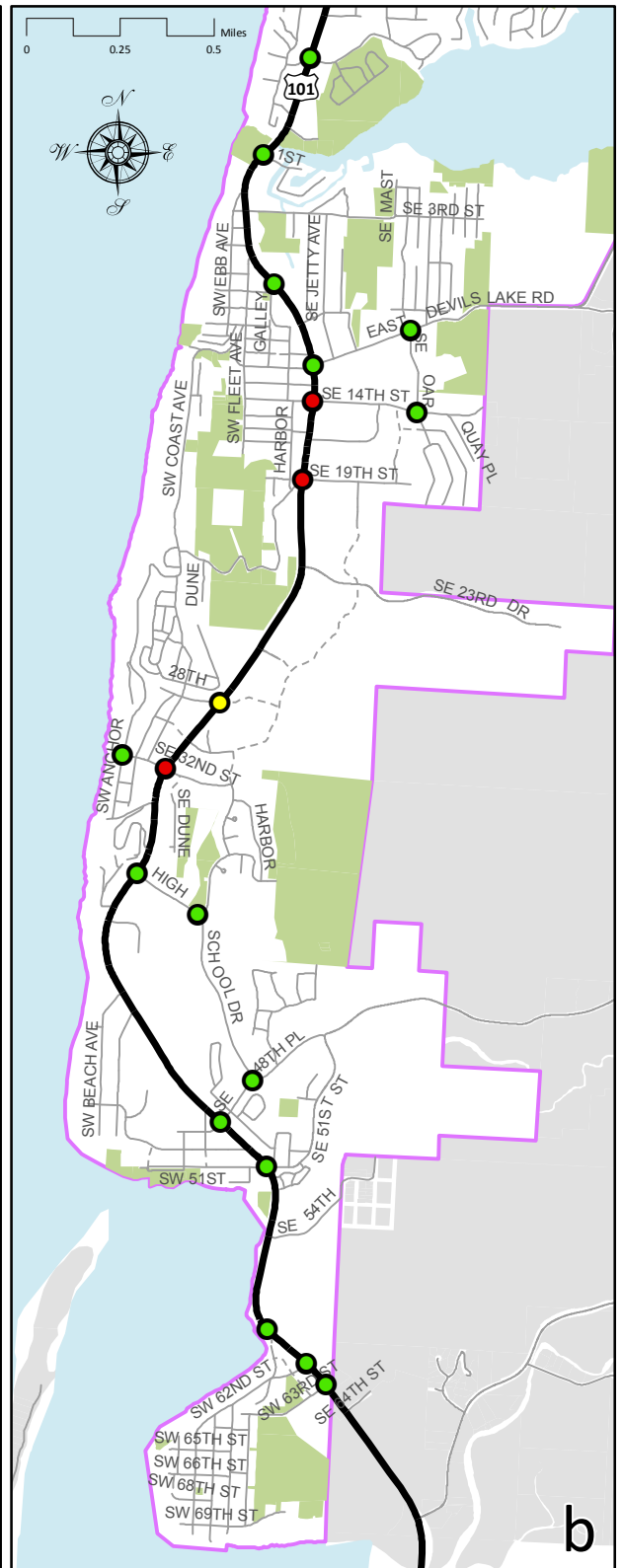
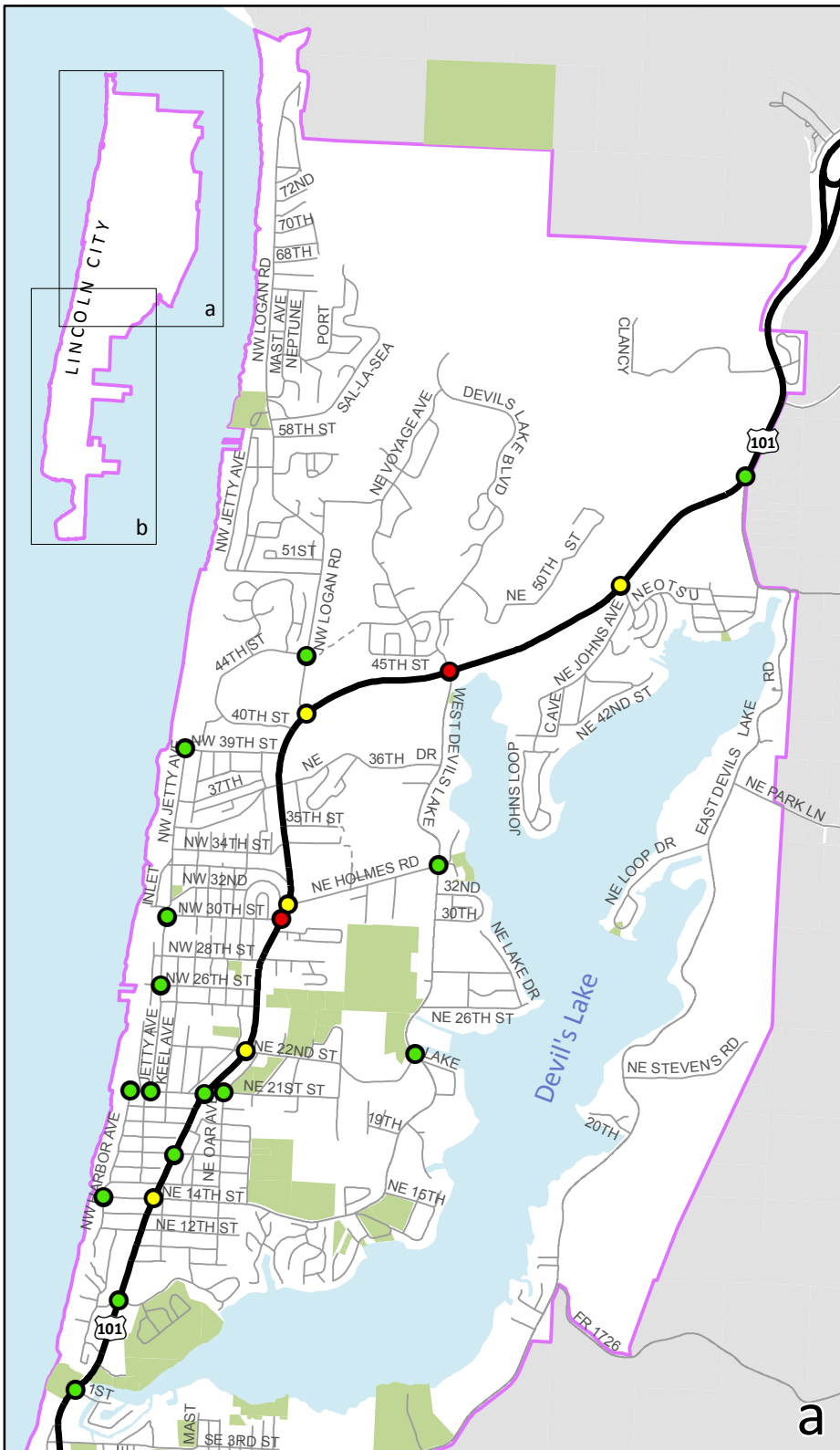
**6A** 2035 Motor Vehicle Operating Conditions  
(P.M. Peak) - Summer

Lincoln City  
Transportation System Plan

*Peak Seasonal Intersections Operations*

- Good
- Approaching Target
- Does Not Meet Target (heavily congested)

- Urban Growth Boundary
- Park
- Potential Alignment for Future Roadway



**6B** 2035 Motor Vehicle Operating Conditions  
(P.M. Peak) - Average Weekday

Lincoln City  
Transportation System Plan

*Peak Seasonal Intersections Operations*

- Good
- Approaching Target
- Does Not Meet Target (heavily congested)

- Urban Growth Boundary
- Park
- Potential Alignment for Future Roadway

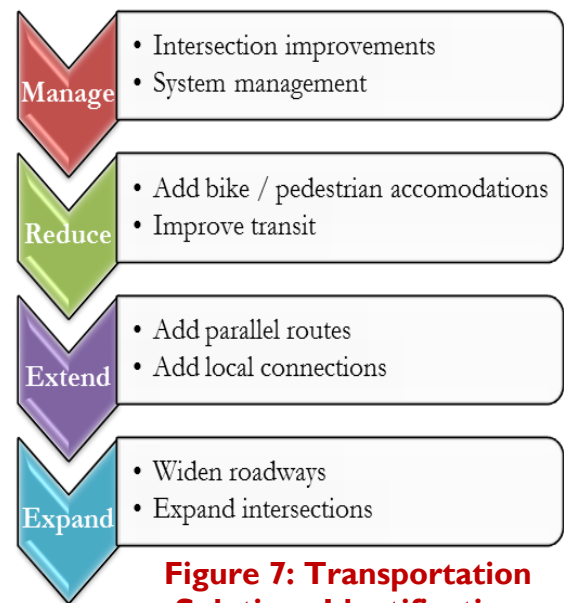
# The Investments

Lincoln City must make investment decisions to implement a set of transportation improvements that meet identified needs through 2035. Transportation funding is limited, so a fiscally responsible approach to enhancing and maintaining the transportation system is imperative.

## Developing the TSP Investments

Lincoln City's approach to developing the TSP emphasized investments in small, cost-effective solutions for the transportation system. A four-step process (Figure 7) considered alternatives from top to bottom until identifying a viable solution. This process allowed the city to maximize use of available funds, minimize impacts to the natural and built environments, and balance investments across all modes of travel. (See Volume 2, Section K and M for more information.)

The TSP used measurable evaluation criteria (see Volume 2, Section J) based on the goals and objectives (developed in coordination with the Project Advisory Committee) to screen and prioritize transportation solutions (Figure 8). Projects deemed to contribute more towards achieving the transportation goals of Lincoln City ranked higher, and the plan assigned higher priority to their implementation. Solutions recommended in the TSP, consequently, are consistent with the goals and objectives.



**Figure 7: Transportation Solutions Identification Process**



# The Investments

## Constrained and Aspirational Projects



**Figure 8: Reflecting the Vision in the Plan**

Constrained projects are those projects that the city and ODOT believe are reasonably likely to be funded during the 20-year planning horizon based on the constrained funding threshold established through city and ODOT funding analysis.

Aspirational projects (projects which the city supports and would like to implement) include all identified projects for improving Lincoln City's transportation system, regardless of their primary funding source, and priority. In contrast to constrained projects, they 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 and ODOT.

The full list of constrained and aspirational projects, shown in Table 1 on page 25, includes those proposed in previous plans and studies as well as those added through the TSP planning process. The full list includes 127 projects, totaling an estimated \$278 million worth of investments. (See Volume 2, Section K and M for more information on the development of the TSP project list.)

The TSP's multi-modal, network-wide approach to identifying transportation system solutions assigns the projects to one of several categories:

- **Driving** projects would improve connectivity, safety, and mobility throughout the city for motorists. Lincoln City identified 28 projects to improve driving conditions that, as originally proposed, would cost an estimated \$85 million to complete.

The driving improvements do not include US 101 widening projects. Highway widening projects would have significant community, environmental, and right-of-way impacts and would require further environmental and technical analysis. Consequently, such projects simply are not financial feasible based on the current financial

# The Investments

constraint threshold. Widening of the least expensive minimum logical segment would cost in the range of \$30 to \$40 million. The cost of widening more difficult sections (e.g., over Spanish Head) would be much higher, given natural and built environment constraints.

The future operational performance expectations established in this TSP assume no significant US 101 capacity projects (i.e., US 101 four/five lane widening) within the 20-year planning horizon. None of these potential improvements could be implemented in small enough segments to fit within the 20-year budget. Consequently, from a vehicle mobility perspective, the TSP's future operational performance forecast is essentially a no-build scenario. To that end, the city will request that ODOT work with the Oregon Transportation Commission (OTC) to establish alternative mobility targets for US 101 that reflect the performance that is forecast based on no significant capacity improvements over the planning horizon. If a widening project is funded and developed during the planning horizon, ODOT and the OTC would adjust the mobility targets to account for that change. Section N, in TSP Volume 2, includes the full discussion of this analysis.

- **Walking** projects, including sidewalk infill and crosswalk improvements, would provide seamless connections for pedestrians throughout the city. Lincoln City identified 52 sidewalk and crossing projects that, as originally proposed, would cost an estimated \$129 million to complete. The aspirational project list combines a number of walking projects with biking projects and vice-versa, particularly on US 101. Like potential highway widening projects, several large-scale walking and biking projects identified on US 101 have an associated cost that is well beyond the current financial constraint threshold. The walking and biking projects are less problematic than highway widening projects in that: 1) walking and biking projects have less impact than highway widening projects and most can be



# The Investments



accomplished in the existing right-of-way; 2) construction of walking and biking projects can be in smaller phases or combined with a related maintenance activity like a pavement rehabilitation job; and 3) city and ODOT support is clear and unqualified for the full range of walking and biking projects identified, because they are generally non-controversial in nature and provide clear safety benefits to the more vulnerable users of the transportation system, particularly children. The full discussion and illustrations of the specific walking and crossing improvements considered during the TSP analysis process are provided in TSP Volume 2, Section M and Q.

- **Biking** projects include an integrated network of bicycle lanes and marked on-street routes to facilitate safe and convenient travel citywide. Lincoln City identified 18 biking projects that, as originally proposed, would cost an estimated \$6 million to complete.

The TSP considered use of “road diets” on US 101 in Oceanlake, DeLake, and Taft. The road diets considered the possibility of reallocating the street cross-section, such as reducing the number of travel lanes to make room for turn lanes and bicycle and pedestrian facilities on US 101. The study concluded that a road diet in Oceanlake or DeLake would cause unacceptable levels of congestion during peak tourist times, but a road diet would be feasible in Taft. The full range of US 101 design options considered during the TSP analysis process are described in TSP Volume 2, Section K and M.

- **Shared-Use Path** projects would provide local and regional off-street travel for walkers and cyclists. The envisioned citywide shared-use path network includes 14 projects that, as originally proposed, would total an estimated \$52 million to complete.

# The Investments

- **Transit** projects would enhance the quality and convenience for passengers. A total of five transit projects, as originally proposed, would cost an estimated \$4 million.
- **Demand and System Management** projects to encourage more efficient usage of the transportation system. A total of 10 projects, as originally proposed, would cost an estimated \$2 million.

## Funding Gap

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The \$52 million total cost of the 68 identified locally-funded transportation system projects is far greater than the city's ability to raise funds. The city uses four general funding sources for transportation, including funds from:

- **The Surface Transportation Program (STP).** Federal Highway Trust Funds are received from federal motor vehicle fuel tax and truck-related weight mile charges. The six-year Federal Transportation Authorization Act allocates funds through various programs. Federal Highway Trust Funds from the STP flow to the states that use them primarily for safety, highway, and bridge projects. Lincoln City receives a portion of these funds based upon actual population.
- **The State Highway Trust Fund.** The State Highway Trust Fund makes distributions from the state motor vehicle fuel tax, vehicle registration fees, and truck weight-mile fees on a per capita basis. Cities and counties receive a share of State Highway Trust Fund monies, and by statute may use the money for any road-related purpose, including walking, biking, bridge, street, signal, and safety improvements.

The state gas tax funds previously have 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 gradually



# The Investments



has eroded over time. In an effort to offset the relative decline in contribution of state funds, the 2009 legislature recently passed the Oregon Jobs and Transportation Act (Oregon House Bill 2001). It increases transportation-related fees including the state gas tax and vehicle registration fees as a fixed amount at the time a vehicle is registered with the Department of Motor Vehicles. Vehicle registration fees in Oregon increased from \$27 to \$43 per vehicle per year for passenger cars, with similar increases for other vehicle types. The gas tax in Oregon increased on January 1, 2011 by six cents, to 30 cents per gallon, the first increase in the state gas tax since 1993.

- **A Transient Room Tax.** Lincoln City imposes a local transient room tax, with some of the revenue dedicated to transportation. Currently 2 percent of the 9.5 percent tax is dedicated to fund street operations.
- **A System Development Charge (SDC).** Lincoln City collects SDCs from new development, which are a funding source for all capacity adding projects for the transportation system. The funds collected can pay for constructing or improving portions of roadways impacted by applicable development. The SDC is a one-time fee. The vehicle SDC rate is currently \$660 per unit.

Nearly 60 percent of Lincoln City's current revenue streams for transportation fund maintenance of the existing system. Rising maintenance costs through 2035 will diminish the funds available for improvements. Unless Lincoln City develops additional revenue streams, the city can expect to have no more than \$2.5 million of local street funds to spend on locally-funded improvements over the next 20 years.

# The Investments

The TSP has identified over \$102 million worth of needed investments (spread out over 30 projects) along US 101. ODOT has indicated that only \$5 to \$10 million in discretionary state and/or federal funds may be available to invest in Lincoln City over the next 20 years<sup>1</sup> for system modernization and enhancement.

The TSP has identified two projects estimated at \$48 million for which Lincoln County would be the primary source of funding, 11 projects estimated at \$39 million that would be jointly funded by the state, county, and local agencies, and 16 projects estimated at \$37 million that private developers would fund concurrent with new development. (For more information on the funding assumptions utilized for the TSP, see Volume 2, Section L.)



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<sup>1</sup> The State has not committed any future funding for projects in Lincoln City. This assumption is for long-range planning purposes only. This estimate is based on assuming that Lincoln City 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 this estimate, which does not include projects that the federal Highway Safety Improvement Program (HSIP) could fund.

# The Plan

Without additional funding sources, the city has approximately \$2.5 million to cover the costs of projects for which it will be the primary source of funding over the next 20 years. The state might contribute an additional \$5 to \$10 million for investments along US 101. The TSP sets priorities for spending anticipated funds and identifies projects that would be possible with additional funding.

## Prioritizing Investments

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Unless the city expands its funding options, most of the desired transportation system projects are not likely to happen before 2035. For this reason, the TSP splits transportation solutions into improvement packages. Package 1 is financially constrained, meaning it totals the \$2.5 million likely to be available through existing city funding sources. Package 1 also includes an estimate of how the city would use revenue from various state and/or federal sources. Packages 2 and 3 each rely on \$2.5 million of additional funding that would be available if the city opted to add one of the new funding sources described on page 62. Package 4 is comprised of the aspirational projects, those remaining projects that likely would not have city or state funding by 2035.

The TSP evaluated and compared all proposed projects using the eight TSP goals (detailed in the “Vision” section of the TSP). Based on a project’s contribution to achieving the transportation goals of Lincoln City, the process assigned each transportation solution a priority. The process favored implementation of low cost projects that would have more immediate impacts and spread investment benefits citywide.

Although the TSP identifies priorities for the investments, the city does not have to implement the projects in that order. Future circumstances could allow or require the city to fund projects not on the financially constrained project list to address an unanticipated transportation need or take advantage of an unexpected opportunity.



# The Plan

## The Financially Constrained Plan

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The financially constrained plan identifies the transportation solutions off US 101 that the city prioritizes for funding and implementation by 2035, presented in Table 1 and Figures 9, 10 and 11. If the city is able to implement the financially constrained plan within the next two decades, Lincoln City residents will have a safer, more balanced multi-modal transportation network.

### ODOT Projects on US 101

In addition to the projects included in the financially constrained plan that would be funded primarily by the city, ODOT has projected that the city could receive up to \$10 million from various state and/or federal sources over the next 20 years. Based on current needs, Table 1 and Figures 9, 10, and 11 show how the city would use the state funds. Since none of the listed investments would impact vehicular mobility targets or ODOT operational performance expectations, they are illustrative only and ODOT does not give them higher priority than any other US 101 project in the city's list. Because ODOT supports all of the projects listed in the constrained and aspirational plans equally, the city may modify and adapt the list within the limits of the financial constraint threshold, as it currently exists or as it may evolve, to advance any supported project on US 101 in response to any opportunity or issue that may arise during the planning horizon.





## The Aspirational Plan

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The aspirational transportation system identifies valuable solutions that will not have funding by 2035, unless additional sources become available. Some of the projects require city funding and resources beyond what is available in the time frame of this plan. Others are contingent upon grants, development, or redevelopment. Some of the aspirational projects in Table 1 and in Figure 9, 10 and 11 have designations of Package 2 or Package 3, indicating their priority, should the city develop new sources of funding. A recent questionnaire distributed to Lincoln City property owners showed some interest in supporting transportation system maintenance and improvements through additional taxes, utility charges, or reduction in other city services.



## Financially Constrained and Aspirational Projects

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The following pages include the financially constrained and aspirational projects in chart form and on accompanying maps. Improvement Package 1, Financially Constrained Plan totals the \$2.5 million likely to be available through existing city funding sources. It also suggests how the city would use a likely amount of revenue from state and/or federal sources. Improvement Package 2 relies on \$2.5 million of additional funding that would be available only if the city added one of the new funding sources described on page 62. Improvement Package 3 relies on \$2.5 million of additional funding that would be available only if the city added a second new funding source described on page 62. Improvement Package 4 includes projects that likely would not have city or state funding by 2035. The project design elements depicted are identified for the purpose of creating a reasonable cost estimate for planning purposes. The actual design elements for any project are subject to change, and will ultimately be determined through a preliminary and final design process, and are subject to city and/or ODOT approval.

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
<b>Transit Projects</b>					
T1	Facility Improvements	Upgrade amenities to include sheltered stops with seating, route information, and bicycle parking.	\$200,000	City	1
T2	Improved LINC Transit Service Hours	Expand LINC hours of service four hours from 5:45pm to 9:45pm, and add Sunday service.	\$3,375,000 (\$175,000 annually)	City	4
T3	Seasonal Trolley Feasibility Study	Prepare an implementation plan for a seasonal trolley bus/double deck bus service, including expected costs, expected revenue, and potential funding sources.	\$100,000	City	1
T4	North End Park & Ride	Develop Park & Ride at the North end and incorporate North by Northwest Connector and other transit amenities.	\$75,000	City	1
T5	Improved County Transit	Work with Lincoln County Transit to identify potential improvements to operating hours and bus frequency.	\$25,000	City/County	1
<b>Estimated Cost for all Transit Projects</b>			<b>\$3,775,000</b>		
<b>Demand and System Management Projects</b>					
M1	Neighborhood Traffic Calming Program	Implement program to process community requests for neighborhood traffic calming, investigate options, and implement improvements. Key areas for traffic calming investigations include: Roads End, NE Holmes Road, NW 39th, and Cutler.	\$100,000	City	1
M2	VMS System	Display traveler information at gateways to city on Variable Message Signs (VMS).	\$900,000	ODOT	4
M3	Tourism Management Policy	Develop a fee system that charges tourists for excessive vehicles at vacation rentals/hotels.	\$30,000	City	4
M4	Business Incentives Program	Fund an incentives program for Lincoln City visitors to come earlier and/or stay later, thus reducing peak traffic demands. Project cost assumes \$10,000 per year over 20 years.	\$200,000	City	1
M5	Oceanlake Parking Management	Enhance parking wayfinding in Oceanlake to direct visitors to public parking lots.	\$25,000	City	1
M6	Safe Routes to School Program	Continue support of the Safe Routes to School Program.	\$10,000	City	1

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
M7	Tsunami Evacuation Route Identification	Enhance tsunami evacuation route wayfinding throughout the city.	\$50,000	City	1
M8	Bike Parking Program	Install new bike parking throughout the city.	\$30,000	City	4
M9	Wayfinding Signage Program	Install wayfinding signage to assist pedestrians and bicyclists in choosing comfortable routes and to help visitors navigate through the city.	\$75,000	City	1
M10	Information Signs	Information signs on travel time through the city, alternate routes and social media program.	\$150,000	City	4
<b>Estimated Cost for all Demand and System Management Projects</b>			<b>\$1,570,000</b>		
<b>Driving Projects (see Figure 9)</b>					
D1	North Lincoln City Circulation Study	Determine roadway connectivity for north Lincoln City (bound by NW Logan Road, US 101, and the north UGB), including need for improved east-west connectivity.	\$50,000	City	1
D2	Logan Rd/NE Port Way Safety Improvement	Logan Rd/NE Port Way safety improvements, such as intersection realignment, roundabout, or all-way stop control.	\$1,200,000	Developer	4
D3	NE 47th Extension	Extend NE 47th St to the intersection of NW 44th St and NW Logan Rd; improvement includes sidewalks.	\$4,300,000	Developer	4
D4	US 101/NE East Devils Lake Road Intersection Improvements	Widen the south leg of the US 101/NE East Devils Lake Road intersection for a center turn lane to allow for two-stage left turns.	Funded	ODOT/ Tribe	1
D5	US 101/NE Neotsu Drive Intersection Improvements	Widen the south leg of the US 101/NE Neotsu Drive intersection for a center turn lane to allow for two-stage left turns.	Funded	ODOT/ Tribe	1
D6	West Devils Lake/Logan Coordinated Signal Timing	Optimize the existing traffic signals at US 101/NE West Devils Lake Road and US 101/NW Logan Road by implementing coordinated signal timing plans, upgrading traffic signal controllers, and installing communication.	\$150,000	ODOT	4
D7	NE Surf Extension	Extend NE Surf Ave to NE 34th and 35th St, while also connecting to NE 34th St; including sidewalks.	\$3,425,000	Developer	4

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
D8	NW Harbor Improvements	Improve NW Harbor from NW 21st to NW 15th (designed and scheduled to be constructed 2015-2016); includes sidewalk on the west side and shared roadway markings for bikes.	Funded	City	1
D9	SE Neptune Extension	Extend SE Neptune Ave to SE East Devils Lake Rd at SE Oar Ave; improvement includes sidewalks.	\$600,000	Developer	4
D10	NE East Devils Lake Flood Prevention	Elevate NE East Devils Lake Rd (SE Port Ave to east of S Hill Rd) as identified in Lincoln County TSP, including a shared-use path on the north side. Work with county to develop a long-term solution to avoid flooding.	\$25,075,000	County	4
D11	SE Port Extension	Extend SE Port Ave from SE Oar Ave to the proposed SE Mast Ave extension; improvement includes sidewalks.	\$575,000	Developer	4
D12	SE Mast Extension	Extend SE Mast Ave to SE 14th St; improvement includes sidewalks.	\$1,825,000	Developer	4
D13	Bard Rd Improvement Plan	Develop a plan for improving Bard Road for bike lanes, sidewalk, and curve smoothing and connectivity.	\$75,000	City	1
D14	SE Lee Extension	Extend SE Lee Ave to SE 23rd Dr; install sidewalks along the west side and a shared use-path along the east side.	\$11,900,000	Developer / City	4
D15	SE Fleet Extension	Extend SE Fleet Ave to SE 23rd Dr, while also connecting to stub streets east of US 101; install sidewalks along the west side and a shared use-path along the east side.	\$3,000,000	Developer / City	4
D16	SE 27th St Extension	Extend SE 27th St east to the proposed SE Lee Ave extension, and upgrade existing facility; improvement includes sidewalks.	\$1,400,000	Developer	4
D17	SE 28th St Realignment	Realign SE 28th St to the intersection of US 101 and SW 29th St, extend SE 28th St east to the proposed SE Lee Ave extension, and upgrade existing facility; install sidewalks along the north side and a shared-use path along the south side.	\$2,925,000	Developer	4
D18	SW 30th Extension	Extend SW 30th St from SW Coast Ave to US 101 at SE 31st St; improvement includes sidewalks.	\$1,425,000	Developer	4
D19	SE Dune Extension	Extend SE Dune Ave from SE 35th St to SE 32nd St, and close existing US 101 access; improvement includes sidewalks.	\$1,000,000	Developer	4

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
D20	Schooner Creek Rd/Bear Creek Rd Improvement Plan	Study affordable improvements (e.g., grading, gravel) from intersection of Bear Creek Road and Salmon River Hwy (north of Lincoln City) to SE 51st Street	\$150,000	City/County/ODOT	4
D21	Taft Coordinated Signal Timing	Optimize the existing traffic signals at US 101/SW 48th Street and US 101/SW 51st Street by implementing coordinated signal timing plans, upgrading traffic signal controllers, and installing communication.	\$100,000	ODOT	1
D22	SW Fleet Extension	Upon redevelopment, extend SW Fleet Ave from SW 50th St to SW 51st St; improvement includes sidewalks.	\$575,000	Developer	4
D23	Taft Beach Parking Local Connection	Create a new local connection from the west end of SW 51st St to SW 50th St; install sidewalks on the east side of the street and a shared-use path on the west side.	\$275,000	Developer / City	4
D24	SW Jetty Realignment	Realign SW Jetty Ave to perpendicularly connect to US 101, and improve SW Jetty Ave as a two-way minor collector; realignment includes developing a shared-use path along the west side and sidewalks on the east side.	\$675,000	City	4
D25	SW Keel Connection	Extend SW Keel Ave from SW 63rd St to SW Jetty Ave; improvements include sidewalks along the east side and a shared-use path along the west side.	\$1,150,000	City	4
D26	Culter Speed Feedback Sign	Install a radar speed feedback sign along northbound US 101 entering Cutler to help reduce speeding.	\$25,000	ODOT	1
D27	NE Sal La Sea Dr Extension Phase 1	Extend NE Sal La Sea Dr to NE Devils Lake Blvd; including sidewalks and bike lanes.	\$8,125,000	Developer / City	4
D28	NE Sal La Sea Dr Extension Phase 2	Extend NE Sal La Sea Dr from NE Devils Lake Blvd to US 101; including sidewalks and bike lanes.	\$15,150,000	Developer / City	4
D29	Oceanlake Reconfiguration Resolution	Determine the ultimate configuration of US 101 through Oceanlake from NW 19th Street to NW 13th St, including a collaborate conversation with affected business owners and residents, City Council, and ODOT about acceptable trade-offs.	\$50,000	City / ODOT	1

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
<b>Estimated Cost for all Driving Projects</b>			<b>\$85,200,000</b>		
<b>Pedestrian Projects (see Figure 10)</b>					
P1	Logan Road Interim Striping Project	Interim pedestrian striping improvement along Logan Rd between 50th St and Roads End State Park	\$100,000	City	1
P2	NW Logan Sidewalk Infill	Fill sidewalk 250' gap on west side of NW Logan Rd between US 101 and NW 50th St.	\$13,000	Developer / City	1
P3	Highway Improvements Segment 1	Install sidewalk along the north side of US 101 from NE West Devils Lake Road to NW Logan Road. Includes the 350' segment on the east side of Logan Road, at the US 101 intersection.	\$3,600,000	ODOT	4
P4	NE 39th St Crossing	Stripe a continental crossing across US 101 on the north side of the NW 39th Street intersection. This improvement will restripe the highway so that the northbound lanes are reduced to a single through lane until after the crossing where they become two through lanes again. This improvement includes a median refuge island, RRFB's, advanced stop bars, and pedestrian crosswalk signs. See Volume 2, Section Q for a concept drawing.	\$75,000	ODOT	1
P5	NW 39th St Sidewalk Infill	Add sidewalk on north side of NW 39th St from NW Port Ave to NW Jetty Ave.	\$625,000	City	4
P6	NW Jetty Sidewalk Infill (north segment)	Add sidewalk on the east side of NW 40th Place from NW 40th St to NW Jetty Ave, and on the west side of NW Jetty Ave from NW 40th Pl to NW 30th St.	\$1,000,000	City	4
P7	NW Jetty Sidewalk Infill (south segment)	Add sidewalk on the west side of NW Jetty Ave from NW 30th St to NW 21st St.	\$1,000,000	City	4
P8	NW 34th Street Sidewalk Infill	Add sidewalk to north side of NW 34th St from US 101 to NW Jetty Ave.	\$900,000	City	4
P9	NW 30th Sidewalk Infill	Add sidewalk on both sides of NW 30th St from US 101 to NW Jetty Avenue.	\$650,000	City	2
P10	NW 28th St Sidewalk Infill	Add sidewalk on both north and south sides of NW 28th St from US 101 to NW Jetty Ave.	\$1,750,000	City	4
P11	NW 26th St Sidewalk Infill	Add sidewalk on north and south side of NW 26th St between NW Keel Ave to NW Jetty Ave.	\$160,000	City	2

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
P12	NW 25th St Sidewalk Infill	Add sidewalk on north and south side of NW 25th between NW Keel Ave and NW Jetty Ave, and NW Oar Ave and US 101. Between NW Oar Ave and NW Keel Ave, add sidewalk to south side of street.	\$660,000	City	2
P13	Highway Improvements Segment 3	Widen US 101 from NW 39th Street to NW 25th Street to include bike lanes and landscaped sidewalks (stays three lanes).	\$28,800,000	ODOT	4
P14	NE Holmes Sidewalk Infill	Add sidewalk on both sides of NE Holmes from US 101 to NE West Devils Lake Road. Coordinate with project B4.	\$850,000	City	2
P15	NE 28th St Sidewalk Infill	Add sidewalk to both sides of NE 28th Street east of NE West Devils Lake Road.	\$650,000	City	4
P16	NE 22nd & Oar Pl Pedestrian Access	Provide pedestrian refuge from frequent turning vehicles by filling sidewalk gaps on north side of NE 22nd St between US 101 and NE Oar Place, and east side of NE Oar Place near NE 22nd Street.	\$125,000	City	4
P17	NE Surf/NE 21st Sidewalk Network	Complete sidewalk on both sides of NE Surf Avenue between NE 22nd Street and NE 21st Street, on north side of NE 21st Street between NE Quay Place and NE Surf Avenue, and on both sides of NE 21st Street between US 101 and NE Quay Place.	\$1,300,000	City	4
P18	NE 14th St Sidewalk Infill	Add sidewalks to the north side of NE 14th Street from US 101 to Regatta Park.	\$895,000	City	1
P19	Oceanlake Midblock Crossings	Expand no-parking zones to extend from the crosswalk to the advanced stop bars. See Volume 2, Section Q for a concept drawing.	\$10,000	ODOT	1
P20	South Oceanlake Unsignalized Crossings	Expand no-parking zones around NW 15th Street and NW 13th Street to extend from the crosswalk to the advanced stop bars; install a median refuge island on the north approach of the NE 11th Street intersection; install pedestrian crosswalk signs at stop bars. See Volume 2, Section Q for a concept drawing.	\$30,000	ODOT	1
P21	NW 14th St Sidewalk Infill	Add sidewalks to the north side of NW 14th Street from NW Harbor Ave to US 101.	\$480,000	City	3
P22	NW Harbor Sidewalk Infill	Add sidewalk on the west side of NW Harbor Ave from NW 15th St to NW 12th St.	\$300,000	City	1

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
P23	NW 12th Sidewalk Infill	Add sidewalk on both sides of NW 12th St from NW Harbor Ave to US 101.	\$1,000,000	City	3
P24	NW Inlet Ave, NW 6th St, and NW 2nd St Sidewalk Infill	Add sidewalk on the west side NW Inlet Ave south of NW 12th St, south side of NW 6th St, and the south side of NW 2nd St.	\$1,000,000	City	3
P25	SE 3rd St Crossing	Install RRFB's and pedestrian crosswalk signs at stop bars. See Volume 2, Section Q for a concept drawing.	\$50,000	ODOT	1
P26	SE 3rd St Sidewalk Infill	Add sidewalks to the north side of SE 3rd St.	\$1,000,000	City	4
P27	SE Neptune Ave Sidewalk Infill	Add sidewalks to both sides of SE Neptune Ave from SE 3rd St to SE 8th St.	\$525,000	City	4
P28	SW Ebb St Sidewalk Infill	Add pedestrian improvements to the west side of SW Ebb Ave from US 101 to SW 9th St.	\$400,000	City	4
P29	SW 9th St, and SW Fleet Ave Sidewalk Infill	Add pedestrian improvements to the south side of SW 9th St from SW Ebb Ave to SW Fleet Ave, and west side of SW Fleet Ave from SW 9th St to SW 12th St.	\$175,000	City	4
P30	SW 11th & Coast Ave Pedestrian Corridor	Add sidewalk on east side of SW 11th Drive at SW 9th St to SW Coast Ave.	\$2,950,000	City	4
P31	SW 12th St Sidewalk Infill	Add pedestrian improvements and stormwater to both sides of SW 12th St from SW Fleet Ave to US 101.	\$350,000	City	4
P32	SW Harbor Dr (SW 12th to SW 14th), and SW 14th St Sidewalk Infill	Add pedestrian improvements to both sides of SW Harbor Dr from SW 12th St to SW 14th St, and both sides of SW 14th St between SW Harbor Drive and US 101.	\$325,000	City	4
P33	SW Harbor Dr (SW 14th to SW Bard) Sidewalk Infill	Add pedestrian improvements to the east side of SW Harbor Drive between SW 14th St and SW Bard Rd.	\$275,000	City	4
P34	East Devils Lake Rd Sidewalk Infill	Sidewalk infill on the north side of East Devils Lake Rd from SE Jetty Ave to SE Oar Ave.	\$175,000	Developer / City	4
P35	SE Oar Ave Sidewalk Infill	Sidewalk infill on both sides of SE Oar Ave between East Devils Lake Rd and SE 14th St, and on the west side between SE 14th St and the end.	\$825,000	Developer	4



# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
P36	SE 14th St Sidewalk Infill	Sidewalk infill on both sides of SE 14th St between SE Marine Ave and SE Oar Ave.	\$325,000	Developer	4
P37	SE 19th St Sidewalk Infill	Sidewalk infill on the north side of SE 19th St.	\$350,000	Developer	4
P38	SW Bard Rd Crossing	Install a continental crossing across US 101 between the SW Bard Road and SE 19th Street intersections. This improvement includes a median refuge island in the center turn lane, a curb extension on the west side, wheelchair ramps with sidewalk on the east side, advanced stop bars, and pedestrian crosswalk signs at the crossing and at the stop bars. See Volume 2, Section Q for a concept drawing.	\$75,000	ODOT	1
P39	Highway Improvements Segment 7	Widen US 101 from SE 14th Street to SE 23rd Drive to include bike lanes and landscaped sidewalks (stays four lanes).	\$16,800,000	ODOT	4
P40	SW Coast Ave, SW Beach Ave, and SW 28th St Sidewalk Infill	Complete sidewalk gaps along the south side of SW 28th St between SW Beach Ave and SW Coast Ave, both sides of SW Coast Ave between SW Bard Rd and SW 24th Dr, and both sides of SW Coast Ave from SW Beach Ave to SW 29th St.	\$995,000	City	4
P41	SE 23rd Drive Sidewalk Infill	Add sidewalk to both sides of SE 23rd Drive from US 101 to terminus of road.	\$5,525,000	Developer	4
P42	SE High School Dr/SE Fleet/SE Spyglass Ridge Sidewalk Infill	Fill gap in sidewalk network along the north side of SE High School Dr, and west sides of SE Fleet Ave and SE Spyglass Ridge Dr.	\$275,000	City	4
P43	Highway Improvements Segment 9	Widen US 101 from SW 32nd Street to SW Beach Avenue to include bike lanes on both sides and a landscaped sidewalk on the east side. Retains three lanes, and narrows to two lanes in constrained areas.	\$31,200,000	ODOT	4
P44	SE High School Dr Crossing	Install a continental crossing across US 101 between SE High School Drive and the motel driveway. This improvement includes a median refuge island in the center turn lane, advanced stop bars, and pedestrian crosswalk signs at the crossing and at the stop bars. See Volume 2, Section Q for a concept drawing.	\$30,000	ODOT	4

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
P45	SW Coast/Beach Crossing	Install a midblock continental crossing across US 101 in the general location of SW Beach Avenue and SW Coast Avenue. The specific location and design will be determined later during the project design.	\$100,000	ODOT	1
P46	Fire Signal Crossing	Install a pedestrian crossing in the vicinity of the fire signal, which may involve incorporating pedestrian push buttons to activate a pedestrian phase with the current fire signal. See Volume 2, Section Q for a concept drawing of the project at the fire signal.	\$300,000	ODOT	1
P47	SW 50th St Crossing	Restripe and realign the existing crossing at SW 50th Street as a continental crossing that is perpendicular to the roadway. This improvement includes adding downward arrow rider sign under existing crossing signs, advanced stop bars, and pedestrian crosswalk signs at stop bars. See Volume 2, Section Q for a concept drawing.	\$30,000	ODOT	1
P48	SE 51st/Schooner Creek Sidewalk Infill	Add new sidewalks to both sides of SE 51st St from SE 48th Pl to US 101, and to the south side of SE Schooner Creek Rd from SE 51st St to the urban growth boundary.	\$2,500,000	City	4
P49	Cutler Crossing	Install a pedestrian crossing at the north leg of SW 62nd Street/US 101. This improvement includes continental crossing, a median refuge island, and pedestrian crosswalk signs. See Volume 2, Section Q for a concept drawing.	\$75,000	ODOT	1
P50	Highway Improvements Segment 12	Widen US 101 from SW Jetty Avenue to city limits to include bike lanes and landscaped sidewalks (stays three lanes).	\$14,400,000	ODOT	4
P51	Cutler Sidewalk Network	Add sidewalk to both sides of SW 62nd St between US 101 and SW Jetty Ave, both sides of SW 63rd St east of SW Keel Ave and the north side only west of SW Keel Ave, west side of SW Inlet Ave, west side of SW Fleet Ave, and south side of SW 69th St between SW Fleet Ave and SW Harbor Ave.	\$2,875,000	City	4
<b>Estimated Cost for all Pedestrian Projects</b>			<b>\$128,878,000</b>		

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
<b>Bicycle Projects (see Figure 11)</b>					
B1	NW Logan Bike Lane Gaps	Fill bike lane gaps on both side of NW Logan Rd from US 101 to north of NW 44th St.	\$550,000	City	4
B2	Highway Improvements Segment 2	Restripe US 101 from NW Logan Road to NW 39th Street to include bike lanes. Retains five lanes.	\$30,000	ODOT	1
B3	NW 39th, NW Jetty Ave, and NW 30th St Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating NW 39th St from US 101 to NW Jetty Ave, NW Jetty Ave from NW 39th St to NW 21st St, and NW 30th St from NW Jetty Ave to US 101 as a shared roadway for bikes.	\$75,000	City	4
B4	Holmes Rd Bike Facilities	Add bike lanes to both sides of NE Holmes Rd from NE West Devils Lake Rd to US 101. Coordinate with project P14.	\$1,475,000	City	4
B5	Highway Improvements Segment 4	Restripe US 101 from NW 25th Street to NW 21st Street to include bike lanes. Retains parking and five lanes.	\$75,000	ODOT	1
B6	NE 21st Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating NE 21st St from US 101 to the dead-end as a shared roadway for bikes.	\$30,000	City	1
B7	North Delake Bike Facilities	Add pavement markings/signage (e.g., sharrows), designating NW Harbor Ave from NW 15th St to NW 12th St, NW/NE 14th Street (NW Harbor to NE Keel), NW/NE 12th Street (NW Harbor to NE Keel) and NW Inlet Ave (NW 12th to US 101) as a shared roadway for bikes.	\$50,000	City	1
B8	NE 13th/NE Keel Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating NE 13th St from NE Keel Ave to its east terminus, and NE Keel Ave from NE 14th St to NE 10th St as a shared roadway for bikes.	\$30,000	City	1
B9	Highway Improvements Segment 5	Restripe US 101 from NW 13th Street to city hall to include a southbound bike lane by reducing existing lane widths. Retains five lanes.	\$75,000	ODOT	1

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
B10	Southeast Delake Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating the route as a shared roadway for bikes. The route includes: SE 1st St from US 101 down to SE 2nd Ct, across the channel via a pedestrian/bicycle bridge to SE 3rd St, along SE 3rd St from the bridge to SE Jetty Ave, and along Jetty Ave to SE East Devils Lake Rd.	\$850,000	City	4
B11	Southwest Delake Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating SW Ebb Ave from US 101 to SW 6th St, SW 6th St from SW Ebb Ave to SW Fleet Ave, SW Fleet Ave from SW 6th St to SW 12th St, and SW 12th St, SW Harbor Ave from SW 12th St to SW Bard Rd as a shared roadway for bikes.	\$275,000	City	4
B12	Highway Improvements Segment 6	Restripe US 101 from city hall to SE 14th Street to include bike lanes. Retains five lanes.	\$30,000	ODOT	1
B13	SE Oar Ave Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating SE Oar Ave from East Devils Lake Rd to the end of SE 14th St as a shared roadway for bikes.	\$30,000	City	4
B14	SW Coast Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating SW Coast Ave from SW Bard Rd to US 101/SW 32nd St as a shared roadway for bikes.	\$75,000	City	4
B15	SE High School Bike Lanes	Add bike lanes to both sides of SE High School Dr from US 101 to SE Spy Glass Ridge Dr and both sides of SE 48th Pl from SE High School Dr to SE Inlet Ave.	\$2,325,000	City	4
B16	Highway Improvements Segment 10	Replace the outside travel lanes along US 101 through Taft, between SW Beach Avenue and Siletz Park with buffered bike lanes. This project has multimodal benefits. It will result in a consistent number of travel lanes from SE 23 Dr. to the south and will reduce speeding. It will also support a bike-friendly environment and will make pedestrian highway crossings easier. It involves mostly striping changes and can be easily converted back to five lanes should the roadway capacity be needed in the future.	\$75,000	ODOT	1

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
B17	Taft Bicycle Boulevard	Add pavement markings/signage (e.g., sharrows), designating S 48th (west of SE Inlet Ave, and from High School Dr to SE 51st St), SW Ebb Ave, and SW/SE 51st St (east of SW Ebb Ave) as shared roadways for bikes.	\$75,000	City	4
B18	Bike warning flashers on US 101/Schooner Creek Bridge	Install "Bikes on Bridge" warning signs and actuated flashing beacons at each end of the Schooner Creek Bridge on US 101. Improvement includes bicycle detection.	\$75,000	ODOT	1
<b>Estimated Cost for all Bicycle Projects</b>			<b>\$6,200,000</b>		
<b>Shared-Use Path Projects (see Figures 10 or 11)</b>					
S1	NE Devils Lake Blvd Trail Expansion - Phase 1	Continue the shared-use path along the west side of NE Devils Lake Blvd. north of NE Voyage Ave.	\$375,000	Developer / City	4
S2	NE Devils Lake Blvd Trail Expansion - Phase 2	Replace existing sidewalk on the west side of NE Devils Lake Blvd from US 101 to NE 47th St with a shared-use path.	\$600,000	City	4
S3	Head to Bay Trail Expansion - NE 22nd St	Replace existing sidewalk with shared-use path along the south side of N 22nd St from NE Quay Pl to NE Surf Ave and along the west side of NE Quay Pl from NE 22nd St to NE 21st St.	\$1,075,000	City	4
S4	NE 21st Path	Create a shared-use path from NE 21st Street/NE Surf Avenue to the NE Tide Avenue terminus.	\$325,000	City	4
S5	Head to Bay Trail Expansion - West Devils Lake Road	Fill gaps in Head to Bay path along the west side of NE West Devils Lake Rd between NE 26th St and NE Port Ave (includes boardwalk over creek).	Funded	City	1
S6	East Devils Lake Path	Create a shared-use path along the west side of NE East Devils Lake Rd from US 101 to SE Oar Ave.	\$22,625,000	County	4
S7	East Delake Path - North	Create a shared-use path connecting NE Keel Ave/NE 10th St, US 101/NE 1st St, and US 101/SE 1st St. Includes a hanging pedestrian/bicycle bridge on the east side of the highway.	\$3,000,000	City	4

# The Plan

**Table I: Financially Constrained and Aspirational Project List**

Project #	Project Description	Project Elements*	Estimated Cost (2014 Dollars)	Primary Funding Source**	Package ***
S8	D River Hanging Bridge	Create a shared-use path along the west side of US 101 from NE 1st Street to SE 1st Street, which includes a hanging pedestrian/bicycle bridge on the D River Bridge.	\$625,000	ODOT	1
S9	SE Lee to SE Oar Path	Create a shared-use path from SE Lee Ave to the end of SE Oar Ave.	\$625,000	City	4
S10	Highway Improvements Segment 8	Complete the shared-path along the east side US 101 between SE 23rd Drive and SW 32nd Street.	\$1,200,000	ODOT	1
S11	Nelscott to Taft Path	Create a shared-use path connecting Nelscott to Taft from SE Fleet Ave/SE 32nd St to US 101 behind the high school, north of the elementary school, and south of the baseball field; then from US 101 to the SW 48th St terminus and to SW 50th St.	\$10,600,000	Developer	4
S12	Siletz Park Path	Create a shared-use path connecting SW 52nd Court to the proposed Schooner Creek Hanging Bridge.	\$375,000	City	4
S13	Highway Improvements Segment 11	Install a shared-use path along the west side of US 101 between Siletz Park and SW Jetty Avenue. This includes a hanging pedestrian/bicycle bridge on the Schooner Creek Bridge.	\$3,600,000	ODOT	1
S14	Cutler Loop Path	Create a shared-use path loop along the beachfront, behind the wetland park, and along the proposed SW Keel Ave alignment.	\$7,475,000	City	4
<b>Estimated Cost for all Shared-Use Path Projects</b>			<b>\$52,500,000</b>		

\*The project design elements depicted are identified for the purpose of creating a reasonable cost estimate for planning purposes. The actual design elements for any project are subject to change, and will ultimately be determined through a preliminary and final design process, and are subject to city and/or ODOT approval.

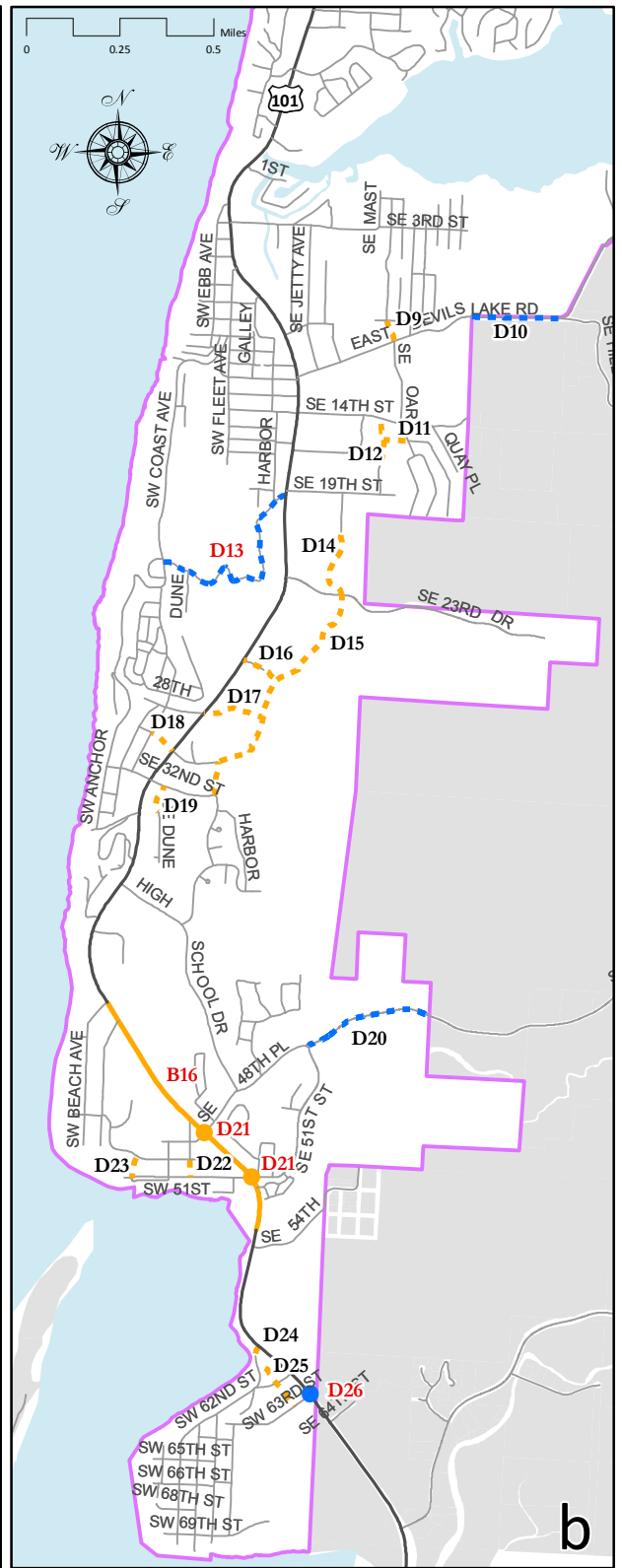
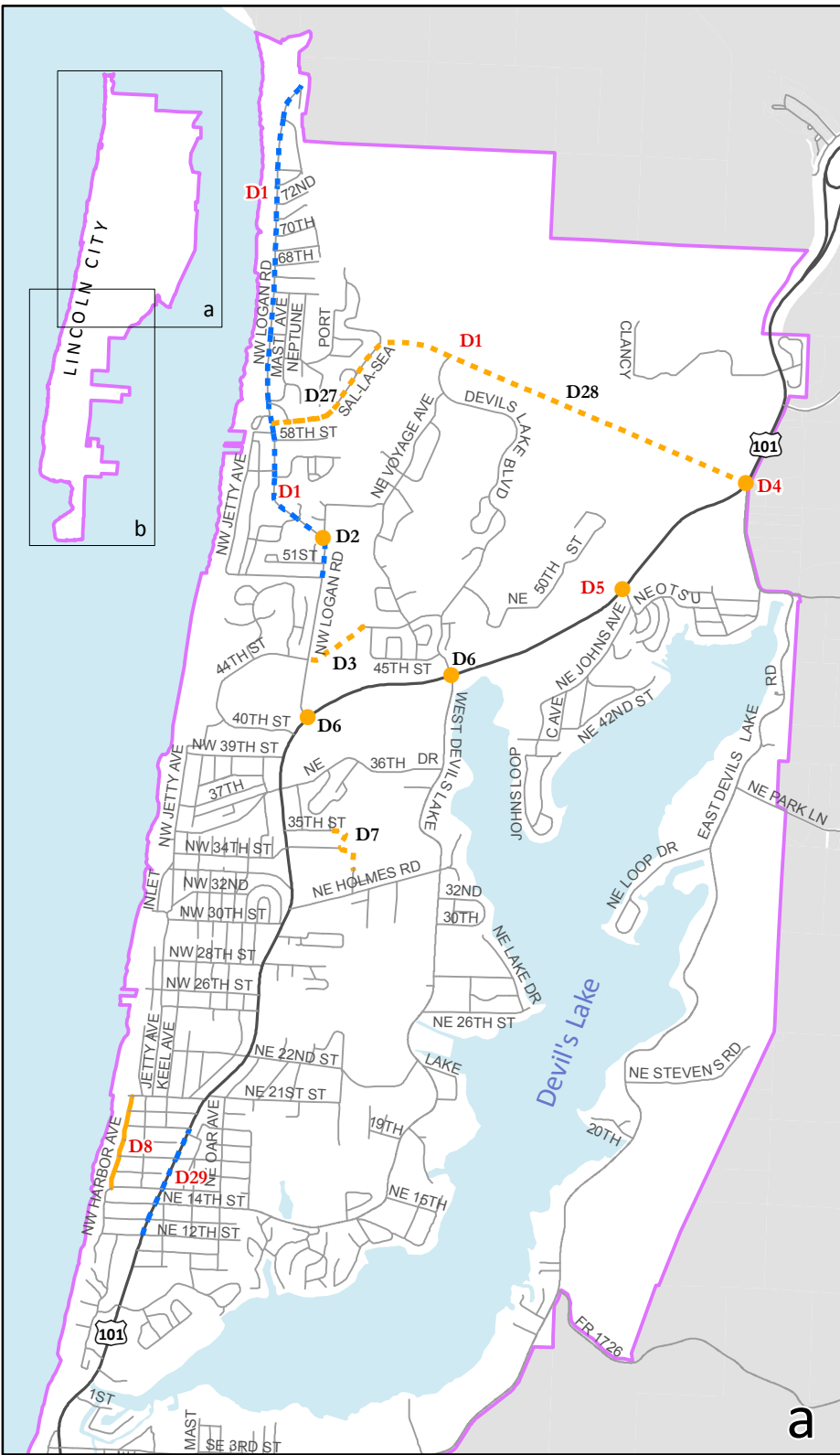
\*\*Funding will come from a variety of sources. Primary funding source is based on the agency who has jurisdiction over an existing facility, or who is expected to construct a new facility.

\*\*\*Improvement Package 1: Financially Constrained Plan (Totals the \$2.5 million likely to be available through existing city funding sources. Package 1 also includes a reasonable estimate of how the city would use revenue from various state and/or federal sources).

Improvement Package 2: Relies on \$2.5 million of additional funding that would be available if the city opted to add one of the new funding sources described on page 62.

Improvement Package 3: Relies on \$2.5 million of additional funding that would be available if the city opted to add one of the new funding sources described on page 62.

Improvement Package 4: Comprised of the aspirational projects, those remaining projects that likely would not have city or state funding by 2035.



# 9 Planned Driving Investments

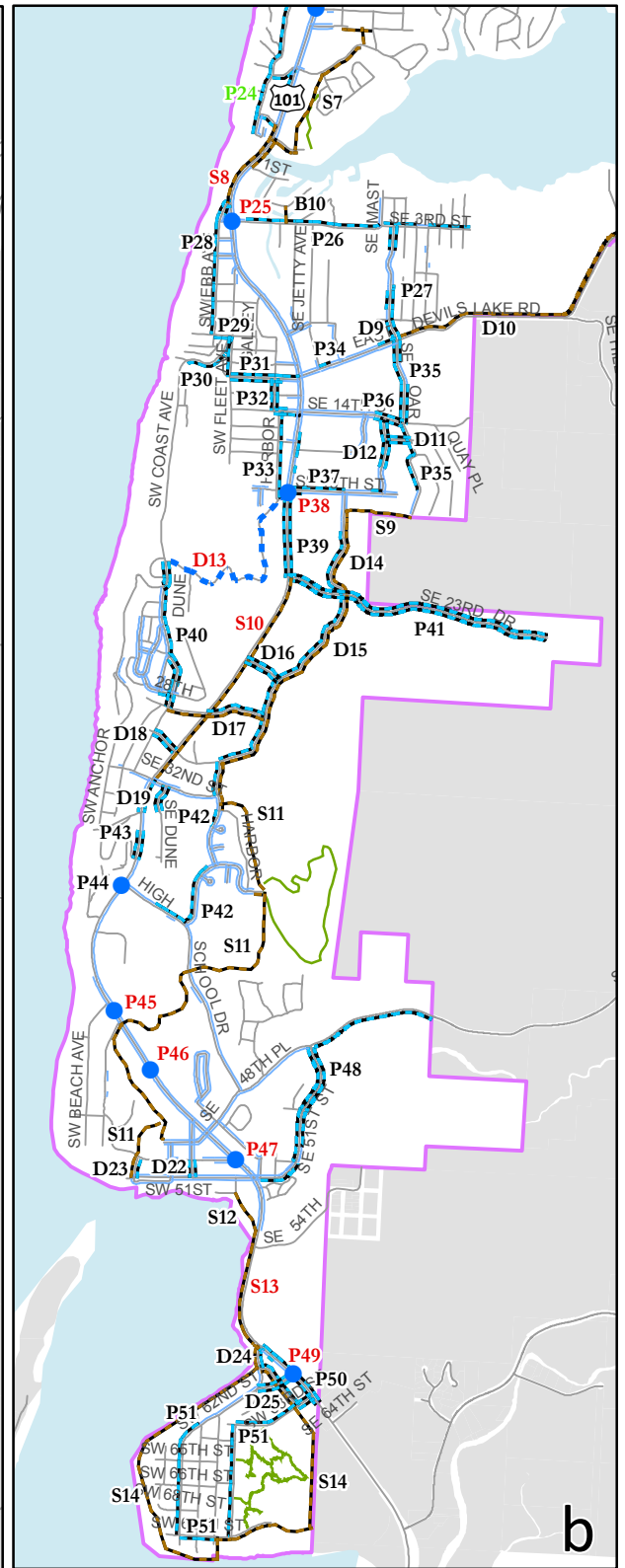
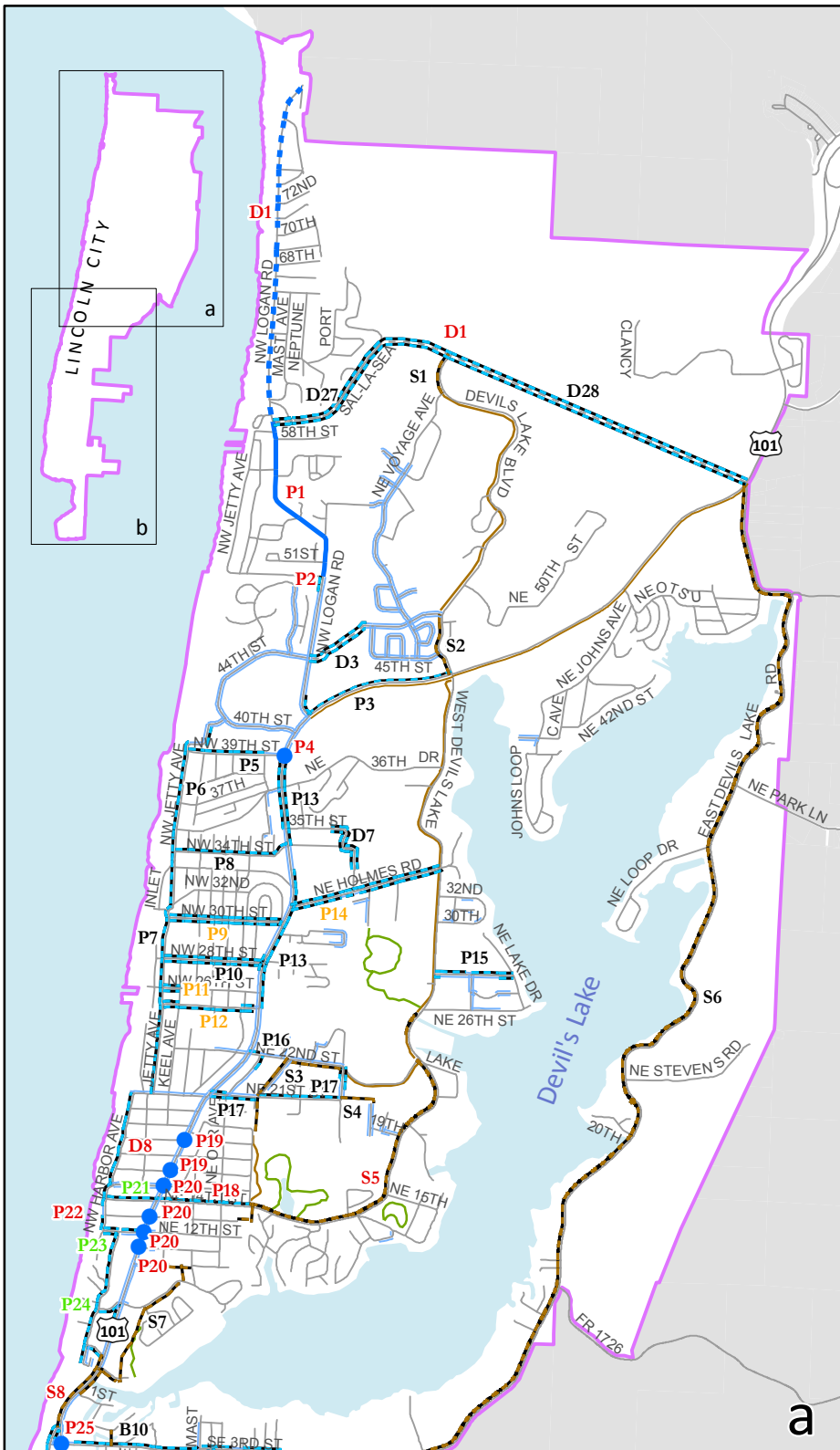
Lincoln City  
Transportation System Plan

## Driving Improvements

- Future Study
- Planned Street
- Planned Street Improvement
- Planned Intersection Improvement
- Planned Speed Feedback Sign
- # Project included in the Financially Constrained Plan (Package 1)
- # Project included in the Aspirational Plan (Package 4)

Urban Growth Boundary





# 10 Planned Walking Investments

Lincoln City  
Transportation System Plan

### Pedestrian Improvements

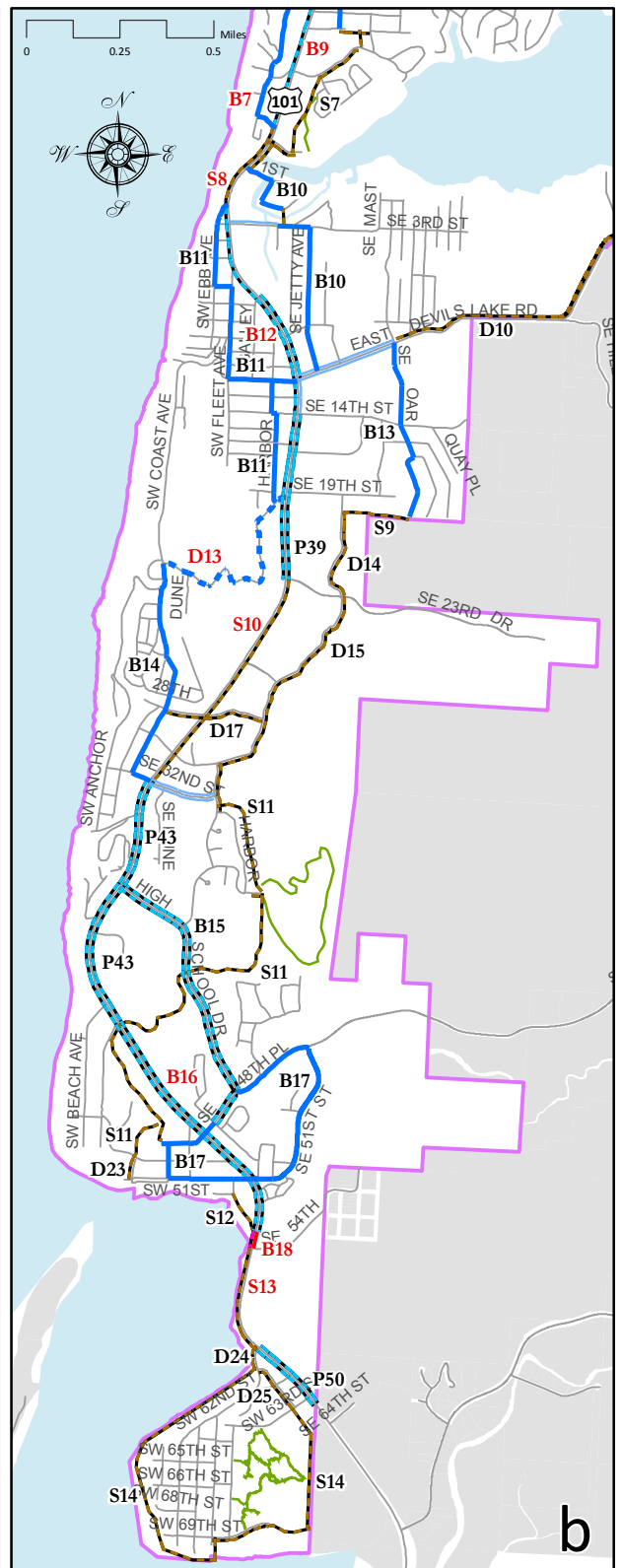
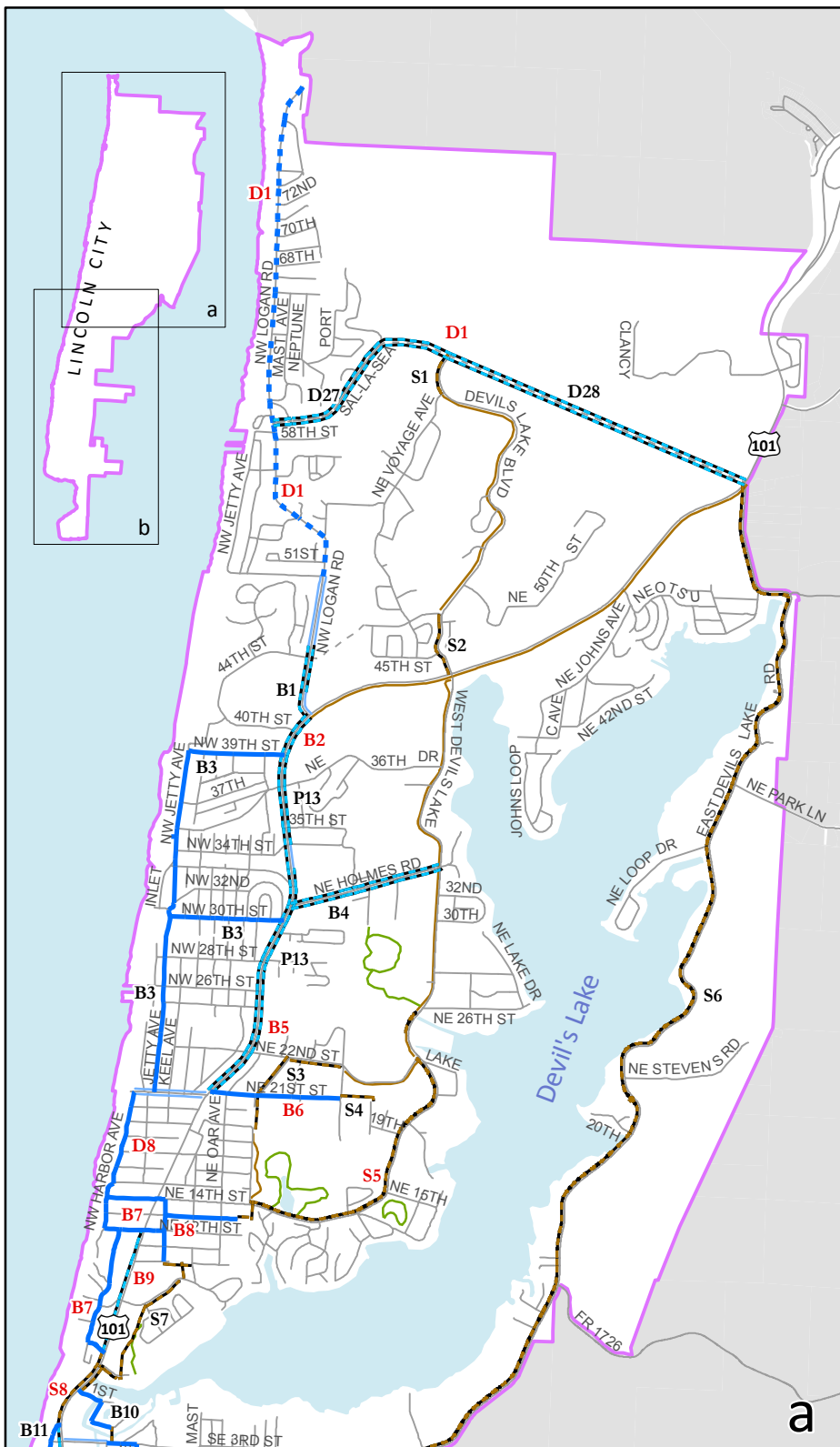
- Planned Shared-Use Path
- Planned Sidewalk
- Interim Pedestrian Striping
- Future Study
- Planned Crossing Improvement
- Existing Shared-Use Path
- Existing Sidewalks
- Existing Trail

- Project included in the Financially Constrained Plan (Package 1)
- Project included in the Financially Constrained Plan (Package 2)
- Project included in the Financially Constrained Plan (Package 3)
- Project included in the Aspirational Plan (Package 4)

Urban Growth Boundary


















# 11 Planned Biking Investments

Lincoln City  
Transportation System Plan

## Biking Improvements

- |  |  |  |   |
|--|--|--|---|
|  Planned Shared-Use Path                           |  Existing Bicycle Lane    |  Project included in the Financially Constrained Plan (Package 1) |  Urban Growth Boundary |
|  Planned Bicycle Lane                              |  Existing Shared-Use Path |  Project included in the Aspirational Plan (Package 4)            |   |
|  Planned Bicycle Boulevard (Along Existing Street) |  Existing Trail           |  |   |
|  Bikes-in-Roadway Warning System                   |  |  |   |
|  Future Study                                      |  |  |   |



# The Standards

**T**he TSP sets standards and regulations to ensure future development or redevelopment of property is consistent with the city's transportation vision and goals.

## Multi-Modal Street System

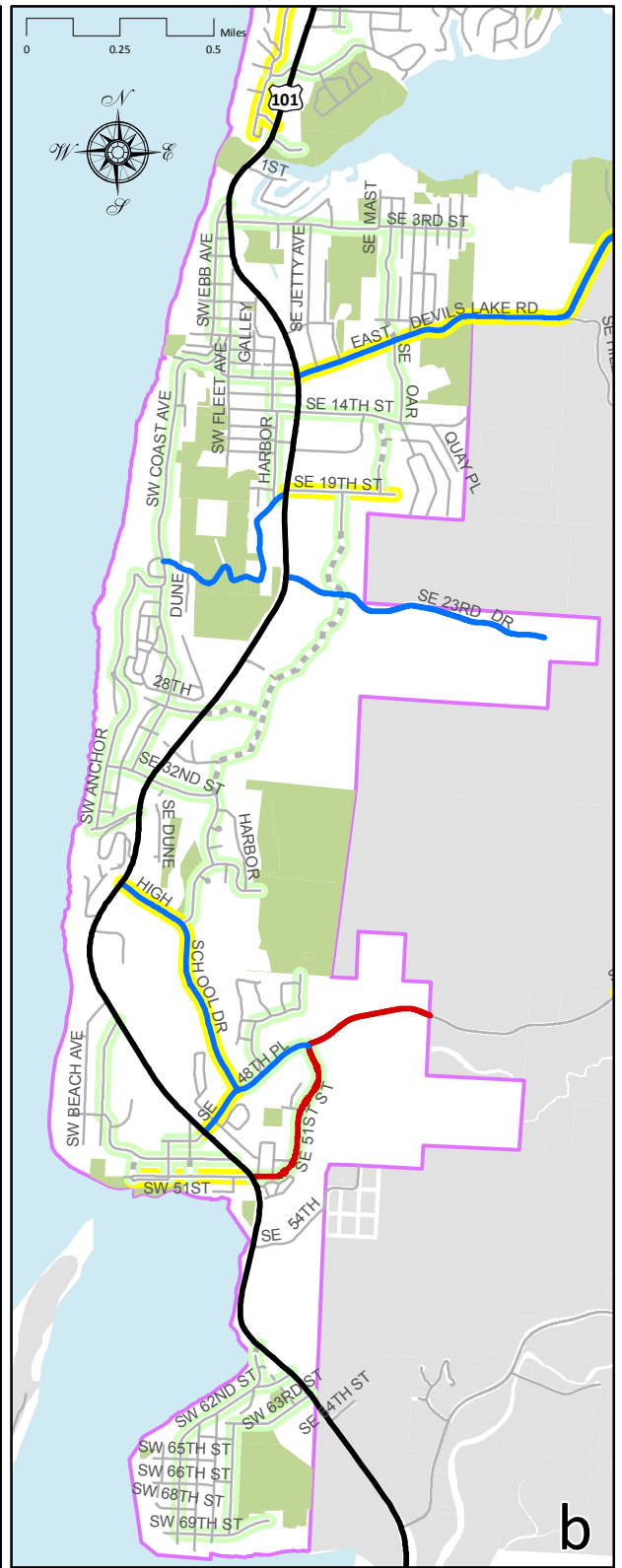
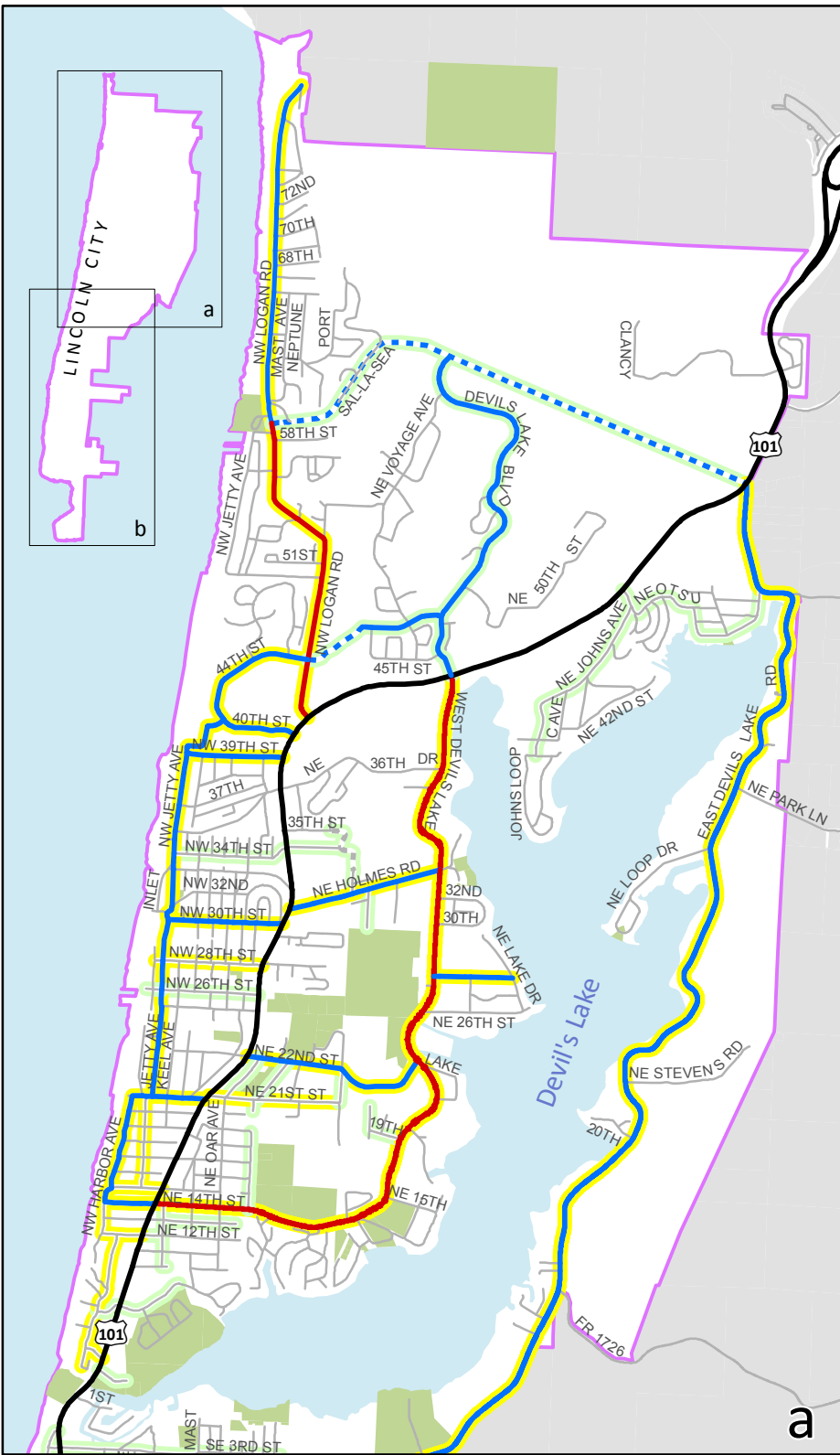
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A multi-modal street system is a hierarchy of streets organized by functional classification and area type. These classifications reflect a scale and design appropriate to the character of the neighborhood, and abutting properties and land uses. Each street classification balances the needs of all travel modes, including pedestrians, bicyclists, transit riders, and motorists. The multi-modal street classification system allows variation in design elements in a manner that is sensitive to the context and character and constraints of the surrounding property.

### Functional Classification

The functional classification of a roadway (shown in Figure 12) determines the level of mobility for all travel modes for anticipated level of access and usage. The functional classification system recognizes that individual streets do not act independently of one another, but instead form a network that serves travel needs on a local and regional level. From highest to lowest intended usage, the functional classifications are: principal arterial, minor arterial, collector, local, and shared streets. Roadways with higher intended usage generally limit access to adjacent property in favor of more efficient motor vehicle traffic movement (i.e., mobility). Local roadways with lower intended usage have more driveway access and intersections, and generally accommodate shorter trips to nearby destinations.





# 12 Multi-Modal Street Functional Classifications

Lincoln City  
Transportation System Plan

### Street Functional Classifications

- Principal Arterial
- Minor Arterial
- Collector
- Local Road



### Area Type

- High-Use Street
- Medium-Use Street



- Urban Growth Boundary
- Park



Note: Potential Alignments for Future Roadways are shown as dashed lines



# The Standards

## Area Type

In addition to functional classification, the TSP classifies streets by area type (i.e., high, medium, and low use) to reflect the nature of the land uses the street serves and the number of pedestrians, bicyclists, and transit riders. The area type determines how users of a roadway interact with the surrounding land use and prescribes walking and biking accommodations for the street in a way that minimizes conflict with motor vehicles and maximizes safety for all users. Figure 12 shows the three area types described below:

- **High-Use Streets** have higher traffic volumes, and typically are a transit route. These streets should emphasize facilities and amenities for pedestrians, bicycles and transit users to complement the private development along the street. High-use streets typically serve pedestrian oriented land uses, so walking should receive the highest priority of all the travel modes. They should have wider sidewalks, pedestrian amenities, transit amenities, attractive landscaping, on-street parking, pedestrian crossing enhancements and buffered bicycle lanes.
- **Medium-Use Streets** have moderate traffic volumes. They generally are surrounded by a mix of land uses, including both residential and commercial. These streets often provide secondary neighborhood connections to local parks, schools and mixed-use areas. Their design should emphasize walking, but accommodate the needs of bicyclists and motor vehicles. Prioritized design elements should include landscaped buffers, walkways/pathways/trails, on-street parking and pedestrian safety enhancements.
- **Low-Use Streets** have low traffic volumes, and generally serve residential uses. Their design should slow travel speeds to accommodate the needs of pedestrians and bicyclists safely. Design elements such as traffic calming, and on-street parking should be a high priority. Separate



# The Standards

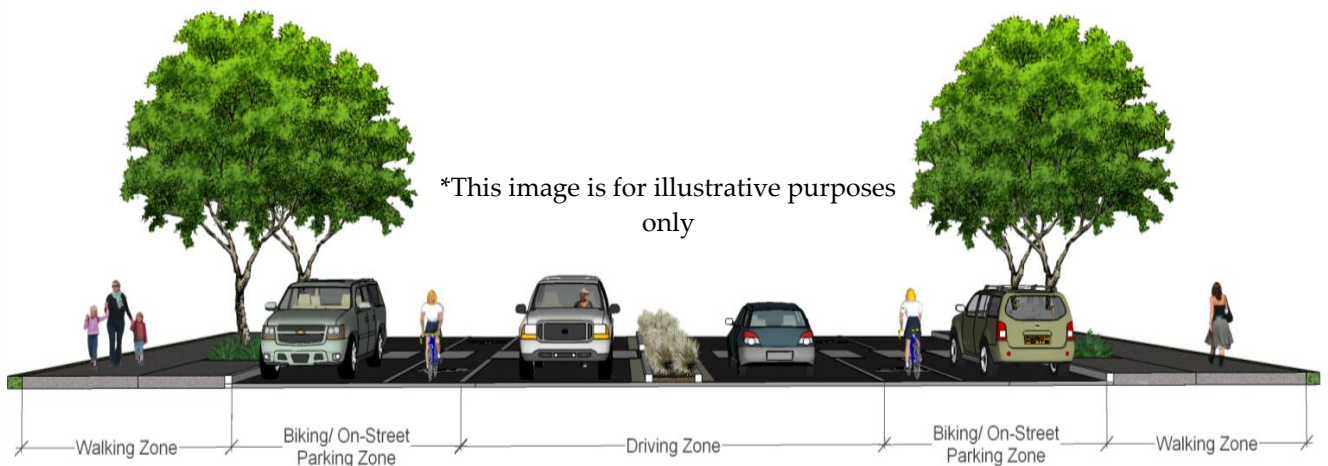
design elements to accommodate specific modes may be necessary depending on expected use.

- **Constrained street option:** Any street located in steep, environmentally sensitive, historic, or developed areas of the city have development constraints. These streets may require modified design elements that may not be to scale with the adjacent land use. Constrained elements may include narrower travel lanes and pedestrian and bicycle facilities, or accommodations that generally match those provided by the surrounding development.



## Design Types of Streets

The design of Lincoln City's streets requires attention to many elements of the public right-of-way and how the street interacts with the adjoining properties. Cross-sections of streets include the walking zone, biking/on-street parking zone, and driving zone (see Figure 13). The design of these zones varies based on the functional classification and area type.



**Figure 13: Components of Lincoln City Streets**

# The Standards

- **Walking Zone:** A travel zone for pedestrians (see Figure 14) is a priority particularly in high-use and medium-use areas. It should include a minimum five-foot clear throughway for walking, an area for street furnishings, bike racks, or landscaping (e.g. benches, transit stops and/or plantings). It needs a clearance distance between curbside on-street parking and the street furnishing area or



**Figure 14: Up Close View of the Walking Zone**

- landscape strip to accommodate opening doors of parked vehicles. 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:** The biking/on-street parking zone should be a high priority in high-use and medium-use areas. It should include on-street parking with a minimum six-foot striped bike lane or five-foot bike lane with a three-foot buffer. This zone is also the location where users access transit.
- **Driving Zone:** This is the throughway zone for motor vehicles, including cars, buses and trucks. It is a high priority on arterial and collector streets. 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 streets or freight routes) take precedence when determining the appropriate lane width. Streets need to

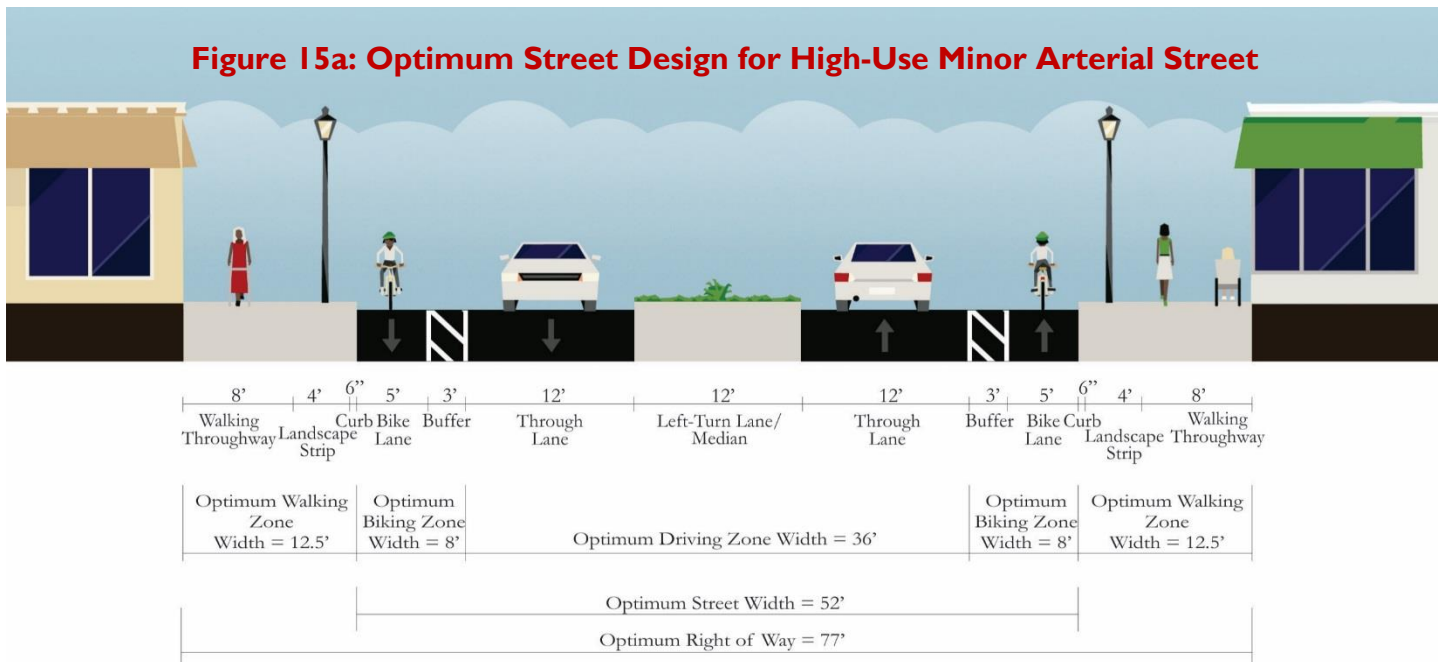
# The Standards

have wider lanes (between 13 to 14 feet) for the short distances where buses and trucks must negotiate right-turns without encroaching into adjacent or opposing travel lanes.

Streets that require a raised median need to include landscaping and a minimum six-foot wide pedestrian refuge at marked crossings. The median can be reduced to a minimum of four feet at midblock, before widening at intersections to accommodate left-turn lanes (where required or needed).

Overall, the TSP includes nine different design types for streets ranging from high-use minor arterial to low-use local street. The TSP does not include a design type for US 101, the city's only major arterial. US 101 is a state highway and subject to the design criteria in the state's Highway Design Manual. The design criteria for other Lincoln City streets are in Figures 15a to 15i, along with guidelines for constrained areas (e.g., steep, environmentally sensitive, historic, or previously developed areas) where the design may need to reduce or eliminate lower priority street elements. A constrained design requires a variance to the city's standard design to allow construction approval.

**Figure 15a: Optimum Street Design for High-Use Minor Arterial Street**

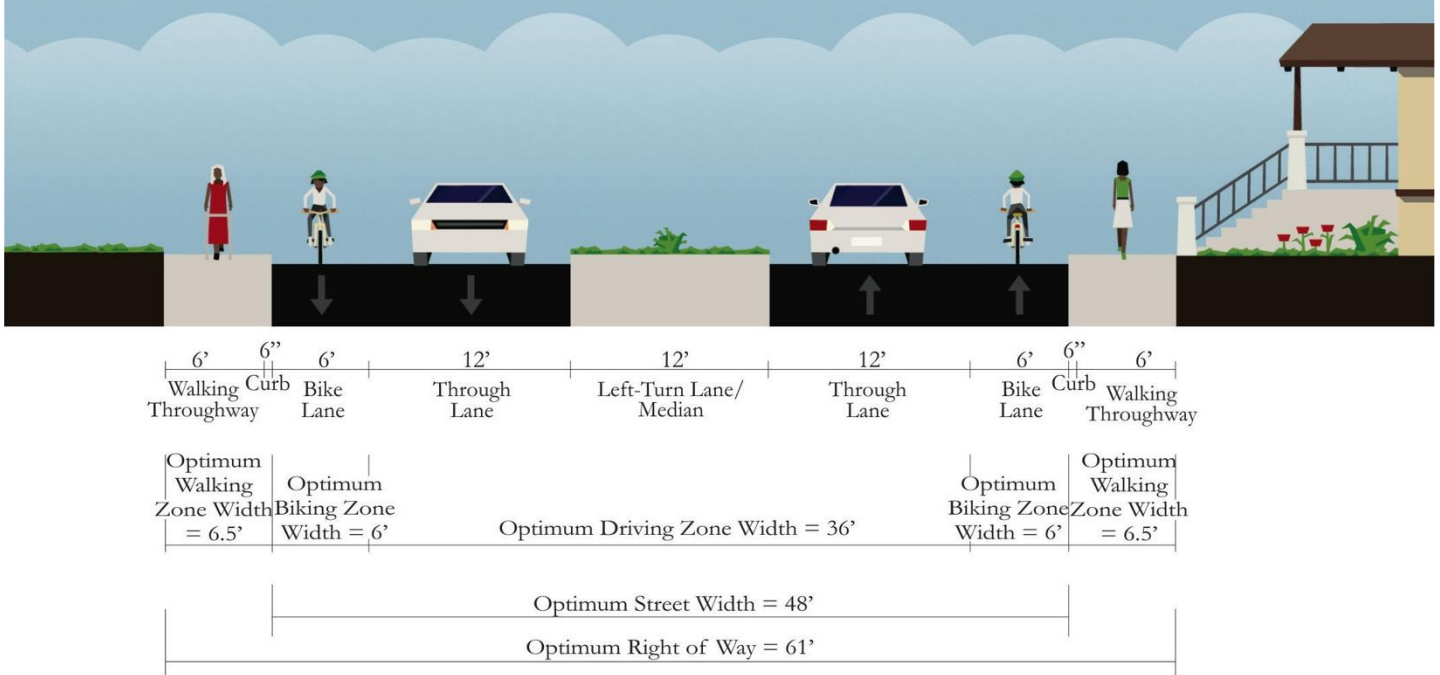


# The Standards

**Figure 15b: Optimum Street Design for Medium-Use Minor Arterial Street**



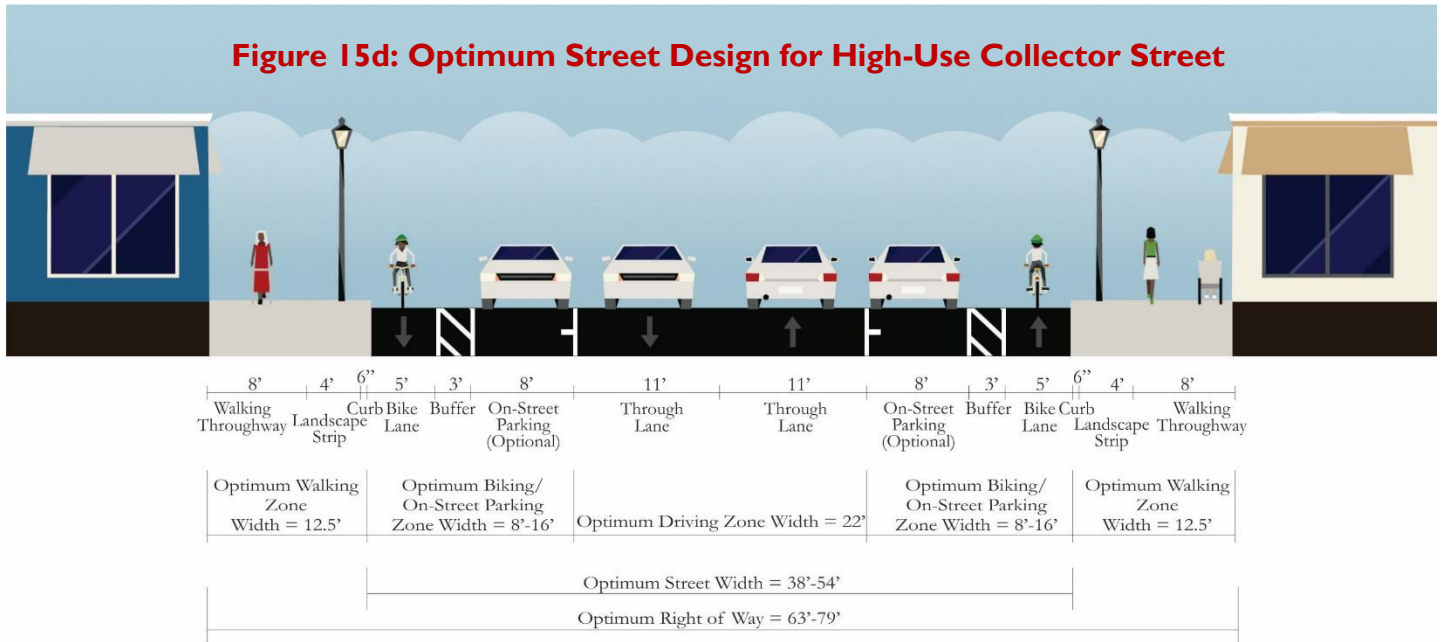
**Figure 15c: Optimum Street Design for Low-Use Minor Arterial Street**



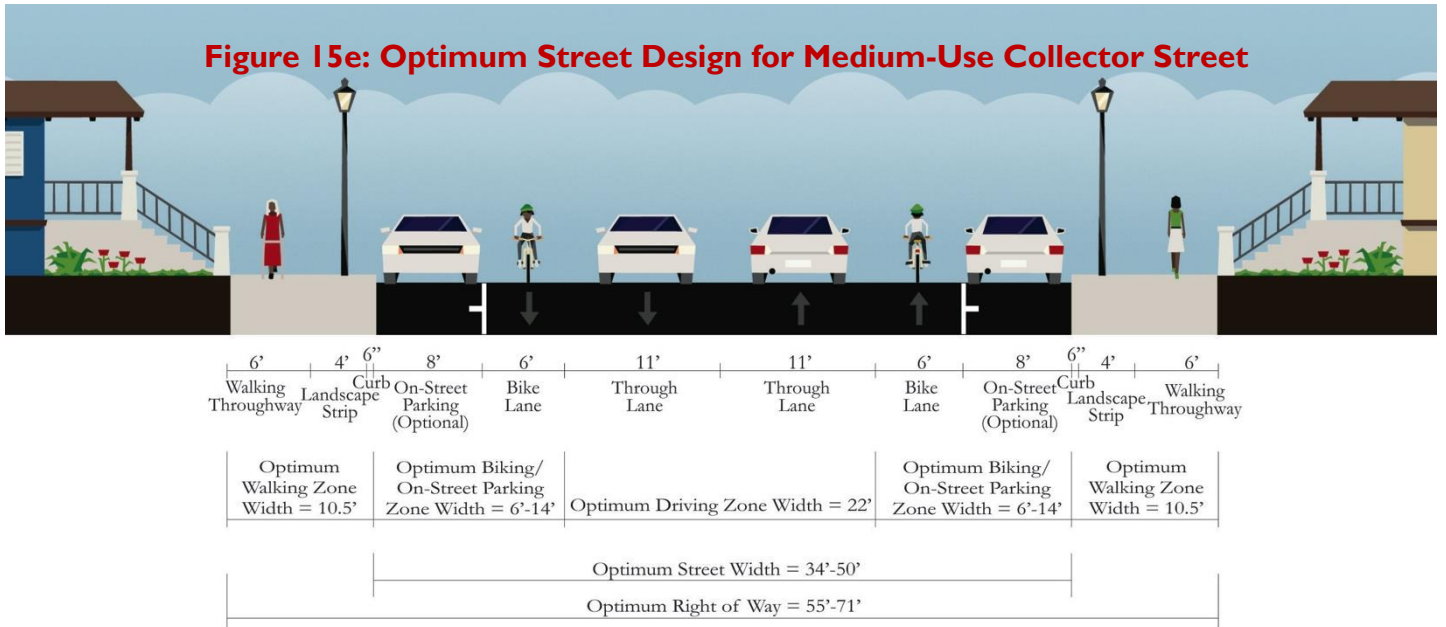


# The Standards

**Figure 15d: Optimum Street Design for High-Use Collector Street**

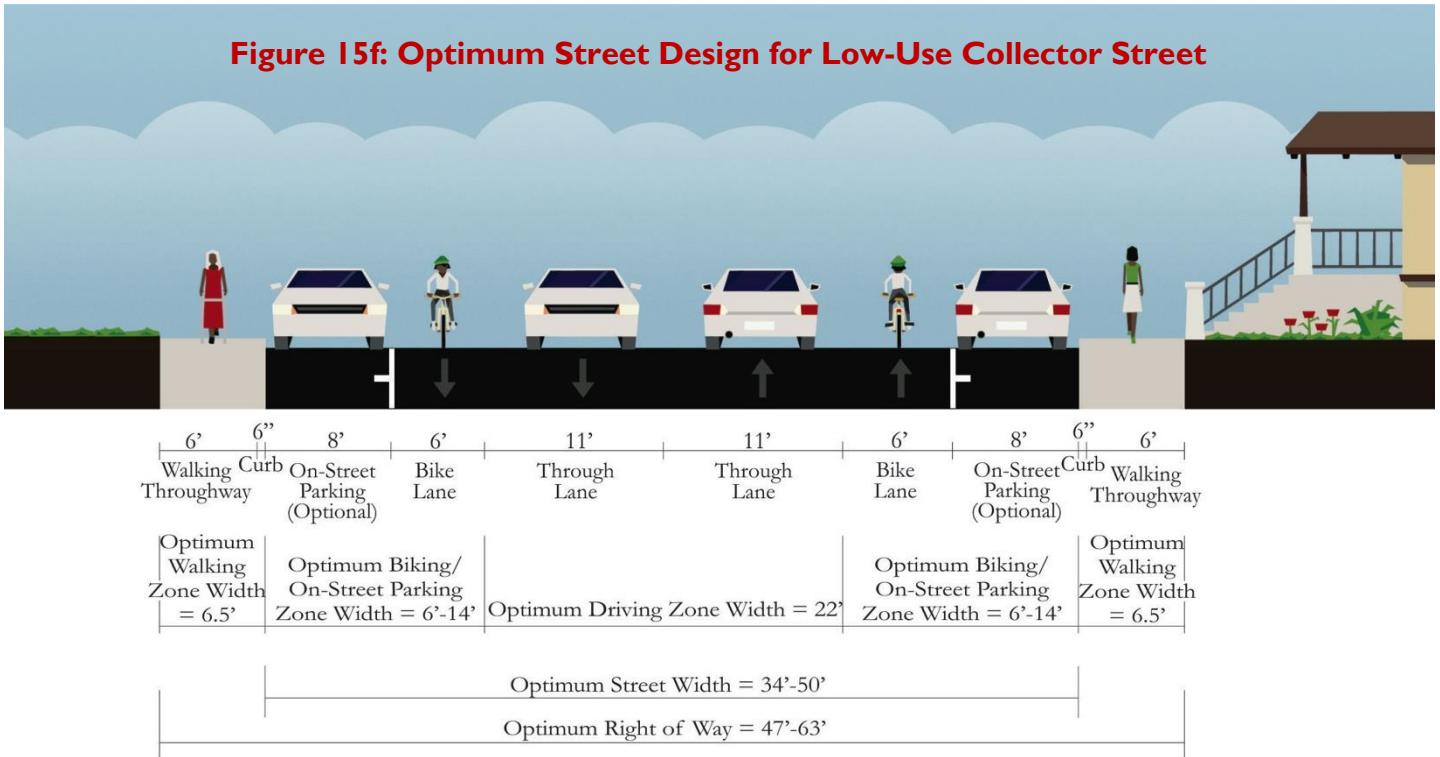


**Figure 15e: Optimum Street Design for Medium-Use Collector Street**

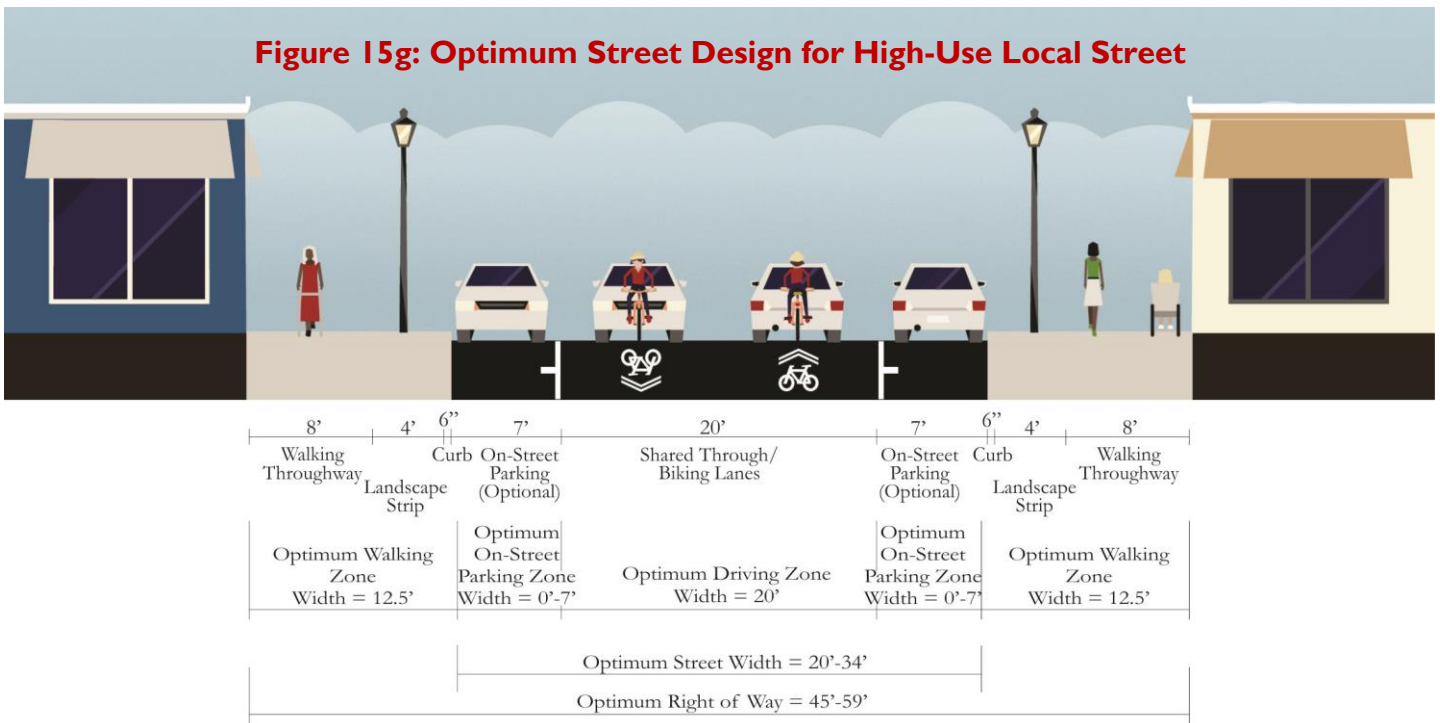


# The Standards

**Figure 15f: Optimum Street Design for Low-Use Collector Street**

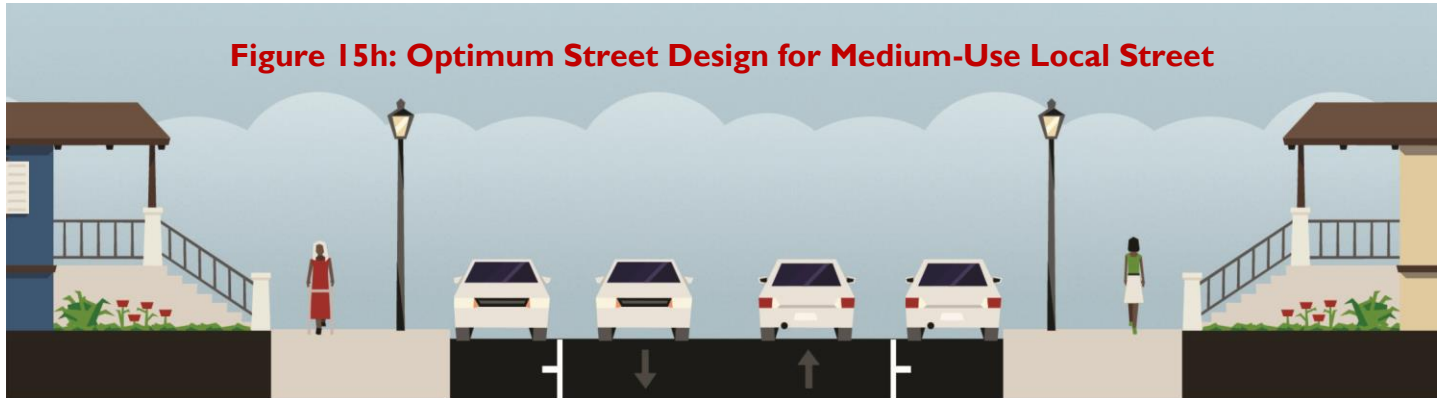


**Figure 15g: Optimum Street Design for High-Use Local Street**



# The Standards

**Figure 15h: Optimum Street Design for Medium-Use Local Street**



6'	4'	6"	7'	20'	7'	6"	4'	6'
Walking Throughway	Curb Landscape Strip	On-Street Parking (Optional)		Through Lanes	On-Street Parking (Optional)	Curb Landscape Strip		Walking Throughway
Optimum Walking Zone Width = 10.5'	Optimum On-Street Parking Zone Width = 0'-7'		Optimum Driving Zone Width = 20'		Optimum On-Street Parking Zone Width = 0'-7'		Optimum Walking Zone Width = 10.5'	
Optimum Street Width = 20'-34'								
Optimum Right of Way = 41'-55'								

**Figure 15i: Optimum Street Design for Low-Use Local Street**



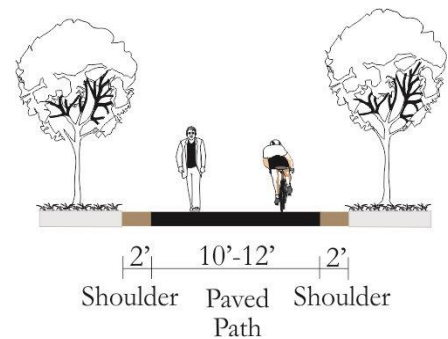
6'	6"	7'	20'	7'	6"	6'	
Walking Throughway	Curb	On-Street Parking (Optional)		Through Lanes	On-Street Parking (Optional)	Curb	Walking Throughway
Optimum Walking Zone Width = 6.5'	Optimum On-Street Parking Zone Width = 0'-7'		Optimum Driving Zone Width = 20'		Optimum On-Street Parking Zone Width = 0'-7'	Optimum Walking Zone Width = 6.5'	
Optimum Street Width = 20'-34'							
Optimum Right of Way = 33'-47'							

# The Standards

## Shared Use Paths

Shared-use paths provide off-roadway facilities for walking and biking travel. Depending on their location, they can serve both recreational and transportation needs. Shared-use path designs vary in surface types and widths. Hard surfaces are generally better for bicycle travel. Widths need to provide ample space for both walking and biking and should be able to accommodate maintenance vehicles. The city may reduce the width of the typical paved shared-use path to a minimum of eight feet in constrained areas located in steep, environmentally sensitive, historic, or developed areas of the city. In areas with significant walking or biking demand, the paved shared-use path should be 12 feet; otherwise, it should be 10 feet wide (see Figure 16).

A variety of amenities can make a path inviting to the user. These could include features such as interpretive signs, water fountains, benches, lighting, maps, art, and shelters.



**Figure 16: Design Criteria for Shared-Use Paths**

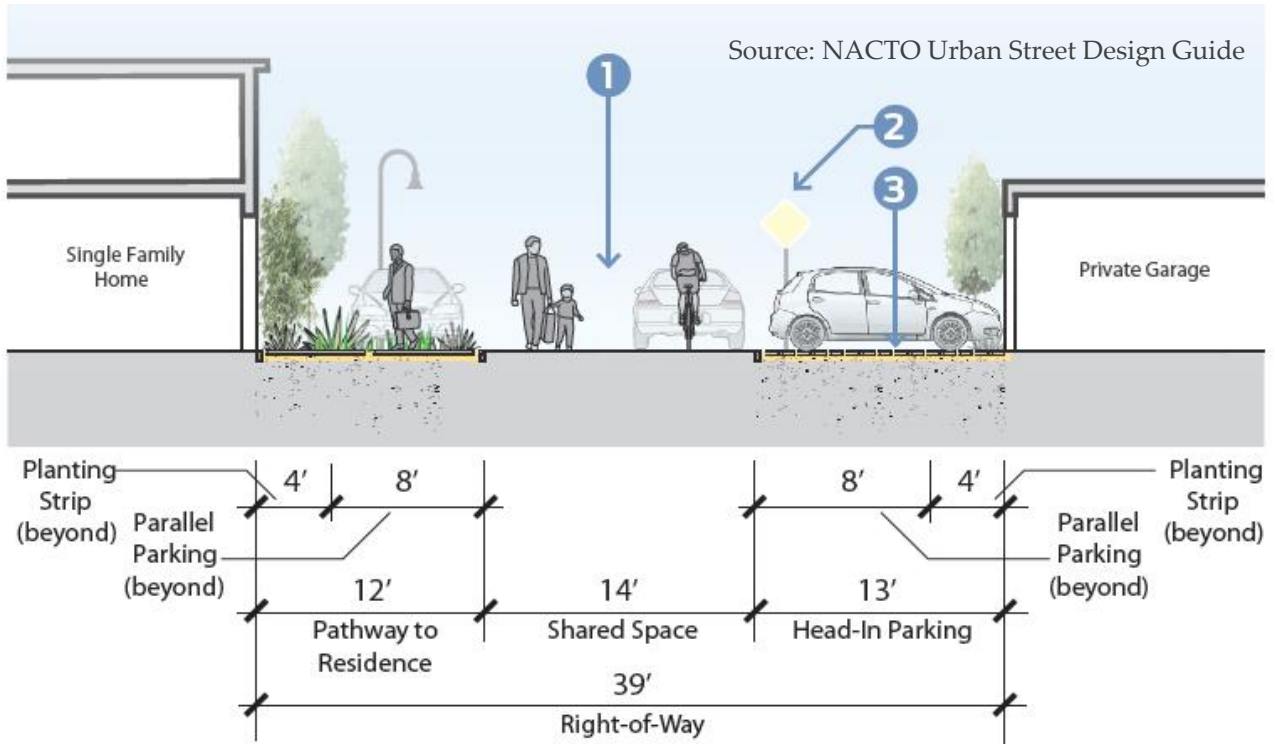
## Shared Streets

Shared streets accommodate pedestrians, bicyclists, and motor vehicles, giving pedestrians priority over cars and bicyclists (see Figure 17). The shared street does not have clear division between pedestrian and auto space (i.e., no continuous curb), so motorists must slow down and drive with caution. Limiting vehicular speed improves residents' feelings of safety and promotes greater use of the public space. Sharing allows room for new features in the street, such as street furniture (e.g., planters, street trees, benches and parking) and areas for social interaction, activities that bring more people out on the streets to walk, bike, play, and interact with each other.

Features of shared streets should include: 1) gateways that announce the entrance(s) to the shared street; 2) curves to slow vehicle traffic by limiting sightlines for drivers; 3) amenities such as trees and play equipment that force vehicles to slow down; 4)

# The Standards

no curbs; and 5) intermittent parking so that cars do not form a wall of steel between the roadway and houses. Cars can pass each other along a shared street, but typically only in selected locations. The speed limit is typically about 10 miles per hour.



1 14-foot shared roadway

2 10 mph advisory speed limit and "shared street" signs

3 Stormwater infiltrates through the permeable paving systems, landscape planters and other purposely located pervious surfaces

**Figure 17: Design Criteria for Shared Streets**

# The Standards

## Access Spacing Standards

Access management is a broad set of techniques that balance the need to provide for efficient, safe, and timely travel with the ability to allow access to individual destinations. Appropriate access management standards and techniques can reduce congestion and accident rates, and may lessen the need for construction of additional roadway capacity.

Table 2 identifies the minimum and maximum public street intersection and minimum private access spacing standards for streets in Lincoln City. New streets or redeveloping properties must comply with these standards to the extent practical, as determined by the city. As the opportunity arises through redevelopment, streets not complying with these standards could improve with strategies such as shared access points, access restrictions (through the use of a median or channelization islands), or closure of unnecessary access points, as feasible. Like street design and mobility targets, access spacing standards for US 101 are determined by ODOT. ODOT spacing standards are defined in the Oregon Highway Plan, OAR 731-051, and ODOT’s Highway Design Manual.

**Table 2: Street and Access Spacing Standards**

	Principal Arterial	Minor Arterial	Collector	Local / Shared
Maximum Block Size (Public Street to Public Street)	See Oregon Highway Plan	530 ft.	530 ft.	530 ft.
Minimum Block Size (Public Street to Public Street)		265 ft.	265 ft.	265 ft.
Minimum Driveway Spacing (Public Street to Driveway and Driveway to Driveway)		265 ft.	130 ft.	None

# The Standards

## Traffic Calming

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Traffic calming (primarily in residential and mixed-use areas) refers to street design techniques that slow traffic and make streets safer and more pleasant for users and adjoining land uses without significantly changing their vehicle capacity.

Table 3 lists common traffic calming applications and suggests which devices may be appropriate for streets in Lincoln City. Traffic calming measures must balance vehicle speeds and volumes with mobility, circulation, and function. Any traffic calming project should include coordination with emergency service providers to ensure the project does not impede response. (See Volume 2, Section P for a toolbox of traffic calming measures.)

Traffic calming influences driver behavior through physical and psychological means, by using one or more of the following:

- Narrowing of 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, and mini-roundabouts
- Providing visual cues such as placing buildings, street trees, on-street parking, and landscaping next to the street to create a sense of enclosure that prompts drivers to reduce vehicle speeds



# The Standards

**Table 3: Traffic Calming Measures by Street Functional Classification**

	Minor Arterial	Collector	Local / Shared
Narrowing travel lanes	Yes	Yes	All calming measures are generally appropriate on local streets that connect to two or more streets and are infrequent emergency response routes.
Placing buildings, street trees, on-street parking, and landscaping next to the street	Yes	Yes	
Curb Extensions or Bulbouts	Yes	Yes	
Roundabouts	Yes	Yes	
Mini-Roundabouts	No	Yes	
Medians and Pedestrian Islands	Yes	Yes	
Pavement Texture	Yes	Yes	
Speed Hump or Speed Table	No	No	
Raised Intersection or Crosswalk	No	No	
Speed Cushion (provides emergency pass-through with no vertical deflection)	No	Yes	
Choker	No	No	
Traffic Circle	No	No	
Diverter (with emergency vehicle pass through)	No	Yes	
Chicanes	No	No	

## Mobility Targets

Mobility targets for streets and intersections in Lincoln City provide a metric to assess the impacts of new development on the existing transportation system. They are the basis for requiring improvements needed to sustain the transportation system (consistent with the TSP Goal 4) as growth and development occur. Two methods to gauge intersection operations include volume-to-capacity (v/c) ratios and level of service (LOS).

- **Volume-to-capacity (v/c) ratio:** ODOT bases its mobility targets on v/c ratios. A v/c ratio is a decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. The ratio is the peak hour traffic volume divided by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and



# The Standards

minimal delays. A ratio approaching 1.00 indicated increased congestion and reduced performance. A ratio greater than 1.00 reflects a turn movement, approach leg, or intersection that has excessive queues and long delays.

- **Level of service (LOS):** Lincoln City bases its mobility targets on LOS, which is 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 is excessive and demand exceeds capacity, typically resulting in long queues and delays.



Assuming Lincoln City grows in accordance with its current adopted land use plan and travelers continue to rely heavily on private autos for their trips, roadways in the city will not be able to meet local LOS targets or ODOT’s v/c ratio-based mobility targets. In this situation (which is common in communities with roadways that experience high travel demands), adoption of alternative mobility targets is appropriate. Alternative mobility targets reflect realistic expectations for roadway performance at the end of the 20-year planning horizon, based on traffic projections. Adopting realistic alternative targets relieves the state and local governments from having to limit development or make investments to comply with targets they cannot possibly achieve. The Alternative Mobility Targets Technical Memorandum (included in TSP Volume 2, Section N) documents the need for developing alternative mobility targets for US 101 through Lincoln City and describes the recommended new targets. The proposed alternative mobility targets change the focus from peak traffic volumes during the three summer months to average weekday peak hour conditions the other nine months of the year.

# The Standards

- **Standards for Lincoln City streets.** All streets and intersections in Lincoln City must operate at or below the adopted mobility targets. Any new development that would cause operations to exceed mobility targets is responsible to provide mitigation, such as improvements to the affected streets and intersections, which could include infrastructure or funding for transportation demand management or alternative transportation modes. The following mobility targets are for streets under the city’s jurisdiction.

## **Signalized, All-way Stop, or Roundabout Controlled Intersections:**

The intersection as a whole must meet Level of Service (LOS) “E” or better during the highest one-hour period on an average weekday (typically, but not always the evening peak period between 4 p.m. and 6 p.m. during the spring or fall).

**Two-way Stop and Yield Controlled Intersections:** All movements at intersections serving more than 20 vehicles during the highest one-hour period on an average weekday (typically, but not always the evening peak period between 4 p.m. and 6 p.m. during the spring or fall) shall be LOS “E” or better. LOS “F” is acceptable for movements at intersections serving no more than 20 vehicles during the peak hour.

- **State-owned streets** must comply with the mobility targets included in the Oregon Highway Plan. Because constraints make widening US 101 impractical, the TSP recommends that the OTC adopt alternative mobility targets for the highway that reflect forecast performance based on no significant capacity improvement over the planning horizon. If funds become available for a widening project during the planning period, ODOT and the OTC can adjust the mobility targets accordingly to reflect its construction. Section N, in TSP Volume 2, includes the full discussion of this recommendation. Lincoln County does not have mobility targets for county roadways.



# The Standards

## Street Crossings

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Roadways with high traffic volumes and/or speeds in areas with nearby transit stops, residential uses, schools, parks, shopping and employment destinations generally require enhanced street crossings with treatments, such as marked crosswalks, high visibility crossings, and curb extensions to improve the safety and convenience. Crossings should be consistent with the block spacing standards shown in Table 2. Blocks longer than the maximum block size shown in Table 2 should have mid-block pedestrian and bicycle access ways at spacing no more than 330 feet. Exceptions include where the connection is impractical due to topography, inadequate sight distance, high vehicle travel speeds, or other factors that may prevent safe crossing (as determined by the city).



# The Outcome

**H**ow will the constrained investment recommendations in the TSP improve the performance of the transportation network in Lincoln City? To answer this question, the TSP evaluated investment decisions and compared them to anticipated trends through 2035.

## The Improved Transportation System

Lincoln City expects the following results from the TSP by 2035:

- **Enhanced transit stop amenities:** Increased amenities at bus stops will enhance travel convenience and comfort via transit. The city will have an implementation plan for a seasonal trolley bus and a park and ride facility at the north end.
- **Continuation of Current Level of Transit Service:** Without stable new sources of transit operating funds, the city will not be able to provide expanded transit, which the community certainly needs, particularly given the demographics and likely user base within the city. Just maintaining current service levels will be difficult.
- **Increased congestion on US 101:** While streets in 2035 will not have failed completely in terms of traffic flow, traffic volumes will be higher during summer months, and congestion will be considerably worse than it is now. That said, strategic improvements to the bicycle and pedestrian facilities on US 101 will make the highway safer and more accommodating, which may encourage some shift in the choice of travel mode.
- **Safer Streets:** Added turn lanes, improved intersection geometrics and traffic control, and managed travel speeds will make streets in Lincoln City safer.
- **Safer street crossings:** Investments in enhanced street crossings will reduce the existing barriers and make crossing the highway safer for those walking and biking.



# The Outcome



- **More walking and biking facilities:** More residents and visitors will be able to walk and bike to destinations in Lincoln City on an expanded walking and biking network.
- **Greater street connectivity:** As areas of the city develop, new streets will provide increased motor vehicle, pedestrian, and bicycle connectivity.

## To the Planning Horizon and Beyond

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The 2015 Lincoln City TSP has not resolved all the of the city's transportation issues. The following require additional exploration:

### Potential Additional Funding Sources

Based on the identified funding gap, Lincoln City may wish to consider expanding its funding options in order to fund more of the desired improvements in a timely manner. Other cities use one or more of the following sources to fund the capital and maintenance aspects of their transportation programs. A variety of factors affect use of these sources, including the willingness of local leadership and the electorate to burden citizens and businesses with taxes or fees, the availability of local funds the city can dedicate or divert to transportation issues from other competing city programs, and the availability of state and federal funds. The city should consider opportunities for providing or enhancing funding for the transportation improvements included in the TSP.

- **Transportation Utility Fee:** A transportation utility fee is a recurring monthly charge paid by all residences and businesses within the city. A city can base the fee on the estimated number of trips a particular land use generates or charge a flat fee per residence or business. The city can collect the fee through its regular utility billing. Existing law places no express restrictions on the use of transportation utility fee funds, other than the restrictions

A \$1.00 per month  
Transportation  
Utility Fee would  
allow the city to  
make an  
additional \$2  
million worth of  
investments  
through 2035

# The Outcome

that normally apply to the use of government funds, and does not require public vote prior to implementing the fee. Some cities utilize the revenue for any transportation related project, including construction, modernization, and repairs; however, many cities choose self-imposed restrictions or parameters on the use of the funds. For every \$1.00 per month in charged rates per water meter for residential and commercial uses, the city could expect to collect nearly \$100,000 annually.

- **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 cities monthly by distributors of fuel. Some cities increase their local gas tax during the summer months to place more of the burden on visitors than on year-round residents.

If Lincoln City, for example, adopts a three cent per gallon local gas tax during the winter months (November through May) and a five cent per gallon local gas tax during the summer months (June through October), the city could expect to generate around \$115,000 per year. The process for presenting such a tax to voters needs to be consistent with Oregon state law as well as the laws of the city.

- **ODOT Statewide Transportation Improvement Program (STIP) Enhance Funding:** The OTC selects projects proposed by ODOT and local jurisdictions for STIP funding. Historically, only projects on the state highways were eligible for funding. ODOT has modified the selection process to allow funding for projects off the state system that enhance system connectivity and improve multi-modal travel options. The TSP prepares the city to apply for STIP funding.
- **ODOT Highway Safety Improvement Program (HSIP) Funding:** With significantly more funding under the HSIP 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

A local gas tax of 3¢ per gallon during winter months and 5¢ during summer months would allow the city to make an additional \$2.5 million worth of investments through 2035

# The Outcome



on local roads. ODOT will distribute safety funding to each ODOT region, which will collaborate with local governments through the All Roads Transportation Safety (ARTS) Program to select projects that can reduce fatalities and serious injuries, regardless of whether they lie on a local road or a state highway.

- **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 becomes a part of the city’s annual budget process, and competes with other community priorities set by the city council.
- **Fee in Lieu of Improvements:** In the past, as infill development occurred along existing streets, the city allowed a property owner to defer required improvements (such as sidewalks, curbs, gutters, storm water conveyance, and for gravel streets, paving). A “Deferred Improvement Agreement” (DIA) between the city and the property owner specified that when the city was ready to make improvements along the roadway, the property owner would pay the fair share of the cost. The city has found, however, that calling in DIAs has been problematic, because when asked, property owners are not prepared to pay their share. As an alternative to collecting DIAs, the city could collect a fee at the time property develops, putting it into a fund designated for improvements in the neighborhood. Collection of the fees would be easier to administer than DIAs and the revenue generated could be put to use more quickly.
- **Local Improvement District: Local Improvement District:** Local improvement districts (LIDs) can fund capital transportation projects that benefit a specific group of property owners. LIDs require owner/voter approval and a specifically defined project. Benefiting properties pay for the improvements through assessments. LID projects that

# The Outcome

benefit more than the adjacent properties can serve as match for other funds. The city can call in the DIAs it has accumulated from property owners to generate funds for LID projects in their neighborhoods.

- **Debt Financing:** A city can use debt financing to pay for significant capital improvement projects and spread costs over the useful life of a project. The advantage of debt financing is that it enables the city to address deficiencies in the system immediately, making the community safer, more comfortable, and more attractive for tourists and residents. Debt, however, must have a funding source to fulfill annual interest and repayment obligations.



## Technology Advancements

The TSP is a plan for conditions 20 years into the future; however, it cannot anticipate all advancements in technology or their impact on the way people travel to and within Lincoln City. Advancements may include alternative fuel sources that lower the cost of driving and operating transit service, connected vehicle technology that improves the safety and efficiency of roadways, proliferation of electric-assisted bicycles that take the effort out of traveling across hilly topography and expand the number of travelers who can make that choice of mode. The TSP recommends that the city continue to monitor opportunities arising from innovations in transportation technology and anticipate their impact on investment priorities.



## Detailed Analysis of Physical Constraints

All proposed street extensions in this plan that enhance connectivity show conceptual alignments. The plan has not analyzed these alignments for hydrologic, topographic, or other geological constraints, which could require substantial modification. Detailed surveys need to precede final street alignments for these improvements.



# The Outcome

## US 101 Through Oceanlake

Throughout the TSP process, the community has expressed interest in reconfiguring US 101 through Oceanlake to provide increased motor vehicle capacity and adequate bicycle facilities. Consultants tested the possibility of a road diet, but found it would increase congestion to intolerable levels (see TSP Volume 2, Section M). Consequently, any reconfiguring of this section of the highway would require removal of the on-street parking and curb extensions. Depending on what replaces them, the removal of the parking and curb extensions could encourage faster speeds and negatively impact pedestrian comfort. At this time, the TSP assumes the current condition of this section of the highway will remain through the planning horizon. Prior to reconfiguring the highway, the city will need consensus on the priorities of the community and impacted business owners.



## Transit Service Enhancements

The TSP identifies transit improvements to expand service operations that require coordination with Lincoln County and additional funding. As the city and county grow through 2035, Lincoln City and Lincoln County must continue to evaluate the need to expand connectivity, service hours, and bus frequency to ensure adequate service and to assess its potential for reducing highway congestion.

# The Outcome

## Summer Congestion

Assuming Lincoln City grows in accordance with its existing, adopted land use plan and travelers continue to rely primarily on private cars for transportation, roadways in the city increasingly will become more heavily congested during the summer and other peak tourist times. Congestion may rise to a level that discourages tourists from visiting the city and prevents residents from completing their daily tasks. The state and city cannot make sufficient investment in the transportation infrastructure to maintain congestion at a tolerable level. Even if funding were available, any infrastructure project extensive enough to reduce the congestion likely would have unacceptable impacts on the community and have difficulty gaining the necessary regulatory and environmental approvals. The State and Lincoln City, consequently, must handle the congestion by managing travel demand, maximizing the efficiency of the existing transportation system, increasing walking, biking, and transit ridership, and other techniques as described in TSP Volume 2, Section M. A safe, convenient, and attractive transportation system is critical to a successful future for Lincoln City.

