City of Ashland

TRANSPORTATION SYSTEM PLAN

September 2012

Prepared for:

City of Ashland
20 East Main Street
Ashland, OR 97520

Prepared by:

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CITY OF ASHLAND

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Ashland Transportation System Plan

Ashland, Oregon

Draft

September 2012

Transportation System Plan

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Ashland, Oregon

Prepared For:
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PREFACE

The progress of this plan was guided by the Project Management Team (PMT) made up of City of Ashland staff with input from the Oregon Department of Transportation (ODOT). The project was also guided by a Technical Advisory Committee (TAC), the City of Ashland's Transportation Commission (TC), the City of Ashland's Planning Commission (PC), and the City of Ashland's City Council (CC).

The TAC provided guidance on technical aspects of the 2034 City of Ashland Transportation System Plan (2034 TSP) and consisted of staff members from the surrounding communities. The TC and PC ensured that the needs of people in the Ashland community are incorporated in the 2034 TSP. City staff also solicited input from other community organizations such as the Chamber of Commerce.

Membership of PMT, TAC, PC and TC are summarized below.

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Section 1
Introduction

INTRODUCTION

PURPOSE OF THE PLAN

The 2034 Ashland Transportation System Plan (2034 TSP) is an important resource for the City to use to implement the community's goals regarding transportation. The City of Ashland is a community that fosters curiosity, creativity, and communication. It has a progressive and active business community that cultivates vibrant cultural and recreational activities to support tourism in the City and establish a healthy, diverse local economy to support Ashland's year-round residents. The citizens of Ashland place great value on creating and maintaining a sustainable and living community by maintaining high development standards, emphasizing historic preservation and developing effective conservation programs. These values and characteristics of the community influenced and in many respects defined the content of the 2034 TSP.

In the scope of work to develop the 2034 TSP, the City and community clearly emphasized the desire for the 2034 TSP to integrate multimodal transportation and future land use to create a TSP aligned with the community's values. The process to develop the 2034 TSP was initiated in 2010 and completed in 2012. The resulting plan focuses on policies, projects, programs and studies that:

- Improve bicycle and pedestrian facilities and enhance transit service to make Ashland a less auto dependent community;
- Integrate future land use considerations to plan for and preserve opportunities for development that supports and facilitates bicycle, pedestrian and transit modes; and
- Enhance livability, small-town character, and the natural environment.

In addition to developing the 2034 TSP to be aligned with the community's values, it also meets the state requirements for a TSP and acts as a resource for staff, decision makers, and the public. It represents two years of hard work and collaboration among City staff, Transportation Commission, Planning Commission, City Council, Chamber of Commerce, Technical Advisory Committee and community members. The 2034 TSP is the principal document for identifying the function, form, and location of future transportation facilities, directing resources to transportation projects, and providing the community with the level of investment that will be needed to support anticipated development within the community. It also serves as the transportation element, and as a supporting document, of the Ashland Comprehensive Plan as required by state law.

The Ashland Transportation Planning Context

Transportation planning in Ashland is shaped by the community members who value the unique combination of small town Americana, rich history, and progressive attitude of embracing new and different problem solving approaches for the purpose of enhancing the experience of living, working and visiting Ashland. Transportation planning in Ashland is also shaped by the topographical and physical constraints adjacent to the City. Steep hillsides in the northwestern to southwestern portion of the City act as a natural constraint to growth further west or south. Interstate 5 (I-5) along the northeastern to southeastern portion of the City serves as a constraint and connectivity challenge for growth further east or north. The majority of the City is located within the area defined by I-5 and the steep hillsides - as a result the City is relatively compact.

Based on the community's desires, a key focus of the 2034 TSP was to emphasize projects, programs, and studies to enhance bicycling, walking, and transit as comfortable, convenient, and reasonable means for travel. The City's compact nature supports further development of these modes as many trips within the City limits are relatively short in distance and with improved facilities and transit service can be comfortably, conveniently and reasonably made by bicycling, walking and/or riding transit. Some of the specific issues and opportunities that influenced the development of the 2034 TSP are summarized below.

Statewide Highway as Main Street

OR 66 and OR 99 pass through Ashland and within Ashland serve dual functions as statewide routes and local arterials needing to serve a variety of land uses and road users. As a result there are several projects and studies identified in the 2034 TSP that focus on finding and establishing a balance of providing a facility that can support different types of road users, land uses and travel purposes.

Multimodal Connections to Surrounding Communities

As noted above, Ashland is a relatively compact City making travel by bicycling, walking and transit feasible with enhancements to existing facilities and additional facilities to better support those modes. Multimodal connections to surrounding communities (or destinations) such as Medford present more challenges due to the distance between communities and the coordination needed with other agencies and organizations such as the regional transit district. As a result, the 2034 TSP includes a Transit Service Program that outlines the community's transit improvement priorities and identifies funding to support transit improvements. The Transit Service Program is designed to give the City the flexibility they need to be able to coordinate with other agencies to achieve the desired transit service the community would like to have available for travel to, from and within Ashland.

Special Areas

There are two areas within Ashland that are notable opportunities for integrated mixed use development consistent with the community's desire to have land uses that support the local economy, enhance the livability of the community and are supportive of multiple transportation modes. These two areas are the Railroad District located a few blocks north of the downtown couplet and Croman Mill Site located south of OR 66 near I-5. The 2034 TSP includes projects aimed at providing key transportation connections that will facilitate development in those areas.

Plan Background and Regulatory Context

The Oregon Revised Statutes require that the TSP be based on the current Comprehensive Plan land uses and that it provide for a transportation system that accommodates the expected growth in population and employment that will result from implementation of the land use plan. Development of this TSP was guided by Oregon Revised Statute (ORS) 197.712 and the Department of Land Conservation and Development (DLCD) administrative rule known as the Transportation Planning Rule (TPR, OAR 660-012).

The TPR requires that alternative travel modes be given consideration along with the automobile, and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further required that local communities coordinate their respective plans with the applicable county, regional, and state transportation plans.

Further requirements were adopted by the Oregon Legislature in 2009 in Oregon House Bill 2001 - Jobs & Transportation Act (JTA). Among the chief changes introduced in JTA is an emphasis on sustainability. JTA requires the development of a least cost planning model, as well as planning for reduction in greenhouse gas (GHG) emissions. Precise implementation measures and evaluation technologies are still under development. However, these elements were integrated in concept in the development of the TSP.

Planning Work Foundation

The development of the 2034 TSP began with a review of the local and statewide plans and policies that guide land use and transportation planning in the City. In addition to the previously adopted transportation plan (1998), the TSP incorporates the following other transportation planning efforts:

- City of Ashland
  - Comprehensive Plan
  - Partial TSP Update
  - Land Use Code
- Jackson County
  - Comprehensive Plan
  - Transportation System Plan
- Regional
  - RVMPO Regional Transportation Plan

   - RVMPO Regional Transportation Improvement Plan
   - RVMPO Freight Study
- State
   - OAR Chapter 660 division 012
   - OAR Chapter 734 division 051
   - Oregon Highway Plan

A complete list of plans and policies reviewed as part of the 2034 TSP development is included in *Technical Memorandum #1 Plan and Policy Review* within Volume 3.

Public Involvement

Public involvement for developing and reviewing the 2034 TSP was achieved through:

- 11 Joint Transportation Commission and Planning Commission TSP meetings open to the public;
- 1 public forums and one open house;
- Targeted outreach to local community organizations and groups such as the Chamber of Commerce; and
- Public hearings as part of the adoption process.

Organization of the TSP

The 2034 TSP is comprised of a main document (Volume 1) and two volumes of technical appendices.

Volume 1 is the final report of the 2034 TSP. It is organized into the following sections.

- Section 1 – Introduction (current section)
- Section 2 – Existing Transportation System Inventory
- Section 3 – Transportation Goals & Objectives and Plan & Policy Review
- Section 4 – Existing Conditions
- Section 5 – Future Demand, Land Use, Funding
- Section 6 – General Policies and Studies
- Section 7 – Pedestrian Plan
- Section 8 – Bicycle Plan
- Section 9 – Transit Plan

- Section 10 – Intersection and Roadway Plan
- Section 11 – Pedestrian Plans
- Section 12 – Other Modes Plan (Air, Rail, Water, Pipeline)
- Section 13 – Sustainability Plan
- Section 14 – Funding and Implementation
- Section 15 - Plan Implementation Recommendations for Ordinance Amendments (zoning, subdivision, public works construction standards)

Sections 1 through 5 of Volume 1 provide important background information on the existing and future anticipated performance of the transportation system. Sections 6 through 15 of Volume 1 present the policies, studies, projects and programs planned for the next 20 to 25 years.

Volume 2 includes the technical information that directly supplements Volume 1 including the project prospectus sheets and bicycle/pedestrian treatments toolbox.

Volume 3 contains the technical memorandums prepared during the development of the 2034 TSP including the detailed data and analysis that informed the final plan.

Section 2
Existing Transportation System Inventory

EXISTING TRANSPORTATION SYSTEM SUMMARY

This section provides an inventory of the existing transportation system (as of 2010), including elements that influence the transportation system such as land use, population, and environmental constraints. The purpose of this section is to document the baseline existing transportation system within the Transportation System Plan (TSP) Project Area. The information presented in this section was obtained from a number of sources, including the 1998 TSP, the City of Ashland Comprehensive Plan, and the partial update to the TSP performed in 2007. The project team also used Geographic Information System (GIS) files, other data file formats (e.g., excel, PDF), and studies provided by the City of Ashland, Rogue Valley Council of Governments (RVCOG), Rogue Valley Metropolitan Planning Organization (RVMPO), Rogue Valley Transit District (RVTD), Jackson County, and the Oregon Department of Transportation (ODOT) to assemble the inventory and also conducted limited field data collection and verification.

The following elements are inventoried below:

- Land Uses and Population;
- Street System;
- Public Transportation System;
- Rail System;
- Bicycle and Pedestrian Systems;
- Air Transportation System;
- Pipeline System; and
- Water Transportation System.

The majority of the inventory is presented in figures and tabular form with supplemental text provided as needed to further explain the information illustrated.

LAND USES AND POPULATION INVENTORY

This section identifies the existing, planned, and potential land uses as well as environmental constraints to development. The land use and population inventory helped inform the existing and future conditions analyses; particularly, as the project team worked with the community to develop future alternative scenarios that capture the community's vision for the City of Ashland.

Existing maps produced by the City of Ashland illustrate the comprehensive plan, zoning, buildable lands, historic districts, and physical and environmental constraints including floodplain corridors, steep hillside lands, and wildfire lands. A set of these maps is contained in *Appendix A of Technical Memorandum #3: System Inventory in the Technical Appendix*.

Figure 2-1 illustrates the activity centers that are likely destinations for bicyclists, pedestrians, and other active modes of transportation (e.g., rollerblading and skateboarding). These destinations are based on current City of Ashland maps and GIS data. As part of the existing and future conditions analyses, the activity centers shown in Figure 2-1 were integrated into considerations to improve access for pedestrians, bicyclists, and other active modes of transportation. Additional activity centers, such as concentrations of commercial and employment uses, were also considered when making recommendations for enhanced transit service and active transportation improvements.

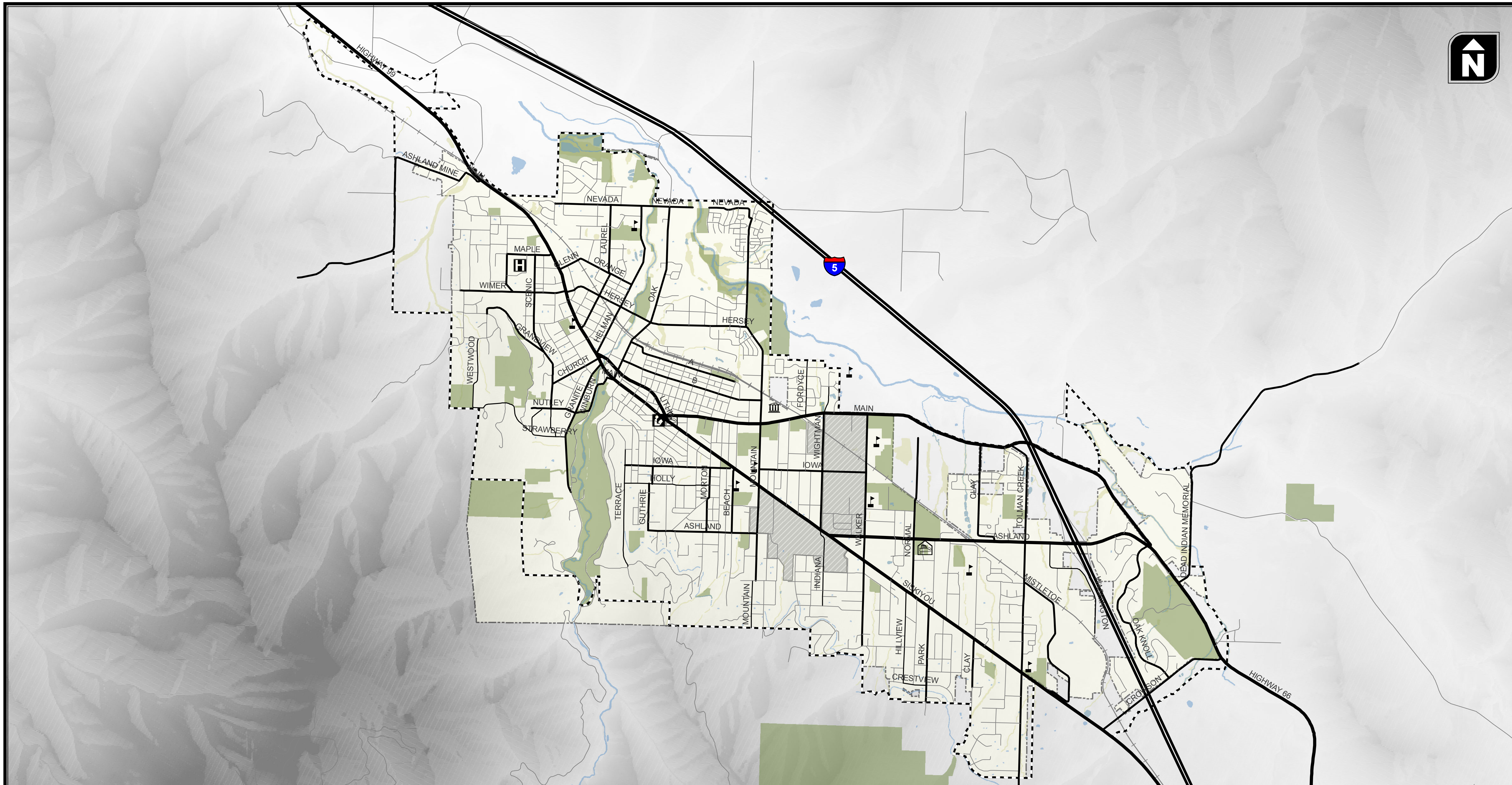
Key destinations identified include Ashland High School, Ashland Middle School, several elementary schools, Southern Oregon University, Ashland Community Hospital and the Ashland Public Library. Lithia Park is the city's largest park, but numerous neighborhood parks also generate significant bicycle and pedestrian travel. The downtown core is a significant pedestrian destination and accommodates the highest levels of pedestrian activity within the city. Exhibits 2-1 and 2-2 are examples of existing destinations in the City of Ashland. Exhibit 2-1 shows Garfield Park, a neighborhood park located off of E Main Street. Exhibit 2-2 is a picture of some of the shopping and downtown activity in Ashland.

Exhibit 2-1: Garfield Park

Exhibit 2-2: Downtown Ashland

Figure 2-2 illustrates the location, by percentage, of the minority population residing within the City of Ashland. Figure 2-3 illustrates the percent of households without access to a personal automobile. The information displayed in Figure 2-2 and Figure 2-3 is based on 2000 Census Data. One notable finding from these figures is that there are currently large concentrations of minority populations located north of Main Street and near Interstate 5 (I-5) that do not have easy walking access to fixed-route transit. Those living near the intersection of Siskiyou Boulevard and Tolman Creek Road and those living between Iowa Street and Siskiyou Boulevard, however, are within a reasonable walking distance of existing transit service.

This base information was used to evaluate public transportation, pedestrian, and bicyclist improvements and opportunities in the existing and future conditions analyses.



City Hall	Library	City Limits
Fire Station	Schools	City UGB
Hospital	SOU Campus	

Ashland Activity Centers

Figure

2-1

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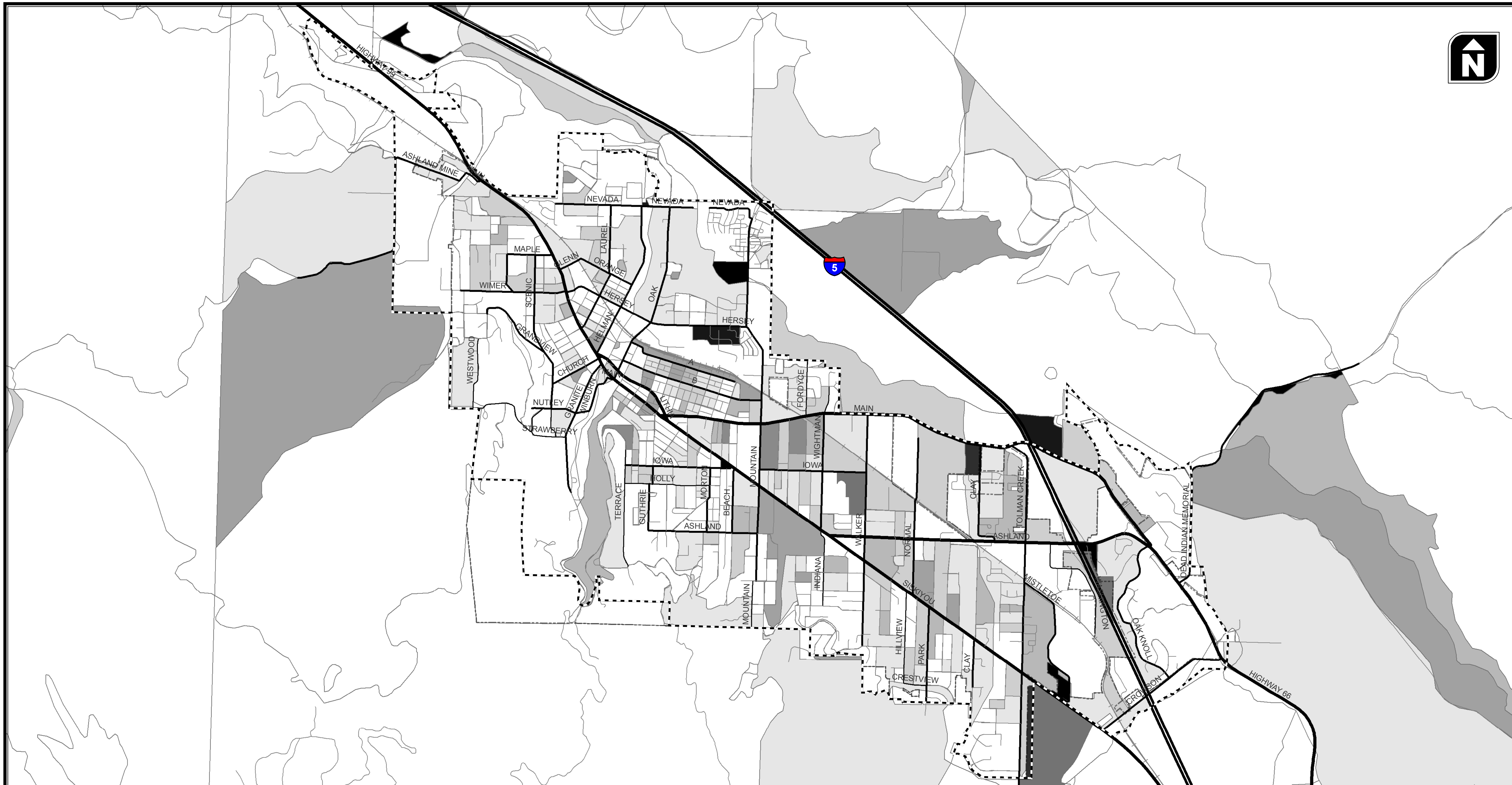

0% - 5%	20% - 25%	40% - 45%	City Limits
5% - 10%	25% - 30%	45% - 50%	City UGB
10% - 15%	30% - 35%	50% - 75%	
15% - 20%	35% - 40%	75% - 100%	

Percent of Population With Minority Status by Census Block

Figure 2-2

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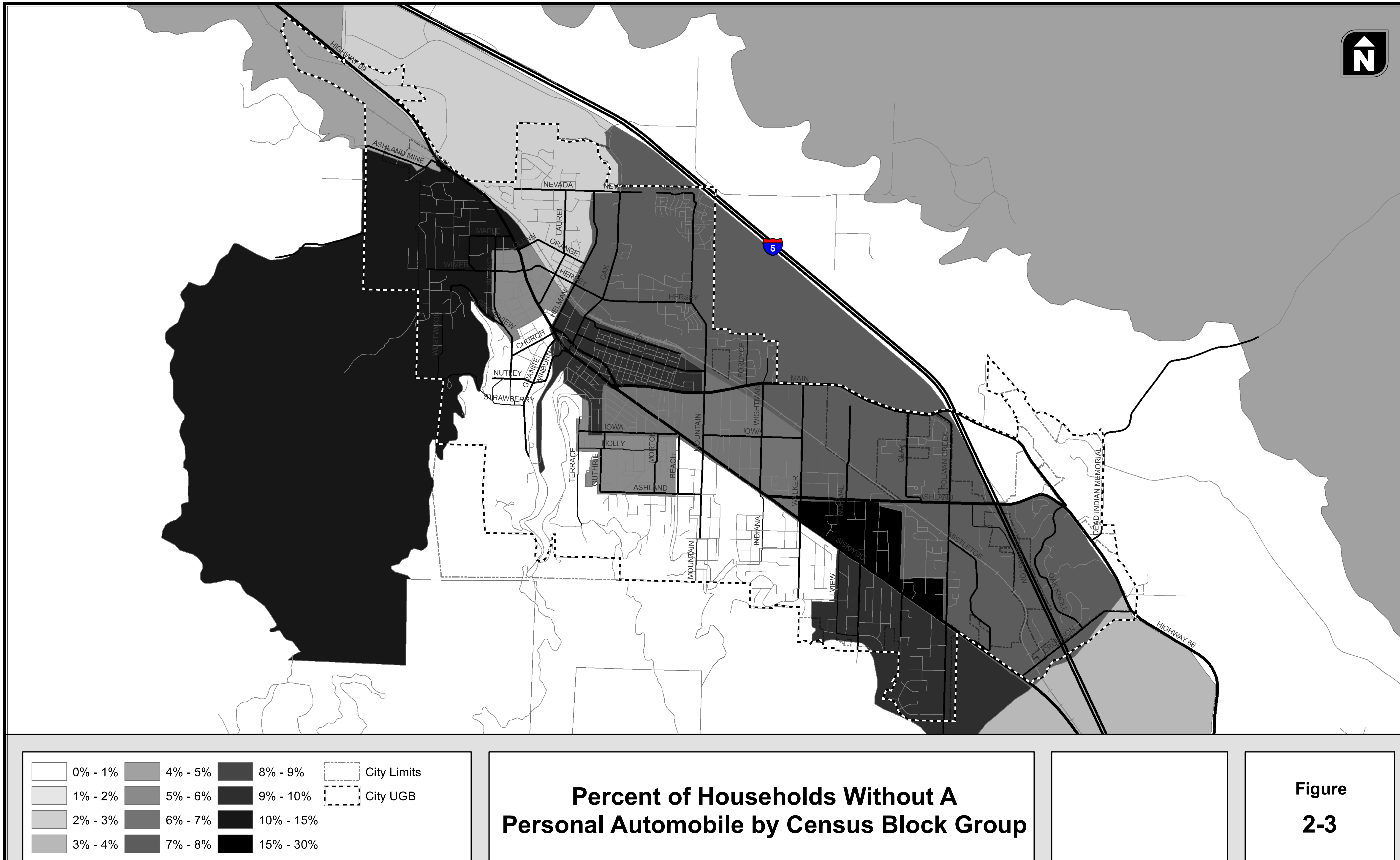

Percent of Households Without A Personal Automobile by Census Block Group

Figure 2-3

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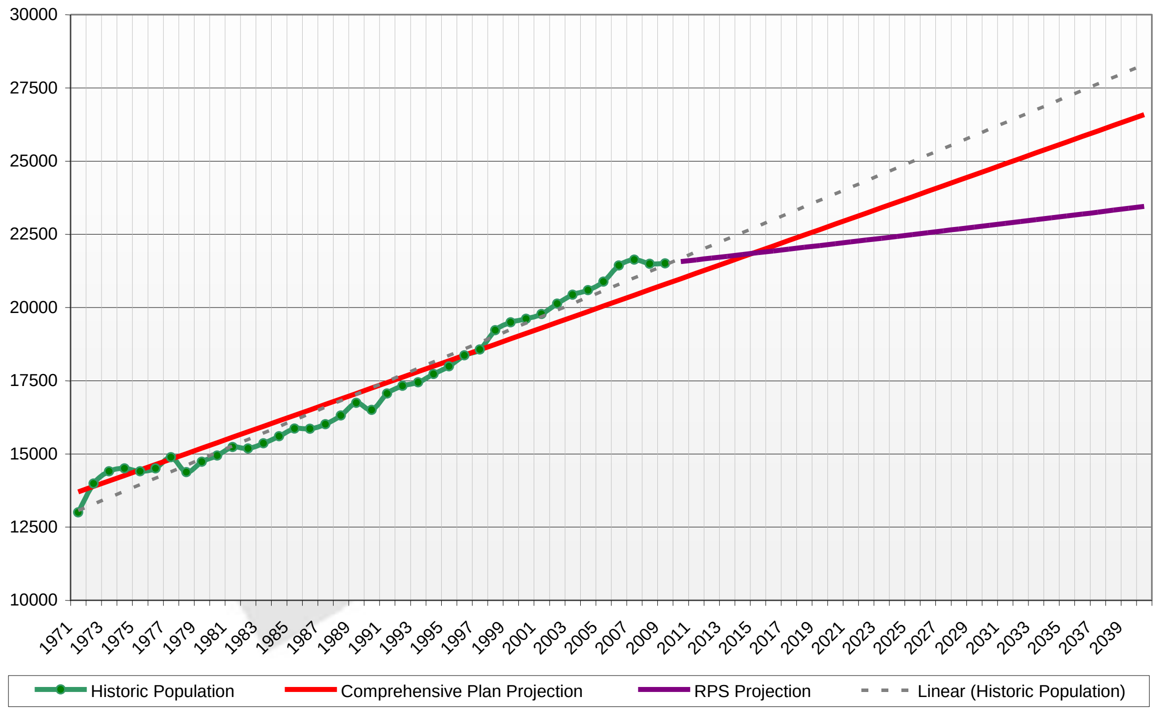
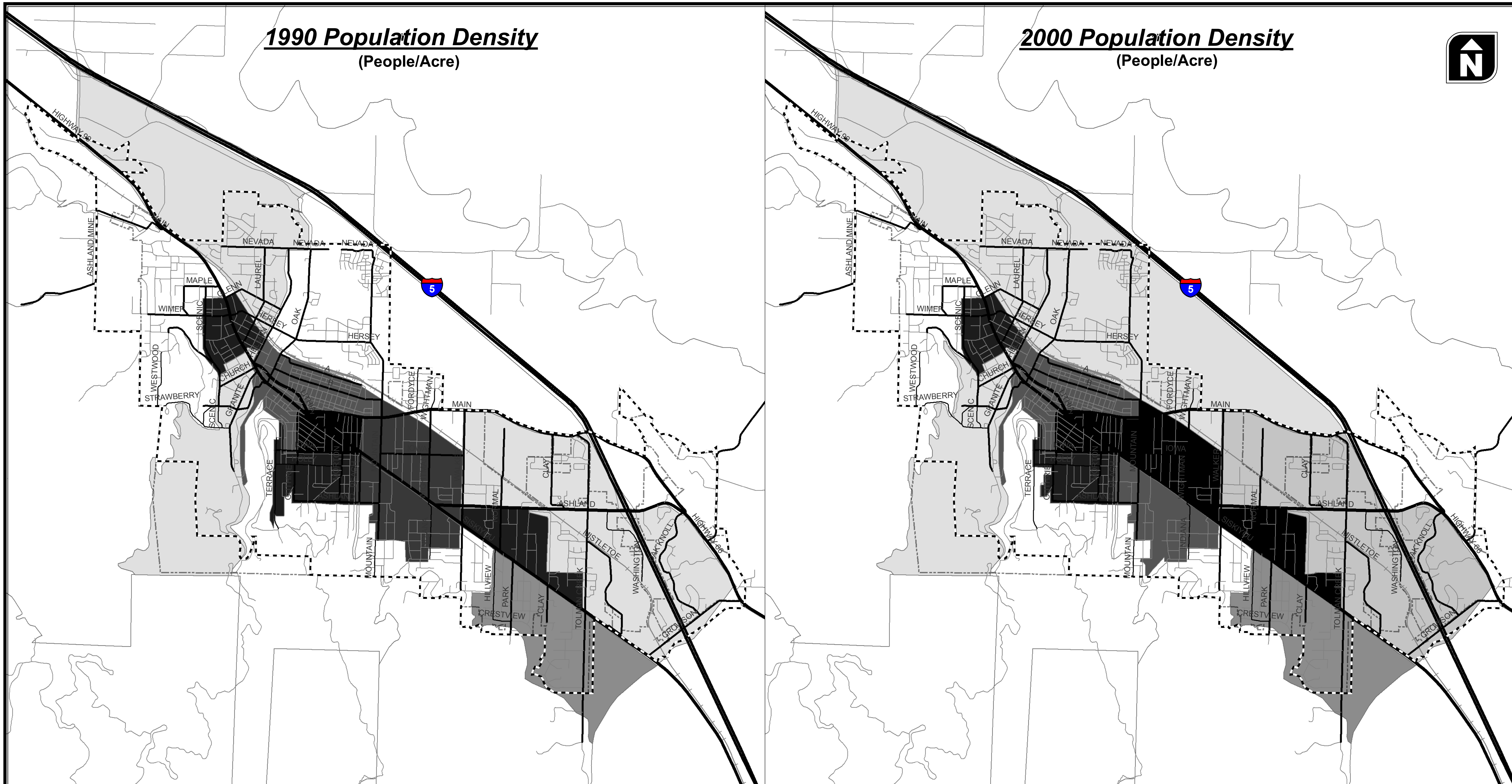
The City of Ashland's historic and projected population is shown in Exhibit 2-3. As shown, the population in 2009 was estimated to be 21,505. Based on the Comprehensive Plan, the population projection for the TSP horizon year of 2034 is 25,464. The annual population growth rate from 1971 to 2009 has averaged 1.45% per year. Historical population growth has tracked closely with population projections from the Ashland Comprehensive Plan, which assumes a higher growth rate than was assumed for Ashland by Jackson County (RPS) projections. Growth projections by the city are reflected in economic opportunities analysis work completed in 2003 and in 2007. Figure 2-4 illustrates where growth has been occurring in the City of Ashland from 1990 to 2000 using 1990 and 2000 US Census Data.

Exhibit 2-3: Historical and Projected Ashland Population



Relative to Jackson County, the age distribution of the recent increases in population indicate lower shares of youth under 20 years of age and lower shares of the typical working-age range of 25 to 64 years. Retirees over the age of 65 years in Ashland are higher than the state average but remain slightly lower that Jackson County. The Economic Opportunities Analysis of 2007, reviewed as baseline data for Technical Memorandum #1, also provides analysis of growth trends for the City of Ashland. Key findings include:

- The population of Ashland is aging and will continue to do so through an in-migration of people nearing retirement age.
- Ashland has a large population of college aged residents.
- The most robust employment growth will likely be Retail, Health Care, Social Assistance, Leisure and Hospitality.



0 - 1	3 - 4	6 - 7	City Limits
1 - 2	4 - 5	7 - 8	City UGB
2 - 3	5 - 6	8 - 9	
		9 - 10	

Population Density by Census Block Group

Figure 2-4

Housing costs in the City of Ashland are the most expensive in Jackson County and may be a constraint on growth, if affordable work force housing is not sufficiently available.

STREET SYSTEM INVENTORY

Roadway development and construction in the City of Ashland has historically been constrained due to the steep hillside topography through the southwestern portions of the City. I-5 borders the City along its northern edge and passes through the southeastern edge of the City. In addition to I-5, two state highways, OR 99 and OR 66, pass through the City of Ashland serving as key boulevards within the urban area. A local network of avenues and neighborhood collectors distribute traffic from OR 99 and OR 66 throughout the remaining urban area.

The following set of figures illustrate the current street characteristics within the urban growth boundary including roadway classifications, roadway jurisdiction, intersection characteristics (e.g., signal locations), number of vehicle travel lanes, posted speed limits, on-street parking and other similar characteristics.

Functional Street Classifications and Jurisdictional Roadway Responsibilities

Prior to this TSP Update, the City of Ashland recognized six functional street classifications in the Transportation Element of the Ashland Comprehensive Plan. These classifications are boulevard (i.e., arterial), avenue (i.e., major collector), neighborhood collector (i.e., minor collector), neighborhood street (i.e., local street), alley, and multiuse path. The Transportation Element of the Ashland Comprehensive Plan provides the following descriptions for the street classifications:

- **Boulevard** – Provide access to major urban activity centers for pedestrians, bicyclists, transit users and motor vehicle users, and provide connections to regional traffic ways such as Interstate 5.
- **Avenue** – Provide concentrated pedestrian, bicycle, and motor vehicle access from boulevards to neighborhoods and to neighborhood activity centers.
- **Neighborhood Collector** – Distribute traffic from boulevards or avenues to neighborhood streets.
- **Neighborhood Street** – Provide access to residential and neighborhood commercial areas.
- **Alley** – A semi-public neighborhood space that provides access to the rear of property; the alley eliminates the need for front yard driveways and provides the opportunity for a more positive front yard streetscape.
- **Multiuse Path** – Off-street facilities used primarily for walking and bicycling; these paths can be relatively short connections between neighborhoods or longer paths adjacent to rivers, creeks, railroad tracks, and open space.

As part of the TSP Update, the street classifications were reviewed and many were updated to be more consistent with the existing and projected future traffic volumes and function. Figure 6-1 in Section 6 provides the updated street functional classifications.

I-5 serves as the major north-south connection to destinations beyond the Rogue Valley Region and links Ashland to Oregon's largest communities including Eugene, Salem and Portland as well as extends south to California. Three freeway interchanges provide access from City of Ashland surface streets to I-5; these interchanges are located at Exits 11, 14, and 19. Exits 11 and 14 provide access to the southern end of Ashland, while Exit 19 provides access to the northern end.

OR 99 and OR 66 serve as the primary east-west boulevards within Ashland. OR 99 provides access from I-5 in the southeastern portion of Ashland through the approximate center of the City's urban area extending beyond the northwestern edge of the City's boundary. OR 66 provides access from I-5 at Exit 14 extending west to intersect with OR 99. OR 66 also extends east beyond the southeastern edge of the City's boundary.

The remaining roadways illustrated provide access to/from OR 66 and OR 99 to the surrounding commercial, residential, recreational, employment, and industrial areas within Ashland. Key avenues in Ashland include Tolman Creek Road, Walker Avenue, Mountain Avenue, Oak Street, Helman Street, Hersey Street, Iowa Street, Wimer Street, and Grandview Drive. These avenues provide north-south and east-west connectivity within the urban boundary.

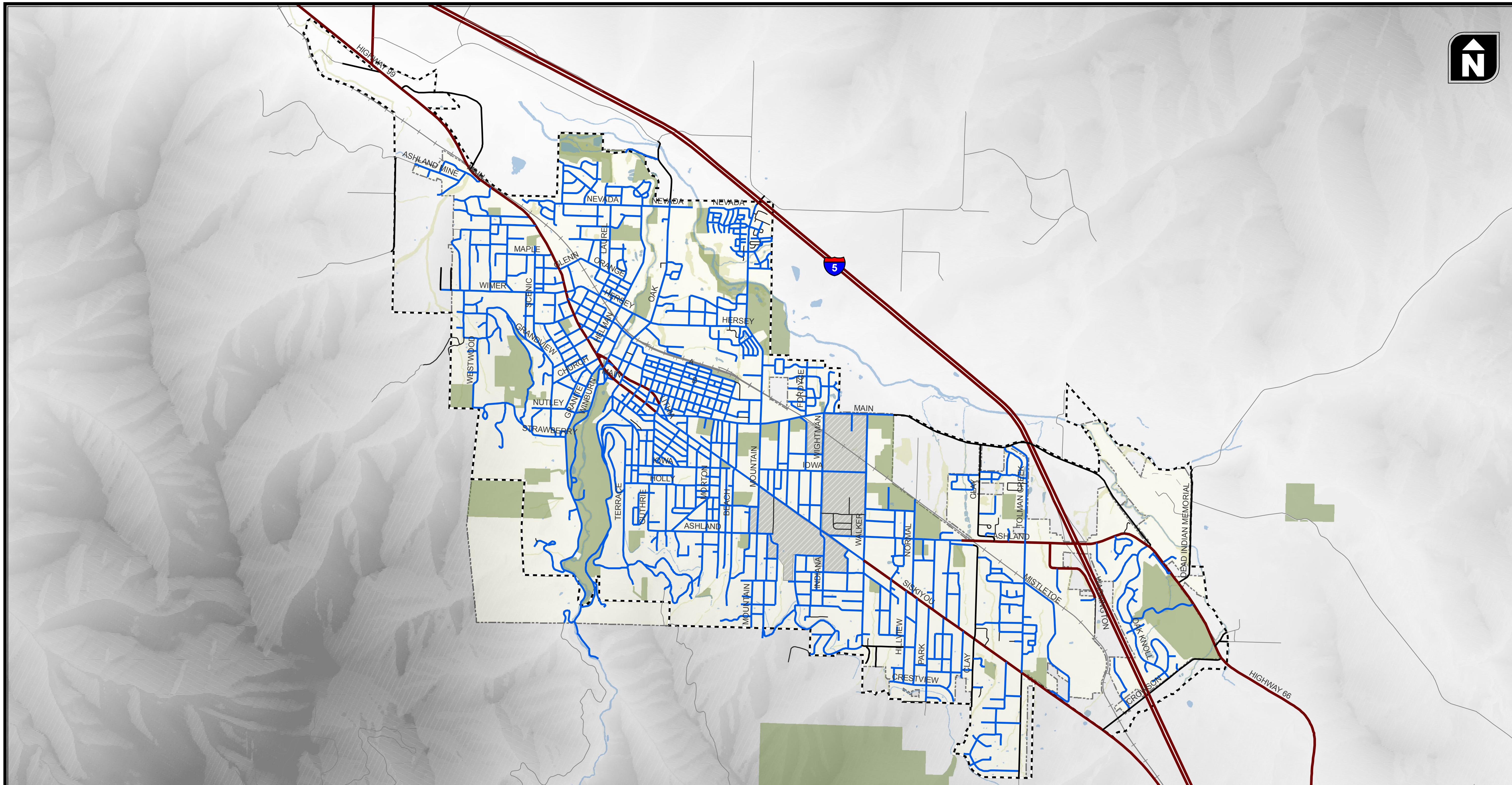
Figure 2-5 illustrates the jurisdictional responsibilities for the streets in the City of Ashland.

The City of Ashland is responsible for the majority of streets within the urban growth boundary. The exceptions are portions of OR 66 and OR 99, which fall under ODOT responsibility. Portions of OR 99 (Siskiyou Boulevard) have been designated by ODOT with Special Transportation Area (STA) and Urban Business Area (UBA) designations which allow OR 99 to deviate from typical ODOT District OR standards providing the City with additional flexibility when managing and planning their downtown urban core. These sections are located in the downtown Ashland area and on OR 99 northwest of downtown. The specific segments of OR 99 are shown in Figure 2-5. There are also five roadway segments classified as avenues that fall under Jackson County jurisdictional responsibility.

Study Intersection and Street Segment Characteristics

Figure 2-6 summarizes the intersections (and the existing traffic control) that were analyzed operationally in the existing and future conditions analyses. These study intersections are generally located where neighborhood collector facilities and higher-order roadways intersect.

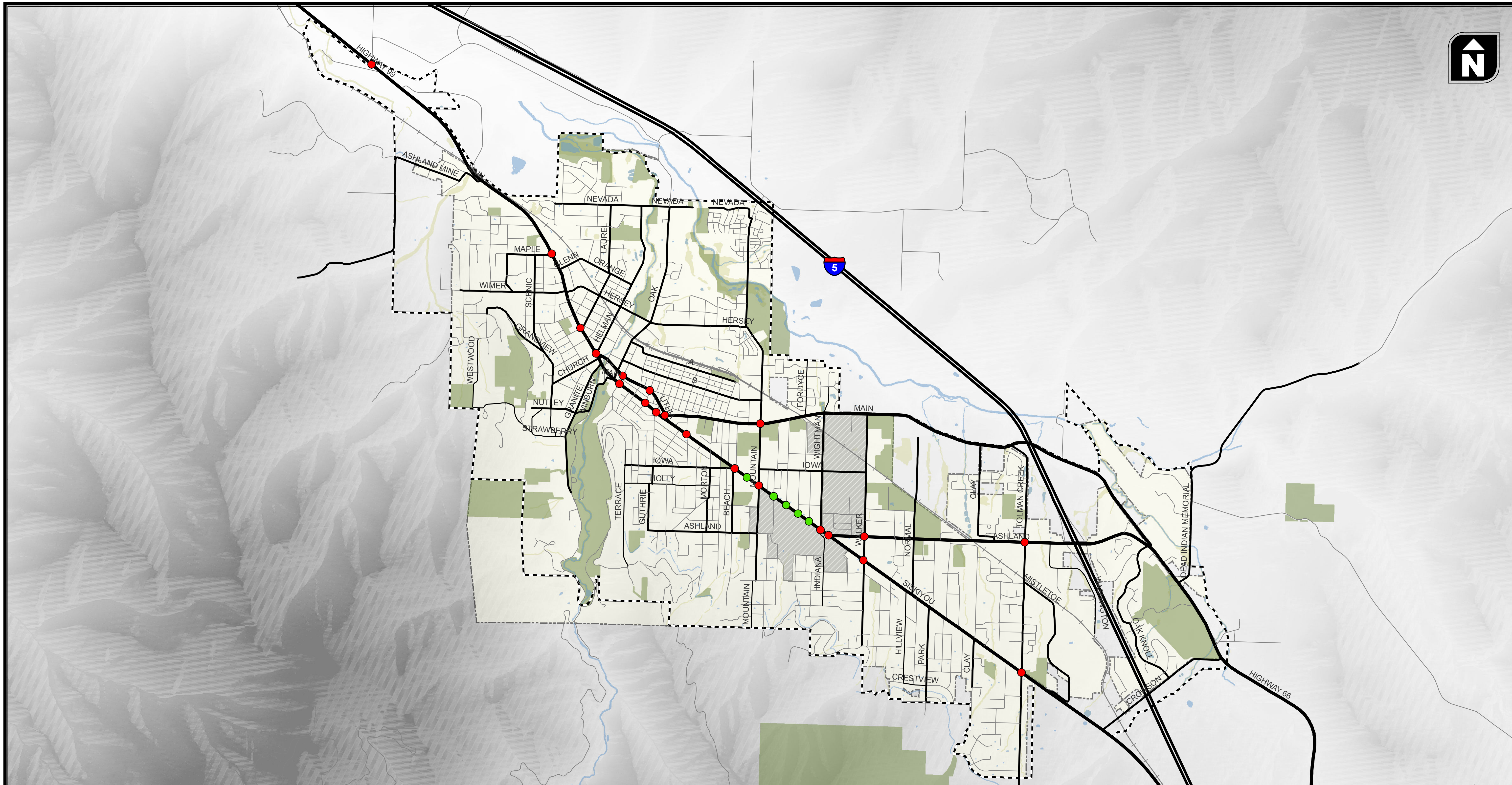
Of the thirty study intersections, eighteen are stop controlled and twelve are controlled by traffic signals. The traffic operations and safety performance of these intersections are presented and discussed below. Figures 2-7 through 2-9 illustrate the roadway segment characteristics including number of lanes, posted speed limits, and type of roadway surface.



ODOT
City
County
Private
Undefined
Private/City
City Limits
City UGB

Jurisdiction Roadway Responsibilities

Figure
2-5



- Traffic Signal
- Pedestrian Signal (Flashing Amber Lights)
- City Limits
- City UGB

Signal Locations

Figure

2-6

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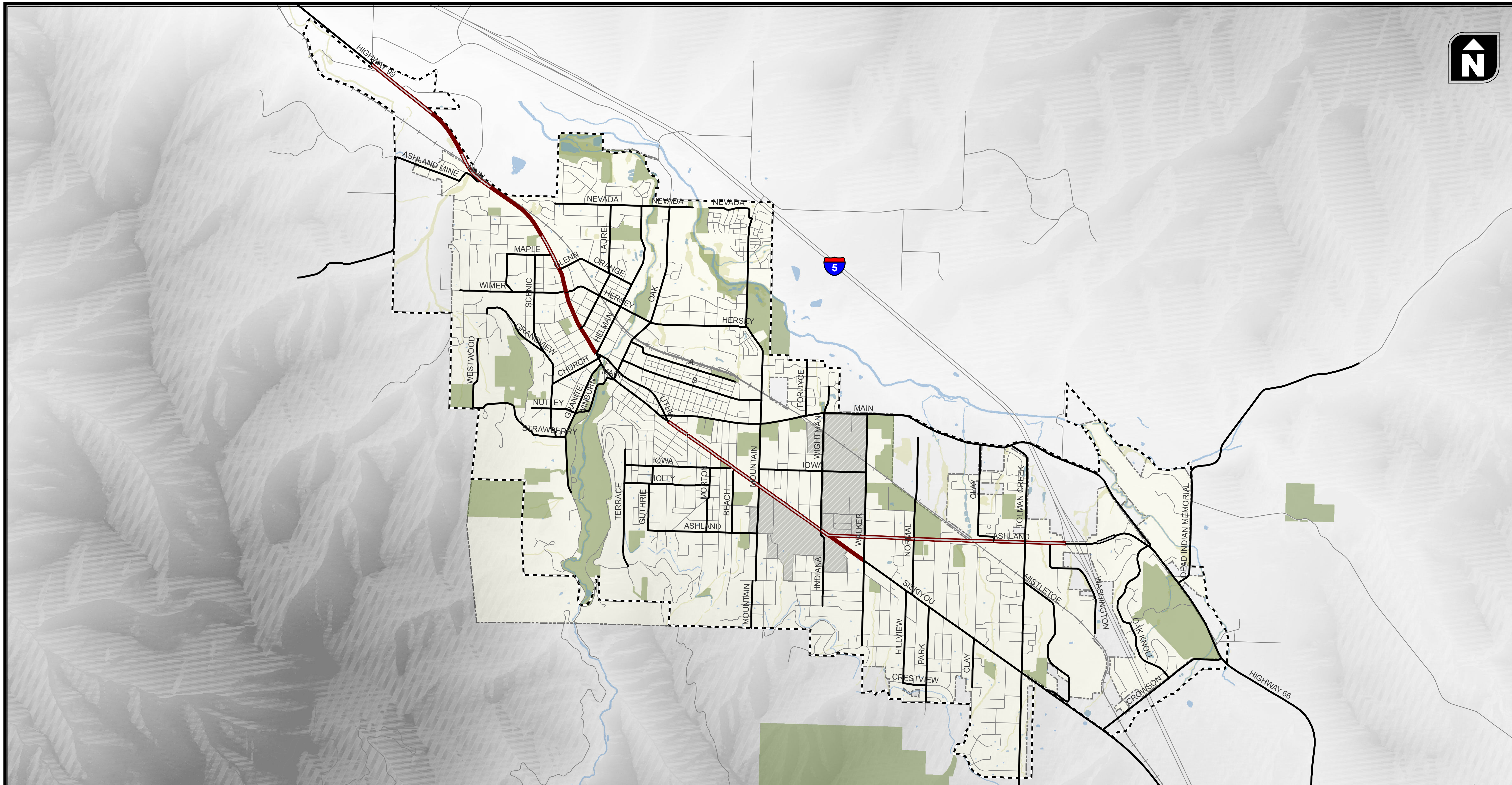
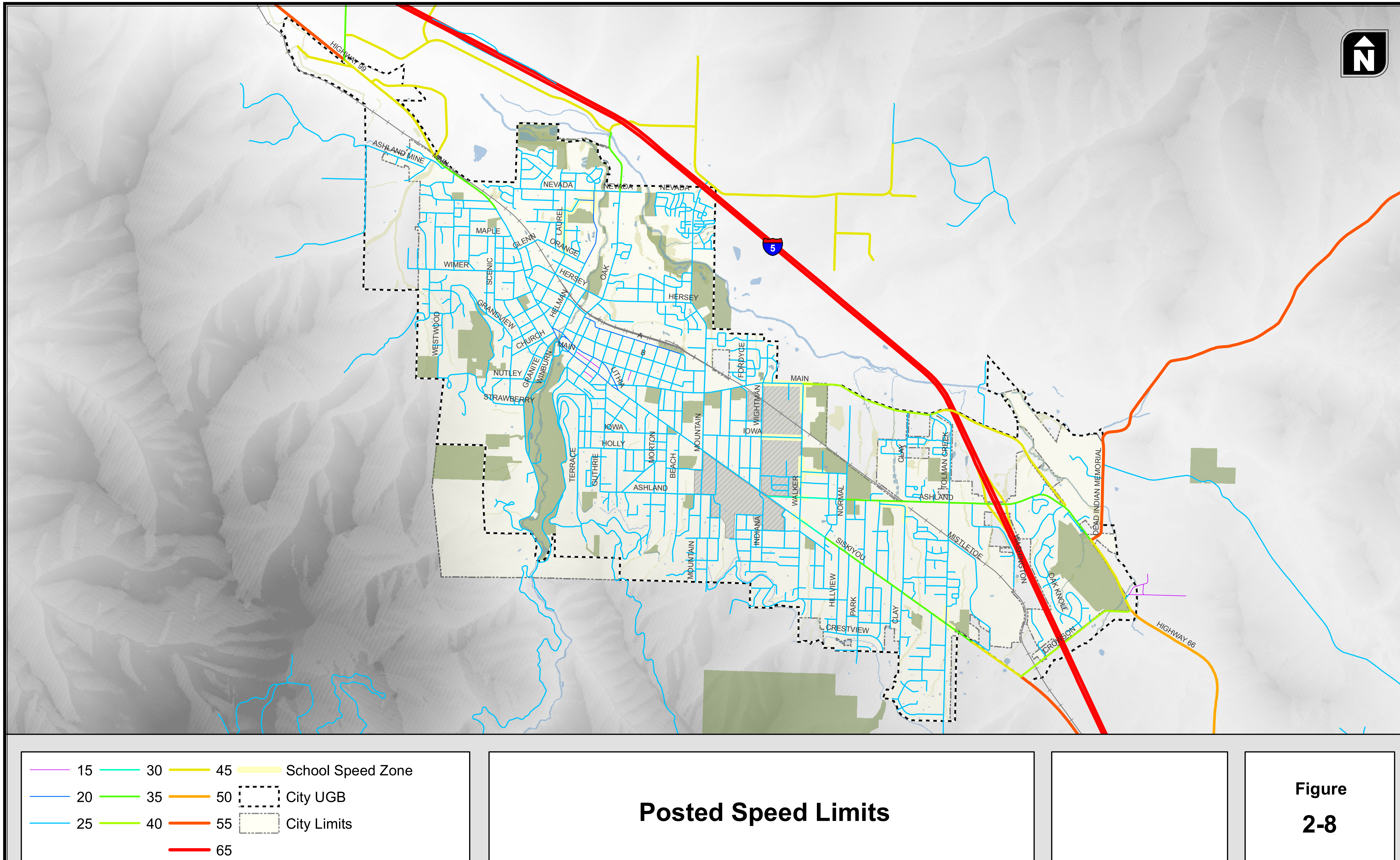


Number of Lanes

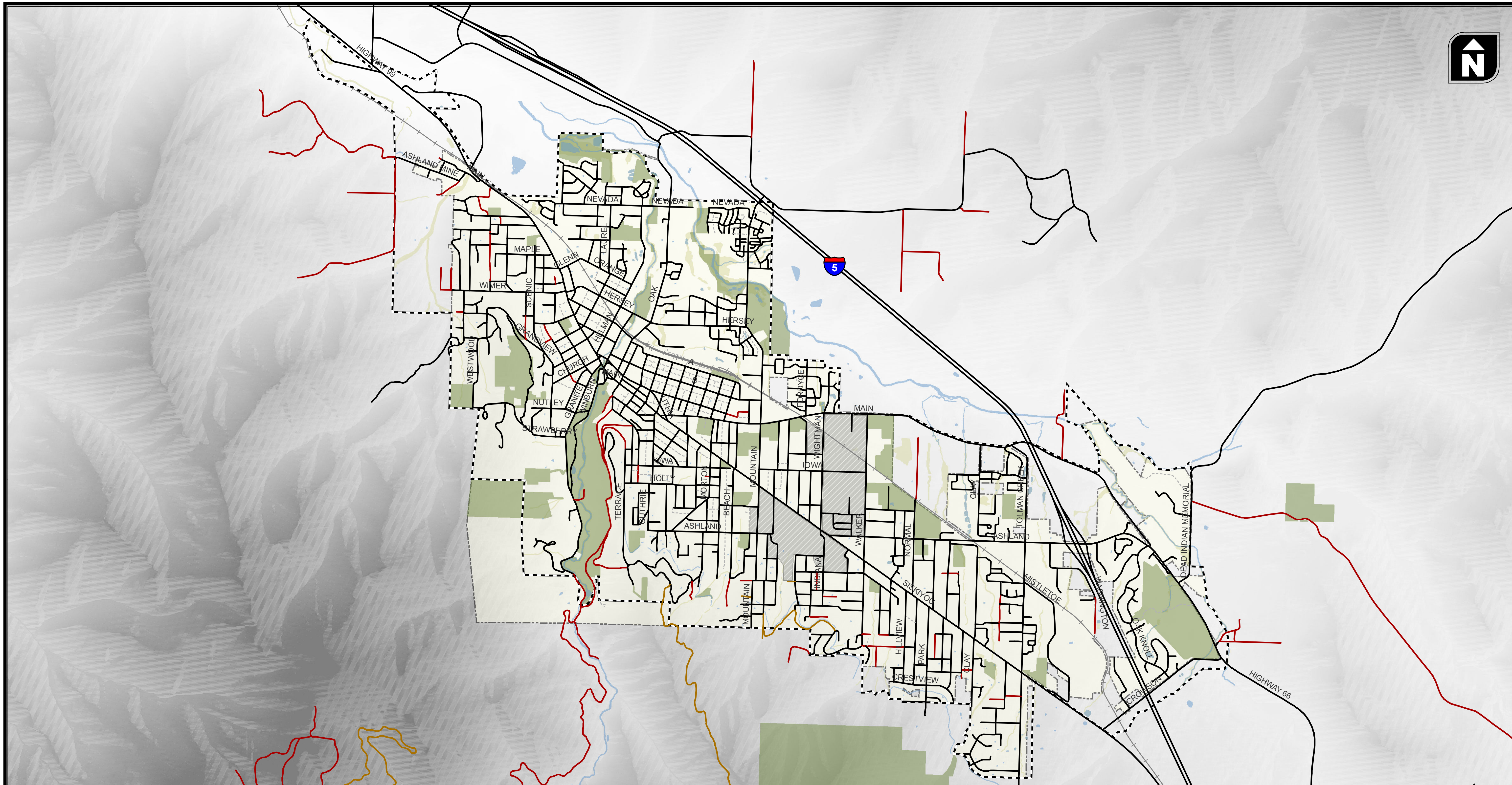
Figure 2-7



Posted Speed Limits

Figure

2-8



Paved
Gravel
Dirt
Unspecified
City Limits
City UGB

Roadway Surface

Figure 2-9

As shown in Figure 2-8 and Figure 2-9, the majority of roadways within Ashland are paved with posted speeds of 25 mph. Roadway facilities such as Siskiyou Boulevard (OR 99) and Ashland Street (OR 66) have higher posted speeds particularly as these facilities approach I-5 and reach the southeastern and northwestern edges of the City limits.

Designated On-Street Parking

Figure 2-10 illustrates designated on-street parking in the City of Ashland. As shown, designated on-street parking is primarily located in the downtown core of Ashland. While on-street parking is permitted in other areas of Ashland, designations in terms of time and use (e.g., loading zones, commercial uses) occur primarily in the downtown shopping and commercial area and near the hospital.

Freight Routes

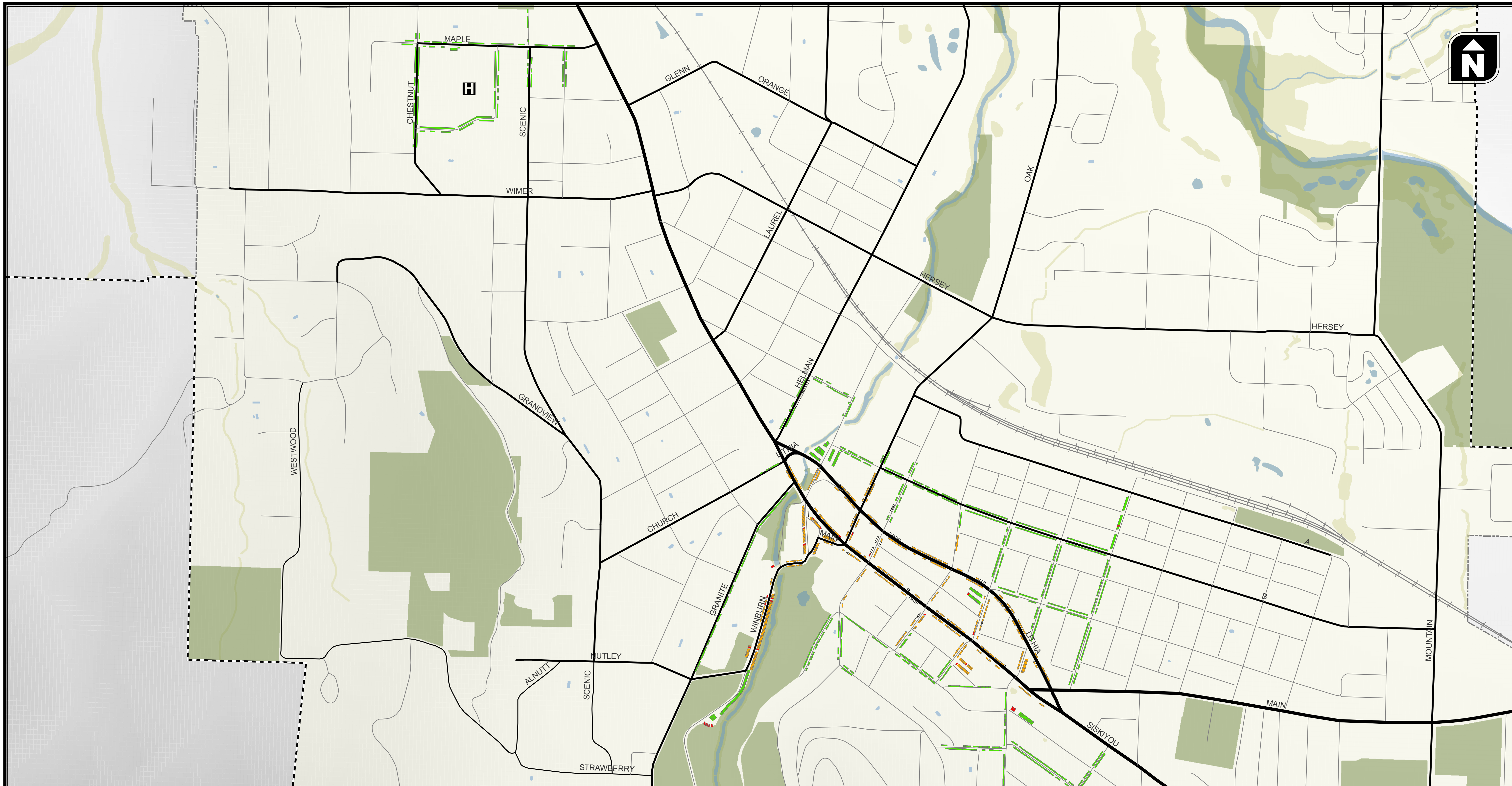
The freight routes within the study area are illustrated in Figure 2-11 and include I-5, OR 99 and OR 66. I-5 is designated as a National OR System Freight Route. The City has designated OR 66 and OR 99 as freight routes through the City. The City designated routes are intended primarily for local freight deliveries and local freight movements. Regional and national truck freight movements are intended to occur via I-5.

ITS Infrastructure

The only Intelligent Transportation System (ITS) infrastructure in the area is outside of the urban growth boundary and is located along I-5. There are two locations along I-5 with dynamic message signs, one weigh in motion station, and an OR advisory signal for motorists; the location of these items are shown in Figure 2-12.

PUBLIC TRANSPORTATION SYSTEM INVENTORY

The Rogue Valley Transit District (RVTD) provides intercity and regional public transit within Jackson County. RVTD serves the City of Ashland as well as Talent, Phoenix and Medford with fixed-route bus and dial-a-ride paratransit service.



Designated On-Street Parking Map

Figure 2-10

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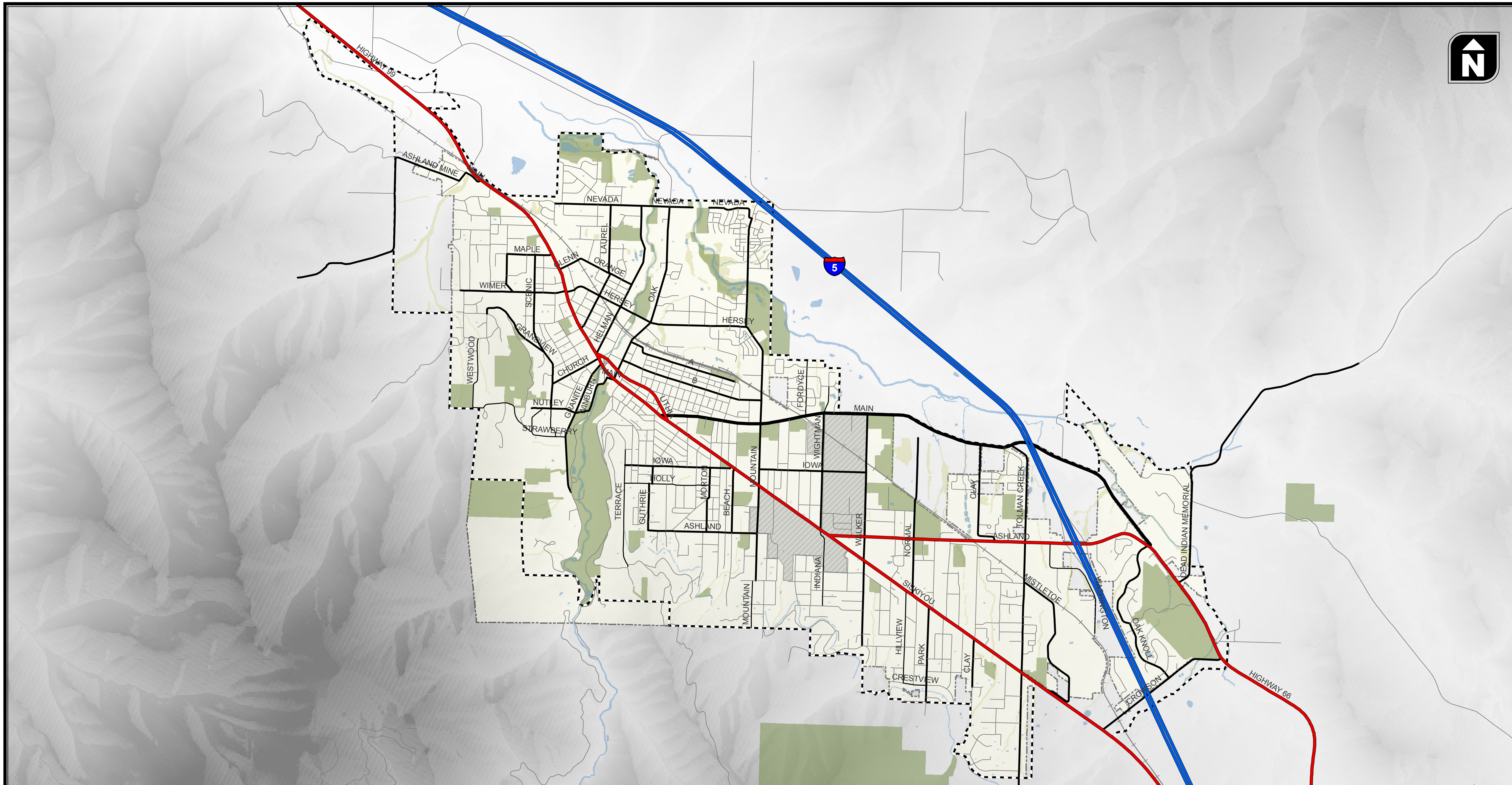
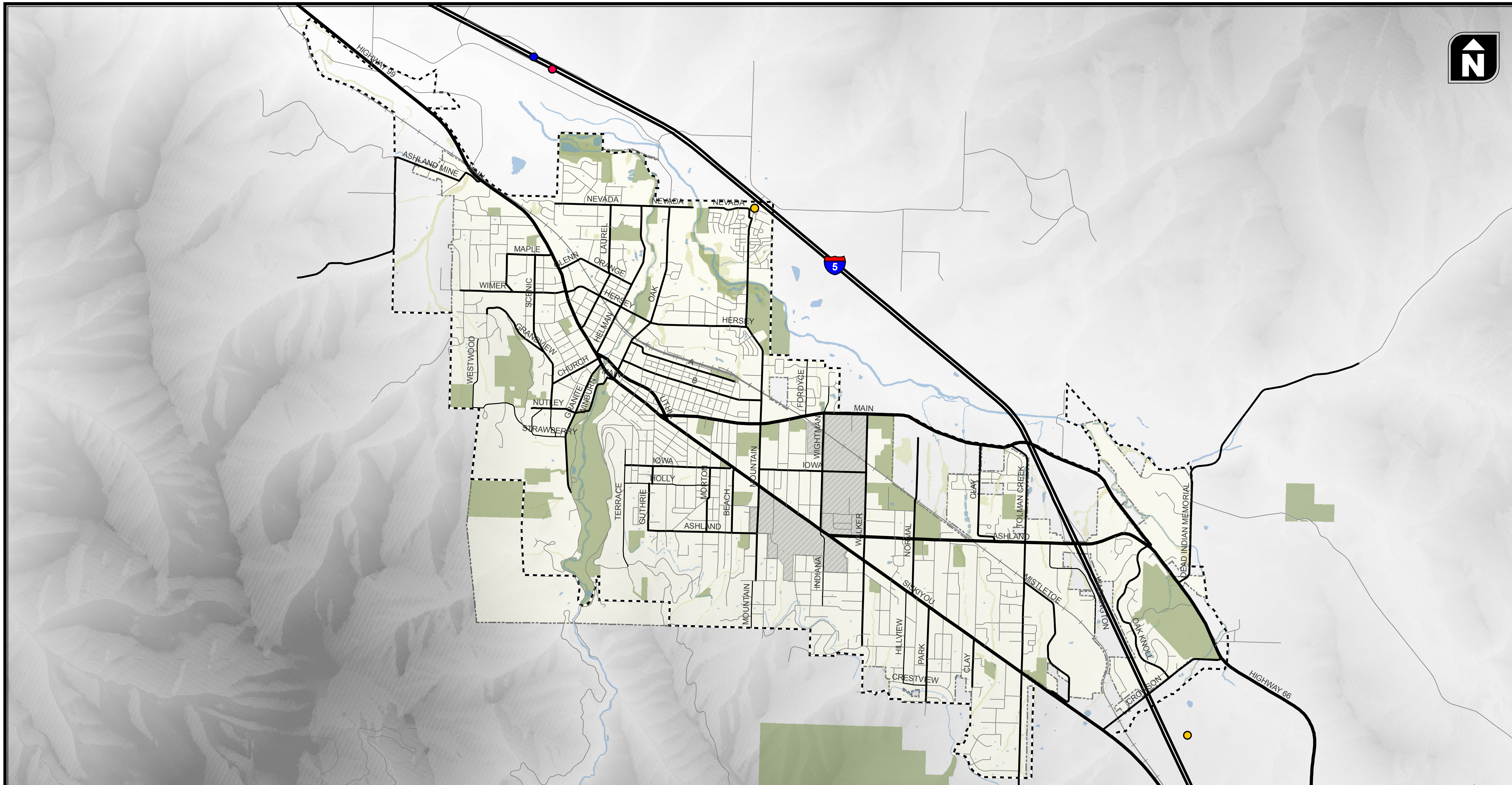


Freight Routes

Figure 2-11



Dynamic Message Sign	City Limits
Highway Advisory Radios	City UGB
Weigh in Motion	

ITS Infrastructure

Figure
2-12

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Fixed-Route Service

RVTD owns 29 buses assigned to fixed-routes service, six of which are currently listed as retired from service. Routes 10 and 15 currently provide service for Ashland on Monday through Friday. Service hours are approximately 5:00 a.m. to 6:30 p.m. Route 10 has a farebox recovery rate of 32% compared with a farebox recovery of 27% system-wide.

Figure 2-13 illustrates the transit routes and stops. Currently, there are no park and ride locations within the City of Ashland. Connectivity to other transit is through the Front Street Station in Medford.

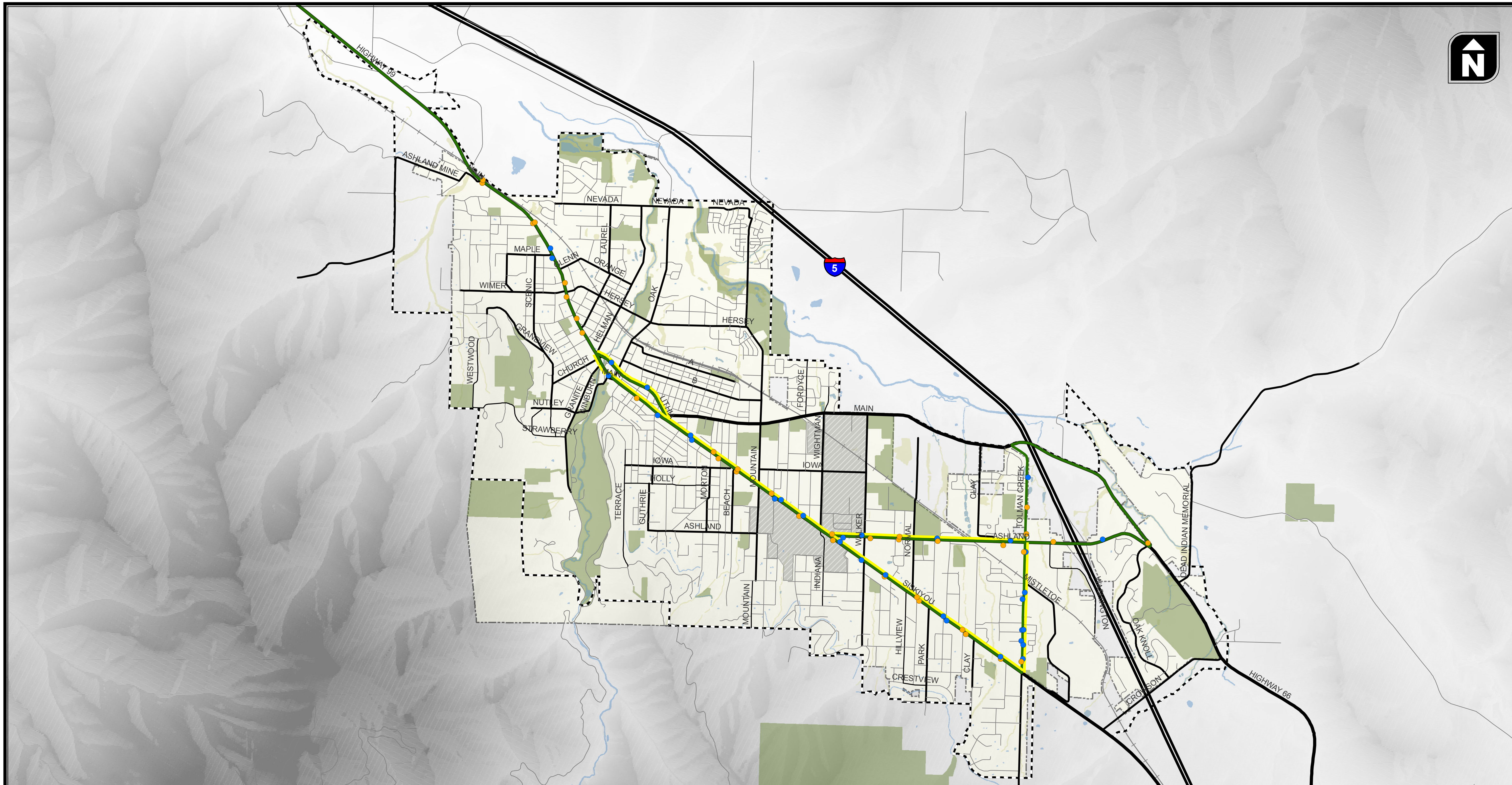
Ridership levels for the City of Ashland have fluctuated with changes in fares and service. Historically, ridership system-wide and within the City of Ashland have increased in response to sharp increases in fuel prices. Peak ridership levels were reached during 2003 through mid-2006 when no fares were charged to Ashland riders. When fares were increased and the Route 5 loop service was discontinued, ridership dropped sharply. Loop service was restored in 2009 (Route 15); however, fares were increased from $0.50 to $1.00 (which still represented a significant city subsidy to the $2.00 fare on the rest of the RVTD system) and the overall fixed route ridership has been declining over the past two years. Similarly, ridership for the Valley Lift paratransit service, described below, has also had minor but steady decline since 2005 (data is not available prior to 2005).

Stop amenities for RVTD's fixed-route bus service include shelters and bike racks at some locations. In addition to the shelters provided by RVTD, the City of Ashland has purchased shelters for additional stops and pays for repair and maintenance of those shelters. RVTD is currently developing new bus stop standards and policies that will determine which stops will qualify for shelters in the future.

Dial-a-Ride Service

RVTD also operates a paratransit service through their Valley Lift Program and TransLink. The Valley Lift Program is a shared ride, curb-to-curb, wheelchair accessible transportation service for people with disabilities preventing them from using RVTD's fixed-route bus service. Valley Lift service is provided within ¾ mile buffer on either side of the RVTD fixed-route system. This transportation option fulfills requirements of the Americans with Disabilities Act. RVTD owns and maintains the vehicles; the drivers are contracted through Paratransit Services. Users of this service fall into three categories of eligibility: temporary, conditional and unconditional. During the last fiscal year, ridership averages 750-800 trips per month. The fare is $2.00 and provides a low cost recovery since each trip costs $20-30.

TransLink is a 7-county Medicaid transportation service provided to eligible Oregon Health Plan (OHP) and eligible Medicaid clients traveling to authorized medical services. TransLink is funded through the Oregon Department of Human Services. RVTD is considered the Lead Special Transportation Service for ODOT Region 3. In that administrative capacity, the agency schedules and dispatches rides through multiple providers.



- Bus Route 15
- Bus Route 10
- Bus Stop W/ Seating
- Bus Stop W/out Seating
- City Limits
- City UGB

Transit Routes and Stops

Figure
2-13

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RAIL SYSTEM INVENTORY

Freight rail service is provided through and within the city limits by the Central Oregon and Pacific Railroad (CORP) and the White City Terminal and Utilities (WCTU). The rail line provides service to several local manufacturers, including the timber industry and plants in the White City industrialized area just north of Medford. CORP acts as a feeder line to Union Pacific.

The Siskiyou Line of the Southern Pacific Rail System runs from Springfield, Oregon through Roseburg, Grants Pass, central Point, Medford, Phoenix, Talent and Ashland. The line continues into California under the name Black Butte Line. Rail Tex owns the entire rail line from Springfield to Montague, California.

The rail enters the City from the north by crossing eastward over OR 99 and passing southeast through the city limits approximately ½ mile to the east of downtown and OR 99. It runs parallel to OR 99 south of the city and crosses over I-5 where OR 99 merges into I-5. The rail alignment through Ashland is primarily single track with a section of double track extending approximate 1,500 feet west of Oak Street transitioning to a triple track extending approximately 3,000 feet east of Oak Street and then transitioning back to a double track and then single track over a few hundred feet. Figure 2-14 illustrates the railroad track alignment through Ashland along with the traffic control devices at each of the railroad crossings.

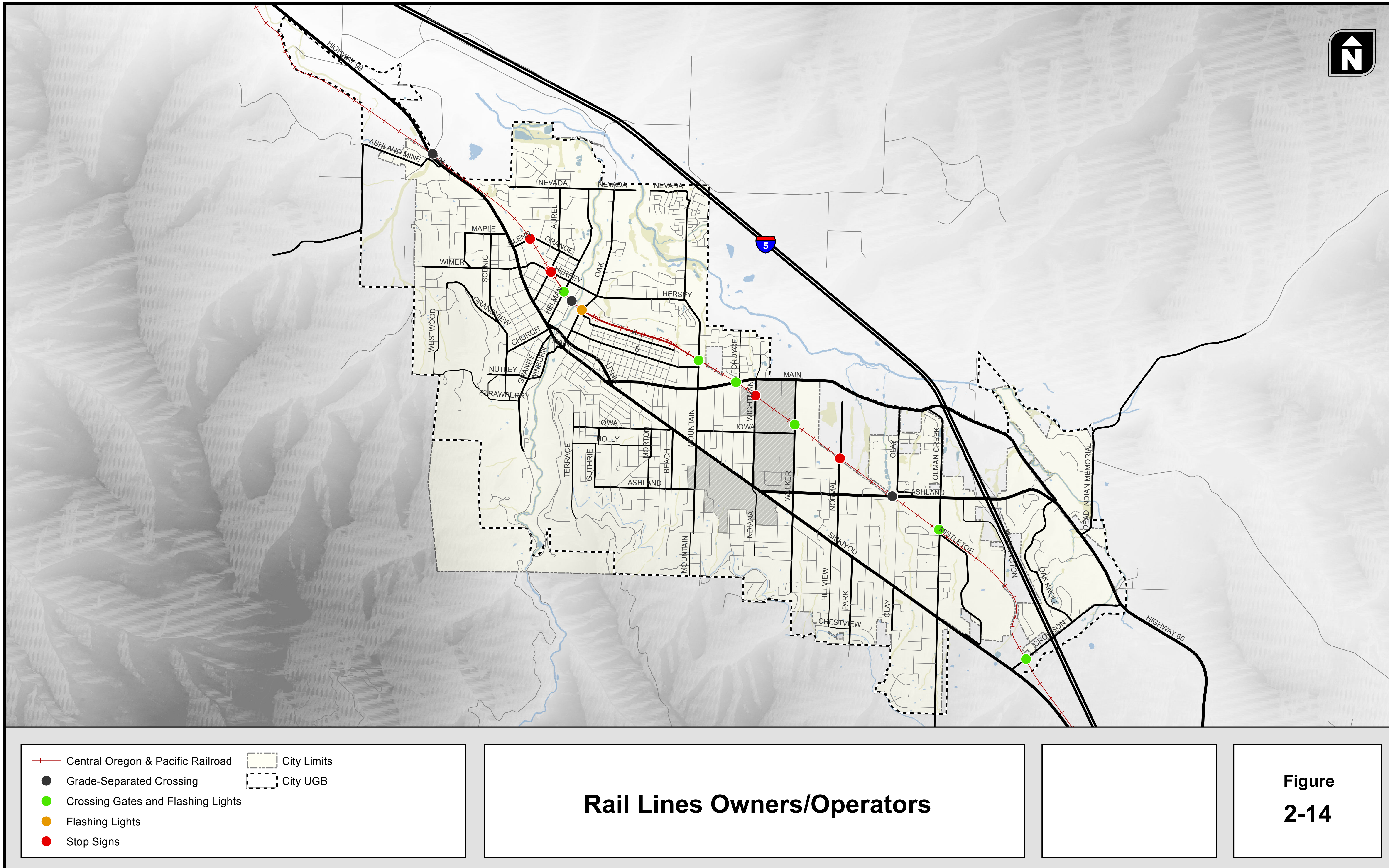
The lines are maintained as FRA Class 2, which allows train speeds of 25 mph. Historically the rail lines have primarily handled products of the timber industry including lumber, plywood, veneers, sand, clay, cements, siding, particleboard and feed and fertilizers. Currently the line is not being used by any industry. tThere is no passenger rail service along the rail line that passes through Ashland (and Medford). The nearest passenger rail service stops is located in Klamath Falls, approximately 80 miles to the east of Ashland.

BICYCLE AND PEDESTRIAN SYSTEM INVENTORY

This section provides an inventory of existing pedestrian and bicycle systems in the City of Ashland based on data provided by the City. The GIS data used to identify existing sidewalks and sidewalk gaps was created by the project team based on information in the city's impervious surface GIS layers. Some modifications to the City's GIS bicycle network were also made based on field observations. Travel trends as well as facility types and demands are discussed below.

Pedestrian Network

The existing pedestrian network is shown on Figure 2-15. Table 2-1 summarizes the existing sidewalk network coverage within Ashland's UGB.



Rail Lines Owners/Operators

Figure 2-14

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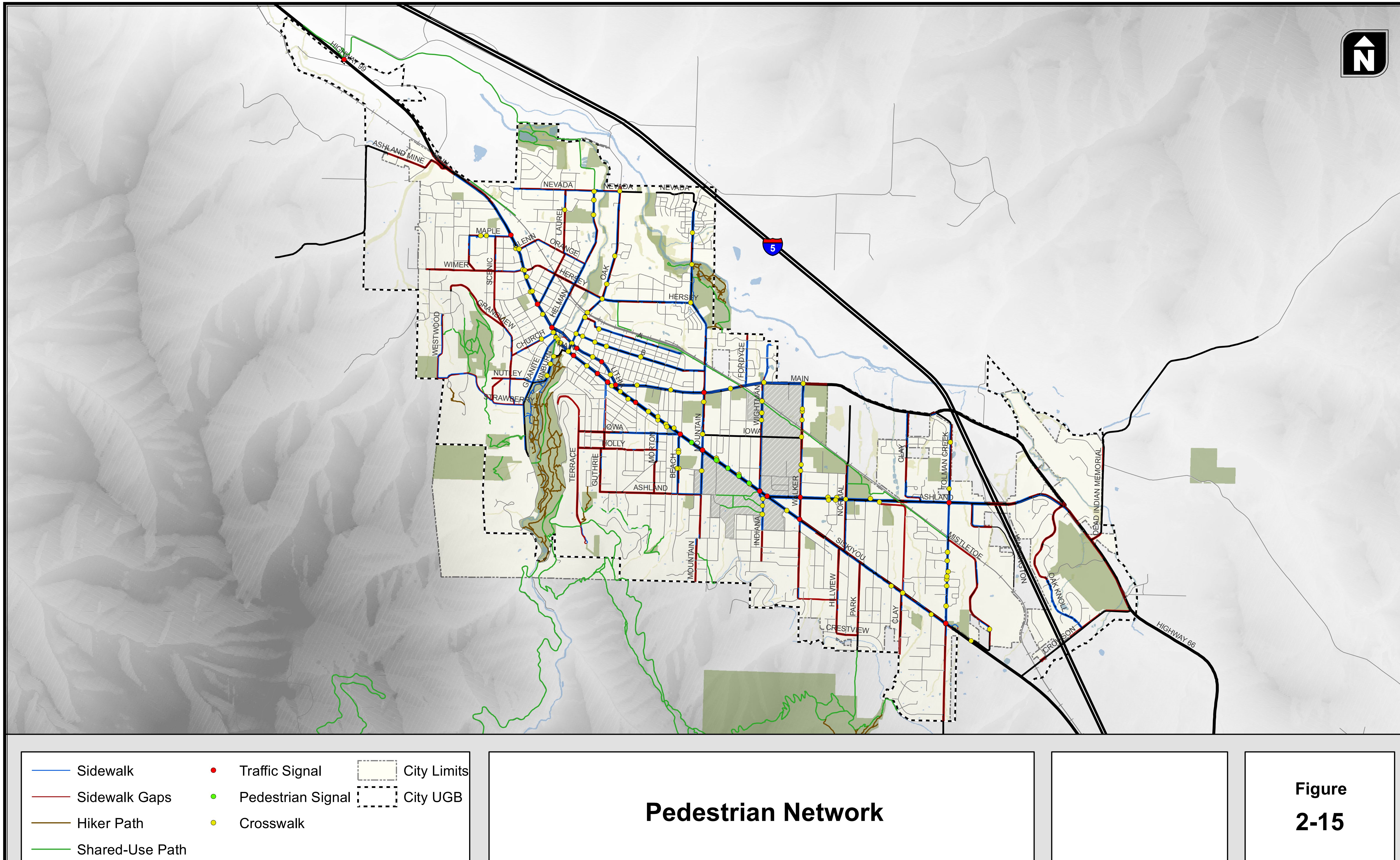

Pedestrian Network

Figure
2-15

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Table 2-1 City of Ashland Sidewalk Inventory

Sidewalk Present	Neighborhood Collectors	Avenues	Boulevards	Neighborhood Collectors, Avenues, and Boulevards
Both Sides	0.6 miles (13%)	6.6 miles (24%)	5.1 miles (34%)	12.3 miles (26%)
One Side	1.4 miles (30%)	6.4 miles (24%)	1.5 miles (10%)	9.3 miles (20%)
No Sidewalk	2.7 miles (57%)	14.0 miles (52%)	8.6 miles (56%)	25.3 miles (54%)
Total	4.7 miles (100%)	27.0 miles (100%)	15.2 miles (100%)	miles (100%)

In general, the higher density areas of the City including the downtown and surrounding residential streets are well served with a comprehensive network of sidewalks and crossings. Sidewalk coverage declines as you travel further from downtown and the primary traffic corridor (Main Street – Siskiyou Boulevard), although a number of the newer residential developments on the outskirts of the City have been constructed with sidewalks on both sides of all streets.

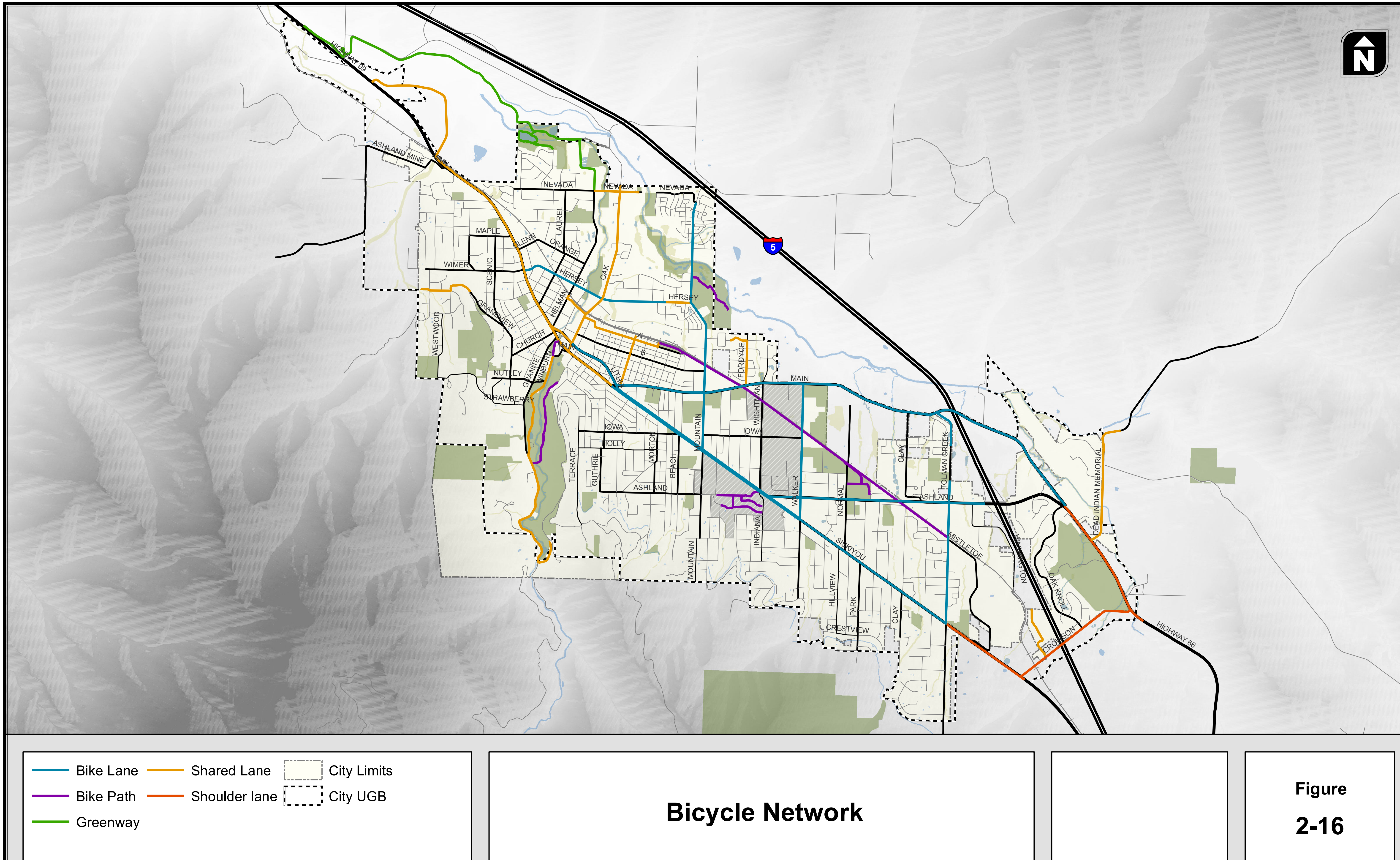
Table 2-1 shows that just over half (54%) of the major street network (i.e., neighborhood collectors, avenues and boulevards) does not have sidewalks. The network of boulevards have sidewalks on both sides along just over a third (34%) of its length and on one side for a another 10%. Avenues are covered by 24% with sidewalks on both sides and 24% with sidewalks on one side, i.e. over half of avenues in the City of Ashland (52%) are without sidewalks on either side. Similarly, 57% of neighborhood collectors have no sidewalks. In addition to the sidewalk network, there is approximately 6.8 miles of off-street shared use path.

The density of designated crosswalks, i.e. signalized or marked crosswalks is approximately 2.9 crossings per mile along boulevards (i.e. one every 0.35 miles or approximately 3-4 minutes walking distance to the closest crossing) and 2.5 crossings per mile along avenues (i.e. one every 0.4 miles or 4 minutes walking distance). In general the downtown and other high-density locations are well served with frequent crossing opportunities. Further from these areas, crossing density is less, but traffic volumes may reduce sufficiently to allow safe and frequent crossing opportunities.

Bicycle Network

An inventory of the bicycle network (Figure 2-16) shows the following breakdown of bicycle facilities:

- Shared roadway / signed shared roadway: 8.3 miles
- Shoulder bikeway: 2.1 miles
- Bike lanes: 12.7 miles
- Shared use path: 4.06 miles
- Greenway Trails: 2.89 miles



Bicycle Network

Figure 2-16

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Overall, the on-street bicycle network (i.e., bicycle lanes, shared roadways, and shoulder bikeways) covers approximately 48% of the major road network (i.e. neighborhood collectors, avenues and boulevards) with bike lanes covering 26% of the major roadway network. The local street network has not been included in this analysis, but it is likely many local streets provide a comfortable environment for bicyclists and could form part of a future network of bicycle boulevards.

Exhibits 2-4 and 2-5 are photos of some of the existing bicycle network elements in Ashland. Exhibit 2-4 shows an example of on-street bicycle parking provided in downtown Ashland. Exhibit 2-5 shows one of the shared use paths in Ashland.

Exhibit 2-4: Bicycle Parking in Downtown Ashland

Exhibit 2-5: Shared Use Path in Ashland

Example Cross-Sections with Pedestrian and Bicycle Facilities

Example cross-sections for boulevards, avenues and local streets are shown below in Exhibit 2-6 which provides examples of the pedestrian and bicycle facilities provided in Ashland.

Siskiyou Boulevard – East of Sherman Street

Siskiyou Boulevard – East of Walker Avenue

Sidewalks on both sides w/ on-street bike lanes

E Hersey Street –West of Carol Street

Sidewalks on one side w/ on-street bike lanes

Sidewalks and bike lanes on one side w/ shoulder bikeway other side

Crispin Street

Sidewalks on both sides, Cyclists share roadway

Exhibit 2-6: Cross-Sections with Pedestrian and Bicycle Facilities

AIR TRANSPORTATION INVENTORY

The Ashland Municipal Airport is located 3 miles northeast of downtown at the eastern boundary of the city limits. The airport has two runways, both 3,600 feet long, paved in asphalt and in good condition. The surface area of the airport is approximately 95 acres. The airport is only for general aviation and private use. The land within the Ashland city boundary and within the Airport Overlay Zone is zoned as E-1, RR-1, R-110 and C-1. Figure 2-17 shows the location of Ashland Municipal Airport.

The Ashland Municipal Airport does not offer any commercial flights. The nearest commercial flights are out of the Rogue Valley International-Medford Airport. Medford offers both passenger and freight service to cities throughout the Northwest with connections to larger airports and markets. The Rogue Valley International-Medford Airport is 989 acres in size and is located 3 miles north of the Medford central business district near I-5. Figure 2-18 illustrates the location of Rogue Valley International Medford Airport as well as several other smaller municipal or regional airports.

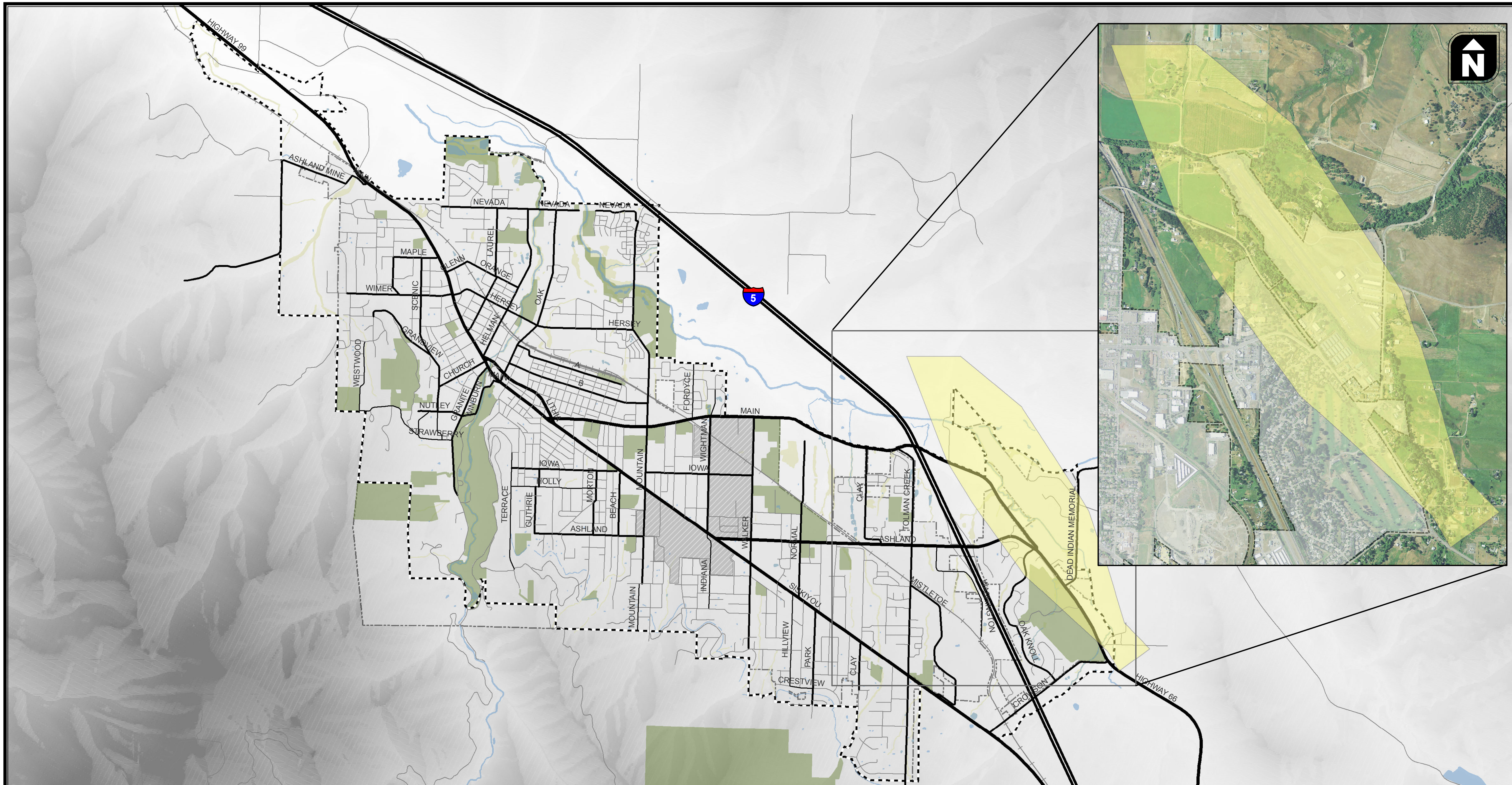
PIPELINE INVENTORY

Within the Rogue Valley there is a natural gas pipeline owned and operated by Avista Corporation. Originally the pipeline extended from Portland to Medford but a subsequent project connected this pipeline to a line that crosses central Oregon. The distribution lines for this pipeline are located along I-5 between Grant's Pass and Ashland and the main pipeline is located within the I-5 corridor.

Recently a new pipeline was installed from Ashland to Klamath Falls to increase the natural gas capacity of the local lines and meet increasing demand. There are no intermodal terminals located in or near Ashland. Natural gas can only be transported by pipeline.

WATER TRANSPORTATION INVENTORY

The Rogue River is the largest body of water in the area but is not large enough to use as a form of transportation, only recreation. The nearest port is located in Coos Bay and is an international/national shipping facility.



Airport Overlay Zone

City Limits

City UGB

Ashland Airport

Figure

2-17

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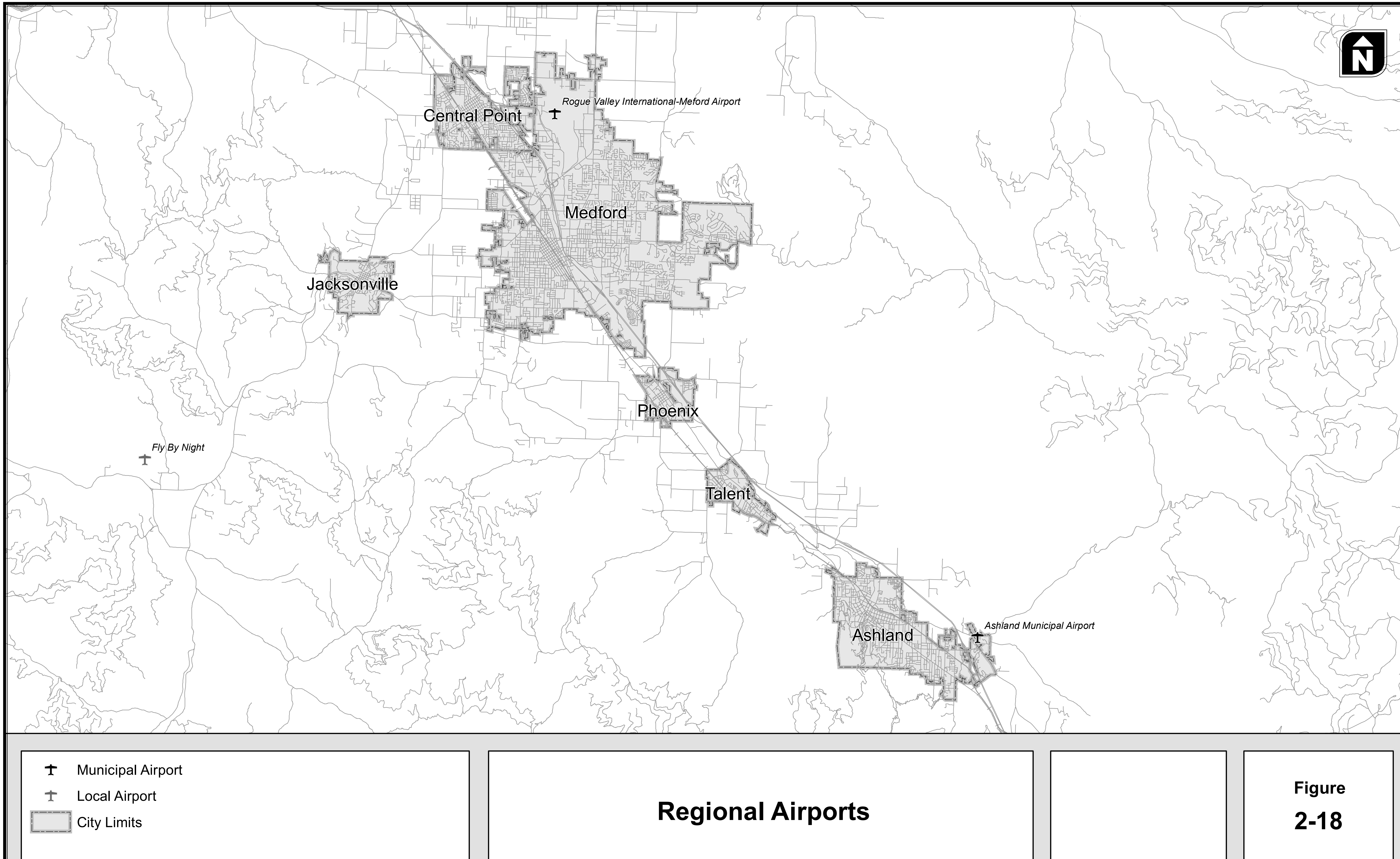

Regional Airports

Figure
2-18

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Section 3
Transportation Goals & Objectives and Plan & Policy Review

TRANSPORTATION GOALS & OBJECTIVES AND PLAN & POLICY REVIEW

This section presents the City of Ashland's Transportation System Plan goals and objectives. It also summarizes related state, regional and local plans, policies and regulations that influence the City of Ashland.

CITY OF ASHLAND'S TRANSPORTATION GOALS AND OBJECTIVES

In the summer and fall of 2010, the City updated its transportation goals and objectives in collaboration with the City's Transportation Commission and Planning Commission. The goals and objectives provided guidance on the types and priorities of policies, programs, studies and projects that are included in Sections 4 through 10 of this transportation system plan.

Goals and Objectives

Goal #1:

Create a "green" template for other communities in the state and nation to follow.

Objectives for Goal 1:

1A. Create a prioritized list of active transportation (e.g., travel by bicycle, by foot and/or a combination of non-auto modes), green projects that reduce the number of auto trips, auto trip length, and vehicle emissions.

1B. Expand active transportation infrastructure to include features that encourage non-auto travel. Potential features include bicycle boulevards, bicycle lanes, wider bicycle trails, and improved lighting for bicycles and pedestrians.

1C. Establish targets for increasing biking, walking, and transit trips over the next 5, 10, and 20 years.

1D. Develop plans for pedestrian-oriented, mixed land-use activity centers with an active transportation focus and green infrastructure.

1E. Identify ways to reduce carbon impacts through changes to land use patterns and transportation choices to make travel by bicycle, as a pedestrian and by transit more viable.

1F. Update City of Ashland code street design standards to provide more flexibility and options for enhanced active transportation facilities.

1G. Implement environmentally responsible or green design standards.

1H. Investigate creative, cutting edge ways including policies to increase active transportation trips in the City of Ashland.

Goal #2:

Make safety a priority for all modes of travel.

Objectives for Goal 2:

2A. Coordinate with safe routes to school (SRTS) plans for local schools including Southern Oregon University.

2B. Develop an access management plan that can be adopted into code and enforced.

2C. Strategically plan for safety and operational improvements for bicyclists and pedestrians.

2D. Develop recommendations for realigning the highly skewed intersections within the City of Ashland that indicate there is notable potential to improve safety.

2E. Recommend appropriate means for managing state highways and major arterials to meet local and through traffic needs in terms of mobility, access, and safety.

2F. Incorporate the Highway Safety Manual (HSM) into development review and capital projects evaluation processes.

2G. Reduce the number of fatal and serious crashes in the City of Ashland by 50% in the next 20 years.

2H. Reduce the frequency of bicycle and pedestrian related crashes in the City of Ashland by 50% in the next 20 years.

Goal #3:

Maintain small-town character, support economic prosperity and accommodate future growth.

Objectives for Goal 3:

3A. Develop an integrated land use and transportation plan to increase the viability of active transportation.

3B. Consider modal equity when integrating land use and transportation to provide travel options for system users.

3C. Identify opportunities, guidelines and regulations for bicycle, pedestrian and transit supportive land uses within the City of Ashland.

3D. Identify transportation projects or system adjustments that improve development potential and support increased mixed use development within the current Urban Growth Boundary.

3E. Identify adjustments to transportation and land use codes and regulations that will facilitate higher density developments in transit corridors, and shorter trip length and non-motorized modes of travel throughout the City of Ashland.

3F. Incorporate the Highway Capacity Manual multi-modal procedures into development review and capital improvement project evaluation processes.

Goal #4:

Create a system-wide balance for serving and facilitating pedestrian, bicycle, rail, air, transit, and vehicular traffic in terms of mobility and access within and through the City of Ashland.

Objectives for Goal 4:

4A. Identify ways to improve street connectivity to provide additional travel routes to the state highways for bicyclists, pedestrians, and autos.

4B. Identify ways to provide sufficient levels of mobility and accessibility for autos while making minimal investment in new automobile focused infrastructure.

4C. Upgrade pedestrian facilities to ADA compliant standards.

4D. Develop alternative (e.g., multimodal) mobility standards that allow for planned congestion to help achieve multimodal and land use objectives.

4E. Identify corridors where the alternative mobility standards could be beneficial to achieve multimodal and land use objectives.

4F. Recommend creative, innovative ways to more efficiently manage, operate, and fund the transportation system.

4G. Create a comprehensive transportation system by better integrating active transportation modes with transit and travel by auto.

STATE, REGIONAL, AND LOCAL PLAN AND POLICY REVIEW

Review of over forty documents identified a state, regional, and county regulatory context and a community vision that were considered when evaluating alternatives and ultimately updating the City of Ashland *TSP. Technical Memorandum 1 contained in the Technical Appendix presents the detailed review.* The following highlights the key findings.

A few of the City of Ashland documents are not adopted plans; therefore, did not provide a regulatory context. However, they did provide useful “baseline” insight into the recent history of community planning and citizen input with regard to transportation issues and the relationship of those issues to land use development in the future.

- **Ashland Comprehensive Plan:** The Comprehensive Plan was the bedrock of goals, policies, and land use designations for updating the TSP. It provides clear policies and criteria for evaluating transportation improvements, transit corridors, and any land use concepts for pedestrian nodes and locations for increasing density.
- **Ashland Land Use Code:** The land use code is a supporting document for the Comprehensive Plan. The zoning designations provided starting places for investigating opportunities for future pedestrian nodes and other intensification of development that is integrated with multimodal transportation improvements, particularly enhanced transit service. **Ashland in Action 2000 and the Downtown Plan:** Both documents include problem statements and challenges that were considered in updating the TSP. The plans also make

specific improvement proposals for the pedestrian and bicycle circulation, transit service, and parking that were considered and discussed in updating the TSP.

- **A Handbook for Planning and Designing Streets:** The street standards are comprehensive and hierarchical. They were the starting point for any recommended changes to local street design.
- **The SOU Master Plan Update, the Railroad Property Master Plan, and the Croman Mill Site Redevelopment Plan:** Each of these plans is illustrative of important transportation connections and choices that will help define the coming years for the City of Ashland. These plans informed the project lists in the modal plan chapters of this TSP.
- **RVTD Ten Year Long Range Plan:** There will be opportunities for an integrated consideration of transit corridors with enhanced service and intensification of land uses. This integrated planning can help define appropriate levels of transit-oriented development and provide needed data for implementing the Tiered Service Expansion proposed by RVTD. Planning should also include consideration of transportation for the elderly and disabled through paratransit services.
- **RVMPO Regional Transportation Plan (RTP) and Regional Transportation Improvement Plan (TIP):** Opportunities to coordinate local and regional objectives through specific projects and their timelines for funding and implementation. The RTP includes adopted regional goals for transit service.
- **State Plans and Standards:** Coordination of plans and requirements access spacing and design standards for roadway elements will be required for the state highway facilities that also serve as major streets for the City of Ashland.
- **Interchange Area Management Plan for Interchange 14:** The TSP update is consistent with the IAMP.
- **Other References:** These documents can provide useful guidance and best practices examples for improving multimodal facilities.

Section 4
Existing Conditions

EXISTING CONDITIONS

This section documents the current conditions and performance of the City of Ashland's transportation system. Findings from this section were used to identify system deficiencies and opportunities to improve the system to meet the City's goals and objectives. The existing conditions of the following elements of the transportation system are discussed further below:

- Active transportation facilities (facilities for active modes of transportation such as bicyclists and pedestrians);
- Traffic counts and traffic analysis;
- Collisions analysis;
- Access management;
- Bridge conditions;
- Inter-modal and intra-modal connections; and
- Funding analysis.

ACTIVE TRANSPORTATION FACILITIES

The term active transportation refers to modes of transportation that require physical activity on the part of the traveler. Traveling as a pedestrian or bicyclist are the two most common forms of active transportation. However, the term also incorporates skateboards, rollerblades, and other such modes. While some of these active modes are less common than pedestrian and bicycle travel, planning and designing for ways to accommodate multiple active transportation modes can help facilitate non-auto travel at the broadest level and help reduce conflicts or friction between non-auto modes. A simple example is making multi-use paths sufficiently wide to allow for safely accommodating bicycle and pedestrian travel. This section provides an analysis of the existing pedestrian and bicycle system in the City of Ashland. The analysis considers active transportation demand as well as reviews system, network, and location deficiencies in the pedestrian and bicycling networks using risk and gap analyses.

Active Transportation Demand

Active transportation demand potential in Ashland has been determined based on the "relative attractiveness" of key destinations in the area. Each attractor will generate demands from within a "comfortable" walking or cycling radius (referred to as the buffer area) – the amount of that demand depends on the relative strength of the attractor to walking and biking, its geographic proximity to potential users, and conglomerations of multiple attractions.

Relative strength is represented by a multiplier that rates the attraction of one destination compared to another and is based on our experience in other cities. For example, a transit center is likely to be more attractive than an individual bus stop. A list of attractors and their multipliers is included in Table 4-1.

Table 4-1 Attractiveness Multipliers

Attractor	Multiplier
Regional Center	5
Village Center	4
Transit Center	4
Bus Transfer Stop	2
Bus Stop	1
Regional Park	2
Local Park	1
Civic – Justice/Government	1
Civic – Library/Museum	2
Civic – Recreation Center	3
Post-Secondary Institution	4
School (K-12)	2

GIS spatial analyst was used to model potential active transportation demands in Ashland. Areas of high and low potential demand are shown on Figures 4-1 and 4-2 with the pedestrian and bicycle networks overlaid respectively.

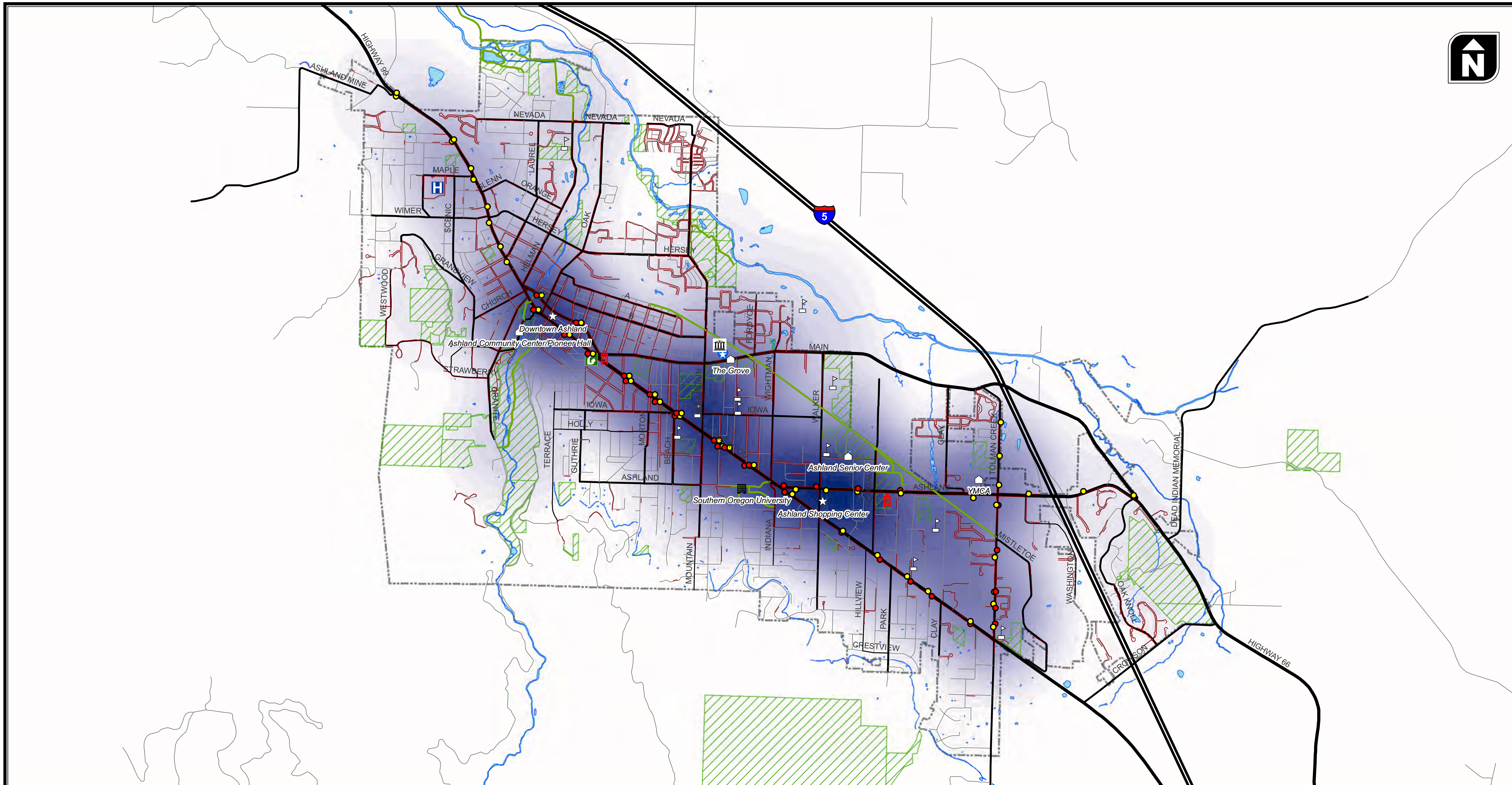
Not surprisingly, the areas of highest demand are located along the boulevard road network. This reflects the historical land use development pattern that has generally followed development of the motor vehicle and has resulted in high concentrations of attractors (e.g. strip retail, commercial centers, education facilities, etc.) along major traffic routes.

Risk Analysis

Figures 4-3 and 4-4 show the location of crashes involving pedestrians or cyclists reported between 1999 and 2009. Crash data used for this risk analysis is from GIS data files provided by the City of Ashland. Pedestrian and bicycle volumes recorded during the weekday p.m. peak hour (3:15 – 4:15 PM) at the 31 intersections included in the 2009 count program are also displayed.

Pedestrian Risk Analysis

In the 10 years between 1999 and 2009 a total of 86 crashes involving pedestrians were reported, including 68 injury crashes and 4 fatal crashes (i.e. approximately 84% of pedestrian-related crashes involved injury or death of the pedestrian). Figure 4-3 shows that crashes involving pedestrians are heavily concentrated along the boulevard road network – in particular along OR 99 and OR 66.



Commercial Center
Community Center
University
School
Library
City Hall
Fire Station
Hospital
Law Enforcement
Sidewalk
Greenway
Water
Park
City Limits

Active Transportation Demand

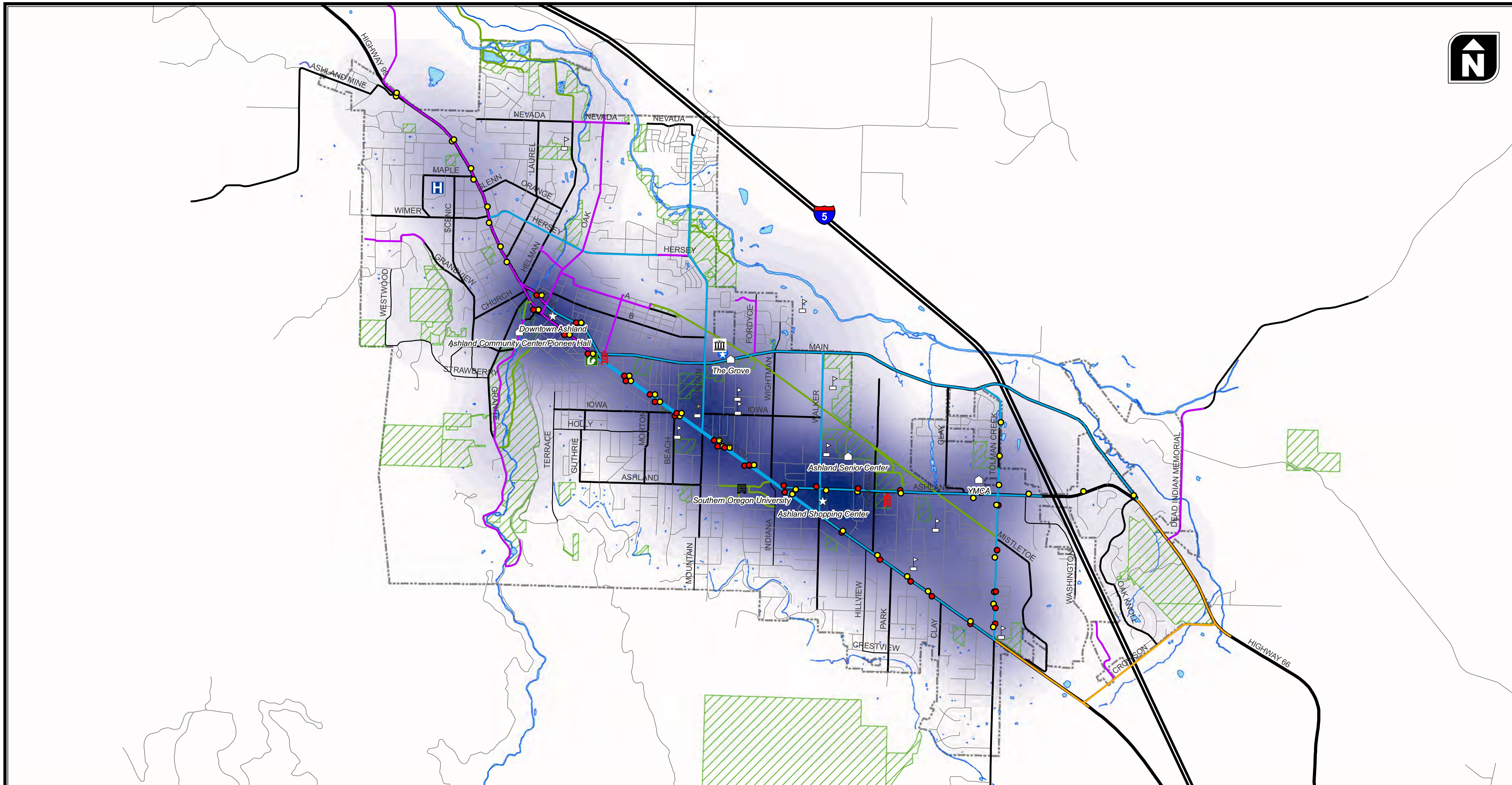
Low High

Active Transportation Demand and Ashland Pedestrian Network

CITY OF ASHLAND

Figure

4-1

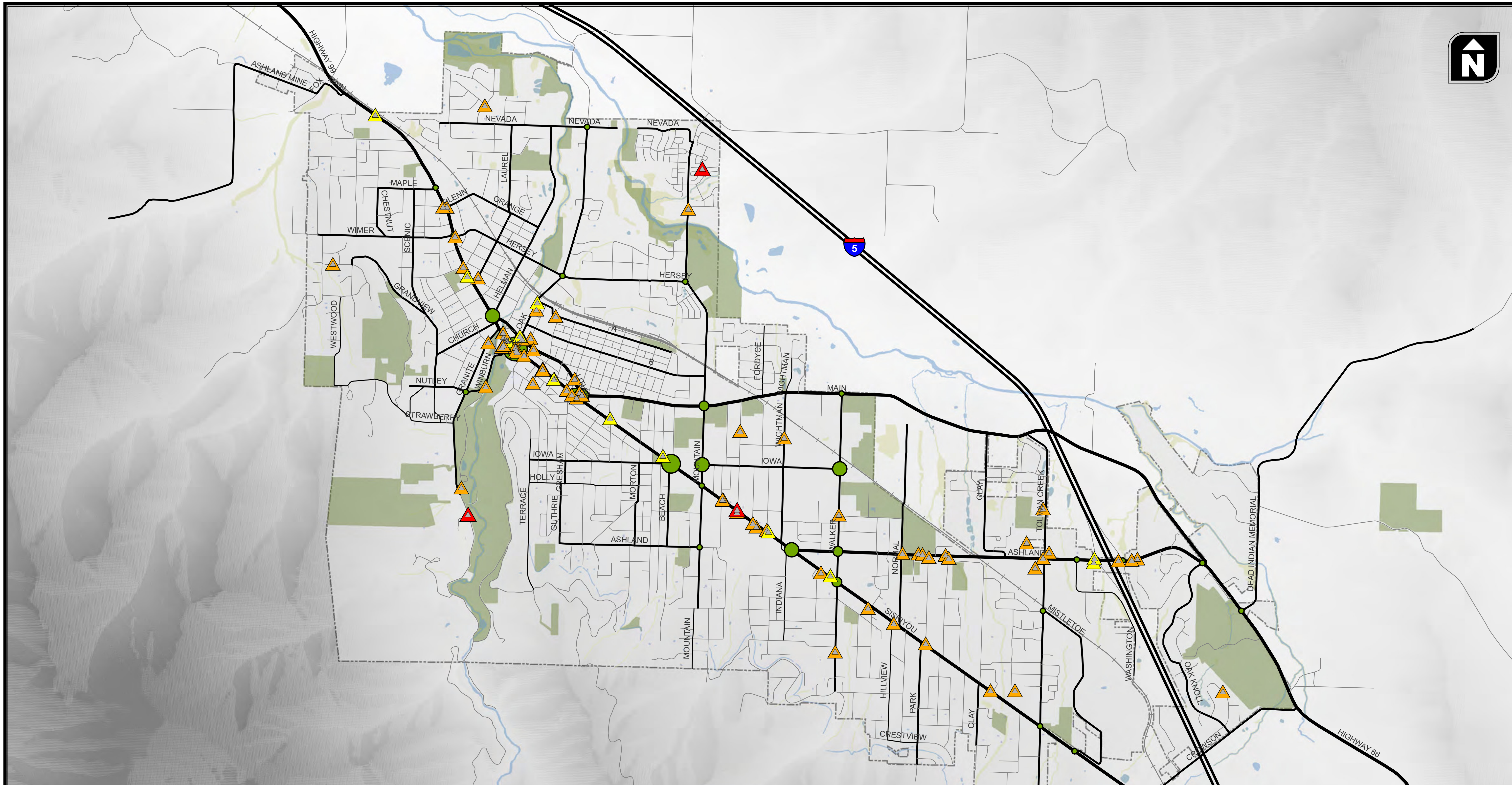


Commercial Center
Community Center
University
School
Library
City Hall
Fire Station
Hospital
Law Enforcement
Bike Lane
Bike Path/Greenway
Greenway
Shared Lane
Shoulder Bikeway
Water
Park
City Limits
Active Transportation Demand
Low High

Active Transportation Demand and Ashland Bicycle Network

CITY OF ASHLAND

Figure 4-2



Pedestrian Collision Severity
- Fatality
- Non-injury
- Injury
- Pedestrian Collisions

Pedestrian Traffic Volume (Weekdays PM)
- Less than 25
- 25 to 50
- 50 to 75
- 75 to 100
- More than 100

- Rivers
- Parks
- Wetlands
- City Limits

Pedestrian Traffic Volumes and Collision

CITY OF ASHLAND

Figure 4-3

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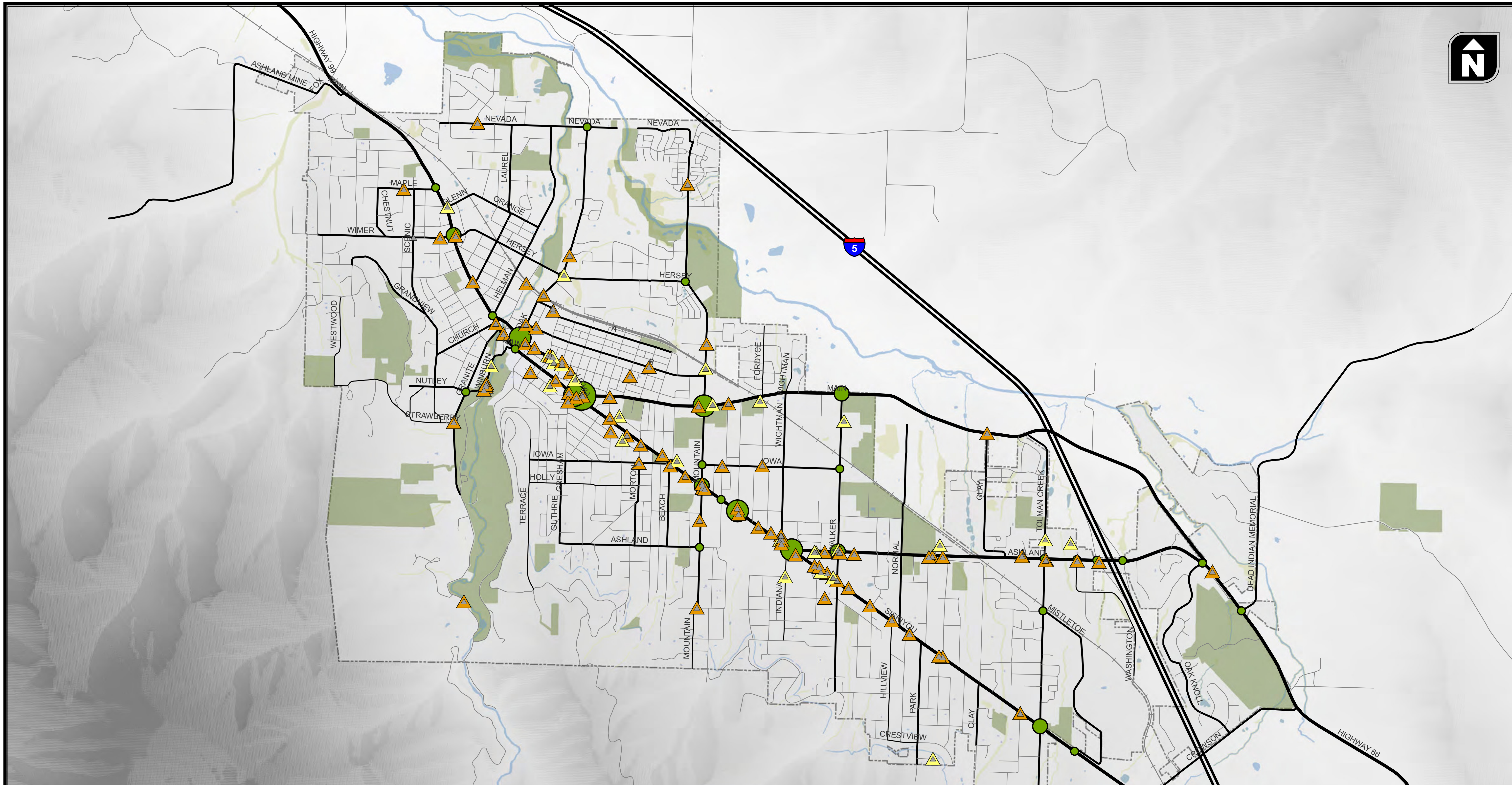

Bicycle Collision Severity

- Non-injury
- Injury
- Bicycle Collisions

Bicycle Traffic Volume (Weekdays PM)

- Less than 10
- 10 to 20
- 20 to 30
- More than 30

- Rivers
- Parks
- Wetlands
- City Limits

Bicyclist Traffic Volumes and Collisions

CITY OF ASHLAND

Figure 4-4

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A segment analysis of these two highways (within the City of Ashland) is included in Table 4-2 and compares the pedestrian-involved crash rate with environmental factors including vehicular traffic volumes, sidewalk coverage, and signalized crossing density and coverage.

Table 4-2 Pedestrian Analysis of Boulevard Segments

Segment			Crashes Involving Pedestrians (crashes/mi /year)	Traffic Volume* (vph)	Sidewalk Coverage (%)	Signalized Crossing Density (cr/mi)	Signal Coverage (sig/int)
Road	To	From					
OR 99 (N Main St)	Valley View Rd	Maple St	0.2	-	56%	1.7	20%
OR 99 (N Main St)	Maple St	Helman St	1.0	1,500	83%	1.7	30%
OR 99 (N Main St)	Helman St	Siskiyou Blvd	2.4	1,500	85%	6.0	35%
OR 99 (Siskiyou Blvd)	Union St	Ashland St	1.1	900	95%	5.0	70%
OR 99 (Siskiyou Blvd)	Ashland St	Normal Ave	0.8	800	65%	0.0	30%
OR 99 (Siskiyou Blvd)	Normal Ave	Boundary	0.2	500	52%	1.1	7%
OR 66 (Ashland St)	Siskiyou Blvd	Clay St	0.6	1,100	80%	1.0	20%
OR 66 (Ashland St)	Clary	Boundary	1.0	1,250	65%	1.7	7%

*Weekday p.m. peak hour traffic volumes (3:15-4:15PM) collected in September/October 2009.
**Sidewalk coverage calculation determined by presence of sidewalks on both sides of the street.

In general the road segments with the highest pedestrian-involved crash rates were those where high numbers of pedestrian crossings interact with high traffic volumes – such as in and near downtown – and where there is higher traffic volumes and fewer intersections treated with signals.

Bicyclist Risk Analysis

In the 10 years between 1999 and 2009 a total of 122 crashes involving cyclists were reported including 90 injury crashes (i.e., approximately 74% of crashes involving cyclists resulted in an injury to the cyclist). There were no fatal crashes involving cyclists during this time. Figure 4-4 shows that, similar to pedestrian-involved crash distribution, crashes involving cyclists also tend to be concentrated along the boulevard road network – particularly along OR 99 and OR 66.

Cyclist-involved crash rates for segments of OR 99 and OR 66 have been compared to bicycle traffic volume, vehicular traffic volume, bike lane coverage (note: this does not include shared roadways), and signalized crossing density and coverage in Table 4-3.

Table 4-3 Bicycling Analysis of Boulevard Segments

Segment			Crashes Involving Cyclists (crashes/ mi/year)	Bike Volume* (bph)	Traffic Volume* (vph)	Bike Lane Coverage (%)	Signalized Crossing Density (cr/mi)	Signal Coverage (sig/int)
Road	To	From						
OR 99 (N Main St)	Valley View Rd	Maple St	0.0	-	-	0%	1.7	20%
OR 99 (N Main St)	Maple St	Helman St	0.5	11	1,500	0%	1.7	30%
OR 99 (N Main St)	Helman St	Siskiyou Blvd	1.7	14	1,500	43%	6.0	35%
OR 99 (Siskiyou Blvd)	Union St	Ashland St	1.7	9	900	100%	5.0	70%
OR 99 (Siskiyou Blvd)	Ashland St	Normal Ave	2.2	13	800	100%	0.0	30%
OR 99(Siskiyou Blvd)	Normal Ave	Boundary	0.4	15	500	80%	1.1	7%
OR 66 (Ashland St)	Siskiyou Blvd	Clay St	1.1	14	1,100	100%	1.0	20%
OR 66 (Ashland St)	Clary	Boundary	1.0	3	1,250	50%	1.7	7%

*Weekday p.m. peak hour bike and traffic volumes (3:15-4:15PM) collected in September/October 2009.

There are no obvious trends to explain why one segment performs better than another. In fact, a number of segments that are fully covered by on-street bike lanes and had lower traffic volumes than other segments recorded higher rates of crashes involving cyclists.

Gap Analysis

System, network, and location deficiencies in the pedestrian and cycling networks have been assessed through a desktop inspection of the existing networks. The findings of this analysis are included below.

Pedestrian Network

There are a number of gaps in the City's major street (i.e., neighborhood collectors, avenues, and boulevards) sidewalk network. As described in Section 1, 34% of the 15.2 miles of boulevard network has sidewalks on both sides of the street and 44% has sidewalks on at least one side of the street. For avenues and neighborhood collectors, sidewalk coverage on at least one side of the street is approximately 48% and 43% respectively.

Signalized crossings are generally located along the boulevard road network, with the highest concentrations located downtown, in front of the Southern Oregon University, and near the intersection of OR 99 and OR 66. Detailed signal warrants have not been undertaken given the limited availability of data; however, ODOT's AADT-based preliminary signal warrants can be used to determine if an intersection generally meets the volume levels for signalization.

Crossing locations where higher pedestrian / bicycle volumes interact with higher motorized traffic volumes and/or vehicle speeds should be prioritized for engineering studies to consider what (if any) enhanced pedestrian crossing treatments such as marked crosswalks, pedestrian-activated signals and traffic signals are warranted. Based on pedestrian and traffic volumes recorded during the weekday p.m. peak hour (3:15 – 4:15 PM) at the 31 intersections included in the 2009 count program, the following unsignalized intersections observe the highest conflicts of vehicle and pedestrian traffic:

- OR 99 (NB) / Oak Street;
- OR 99 (SB) / Oak Street;
- OR 99 / Wimer Street / Hersey Street;
- Walker Avenue / Iowa Street; and
- S Mountain Avenue / Iowa Street.

There may be other intersections, mid-block locations, or railway crossings that were not included in the count program that may also qualify for further study. Existing under-serviced demands, such as where "illegal" crossings or informal trails have developed should be considered in the evaluation along with latent demands, which are those pedestrians that would use a crossing or facility if safe and convenient opportunities were provided.

Bicycling Network

The land use and road network pattern in Ashland is a "fishbone" network that consists of one or two east-west "spines" (OR 99 and OR 66) supported by a north-south collector system. The spinal corridors provide a regional traffic mobility function as well as hosting the majority of the City's attraction-based land uses including its retail, commercial, service, and educational hubs. These locations are also attractive to bicycle riders (see Figure 4-1).

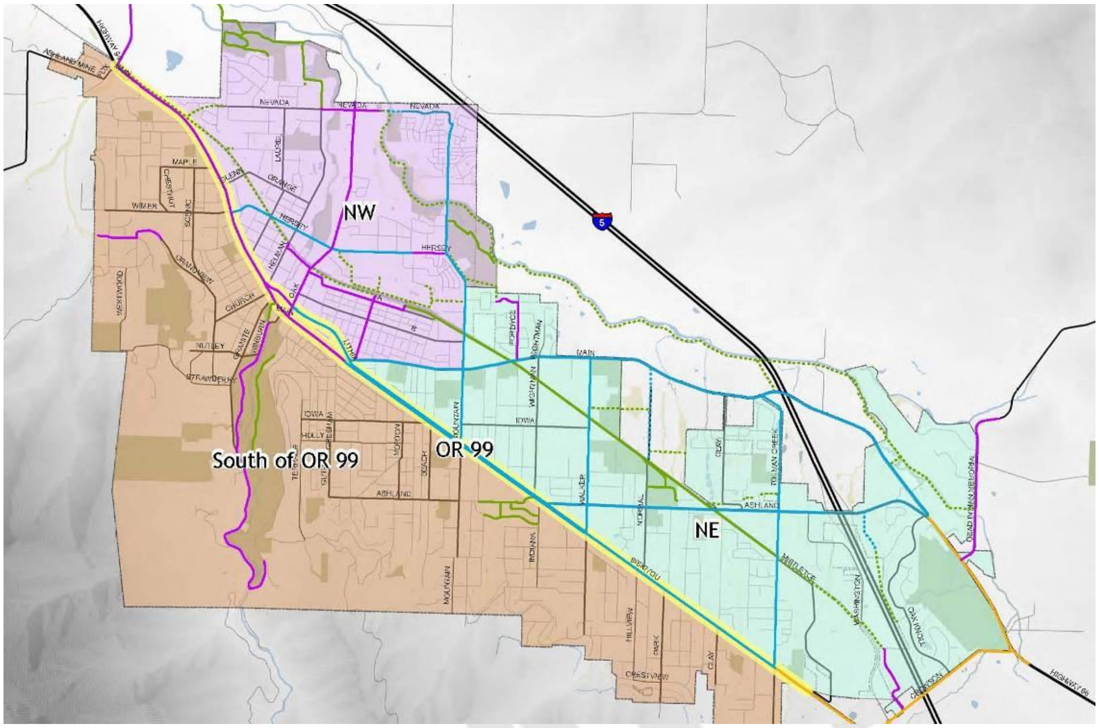
The existing bikeway network reflects the same structure as the major road network (i.e., neighborhood collectors, avenues, and boulevards); there are few continuous alternatives to the boulevard network, particularly routes that connect riders to the major land use attractions.

Overall, the City has approximately 30 miles of bikeway facilities. Approximately half of these are dedicated on-street facilities (i.e., bike lanes or bike shoulders) that cover approximately 32% of the major road network (i.e., neighborhood collectors, avenues and boulevards) in Ashland. An additional 23% of the bikeway network is off-street (i.e., either shared use path or greenway trails) with the remainder of the network consisting of shared roadway or signed shared roadway facilities.

Network Analysis

An analysis of the bicycle network has been conducted that describes the existing system and provides some general comments on gaps in the existing system with a particular focus on facilities that cater towards the "interested but concerned" cycling group. For the purposes of the analysis, the City has been organized into four analysis areas: the north-east quadrant (generally north of Siskiyou Boulevard and east of downtown), the north-west quadrant (north of E Main Street including and west of downtown), south of OR 99, and along OR 99. Exhibit 4-1 illustrates these analysis areas.

Exhibit 4-1 Network Analysis Areas



North-East Quadrant

Currently, there is approximately 7 miles of off-street pathway or trail network in the City of Ashland that caters to the “interested but concerned” cyclist. Some of this is contained within parklands and tends to attract recreational cyclists.

The shared-use path adjacent to the rail corridor between Tolman Creek Road and 6th Street provides the basis of a comprehensive bike network in the north-east quadrant of the City. On-street bike lanes on E Main Street, OR 66 (Ashland Street), Tolman Creek Road, Walker Avenue, and Mountain Avenue provide connections to the attractions along OR 99 and OR 66 at regular spacing – approximately every 0.5 to 1.0 mile.

Future development of the network in the north-east quadrant could include “in-filling” existing connections between the shared-use pathway and OR 99 and OR 66 with a greater emphasis on facilities more appropriate for “interested but concerned” cyclists. This could include on-street (preferably buffered or separated) bike lanes or bicycle boulevards along lower volume streets and alleyways.

North-West Quadrant

Bicycle facilities in the north-west quadrant consist of three primary north-south bikeways including on-street bike lanes on Mountain Avenue and shared lanes on Oak Street and 4th Street (the latter in downtown only). Only Mountain Avenue provides protected facilities and there are no north-south bikeways west of Oak Street.

East-west bikeways include shared lanes along Nevada Street and A Street (downtown) and on-street bike lanes along Hersey Street. A Street may be an appropriate street, in-terms of directness and traffic environment, to provide an interim on-street alternative to the continuation of the shared-use pathway along the rail corridor. There are a number of gaps along the Nevada Street bikeway including an incomplete connection across the creek between Kestrel Parkway and Oak Street and the section west of Helman Street. Apart from those already provided, there are few opportunities for additional east-west bikeway connections due to geographical and physical barriers.

Continuing the shared-use pathway along the rail corridor would provide a comfortable "distributor" function for bicyclists in the north-west quadrant. A number of pathway "stubs" would provide connection to existing bikeways such as Nevada and Hersey Streets as well as development areas such as the lands south of Hersey Street between Mountain Avenue and Oak Street.

Similar to the north-east quadrant, connections to OR 99 can be provided along low volume streets or alleyways in the form of bicycle boulevards or using buffered or separated on-street bike lanes where appropriate. These will supplement or upgrade the existing connections to OR 99 that include an on-street bike lane along Hersey Street and shared roadways along Oak Street, and 4th Street. Additional connections may include a central connection to downtown (perhaps a bicycle boulevard along 1st or 2nd Street) and a north-south connection between Helman and Hersey Streets. A north-south connection reaching into the residential areas west of Oak Street and north of Hersey Street would also be appropriate. This could connect to the existing greenway trail north of Nevada Street.

South of OR 99

The existing cycling network is sparse south of OR 99 with a few off-street pathways provided in the Southern Oregon University campus and in Lithia Park and a shared roadway route along Winburn Way.

There appears to be fewer opportunities to create a continuous bicycle route parallel to OR 99 as is provided by the rail corridor trail on the north side of OR 99. However, there is an opportunity to provide a more circuitous bicycle boulevard network that winds through the local street and alleyway network. This will require additional signing and striping to highlight changes in direction, but would provide an alternative to OR 99 for "interested but concerned" cyclists that are generally less concerned with speed and direct routes.

There are few north-south connections currently. It is recommended that north-south connections to OR 99 occur at a spacing of at least every mile initially to be filled in later to every 0.5 miles or less. At a minimum these should consist of on-street bike lanes, but preferably would consider separated or protected bike lanes along heavier traffic streets or utilize lower volume streets and alleyways to create bicycle boulevards.

OR 99

OR 99 provides the quickest and most direct route through the City as well as between land use attractions which are generally concentrated along the highway. The existing policy of developing on-street bike lanes will continue to attract the "strong and fearless" and "enthused and confident" cycling groups. Therefore, continuing on-street bike lanes north of the E Main Street / Siskiyou Boulevard intersection is still appropriate.

However, to attract the "interested but concerned" cycling group, a system of protected or buffered bike lanes along OR 99 or a parallel alternative route along lower volume streets or an off-street shared pathway is recommended. North of the highway, there are no continuous parallel streets and the shared-use path adjacent the rail corridor is approximately 0.5 miles north of OR 99. There is more potential for a parallel route south of OR 99, although this would be a circuitous combination of local streets. The potential for protected bike lanes along OR 99 should be investigated further.

Some locations along OR 99 may warrant enhanced crossing treatments for less experienced cyclists. This could include median refuge crossings and pedestrian-activated signals with bicycle push buttons. Enhanced crossings should be considered where crossing opportunities are limited by traffic volumes or vehicle speeds or where there is a safety risk for crossing bicyclists.

TRAFFIC ANALYSIS

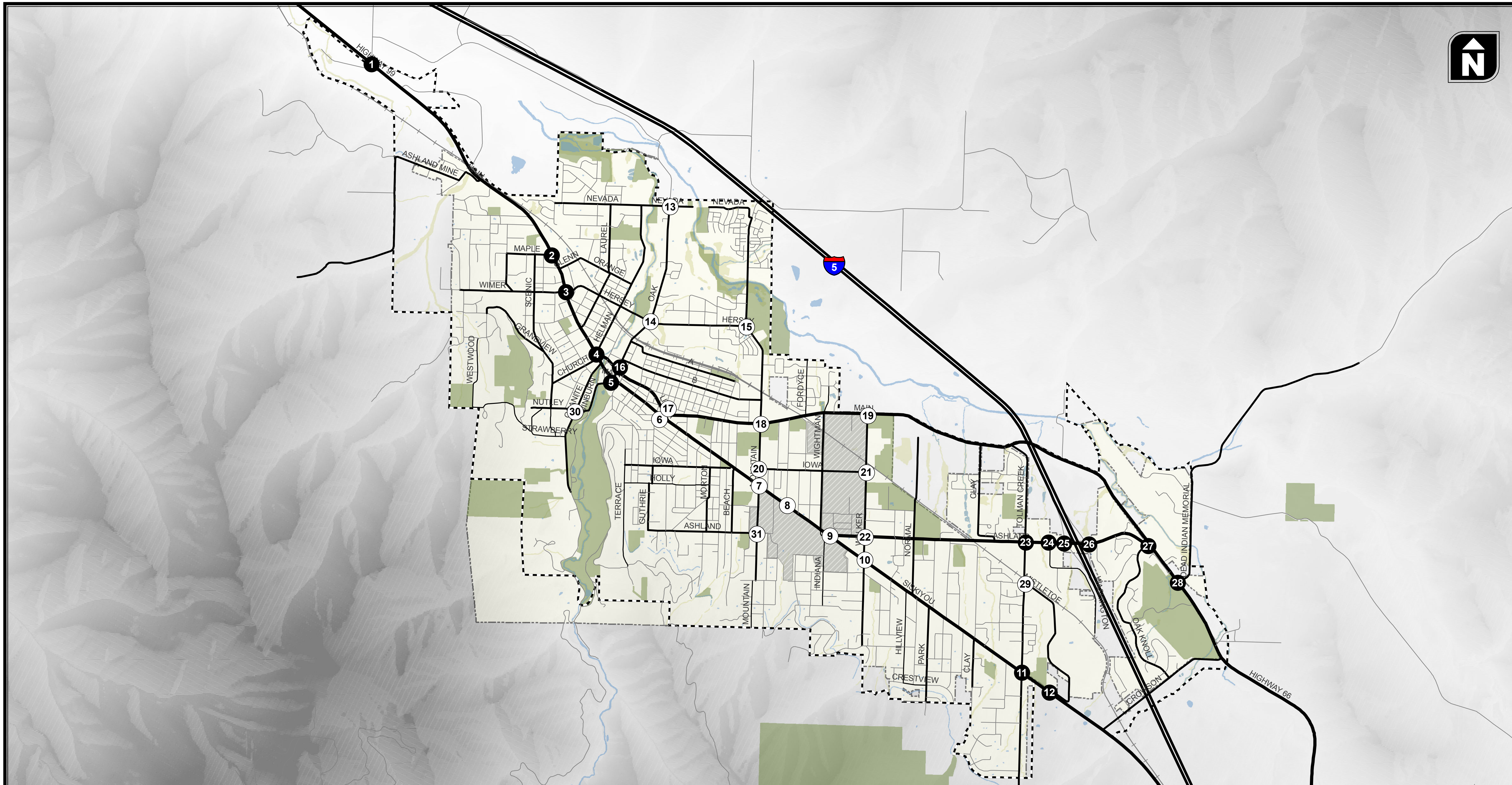
Section 1 includes a detailed inventory of the City of Ashland's roadway facilities for those classified as neighborhood collectors and higher (i.e., neighborhood collectors, avenues, and boulevards). The inventory includes information on functional classification, jurisdictional responsibilities, posted speed limits, surface type, number of lanes and other similar roadway characteristics. The focus of this section is to document the existing traffic operations for the study intersections identified for the TSP update.

Study Intersection Operations Assessment

Existing conditions traffic operations analysis was conducted for 31 key intersections within the City of Ashland during the weekday p.m. peak hour. Technical Memorandum #3 contains detailed information on the traffic count data used in the analysis, the analysis methodology applied, the operational standards used to assess the results, and the development of peak hour traffic volumes for the analysis. The following documents the results of the analysis for the study intersections under existing traffic conditions.

Intersection Delay and Capacity Analysis

Figures 4-5, 4-6, and 4-7 illustrate the study intersection locations, lane configurations and traffic control devices, and the traffic operations results, respectively.



ODOT Study Intersection
City Study Intersection

Existing Traffic Conditions

Figure 4-5

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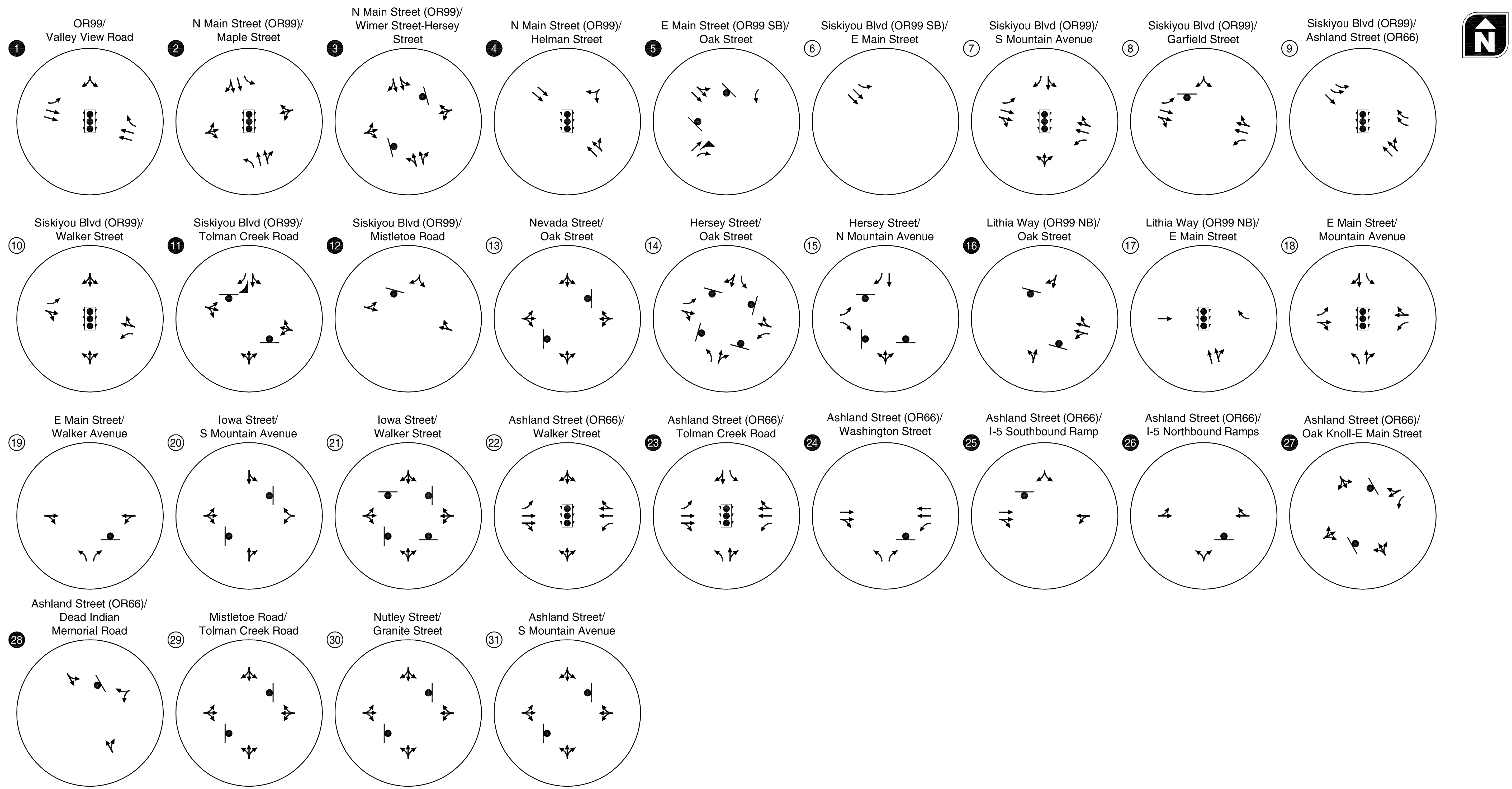

- ## - ODOT STUDY INTERSECTION
- ## -CITY STUDY INTERSECTION
- STOP SIGN
- TRAFFIC SIGNAL

Existing Lane Configurations and Traffic Control Devices

CITY OF ASHLAND

Figure 4-6

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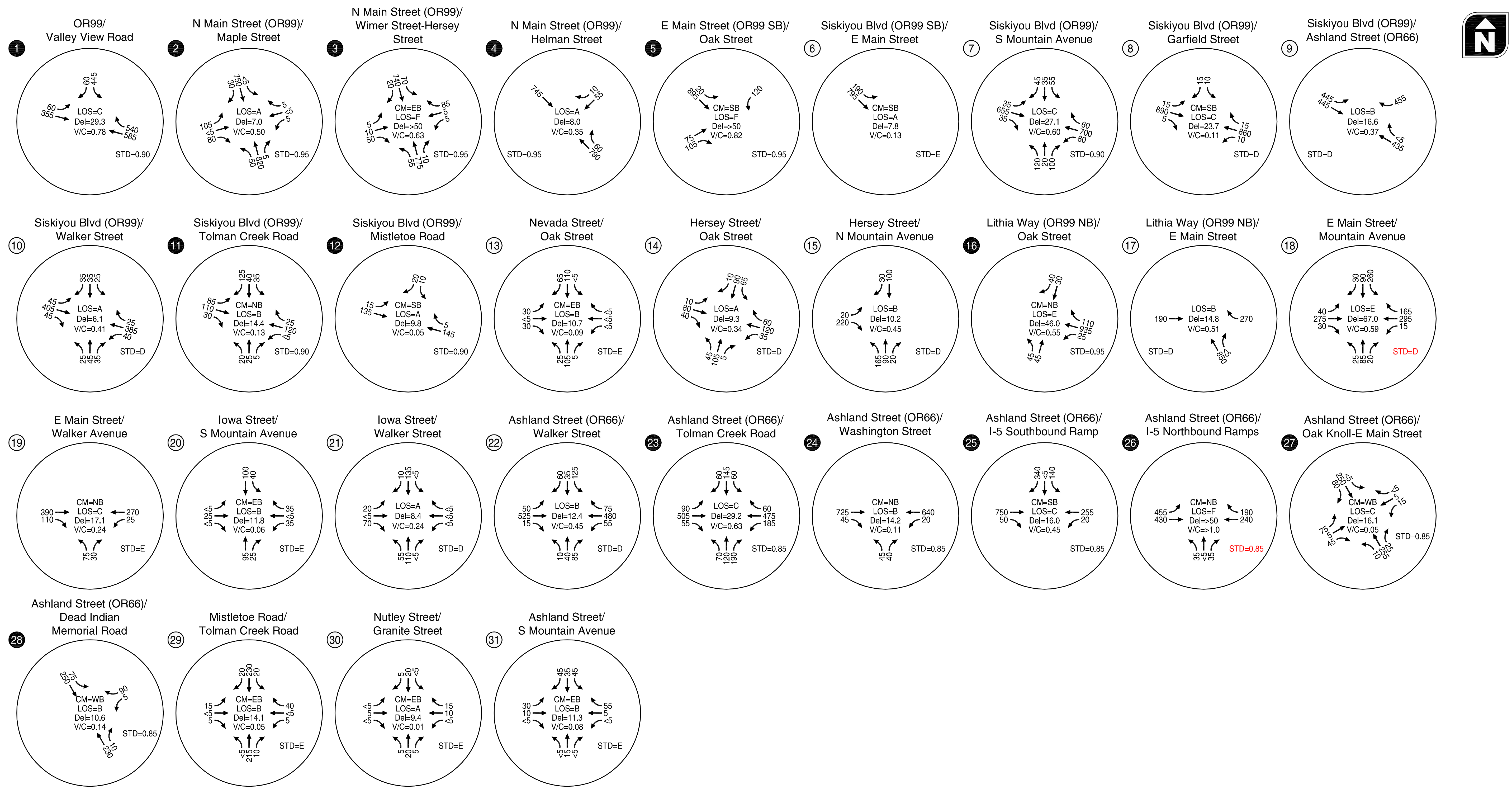


CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
STD = OPERATIONAL STANDARD

Existing Traffic Conditions Weekday PM Peak Hour

CITY OF ASHLAND

Figure 4-7

As shown, there is one study intersection under ODOT's jurisdiction that does not meet its applicable mobility standard. There is also one study intersection under the City of Ashland's jurisdiction that exceeds the LOS D threshold identified for traffic signal controlled intersections in the City of Ashland. The LOS D threshold is not a formal City of Ashland standard (the City does not currently have adopted mobility standards). The LOS D threshold was set for the purpose of this analysis to identify intersections under the City's jurisdiction that may experience existing operational issues.

The intersection under ODOT's jurisdiction that does not meet its applicable mobility standard is OR 66/I-5 Exit 14 NB Ramps intersection. The OR 66/I-5 Exit 14 NB Ramps are located in the southeastern portion of the City. An Interchange Area Management Plan (IAMP) has recently been prepared for the OR 66/I-5 interchange. The intersection improvements identified within the IAMP for the OR 66/I-5 Exit 14 NB Ramps intersection includes converting the existing two-way stop controlled intersection to a signalized intersection, which will help address existing operational issues. The findings and recommendations in the IAMP will be considered when future analysis scenarios are conducted within this TSP update project.

The study intersection under the City of Ashland's jurisdiction identified as potentially experiencing operational issues is E Main Street/Mountain Avenue intersection. The intersection is currently signalized and has exclusive left-turn lanes on all four approaches. The intersection is currently operating with at LOS E with a V/C ratio of 0.59. The southbound left-turn movement in the weekday evening peak hour is the dominant north-south movement and is the likely the contributing factor to the intersections higher average control delay (i.e., LOS E) and relatively low V/C ratio. There are likely signal timing adjustments that could be made to reduce the average control delay at this location.

Intersection Queuing Analysis

Queuing analysis was performed at the study intersections in accordance with the recommendations provided in Section 8.3 of the ODOT *Analysis Procedures Manual*. The 95th Percentile queue lengths reported are from those calculated using Synchro 7 software, which implements the *2000 Highway Capacity Manual* methodology.

As there were 31 intersections included in the analysis, Table 4-4 summarizes the queuing results for the study intersections where storage deficiencies were identified. The queue lengths reported in Table 4-4 were rounded up to the nearest 25 feet. The available storage length is based on the striped storage lane at the intersection. If a striped storage lane is not provided for a movement, the distance between roadways is reported as the available storage. *Appendix D of Technical Memorandum #4: Existing System Conditions in the Technical Appendix* contains the results of the queuing analysis for all of the study intersections.

Table 4-4 95th Percentile Queues at Study Intersections with Storage Deficiencies

Location	Approach/ Movement	95th Percentile Queue (ft)	Striped Storage Available (ft)	Adequate Storage?
OR99/ Valley View Road	WBR	300	100	No
Hersey St/ N Mountain Avenue	EBR	150	100	No
OR66/ Tolman Creek Road	EBL	150	100	No
	WBL	225	100	No
	NBL	125	100	No

*The following abbreviations are used in this table: NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound; L: Left; LTR: Shared left/through/right lane; LT: Shared left/through lane.

As shown in Table 4-4, seven study intersections were found to have 95th percentile queues on one or more approach that exceed the available storage capacity. The remaining study intersections were found to have adequate storage at each approach.

COLLISION ANALYSIS

Collision analysis was conducted for the Ashland TSP study intersections and key roadway segments within the City. The intersection analysis was performed using ten years of crash data obtained from ODOT; the data covers crashes reported from 2000 through 2009. The segment crash analysis was performed using a GIS data set from the City of Ashland. As part of the analysis, the Statewide Priority Index System (SPIS) was reviewed to determine if ODOT had identified any hazardous locations along OR 99 or OR 66 within the City of Ashland.

Findings from the collision analysis indicated the following.

- ODOT's 2009 SPIS analysis rates OR 99 and OR 66 through Ashland as Category 3 (of 5 categories) or lower indicating 3 to 5 fatal and/or serious injury crashes or fewer per five miles have occurred on OR 66 and OR 99 sometime from 2006 through 2008.
- There are five study intersections with crash rates higher than expected based on crash rates at similar types of intersections within Ashland; these intersections are:
    - OR 99/Hersey Street/Wimer Street;
    - OR 99 SB/Oak Street;
    - OR 99/Tolman Creek Road;
    - OR 99 NB/E Main Street;
    - OR 66/Tolman Creek Road; and
    - OR 66/E Main Street/Oak Knoll Drive.
- The majority of reported crashes on the selected roadway segments were property damage only crashes.

Technical Memorandum4 Existing System Conditions, dated November 23, 2010 presents additional details regarding the collision analysis. The following section summarizes information regarding the safety focus intersections identified based on the collision analysis.

Six intersections were identified as safety focus intersections based on how their crash history compared to other intersections in Ashland with similar characteristics. The safety focus intersections are:

- OR 99/Hersey Street/Wimer Street;
- OR 99 SB/Oak Street
- OR 99/Tolman Creek Road;
- OR 99 NB/Lithia Way/E Main Street;
- OR 66/Tolman Creek Road; and
- OR 66/E Main Street/Oak Knoll Drive.

A more detailed review of the reported crashes at each of these six intersections was conducted to determine potential contributing factors as well as potential countermeasures for reducing crashes. The results of the more detailed review are summarized in Table 4-5. Technical Memorandum 4 Existing System Conditions describes each intersection and the potential improvements in more detail

Table 4-5 Potential Countermeasures at Safety Focus Intersections

Intersection	Potential Countermeasures
OR 99/Hersey Street/Wimer Street	• Add left-turn pockets and/or right-turn lanes on OR 99. • Consider installing a traffic signal or roundabout. • Convert access to Hersey Street and Wimer Street to right-in/right-out access only.
OR 99 SB/Oak Street	• Consider realigning southern approach from off-street parking to occur at closer to a 90-degree angle.
OR 99/Tolman Creek Road	• Prohibit parking on OR 99 in the vicinity of the intersection. • Conduct a speed study and investigate potential speed reduction treatments.
OR 99 NB/Lithia Way/E Main Street	• Consider automated enforcement such as installing red-light running cameras.
OR 66/Tolman Creek Road	• Consider automated enforcement such as installing red-light running cameras.
OR 66/E Main Street/Oak Knoll Drive	• Conduct a sight-distance evaluation at the intersection. • Add left-turn and right-turn pockets on OR 66. • Investigate prevailing vehicle speeds on OR 66 and consider treatments to reduce vehicle speeds. • Increase intersection sight distance by realigning intersection approaches.

BRIDGE CONDITIONS

Using the ODOT Bridge Management System, conditions for ten bridges were investigated based the inspection report database *PONTIS*. No inspection records were found for Hamilton Creek, Highway 21 Bridge (No. 03676A). There are many factors that go into the decision-making process for determining whether a bridge needs to be replaced or rehabilitated. The sufficiency rating (SR) can be a useful assessment tool and used as an indicator to the condition of the bridge. The following are not absolutes, but guidelines that some agencies have used:

- An SR less than 50 is a sign that the bridge may need to be replaced.
- SRs between 50 and 70 indicate that the bridge may need to be rehabilitated.
- SRs above 70 may require some maintenance and repair.

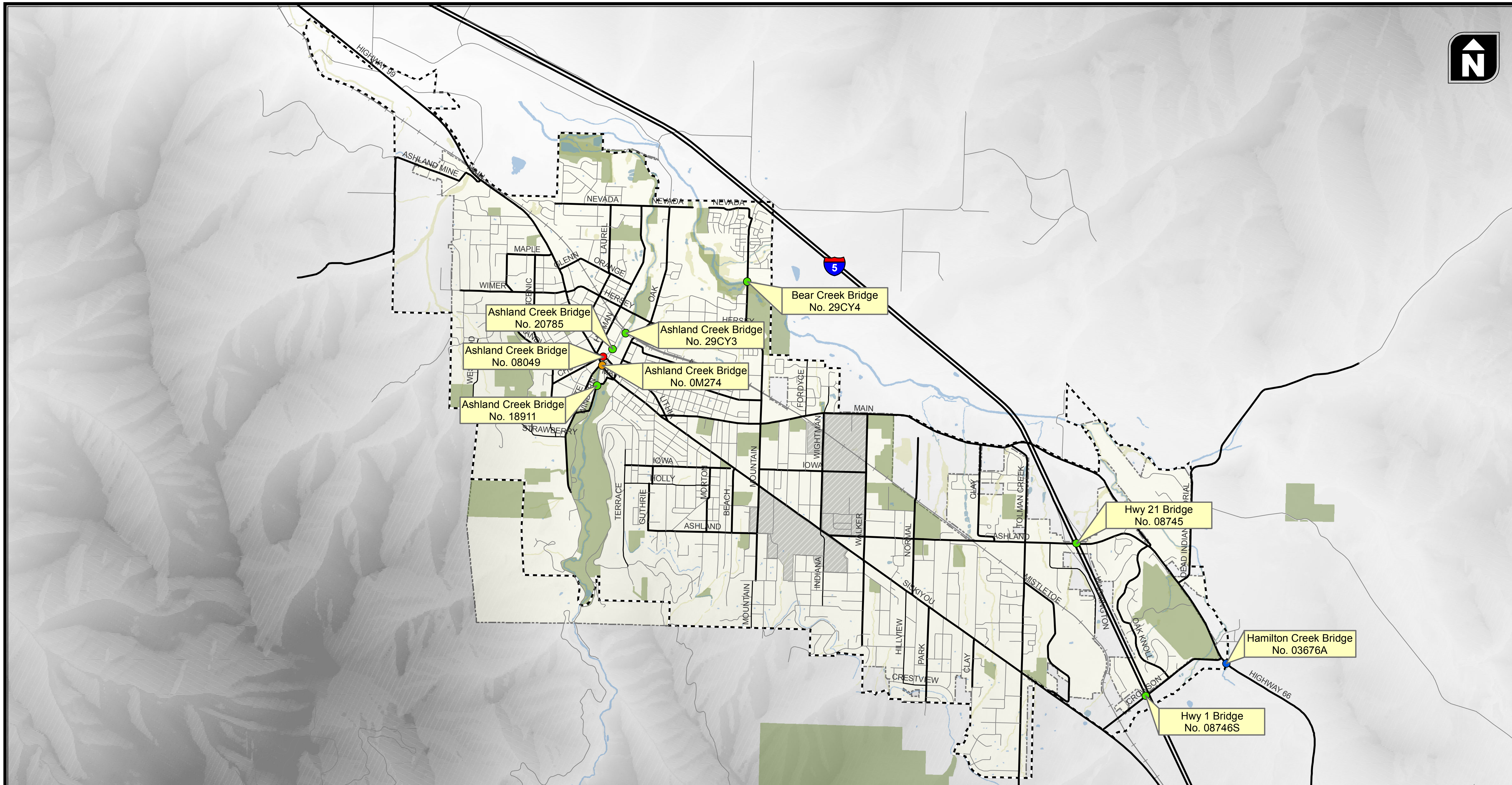
Table 4-6 summarizes the bridge conditions for the ten bridges investigated.

Table 4-6 Bridge Condition Summary

Bridge No.	Bridge Name	Location	Sufficiency Rating	Year Built
08049	Ashland Creek, Hwy 63 NB (Lithia Way)	027 MI N ASHLAND	6.0 (Structurally Deficient)	1956
0M274	Ashland Creek, Hwy 63 SB (N Main Street)	018 MI N ASHLAND SCL	66.5 (Functionally Obsolete)	1911
29CY3	Ashland Creek, Van Ness Ave	0.1 EAST OF HELMAN ST	67.1 (Not Deficient)	1974
08745	Hwy 21 over Hwy 1 (Ashland Street over I-5)	00.0 INTERSECT HWY 001	73.5 (Not Deficient)	1963
18911	Ashland Creek, Winburn Way	WINBURN WY AT LITHIA PARK	79.4 (Not Deficient)	2000
08746S	Hwy 1 SB (I-5 SB) over Crowson Rd	13.3 MI N CA STATE LINE	81.0 (Not Deficient)	1963
20785	Ashland Creek, Water St	0.3 NORTH OF B STREET	82.4 (Not Deficient)	2006
29CY4	Bear Creek, Mountain Ave	MOUNTAIN AVE AT BEAR CR	83.3 (Not Deficient)	1967
03676A	Hamilton Creek, Hwy 21 (OR 66)	002 MI W HWY I		

Note: *Inspection report not available.

Figure 4-8 illustrates the location of each bridge noted in Table 4-6 and its corresponding sufficiency rating. *Appendix H in Technical Memorandum #3: System Inventory in the Technical Appendix contains additional information for each bridge including bridge length, structural materials, and observations from inspection reports.*



- Not Deficient
- Structurally Deficient
- Functionally Obsolete
- Report Not Available

Bridge Location and Sufficiency Rating

Figure 4-8

AIR, RAIL, PIPELINE, AND WATER

In the course of inventorying the existing air, rail, pipeline, and water transportation facilities within the City of Ashland and those serving the City of Ashland deficiencies in these systems were not identified. Forthcoming future conditions analysis will consider the potential demand for expanding such services as passenger rail which is currently not provided to/from the City of Ashland.

INTRA-MODAL AND INTER-MODAL CONNECTIONS

The City of Ashland does not currently contain hubs for intra-modal and inter-modal connections. The nearest transit center is located in Medford, Oregon, which is approximately 15 miles northwest of Ashland. While rail freight passes through Ashland on the Central Oregon and Pacific Railroad there are no major transfer hubs for rail to truck freight movements nor are there such transfer or intra-modal connections between air and truck freight.

Section 5
Future Demand, Land Use, and Funding

FUTURE DEMAND, LAND USE, FUNDING

This section documents the results of the future “No-Build” traffic conditions analysis prepared for the TSP Update. This section includes an evaluation of how the study intersections are expected to operate in the year 2034 assuming growth and development occur without any modifications to the transportation system and an evaluation of existing and future multimodal levels-of-service (MMLOS) along six major roadways throughout the City.

FUTURE “NO-BUILD” TRAFFIC OPERATIONS

Technical Memorandum #4 provides a detailed description of the no-build traffic conditions analysis, including the future population and employment growth assumptions used in the intersection operations and multi-modal level-of-service (MMLOS) analyses and a description of the methodology used to develop forecast traffic volumes at the study intersections. The following presents the results of the analyses and identifies future funding forecasts and funding options for future transportation system improvements.

FUTURE POPULATION AND EMPLOYMENT ASSUMPTIONS

The following documents the modeling assumptions for the 2034 future no-build traffic conditions analysis and evaluates the differences between the population and employment growth assumptions included in the Rogue Valley Metropolitan Planning Organization’s travel demand model (RVMPO2) and existing City plans. As discussed in the following sections, the population and employment assumptions included in the RVMPO2 model are inconsistent with population and employment projections included in the City’s comprehensive plan and the City’s Economic Opportunities Analysis.

Population and Employment Growth

Table 5-1 documents the 2009 certified population estimate for Ashland along with the year 2040 and interim year 2034 population forecasts based on the City’s comprehensive plan. As shown, the comprehensive plan estimates an increase of 3,959 people between 2009 and 2034, or approximately 158 people per year.

Table 5-1 City of Ashland Actual Population and Comprehensive Plan Growth

Year	Population	Difference	Annual Growth	
2009*	21,505			
2034	25,464	3,959 (Year 2034-2009)	158 people/yr	0.74%/yr

*Certified 2009 population by PSU

Table 5-2 provides the 2007 jobs and projected 2037 jobs from the City’s Economic Opportunities Analysis along with 2009 and 2034 jobs interpolated for the purpose of this analysis. As shown in Table

5-2, the City's EOA estimates an increase of 2,212 jobs between 2009 and 2034, or approximately 88 jobs per year.

Table 5-2 City Economic Opportunities Analysis Job Forecast

Year	Jobs	Difference	Annual Growth	
2007	13,107			
2037	15,761	2,654 (Year 2007-2037)	88 jobs/yr	0.68%/yr
2009*	13,284			
2034*	15,496	2,212 (Year 2009-2034)	88 jobs/yr	0.67%/yr

*Interpolated year using straight-line growth between data provided

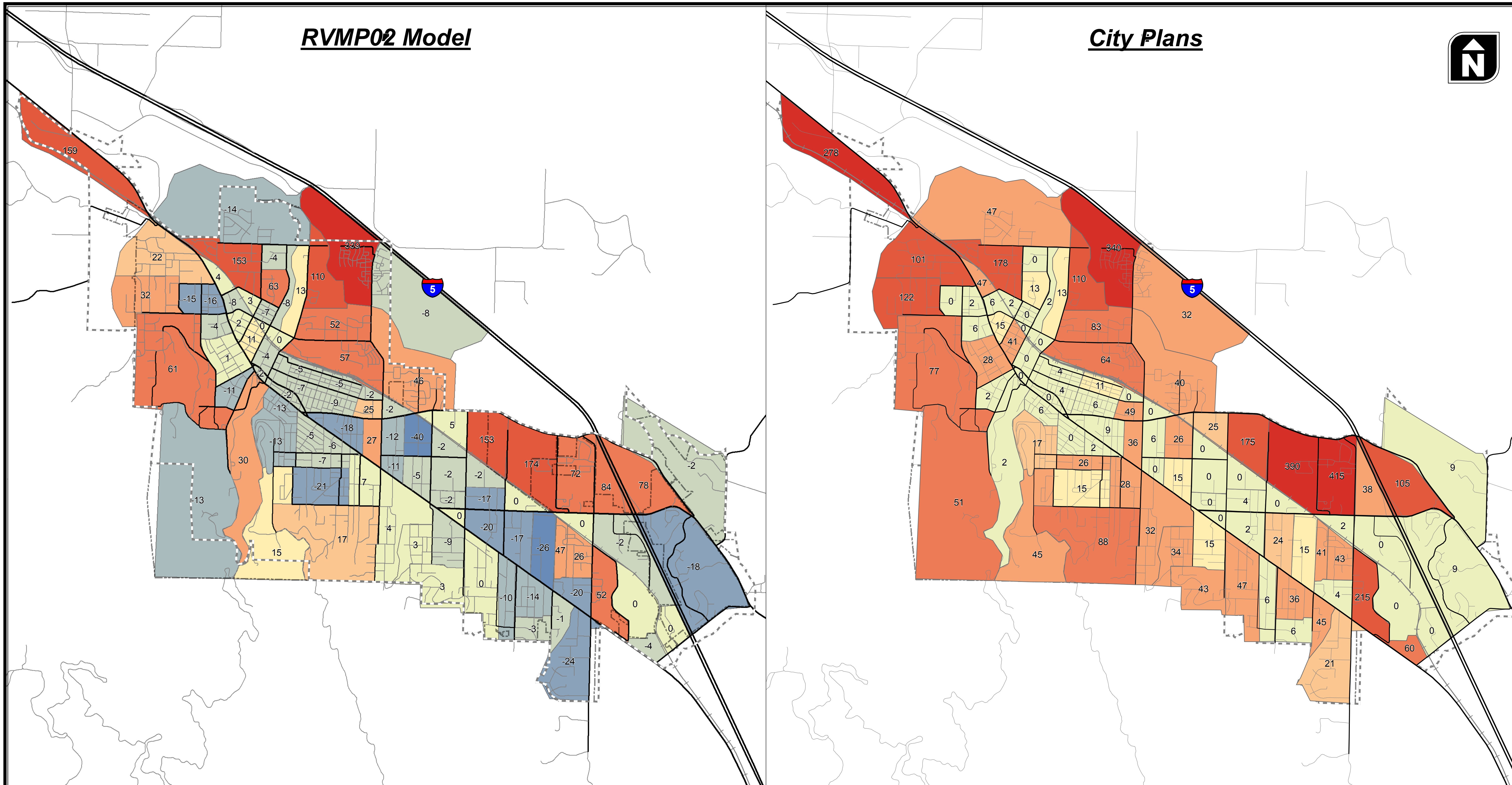
Table 5-3 documents the 2009 and 2034 population and employment growth forecasts within the City's urban growth boundary included in the RVMPO2 travel demand model. It should be noted that the extents of the RVMPO2 model does not align directly with the city's urban growth boundary; therefore, it is the average annual growth rate that is most important and not the 2009 base data.

Table 5-3 RVMPO2 Model and Ashland Projected Population and Employment (within Ashland UGB)

	RVMPO 2 Model				City Plans	
	2009 Base	2034 Base	2009-2034 Difference	Annual Growth	Annual Growth	Source
Households (HH)	10,935	11,604	669	27 HH/yr		
Population (people)	23,941	25,528	1,587	63 people/yr	158 people/yr	City Comp Plan
Employment (jobs)	14,484	18,806	4,322	173 jobs/yr	88 jobs/yr	City EOA

As shown in Table 5-3, the RVMPO2 model population growth is significantly less than what is projected in the city's comprehensive plan and the employment growth is significantly higher than the City's EOA. Figures 5-1 and 5-2 illustrate the differences in the population and employment growth assumptions in the RVMPO2 model and the City's comprehensive plan and EOA. As shown in Figure 5-1, the City's comprehensive plan anticipates significantly more growth in population throughout the city than the RVMPO2, while Figure 5-2 shows that the RVMPO2 model anticipates significantly more growth in employment throughout the city than the City's EOA.

Further evaluation of the differences between the model and City plans is included in the following sections, including an evaluation of how the differences impact traffic operations at the study intersections.



- -50	-10 - 0	25 - 50	City Limits
-49 - -25	0 - 10	50 - 100	City UGB
-25 - -15	10 - 15	100 - 250	
-15 - -10	15 - 25	250+	

Population Growth Assumptions by TAZ

Figure

5-1

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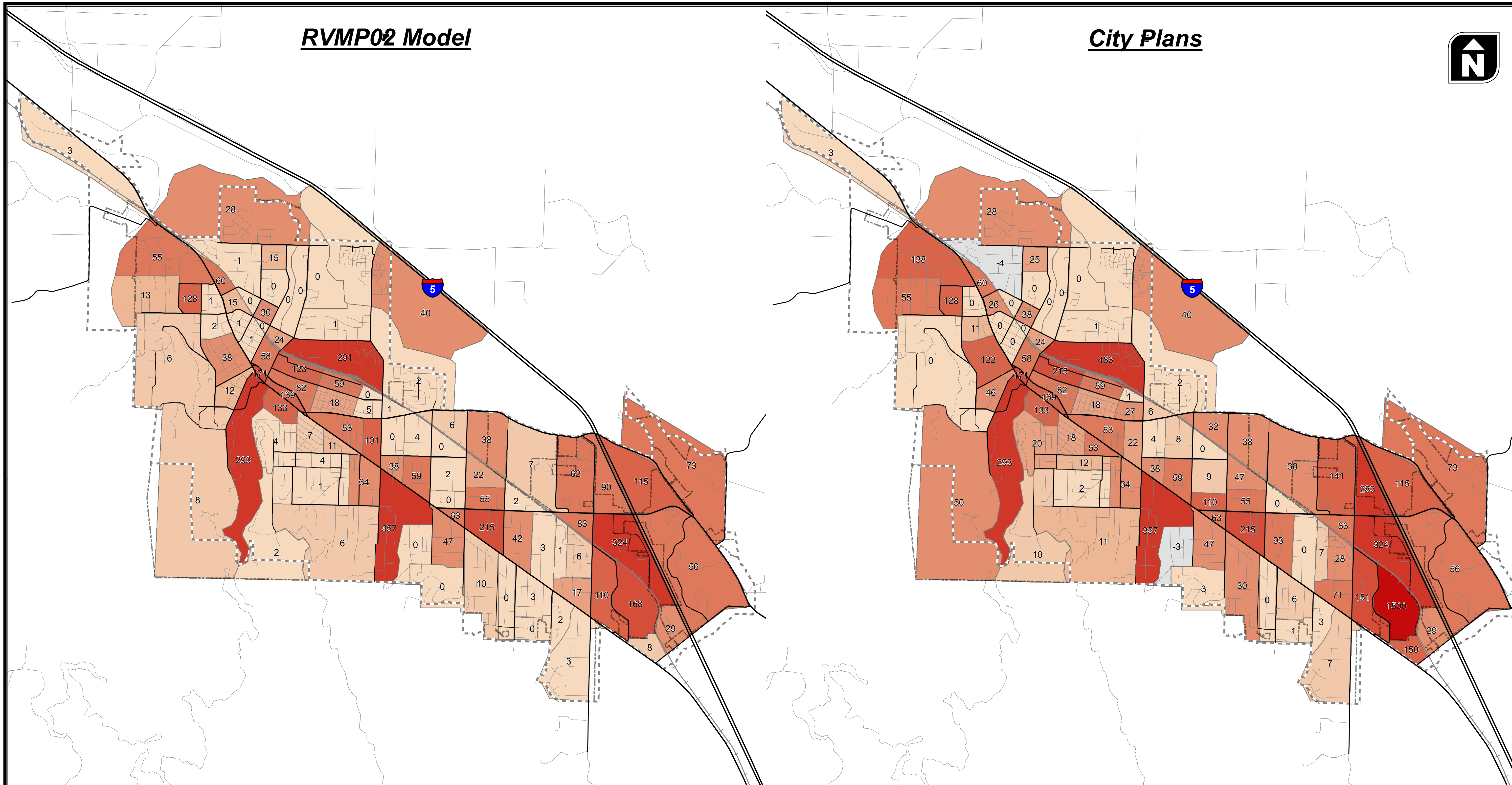

Employment Growth Assumptions by TAZ

Figure
5-2

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FUTURE TRANSPORTATION CONDITIONS

The following describes the weekday p.m. peak hour traffic volumes and the projected weekday p.m. peak hour traffic operations under year 2034 no-build traffic conditions.

Traffic Operations Analysis Results

Level-of-service (LOS), volume-to-capacity (v/c) ratios, and 95th percentile queue lengths were calculated for each of the study intersections. The following present the results of these analyses and discusses which intersections do not meet the applicable standards under future no-build traffic conditions. While the results of the analyses are based on the assumptions in the RVMPO2 model, an evaluation of how a model based on the City's Comprehensive Plan and EOA is also provided for informational purposes.

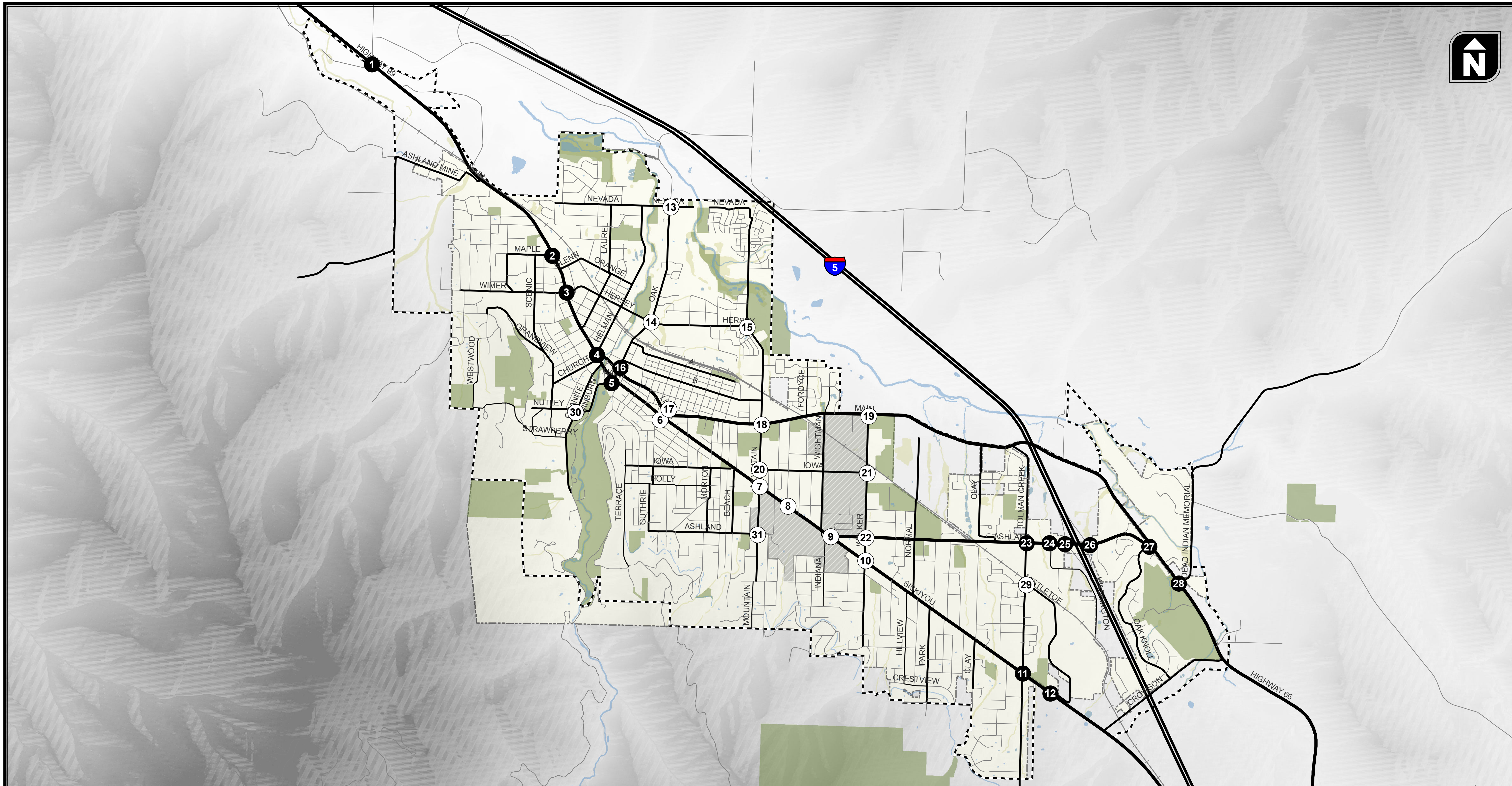
Intersection Delay and Capacity Analysis

Figures 5-3, 5-4, and 5-5 illustrate the study intersection locations, lane configurations and traffic control devices, and the traffic operations results, respectively.

As shown in Figure 5-3, there are three study intersections under ODOT's jurisdiction that are forecast to exceed the applicable OHP mobility standard under future no-build traffic conditions. Improvements at these intersections as well as those potentially impacted by other future "build" improvements will need to satisfy the mobility standards identified previously. Alternatively, the City and ODOT may seek alternative mobility standards for these intersections. Further evaluation of operations at the study intersections based on link volumes derived from the City's Comprehensive Plan and EOA is provided below.

OR 66 (Ashland Street)/I-5 Northbound/Southbound Ramp Terminals

Operations at the Ashland Street (OR66)/I-5 Northbound/Southbound Ramp terminals reflect intersection improvements currently underway, including the conversion of the existing two-way stop controlled intersections to signalized intersections. As indicated in the existing conditions analysis, an Interchange Area Management Plan (IAMP) has recently been prepared for the OR 66/I-5 interchange, which includes additional access management measures near the interchange. The findings and recommendations of the IAMP will be considered when future "build" analysis scenarios are conducted within this TSP update project.



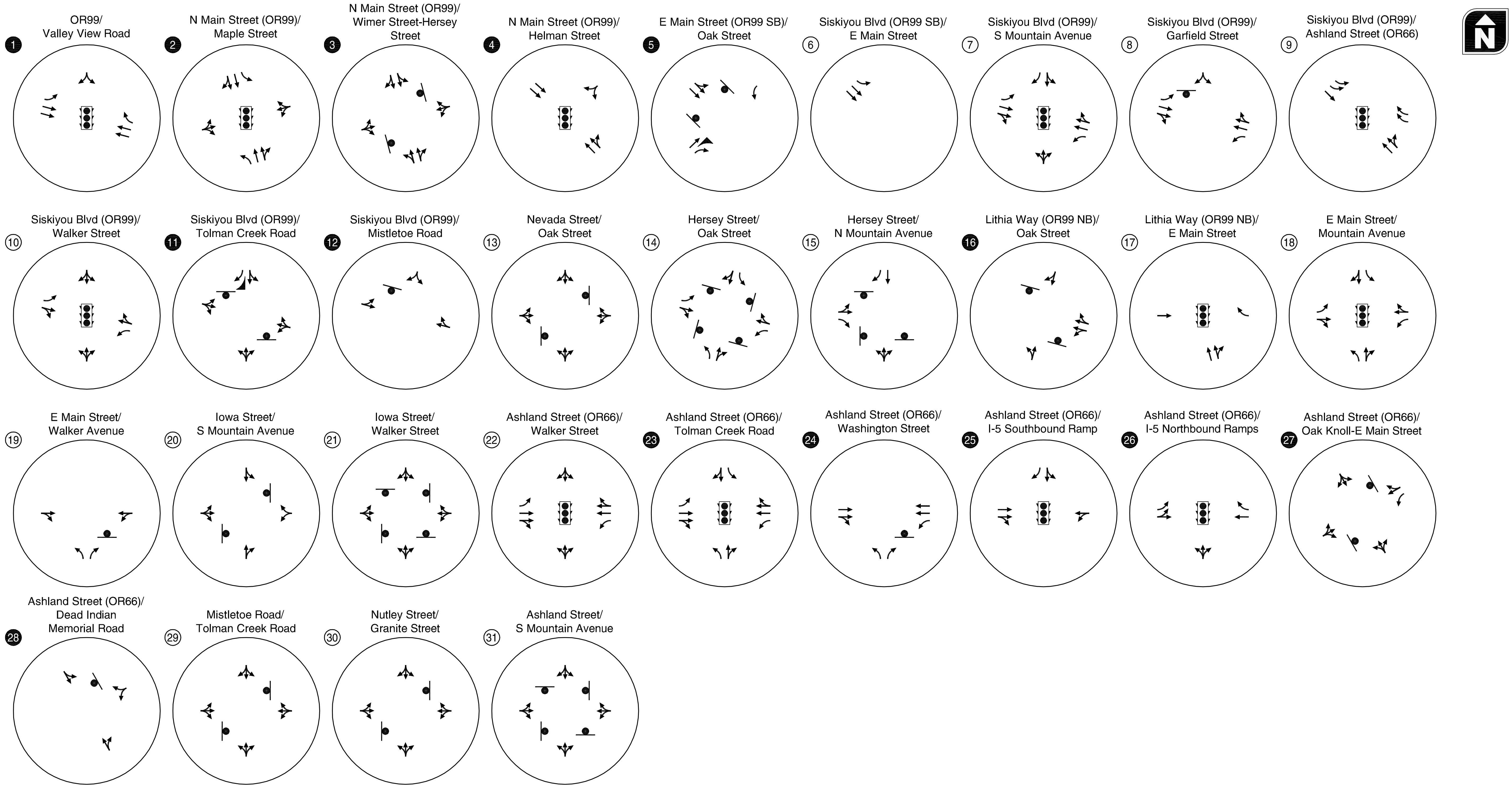
ODOT Study Intersection

City Study Intersection

Year 2034 Future No-Build Study Intersections

Figure

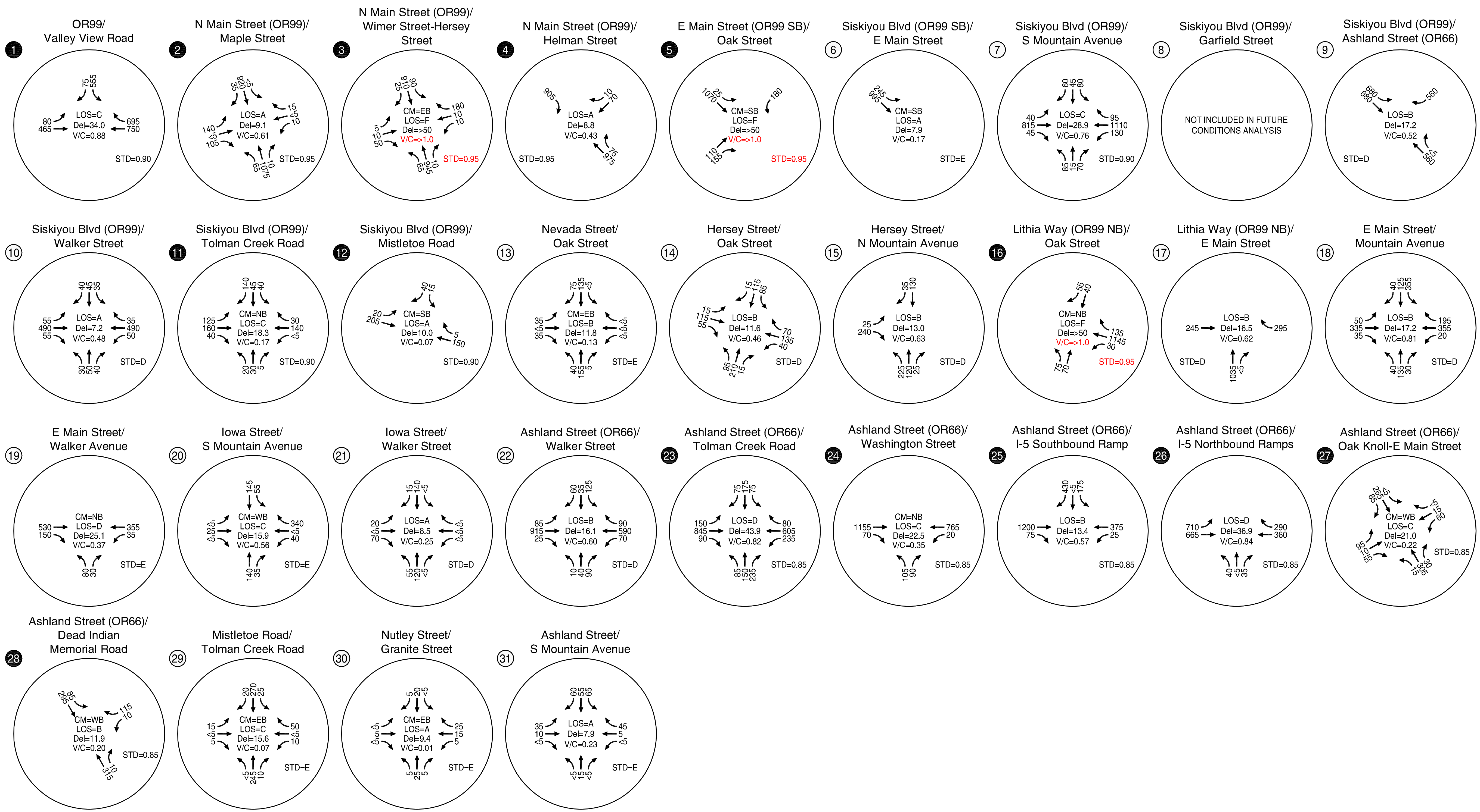
5-3



- ODOT STUDY INTERSECTION
- CITY STUDY INTERSECTION
- STOP SIGN
- TRAFFIC SIGNAL

Year 2034 Future No-Build Lane Configurations and Traffic Control Devices

Figure 5-4



CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
STD = OPERATIONAL STANDARD

Year 2034 Future No-Build Traffic Conditions Weekday PM Peak Hour

CITY OF ASHLAND

Figure 5-5

N Main Street (OR99)/Wimer Street

The N Main Street (OR99)/Wimer Street intersection is a four-leg, stop-controlled intersection with two north-southbound travel lanes and one east-westbound shared left-through-right lane. Both the east and westbound approaches to the intersection are forecast to operate at LOS F and above capacity during the weekday p.m. peak hour under future no-build traffic conditions with relatively few minor street left-turns or through movements. Signal Warrants at the N Main Street (OR99)/Wimer Street intersection are presented in the next section.

E Main Street (OR99 SB)/Oak Street

The E Main Street (OR99 SB)/Oak Street intersection is a four-leg intersection with two eastbound travel lanes, one stop-controlled southbound left-turn lane, one stop-controlled northbound through lane, and a free-flow northbound right-turn lane. The northbound approach to the intersection is forecast to operate at LOS F and below capacity during the weekday p.m. peak hour with 108 northbound through movements and 153 northbound rights while the southbound approach is forecast to operate at LOS F and above capacity with 182 southbound rights. Signal warrants at the E Main Street (OR99 SB)/Oak Street intersection are presented in the next section.

Lithia Way (OR99 NB)/Oak Street

The Lithia Way (OR99 NB)/Oak Street intersection is a four-leg intersection with two westbound travel lanes, one northbound shared left-through travel lane, and one southbound shared through-right travel lave. The north and southbound approaches are currently stop controlled. The northbound approach to the intersection is forecast to operate a LOS F and above capacity during the weekday p.m. peak hour with 77 northbound lefts and 70 northbound throughs, while the southbound approach is forecast to operate at LOS E and below capacity with 42 southbound throughs and 54 southbound rights. Signal Warrants at the Lithia Way (OR99 NB) /Oak Street intersection are presented in the next section.

Traffic Signal Warrants

Traffic signal warrants were evaluated at the unsignalized intersections identified above in accordance with the methodology described in Section 7.4.1 of the ODOT *Analysis Procedures Manual*. For a long-term future conditions analysis signal warrants 1, Case A and Case B, which deal primarily with high volumes on the intersecting minor street and high volumes on the major-street must be met. Meeting preliminary signal warrants does not guarantee that a signal shall be installed. Before a signal can be installed a field warrant analysis is conducted by the Region. If warrants are met, the State Traffic Engineer will make the final decision on the installation of a signal. Table 5-4 summarizes the signal warrant analysis for the study intersections under future no-build traffic conditions.

Table 5-4 Signal Warrant Analysis - 2034 Future Traffic Conditions

Intersection	Peak Hour Traffic Volumes				Preliminary Signal Warrants	
	EB	WB	NB	SB	Case A - Minimum Vehicular Volumes	Case B – Interruption of Continuous Traffic
N Main Street (OR99)/ Wimer Street	181	191	1,021	1,019	No	No
E Main Street (OR99 SB)/ Oak Street	1,094	0	108	182	No	No
Lithia Way (OR99 NB)/ Oak Street	0	1,312	147	96	No	No

[1] All of the eastbound rights and a majority of the westbound rights were excluded from the signal warrant analysis at the N Main Street/Wimer Street intersection based on the methodology described in Section 7.4.1 of the APM.

As shown in Table 5-4, preliminary signal warrants were not met at any of the intersections identified as deficient under future no-build traffic conditions. Additional signal warrants, including the Four Hour and Peak Hour warrants were also evaluated at the intersections under future no-build traffic conditions. However, these warrants were also not met. While traffic signal warrants are not met under future conditions based on the existing lane configurations, traffic signal warrants are likely to be met at each of these study intersections if the number of through lanes were to be reduced.

Intersection Queuing Analysis

A queuing analysis was performed at the study intersections under future traffic conditions in accordance with the recommendations provided in Section 8.3 of the APM. The APM recommends the use of SimTraffic for estimating queues at intersections belonging to a coordinated signal systems. SimTraffic performs microsimulation and animation of vehicle traffic, modeling travel through signalized and unsignalized intersections and arterial networks, with cars, trucks, pedestrians and buses. SimTraffic includes the vehicle and driver performance characteristics developed by the Federal Highway Administration for use in traffic modeling. SimTraffic is primarily used by ODOT for the analysis of signal systems and vehicle queue estimation, especially in congested areas and locations where queue spillback may be a problem.

The results of the queuing analysis represent an average of 5 consecutive, random runs of the SimTraffic model as recommended by the APM. As there were 30 intersections included in the analysis, Table 5-5 summarizes only the queuing results for the study intersections where storage deficiencies are anticipated. The queue lengths reported in Table 5-5 were rounded up to the nearest 25 feet. The available storage length is based on the striped left and right-turn storage lanes at the intersection.

Table 5-5 95th Percentile Queues at Study Intersections with Storage Deficiencies

Location	Approach/ Movement	95th Percentile Queue (ft)	Striped Storage Available (ft)	Adequate Storage?	Additional Storage Required (ft)
OR99/ Valley View Road	EBL	200	150	No	50
	WBR	150	100	No	50
S Mountain Avenue/ Siskiyou Blvd (OR99)	WBL	175	125	No	50
	SBL	150	100	No	50
Mountain Avenue/ E Main Street	EBL	125	100	No	25
	SBTR[1]	250	200	No	50
Ashland Street (OR66)/ Walker Avenue	EBL	150	100	No	50
	WBL	125	100	No	25
Ashland Street (OR66)/ Tolman Creek Road	EBL	150	100	No	50
	WBL	150	100	No	50
	NBL	175	100	No	75
	SBL	150	100	No	50
Ashland Street (OR66)/ Washington Street	NBL	225	150	No	75

[1]The 95th percentile queue for the southbound through-right (SBTR) turn movement extends beyond the 200-feet of available storage into the southbound left turn lane, which is the dominant movement at the intersection.

*The following abbreviations are used in this table: NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound; L: Left; LTR: Shared left/through/right lane; LT: Shared left/through lane.

As shown in Table 5-5, there are six study intersections that were found to have 95th percentile queues on one or more approach that exceed the available storage capacity under future no-build traffic conditions. The remaining study intersections were found to have adequate storage at each approach.

Intersection Queuing Analysis - Synchro

The 95th percentile queues shown in the Synchro analysis results were further reviewed to identify the study intersections where 95th percentile traffic volumes are expected to either exceed the capacity of the intersection or be metered by an upstream intersection. The reported queues at these locations are expected to be longer than what is shown in Synchro. Table 5-6 summarizes the study intersections and the individual turning movements where 95th percentile traffic volumes either exceed capacity or are being metered. Per direction from ODOT's Transportation Planning Analysis Unit, the information shown in Table 5-6 is for informational purposes and is not be used as a basis for TSP project decisions.

Table 5-6 95th Percentile Volumes that Exceed Capacity or are Metered

Intersection	Movement	95th Percentile Volumes	
		Exceeds Capacity?	Metered?
OR99/S Valley View Road	EBL	Yes	No
	WBR	Yes	No
	SBL	Yes	No
S Mountain Avenue/Siskiyou Blvd (OR99)	EBT	Yes	No
	WBT	Yes	No
	SBR	No	Yes
Mountain Avenue/E Main Street	WBT	Yes	No
	NBL	No	Yes
	NBT	No	Yes
	SBL	Yes	No
Tolman Creek Road/Ashland Street (OR66)	EBT	Yes	No
	WBL	Yes	No
	NBT	Yes	No
Ashland Street (OR66)/I-5 SB Ramp	WBT	No	Yes
Ashland Street (OR66)/I-5 NB Ramp	EBL	Yes	No
	EBT	Yes	No
	WBT	Yes	No

*The following abbreviations are used in this table: NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound; L: Left; LTR: Shared left/through/right lane; LT: Shared left/through lane.

RVMPO2 VS COMPREHENSIVE PLAN AND EOA

As indicated previously, operations at the study intersections were further evaluated based on link volumes derived from the City's Comprehensive Plan and EOA. A preliminary review of the City's link volumes indicates that there are relatively minor differences along many of the major roadways throughout the City. The differences that are shown include link volumes that are both higher in some areas and lower in others. In areas where the City's link volumes were found to be higher, the impacts on operations at the intersections were evaluated following the same methodology described above. Table 5-6 summarizes the study intersections with link volumes on one or more approaches that were significantly higher than the link volumes from the RVMPO2 model. Table 5-7 also summarized the operations at the study intersections given both sets of volumes.

Table 5-7 RVMO2 Model vs. City Plans

Intersection	Mobility Standard	RTP Model			City Plans		
		V/C	Delay	LOS	V/C	Delay	LOS
S Mountain Avenue/Siskiyou Blvd (OR99)	0.90	.76	28.9	C	.77	26.5	C
Tolman Creek Road/Siskiyou Blvd (OR99)	0.90	.17	18.3	C	.27	25.7	D
Mistletoe Road/Siskiyou Blvd (OR99)	0.90	.07	10.0	A	.31	12.4	B
Oak Street/Nevada Street	LOS E	.13	11.8	B	.14	12.1	B
Oak Street/Hersey Street	LOS D	.46	11.6	B	.47	11.9	B
N Mountain Avenue/Hersey Street	LOS D	.63	13.0	B	.60	12.5	B
Tolman Creek Road/Ashland Street (OR66)	0.85	.82	43.9	D	.78	39.4	D
Oak Knoll Drive/Ashland Street (OR66)	0.85	.22	21.0	C	.40	19.3	C
Tolman Creek Road/Mistletoe Road	LOS E	.07	15.6	C	.10	20.9	C

As shown in Table 5-7, the overall impact of the City's higher link volumes on one or more approach to the study intersections was not sufficient to cause any of the intersections to fail to meet their applicable mobility standards. In addition, lower link volumes on one or more approaches to the intersections often off-set the higher link volumes, and in some cases, improved operations at the intersections (operations at the intersections shown in grey improved with the application of the City's link volumes, despite higher link volumes at one or more approach).

In areas where the City's link volumes were found to be lower on one or more approach, the impact on operations at the intersections found to be failing under the RVMPO2 model were evaluated following the same methodology described above. Table 5-8 summarizes the intersections that were anticipated to fail under the RVMPO2 model and the resulting operations given the application of the City's link volumes.

Table 5-8 RVMO2 vs. City Plans

Intersection	Mobility Standard	RTP Model			City Plans		
		V/C	Delay	LOS	V/C	Delay	LOS
N Main Street (OR99)/Wimer Street	0.95	1.06	226.1	F	1.08	158.1	F
E Main Street (OR99 SB)/Oak Street	0.95	3.55	Err1	F	2.40	718.1	F
Lithia Way (OR99 NB)/Oak Street	0.95	1.10	169.5	F	0.48	46.5	E

[1]When the volume/capacity of an intersection exceeds 3.0, Synchro presents an error in place of the Delay.

As shown in Table 5-8, the Lithia Way (OR99 NB)/Oak Street intersection would meet its applicable mobility standard with a v/c of 0.48, while the remaining intersection would improve slightly either in terms of v/c, delay, or LOS, but continue to fail to meet their individual applicable mobility standards.

It should be noted that the results shown in Tables 5-7 and 5-8 are for informational purposes and cannot be used as a basis TSP project decisions unless new population forecasts are adopted by the County, the model is revised and rerun, and this analysis is updated to reflect any changes between the assumptions in the "City Plans" and the final assumptions.

MULTI-MODAL LEVEL-OF-SERVICE

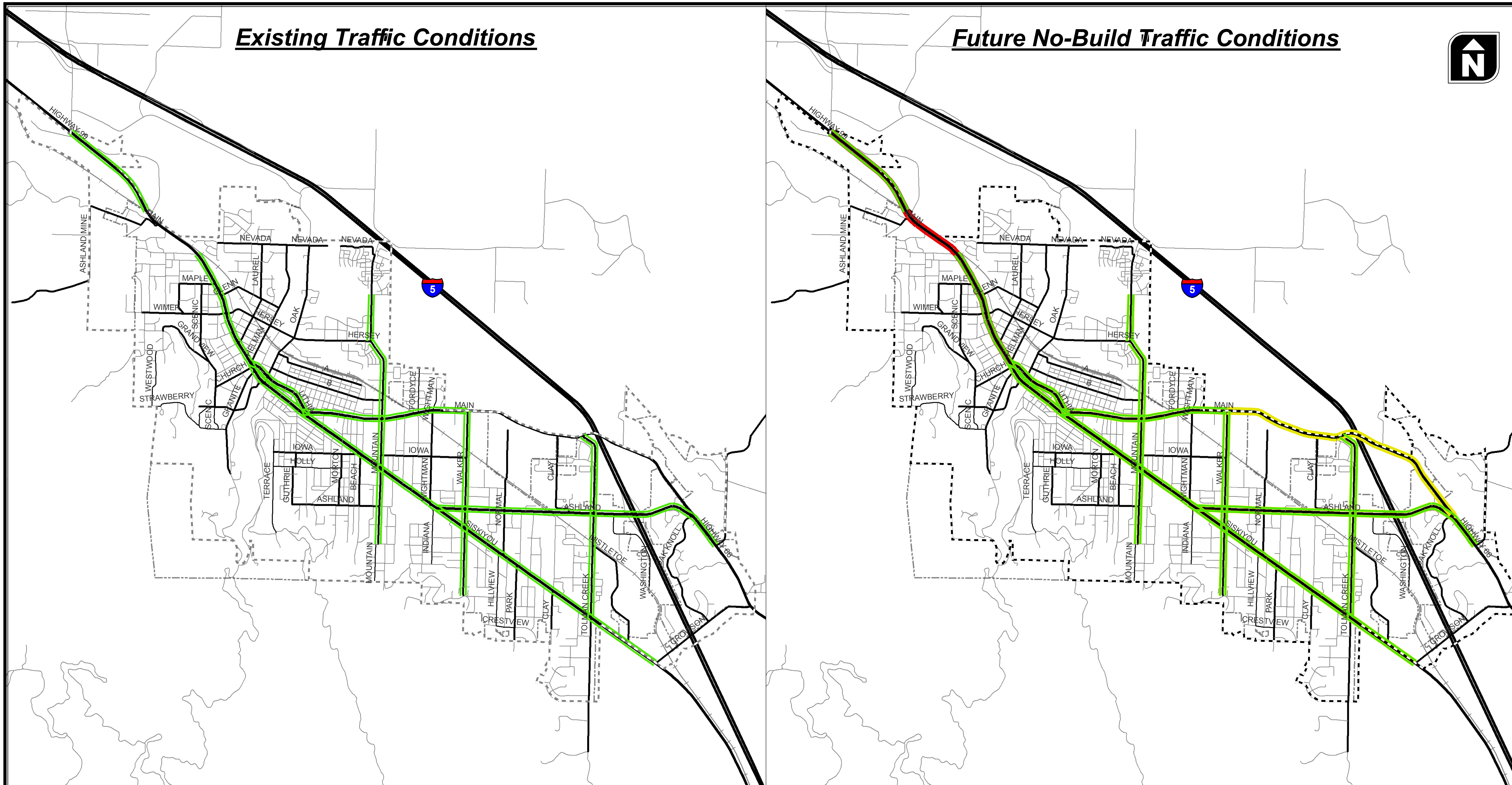
A multi-modal level-of-service (MMLOS) analysis was conducted along six major corridors throughout the City of Ashland; the corridors evaluated were: N Main Street/E Main Street/Siskiyou Boulevard (OR99), Ashland Street (OR66), E Main Street, Mountain Avenue, Walker Avenue, and Tolman Creek Road. Each corridor was divided into several segments based on the location of major study intersections and changes in the roadway characteristics. The analysis was conducted in accordance with the methodology described in the National Cooperative Highway Research Program Report 3-70, which has been included in the 2010 Highway Capacity Manual. It should be noted that the MMLOS methodology was originally developed for smaller scale analyses within a detailed corridor study or evaluation. It was applied here at a larger scale and indicates the general trends in performance for each mode; however, it is not intended to precisely represent users' experiences as a bicyclist, pedestrian, and/or transit user.

NCHRP 3-70 provides a set of recommended procedures for predicting traveler perceptions of quality of service and performance measures along urban streets. A level-of-service for each mode is derived based on several inputs related to conditions along the roadway. The types of inputs considered by this analysis for bicyclists and pedestrians include peak hour traffic volumes, presence and width of sidewalks and bicycle lanes, crossing delay, and driveway and unsignalized intersection density; for transit users, access to transit facilities, headways, and travel experiences play an important role.

Figure 5-6, 5-7, 5-8, and 5-9 summarize the results of the MMLOS analyses conducted under existing and future no-build traffic conditions for auto, transit, bicycle, and pedestrian facilities, respectively. As shown there is little difference in the level-of-service between the two travel directions shown along each corridor. Where there are differences, it is typically due to the presence of a sidewalk, bike lane, or unsignalized intersections and/or driveways with high traffic volumes on one side, but not the other. There is also little difference between existing and future no-build traffic conditions. The differences that are present reflect the influence of traffic volumes on the level-of-service for each mode.

Auto

Auto level of service is primarily measured by the average speed over the length of the corridor and the average of number of stops per mile. Traffic volumes, heavy vehicle percentages, turning percentages, and peak hour factors are all inputs to the auto level of service along with signal timing at signalized intersections and saturation flow rates. Additional information related to Auto level-of-service at the study intersections is provided in Figure 5-5 above.



LOS A-B	City UGB
LOS C-D	City Limits
LOS E-F	

Multimodal Level-of-Serivce - Auto
Weekday PM Peak Hour

Figure
5-6

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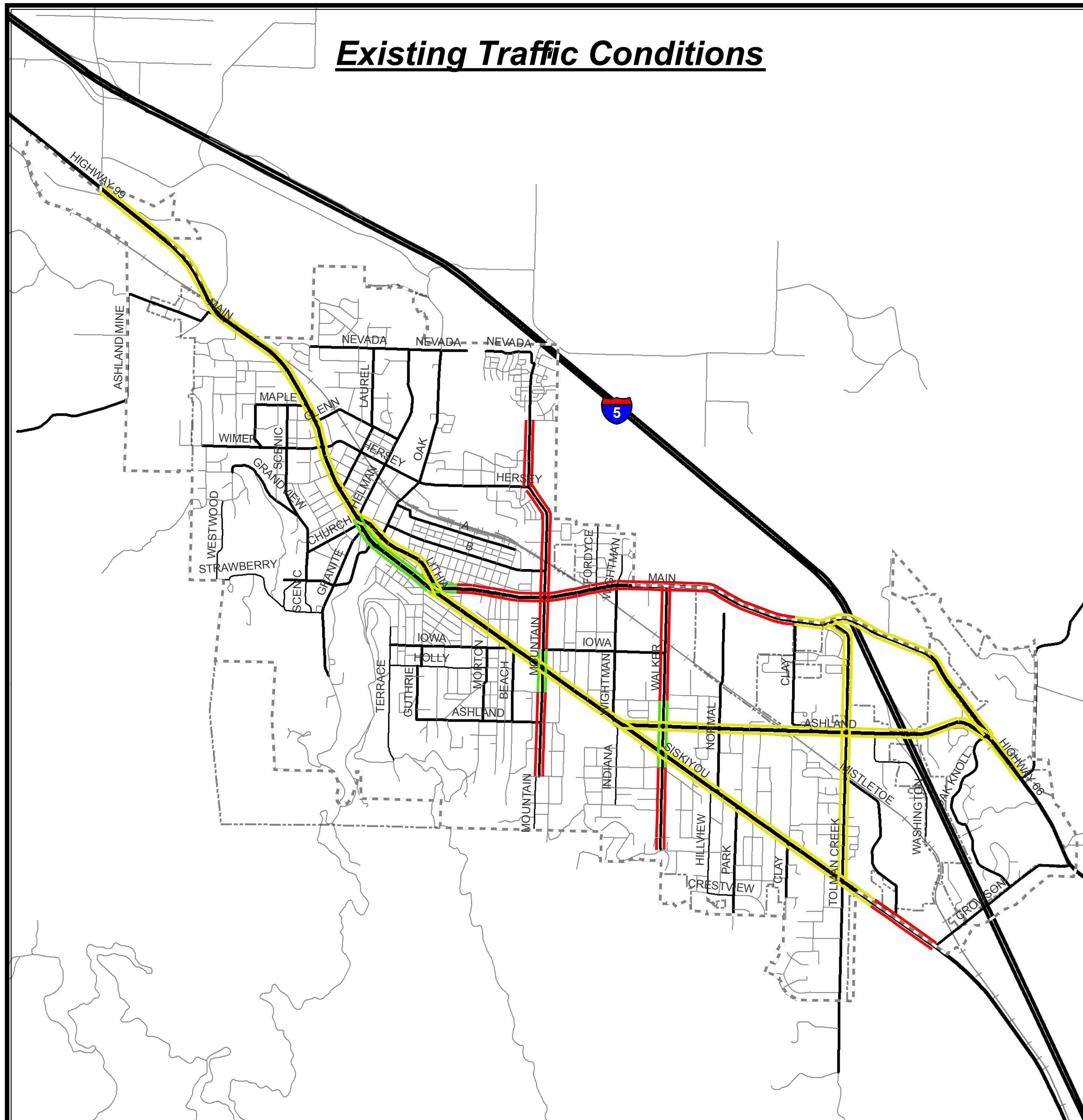

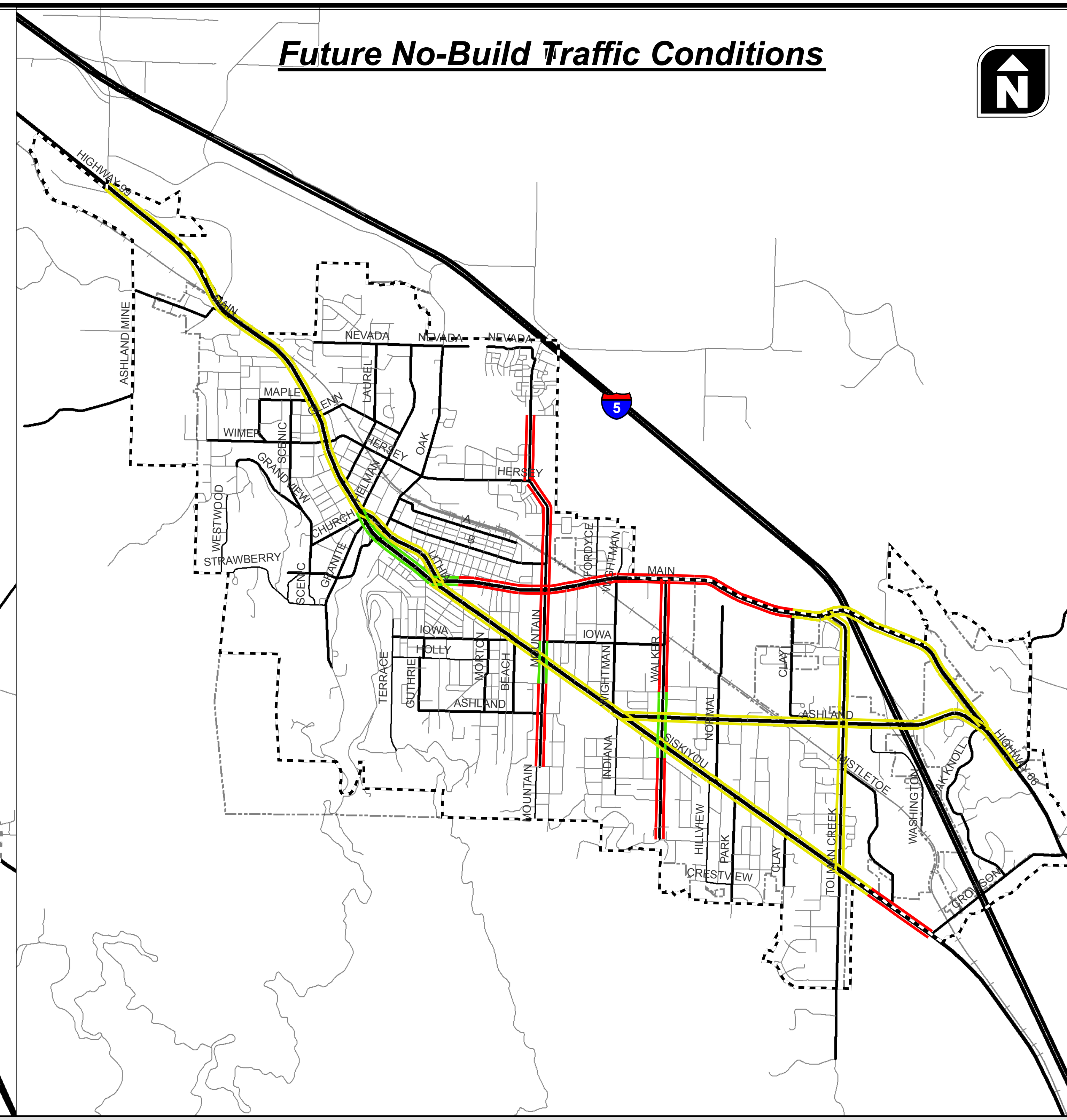

LOS A-B
LOS C-D
LOS EF
City UGB
City Limits

Multimodal Level-of-Serivce - Transit
Weekday PM Peak Hour

Figure
5-7

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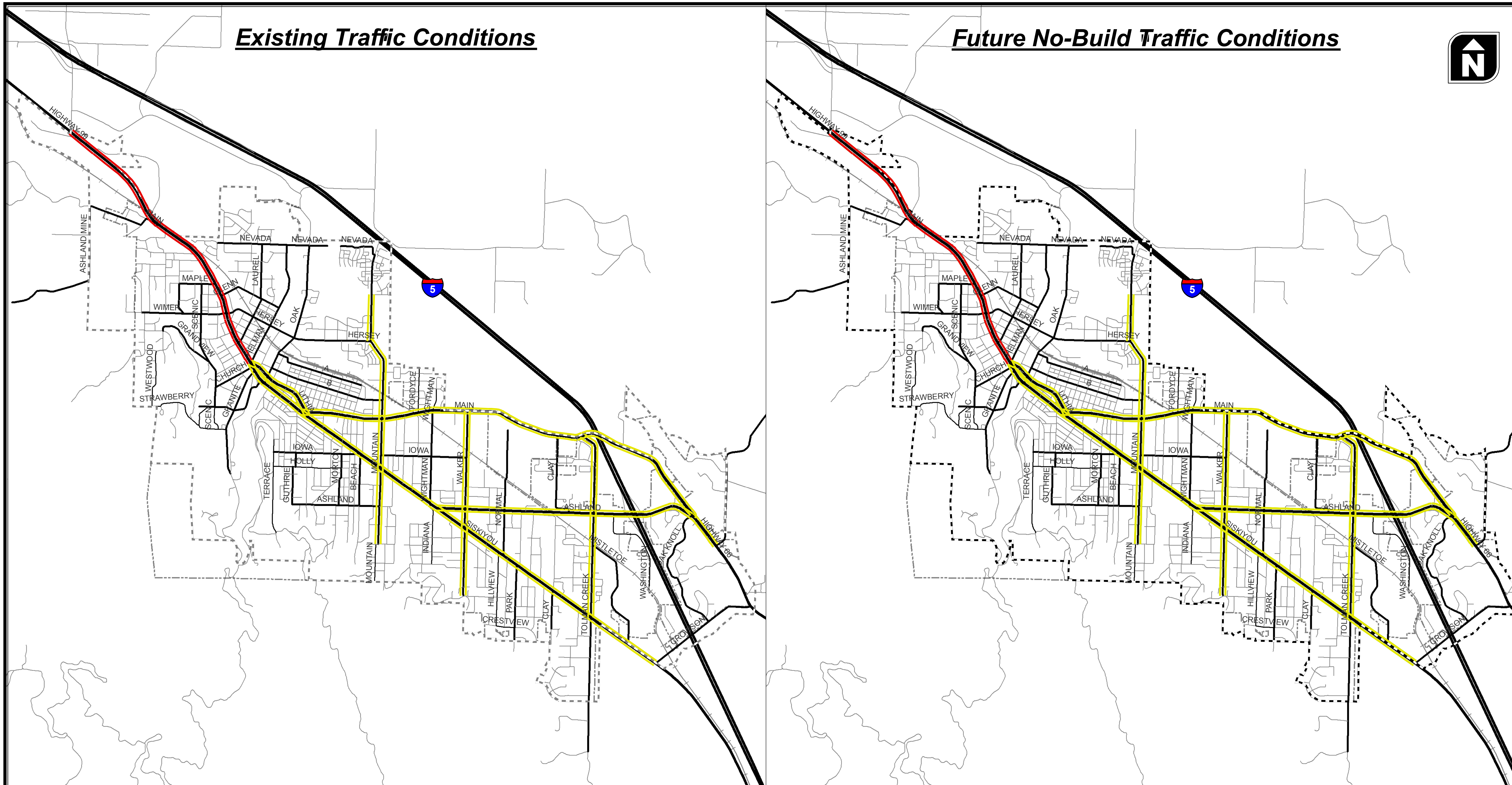

LOS A-B

LOS C-D

LOS E-F

City UGB

City Limits

Multimodal Level-of-Serivce - Bicycle
Weekday PM Peak Hour

Figure
5-8

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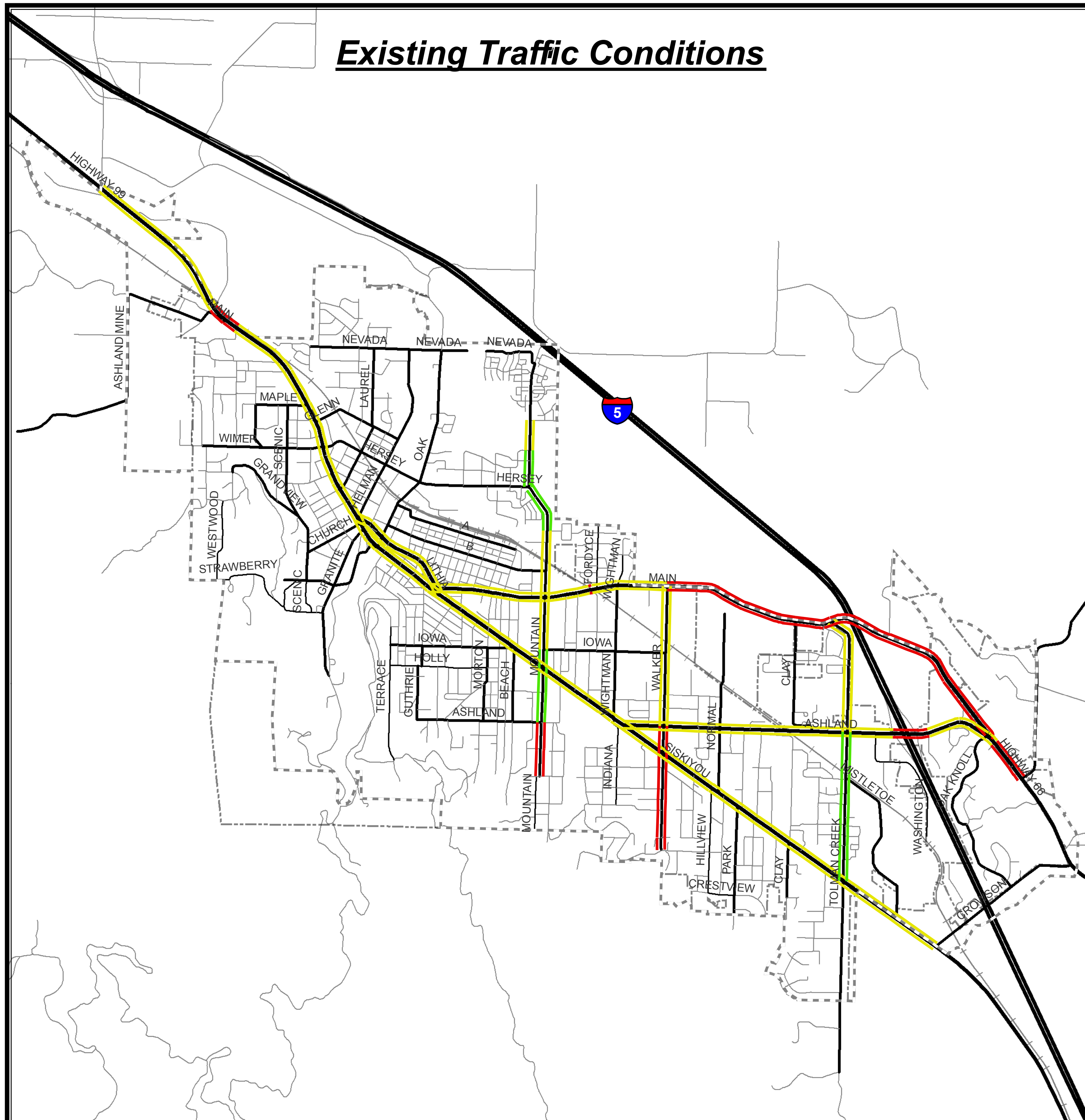

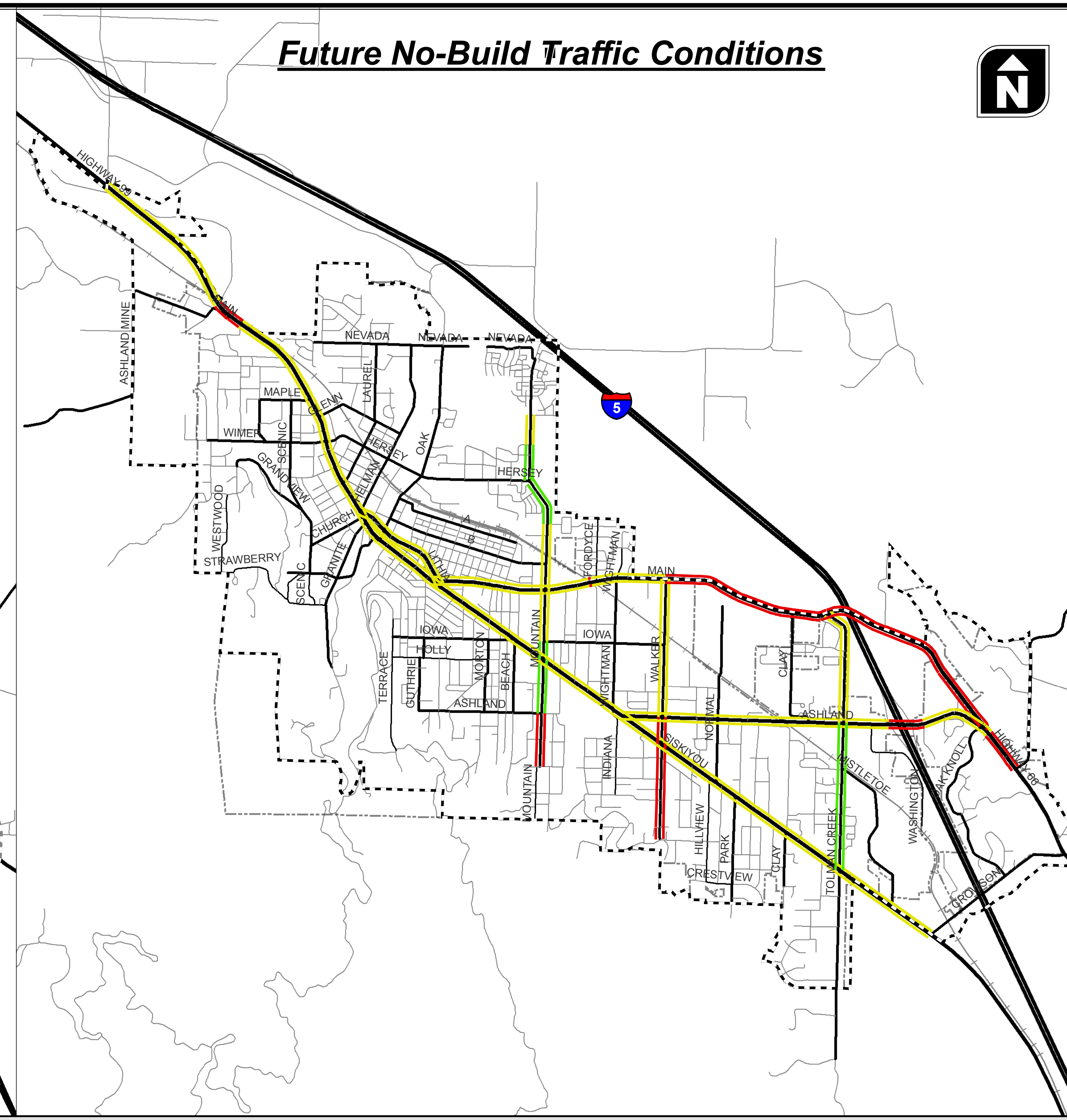

LOS A-B
LOS C-D
LOS E-F
City UGB
City Limits

Multimodal Level-of-Serivce - Pedestrian
Weekday PM Peak Hour

Figure
5-9

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Transit

The three primary performance measures that influence the transit LOS results include access, wait time, and ride experience. Access is represented by the pedestrian level of service score and pedestrian access to bus stops along the corridor. Wait time and ride experience are affected by headways and passenger per seat ratings. For the corridors in Ashland, the MMLOS results for transit facilities are generally well-rated; transit service is provided along each of the roadways included in the analysis except for Mountain Avenue and Walker Avenue. However, both of those roadways cross Siskiyou Boulevard (OR99) and/or Ashland Street (OR66), each of which have transit service, therefore, transit service is provided within a quarter mile of at least a portion of both Mountain Avenue and Walker Avenue. It should be noted that the transit LOS result is biased towards the weekday p.m. peak hour when service is available. It does not take into account that service is not proved after 6:30 p.m. and that no service is provided on Saturdays or Sundays. Opportunities to improve transit service include the provision of bus shelters or seating at key stop locations, shorter headways, longer service hours, and more extensive coverage.

Bicyclists

Similar to the pedestrian LOS, there are two basic performance measures that influence the bicycle LOS results within the MMLOS analysis. One is the feeling of security and quality of experience a bicyclist has riding on a roadway facility (e.g., presence and width of bicycle lanes). The second is the frequency of conflicts with vehicle cross traffic (e.g., frequency of driveways or unsignalized intersections). For the corridors studied in Ashland, the MMLOS results for bicycle facilities indicate bicycling along these roadways may be uncomfortable for many individuals. This is primarily due to the lack of bicycle facilities on some roadways or roadway segments, relatively high traffic volumes, and the frequency of unsignalized intersections and driveways. Opportunities to improve LOS for bicyclists along the major roadways include adding additional bicycle lanes, implementing buffered bicycle lanes, and consolidating driveways.

Pedestrians

There are two basic performance measures that influence the pedestrian LOS results within the MMLOS methodology. One is the feeling of security and quality of experience a pedestrian has walking alongside a roadway facility (e.g., presence and width of sidewalks). The second is the ability pedestrians have to safely and efficiently cross the major roadway. For the corridors studied in Ashland, the MMLOS results for pedestrian facilities indicate pedestrians generally feel safe walking along the major roadways. However, curb-tight sidewalks, high traffic volumes, and the absence of crosswalks at several major intersections degrade the pedestrian experience resulting in a pedestrian LOS that may not be expected on facilities that provide continuous sidewalks. Opportunities to improve the pedestrian LOS include providing landscape strips between the roadway and the sidewalk, increasing the width of sidewalks, and providing additional opportunities for pedestrians to safely and efficiently cross major roadways.

FUTURE TRANSPORTATION FUNDING

The historical funding mechanism for transportation improvements in Ashland is the Street Fund. The Street Fund includes revenue generated through gas taxes, franchise fees, system development charges (SDCs), transportation user/utility fees, specific project funds generated through local improvement districts, and a variety of state and federal grants. Once obtained, these fees are generally dedicated to improvements, and do not require voter approval.

Historically, communities around the state have included funding sources that have leveraged improvements through advance financing by developers, assessed special property tax levies, or used revenue bonds for specific capital improvements which are backed by specific dedicated future revenue sources. With the exception of advance financing by developers, the majority of these funds are dependent on voter approval, which may temper their reliability as a funding source. These funding sources are almost always dependent upon current market and economic conditions, being less robust revenue streams in a 'down economy'.

Future Funding Forecast

The Street Funds three primary sources of revenue for the 2011 fiscal year are intergovernmental revenues (gas tax, state and federal grants), fees, and bond proceeds. The intergovernmental revenues are expected to account for approximately 50 percent of the Street Fund in the 2011 fiscal year. This indicates the importance of the gas tax, and state and federal grants, to the overall streets program for the City of Ashland.

Intergovernmental revenues, fees, and bond proceeds will likely continue to be the primary sources of revenue for the Street Fund in future budget cycles. Bond proceeds and fee increases will continue to be dependent on the state of the economy and voter willingness for passage. The state gas tax, for example, increased from 24 cents to 30 cents on January 1, 2011. This represents a 25 percent increase over the previous tax, and constitutes the first rise in the Oregon gas tax since 1993. However, the tax increase should not be considered a long-term funding source given the improved fuel efficiency of newer vehicles, the rise in ownership of hybrid and electric vehicles, and the increased use of alternative fuels. Additionally, Ashland will not be able to increase its proportional share of that tax increase without legislative action at the state level. It is reasonable to assume the overall total revenue will temporarily increase with the legislative action. However, if the average fuel efficiency of vehicles increases or there is precipitous drop in vehicle miles, a decline in gasoline consumption may lead to a decline in revenue.

Alternative Funding Sources

There is a community desire to enjoy a transportation system that includes enhanced pedestrian and bicycle facilities, reduces vehicle travel, and increases transit service and amenities. Those improved transit choices lend themselves to integration with compact, transit-supportive development. Those objectives can be better achieved through considering alternative ways to fund and promote these initiatives. Alternative funding sources to consider include any combination of those summarized in Table 5-9.

Table 5-9 Alternative Funding Sources

Funding Source	Description	Benefits
User Fee	Fees tacked onto a monthly utility bill or tied to the annual registration of a vehicle to pay for improvements, expansion, and maintenance to the street system. This may be a more equitable assessment given the varying fuel efficiency of vehicles. Regardless of fuel efficiency, passenger vehicles do equal damage to the street system. The cost of implementing such a system could be prohibitive given the need to track the number of vehicle miles traveled in every vehicle. Additionally, a user fee specific to a single jurisdiction does not account for the street use from vehicles registered in other jurisdictions.	Primarily Street Improvements
Street Utility Fees/Road Maintenance Fee	The fee is based on the number of trips a particular land use generates and is usually collected through a regular utility bill. For the communities in Oregon that have adopted this approach, it provides a stable source of revenue to pay for street maintenance allowing for safe and efficient movement of people, goods, and services.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails
Local Fuel Tax	A local tax assessed on fuel purchased within the jurisdiction that has assessed the tax. Some would argue that this tax is unfair given the increased fuel efficiency of today's vehicles. On the other hand, the tax could potentially generate revenue while encouraging fuel efficiency and lessening impacts to the environment.	Primarily Street Improvements
Systems Development Charges (SDCs)	Sometimes referred to as a transportation impact fee, SDCs are fees assessed on development for impacts created to public infrastructure. For example, Washington County implemented a transportation development tax in 2008 to replace their transportation impact fee. A transportation development tax is based on the estimated traffic generated. All revenue is dedicated to transportation capital improvements designed to accommodate growth. SDCs do generate revenue when the economy is doing well, and development is occurring. SDCs should not be considered a reliable source of income given the volatility of today's markets. Even when stable, some would argue that SDCs are not equitable because they are sometimes assessed in locations where services are already available. Nevertheless, they are an accepted source of revenue for many cities in Oregon, and help to offset the cost of new construction on public infrastructure. SDCs should be evaluated on a regular basis to ensure that they are proportional to the impacts created by new development. SDC credits can encourage private development to provide small-scale public improvements that can be constructed by the private sector at a smaller cost. For example, an SDC credit might be given for providing end-of-trip bike facilities within the new development. Eligible projects are on major roads,	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails

Funding Source	Description	Benefits
	including sidewalks and bike lanes, as well as transit capital projects.	
Stormwater SDCs, Grants, and Loans	Systems Development Charges, Grants, and Loans obtained for the purposes of making improvements to stormwater management facilities. Some jurisdictions in Oregon have used these tools to finance the construction and maintenance of Green Streets, and should be considered as an alternate funding source for Green Streets in Ashland.	Primarily street improvements
Local Sales Tax	A tax assessed on the purchase of goods and services within a specific location. A sales tax could be assessed only on auto-related goods and services to generate revenue for transportation-related improvements.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Optional Tax	A tax that is paid at the option of the taxpayer to fund improvements. Usually not a legislative requirement to pay the tax and paid at the time other taxes are collected, optional taxes are usually less controversial and easily collected since they require the taxpayer to decide whether or not to pay the additional tax.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Parking In-lieu Fees	Fees that are assessed to developers that cannot or do not want to provide the parking for development.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Sponsorship	Financial backing of a public-interest program or project by a firm, as a means of enhancing its corporate image. This has been used by local transit providers to help offset the cost of providing transit services and maintaining transit related improvements.	Transit Facilities
Incentives	An enticement such as bonus densities and flexibility in design in exchange for a public benefit. Examples might include a Commute Trip Reduction (CTR) program, or transit facilities in exchange for bonus densities.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Congestion Pricing	Competitive pricing of public facilities to discourage non-essential trips during peak travel times and encouraging alternative forms of transportation. Congestion pricing is also a tool that can be used for parking management. Congestion pricing is basically a toll applied to drivers who drive or park within a designated area or on a designated facility during periods of heavy congestion. In some cases, such as parking, higher fees are imposed in certain areas to discourage long term use. Similar variable charges have been successfully utilized in other industries—for example, airline tickets, cell phone rates, and electricity rates.	Primarily street improvements
Public/Private Partnerships	Rarely used for transportation facilities, public/private	System-wide transportation facilities

Funding Source	Description	Benefits
	partnerships are agreements between public and private partners that can benefit from the same improvements. They have been used in several places around the country to provide public transportation amenities within the public right-of-way in exchange for operational revenue from the facilities. These partnerships could be used to provide services such as charging stations, public parking lots, bicycle lockers, or carshare facilities.	including: • Streets • Sidewalks • Bike lanes • Trails • Transit
Tax Increment Financing (TIF)	A tool cities use to create special districts (tax increment areas) and to make public improvements within those districts that will generate private-sector development. During a defined period, the tax base is frozen at the predevelopment level. Property taxes for that period can be waived or continue to be paid, but taxes derived from increases in assessed values (the tax increment) resulting from new development either go into a special fund created to retire bonds issued to originate the development or leverage future improvements. A number of small-to-medium sized communities in Oregon have implemented, or are considering implementing, urban renewal districts that will result in a TIF revenue stream.	System-wide transportation facilities including: • Streets • Sidewalks • Bike lanes • Trails • Transit

Table 5-9 is not an all-inclusive list of alternative funding. Each of these financing tools requires focused research to ensure that it is the right fit for the community, and can be closely matched with achieving the objectives of the TSP update.

Transportation System Development Charge Updates

The City should evaluate the existing TSDC rates. Typically, in other jurisdictions in Oregon, Systems Development Charges account for approximately 10 to 12 percent of revenues that are applied towards the improvement and maintenance of streets. This has not been the case in Ashland since 2007. Prior to 2007, the Systems Development Charges that have been collected by the City accounted for a higher percentage of revenue within the street fund. In the next fiscal year, they will account for less than 1 percent of the revenue in the Street Fund.

Street Fund revenues for the 2011 fiscal year are 63 percent higher than in 2005 when SDCs accounted for approximately 12 percent of the revenues. Since 2008, it would make sense that the revenue generated from SDCs would be lower given the decline in the economy, and the overall lull in construction activity, but revenues generated from SDCs began decreasing well before the 2008 market declines. This trend would suggest that it may be time for the City to evaluate its SDC program to ensure that new construction helps to pay for the impacts that it creates. Several cities in Oregon increase their SDCs annually to keep current with the cost of inflation. Ashland should consider doing the same to ensure that the SDC program continues to pay for the true costs of maintaining and improving its transportation system. SDC's should be considered not only for the street system and location specific capacity improvements. This can be revenue stream to meet community-wide multimodal transportation system goals. From that perspective, funding could emphasize providing city wide pedestrian connectivity through continuous and standard sidewalks (e.g. fill in the gaps where needed), public trails development, enhanced bicycle facilities, enhanced pedestrian facilities on collector and arterial streets, and transit stop amenities beyond those provide by RVTD. The possibility of using SDC credits to encourage private development to meet some of these objectives was previously noted.

Section 6 General Policies and Studies

GENERAL POLICIES AND STUDIES

The general policies and studies presented below influence multiple transportation modes and/or transportation system elements. An overview of the policies and studies in this section follows.

- **Policy #1 (L1) Street Functional Classifications** – Presents the updated street functional classifications for the City of Ashland including a new Shared Streets functional classification.
- **Policy #2 (L2) Multimodal/Safety Based (Alternative) Development Review Process** – Presents the multimodal/safety based (alternative) development review process, which outlines a new process for reviewing and approving development applications. The process provides a means for the City of Ashland to collect funds for multimodal and safety oriented programs and projects, while streamlining the development review process and providing more certainty for applicants regarding potential needed transportation investments.
- **Policy #3 – #9 (L3 through L9) Downtown Enhancement Policies** – Presents policies aimed at enhancing the downtown environment for multiple transportation modes.
- **Policy #10 (L10) Green Street Treatments** – Contains the policy supporting incorporating green street treatments into transportation, sewer, water, and stormwater projects.
- **Study #1 (S1) Funding Sources Feasibility Study** –Discusses the need for and scope of a study to identify future feasible funding sources to support improvements to the transportation system.
- **Study #2 (S2) Downtown Parking and Multi-Modal Circulation Study** – The City of Ashland will conduct a downtown parking management and multi-modal circulation study to evaluate the effectiveness of existing downtown parking management and truck loading zones and potential changes in parking management and travel demand management (TDM) strategies to increase overall accessibility to downtown for tourists, customers, and employees. The multi-modal circulation study will review pedestrian circulation, bicycle circulation, and vehicle circulation for vehicles and trucks downtown. The study will evaluate the alternatives generated for providing bicycle lanes and wider sidewalks on E Main Street through downtown that were generated during the TSP alternatives analysis phase. The alternatives evaluation will consider impacts to vehicle and truck parking and circulation.

Policies and studies specific to transportation modes are presented within the applicable modal plan.

Policy #1 (L1) Street Functional Classifications

The street functional classifications for the City of Ashland are below. *The functional classifications are consistent with City of Ashland's Comprehensive Plan and Street Standards Guidebook with the exception of the Shared Street classification. The Shared Street classification is a new functional classification that needs to be added to the Comprehensive Plan and Street Standards Guidebook. It is being applied primarily to formerly designated Neighborhood Streets that currently do not have sidewalks or bicycle lanes and where sidewalks and bicycle lanes are either infeasible due to right-of-way or other constraints and where construction of small segments by development would likely remain disconnected from other pedestrian and bicycle facilities into the foreseeable future. It could also be applied to streets in new development areas. The vision for new Shared Street roadways is included in the Shared Streets and Alleyways White Paper dated February 2, 2011.*

- **Boulevard** – Provide access to major urban activity centers for pedestrians, bicyclists, transit users and motor vehicle users, and provide connections to regional traffic ways such as Interstate 5.
- **Avenue** – Provide concentrated pedestrian, bicycle, and motor vehicle access from boulevards to neighborhoods and to neighborhood activity centers.
- **Neighborhood Collector** – Distribute traffic from boulevards or avenues to neighborhood streets.
- **Neighborhood Street** – Provide access to residential and neighborhood commercial areas.
- **Shared Street –** Provides access to residential or commercial uses in an area in which right-of-way is constrained by topography or historically significant structures. The constrained right-of-way prevents typical bicycle and pedestrian facilities such as sidewalks and bicycle lanes. Therefore, the entire width of the street is collectively shared by pedestrians, bicycles, and autos. The design of the street should emphasize a slower speed environment and provide clear physical and visual indications the space is shared across modes.

Exhibit 6-1 – Shared Street Example

- **Alley** – A semi-public neighborhood space that provides access to the rear of property; the alley eliminates the need for front yard driveways and provides the opportunity for a more positive front yard streetscape. Alleys also provide an alternative location for utility placement.
- **Multiuse Path** – Off-street facilities used primarily for walking and bicycling; these paths can be relatively short connections between neighborhoods or longer paths adjacent to rivers, creeks, railroad tracks, and open space.

Figure 6-1 presents the updated street functional classifications for the City of Ashland.

Policy #2 (L2) Multimodal/Safety Based (Alternative) Development Review Process

The Multimodal/Safety Based (Alternative) Development Review Process is a means to help support the City's TSP goals by providing funding for multimodal and safety programs and projects. It is inherently multimodal helping to create a green template (Goal 1), improvements are safety and multimodal driven making safety a priority for all modes (Goal 2), it supports economic growth by streamlining the development review process for developers (Goal 3), and facilitates system wide balance by placing all modes, safety, and access at the same level as mobility (Goal 4). See the Alternative to Traditional Development Review and Transportation Funding White Paper (dated March 7, 2011) for more details.

The City of Ashland should amend Chapter 18 of the Municipal Code to establish a Multimodal/Safety Based (Alternative) Development Review Process for reviewing and approving development applications. The development review process is outlined below.

1) Applicants that generate 10 peak hour trips or more are required to prepare a transportation assessment that focuses on:

   A. On-site vehicular, pedestrian, bicycle, truck delivery, and emergency service circulation and safety;

   B. Safety, using principles and information from the *Highway Safety Manual*, of the proposed site access(es) to the transportation system;

   C. Multimodal LOS, per the *2010 Highway Capacity Manual*, along the adjacent collector and/or arterial corridors; and

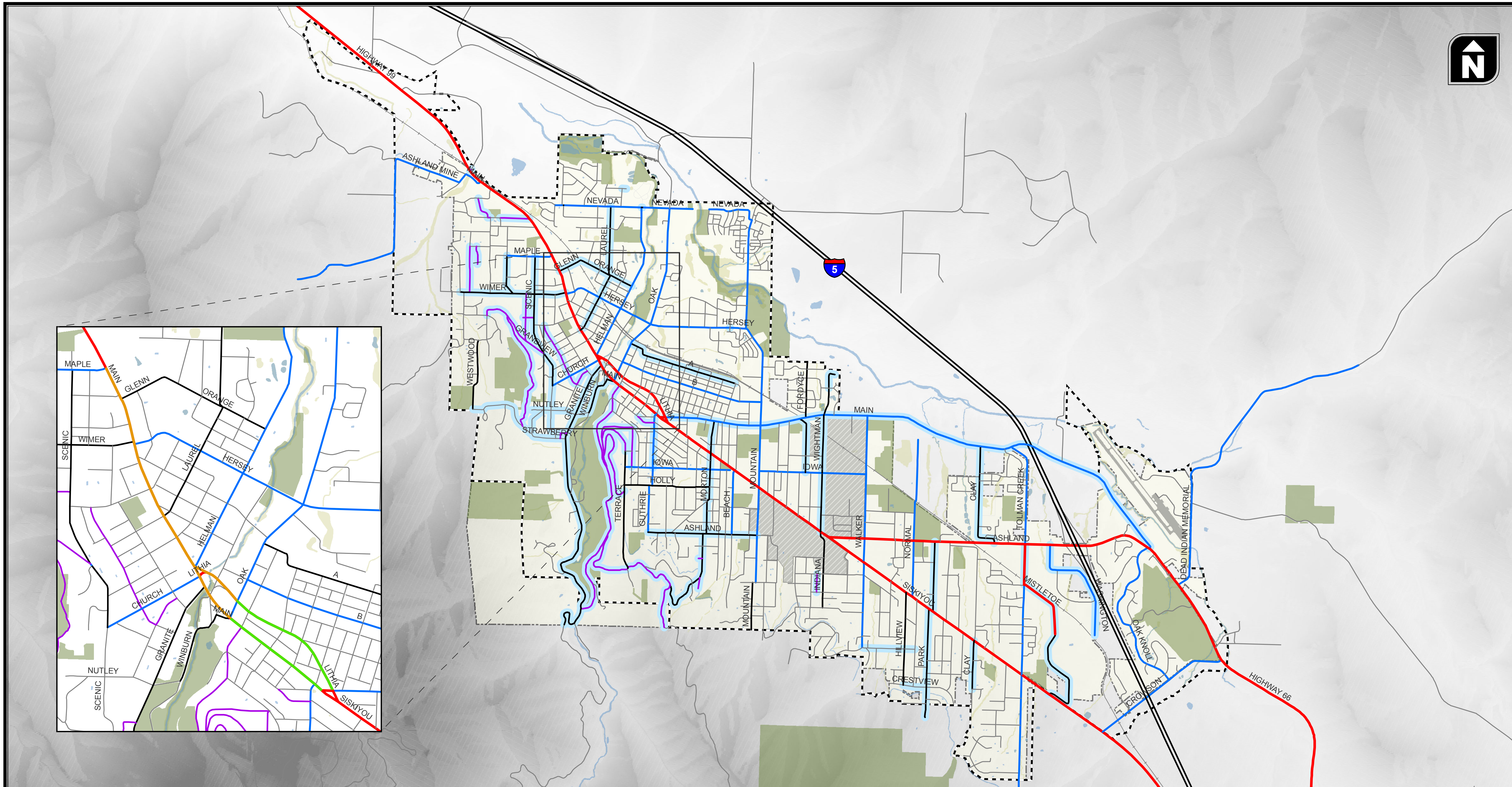
   D. Person trips generated by the development, including those person trips expected to travel through any of the City's previously identified safety focus intersections. As of the City's TSP 2011 TSP update, these intersections are:

      - N Main Street (OR 99)/Hersey Street – Wimer Street
      - Ashland Street (OR 66)/Oak Knoll Drive – E Main Street
      - Siskiyou Boulevard (OR 99)-Lithia Way (OR 99)/E Main Street
      - E Main Street (OR 99 Southbound)/Oak Street
      - Siskiyou Boulevard (OR 99)/Tolman Creek Road
      - Ashland Street (OR 66)/Tolman Creek Road

2) The Applicant mitigates safety issues on-site and at their access(es) points to the transportation system.

3) The Applicant contributes financially to the safety and multimodal improvements identified for the City's safety focus intersections identified in Step 1.

4) The City assesses a Multimodal SDC, whereby an applicant is assessed a fee based on the number of person trips the proposed development is estimated to generate. *This allows the system revenues to be used to fund capacity related improvements to the vehicular, pedestrian, bicycle, and transit systems.*



Interstate	City UGB
Boulevard	City Limits
Avenue	Modified Street Classification
Neighborhood Collector	Special Transportation Area Designation
Shared Roadway	Urban Business Area Designation
Neighborhood Street	

Updated City of Ashland Street Functional Classification Map

Figure 6-1

H:\projfile\10633 - City of Ashland TSP Update\gis\Tech Memo 9

Policy #3-#9 (L3 through L9) Downtown Enhancement Policies

The following policies are aimed at enhancing the downtown environment for pedestrians, bicyclists, and transit users while also facilitating economic prosperity for downtown.

- **Policy #3 (L3) Incorporate Wider Sidewalks** – As feasible, incorporate wider sidewalks into the downtown core area on E Main Street, Lithia Way, and the supporting cross streets (e.g., Oak Street). *The purpose of wider sidewalks is to provide additional capacity for pedestrians and pedestrian activities (Goals 3 and 4).*

- **Policy #5 (L5) Incorporate Preferred Pedestrian Treatments** – As feasible, incorporate preferred pedestrian treatments into downtown area projects, including pedestrian countdown signals, landscape buffers, pedestrian refuge islands, and benches. *These treatments will help enhance the environment for pedestrians (Goals 2 and 4). Exhibits 6-2 and 6-3 illustrate two of these treatments.*

Exhibit 6-2 – Pedestrian Countdown Signal

Exhibit 6-3 – Pedestrian Refuge Island

- **Policy #6 (L6) Encourage Alley Enhancements** – Work with the Chamber of Commerce and downtown business owners, to encourage property owners along downtown alleys to enhance the environment through improved landscaping, orienting businesses towards the alley, and other similar characteristics *(Goals 3 and 4)*.

- **Policy #7 (L7) Incorporate Bicycle Parking** – As feasible, incorporate bicycle parking into downtown projects to encourage and facilitate bicycle travel *(Goal 4)*. Locally affected business owners will be included in the process of determining where bicycle parking is located.

- **Policy #8 (L8) Develop Incentives for Truck Loading/Unloading** – Work with the Chamber of Commerce and downtown business owners to reduce delivery and pick-up of goods during peak times through strategies such as incentives or time restrictions. *The purpose of this policy is to limit potential truck loading/unloading impacts on other downtown activities (Goals 3 and 4)*.

- **Policy #9 (L9) Update Downtown Parking Management** - Work with the Chamber of Commerce and downtown business owners to update parking management strategies such that the strategies encourage the use of existing parking garages, increase the turn-over of on-street parking, and work towards paid parking to manage parking within and to reduce auto trips to downtown *(Goals 3 and 4)*.

Policy # 10 (L10) Green Street Treatments

The City of Ashland will incorporate green street treatments into transportation, sewer, water, and stormwater capital, maintenance, and operations projects, as feasible. The type and design of the green street treatments will be determined using the information contained in the City of Ashland's Stormwater Master Plan.

Green street treatments are a new opportunity to promote a vision of sustainable urbanism for the City of Ashland and help create a green template (Goal 1). By more closely mimicking the natural hydrology of a particular site, Green Streets help reduce the impact of urban development. Green street stormwater facilities have been shown to improve water quality of runoff through effective treatment, minimize erosion through the reduction of peak flow rates and discharge velocities, and decrease stormwater volumes discharged to local streams by infiltrating all or a portion of local rainfall events.

Study #1 (S1) Funding Sources Feasibility Study

The City of Ashland will conduct a funding sources feasibility study to identify and evaluate the feasibility of additional funding sources to support transportation programs, studies and projects. The study will establish priorities for pursuing additional funding sources based on such factors as the probability of successfully securing the funding source, stability of the funds, and amount of funds. The cost estimate for the study is $30,000; the priority is medium indicating a timeline of 5 to 15 years (i.e., the study is to be conducted 5 to 15 years into the future).

The purpose of allocating funds to such a study is to enable the City to identify additional long-term funding sources to increase the City's ability to fund transportation system improvements. Currently there is limited consensus on what to pursue. A study focused on the topic will provide the City with clear direction for the future.

Study #2 (S2) Downtown Parking and Multi-Modal Circulation Study

The City of Ashland will conduct a downtown parking management and multi-modal circulation study to evaluate the effectiveness of existing downtown parking management and truck loading zones and potential changes in parking management and travel demand management (TDM) strategies to increase overall accessibility to downtown for tourists, customers, and employees. The multi-modal circulation study will review pedestrian circulation, bicycle circulation, and vehicle circulation for vehicles and trucks downtown. The study will evaluate the alternatives generated for providing bicycle lanes and wider sidewalks on E Main Street through downtown that were generated during the TSP alternatives analysis phase. The alternatives evaluation will consider impacts to vehicle and truck parking and circulation. The cost estimate for the study is $100,000; the priority is high indicating a timeline of 0 to 5 years (i.e., the study is to be conducted 0 to 5 years into the future).

The purpose of allocating funds to a parking and multi-modal circulation study is to enable the City to fully investigate the inter-related nature of parking management and pedestrian, bicycle, and vehicle access and circulation downtown. The intent is to improve safety and access to downtown for all modes of travel and identify preferred approaches for parking management and providing enhanced pedestrian and bicycle facilities without adversely impacting downtown business' access for truck deliveries and parking for customers.

SUMMARY OF GENERAL POLICIES AND STUDIES

Table 6-1 summarizes the Preferred Plan general policies and studies.

Table 6-1 Summary of Preferred Plan General Policies and Studies

(ID#) Policy (L) or Study (S) Name	Description	Priority (Timeline)	Cost
(L1) Street Functional Classifications	Update to City of Ashland's street functional classifications including a new functional classification called Shared Streets.	N/A	N/A
(L2) Multimodal/Safety Based (Alternative) Development Review Process	Multimodal and safety based approach for reviewing and approving development applications.	N/A	N/A
(L3) Incorporate Wider Sidewalks	One of seven policies to enhance the downtown. As feasible, incorporate wider sidewalks into downtown projects to provide more space for pedestrians.	N/A	N/A
(L5) Incorporate Preferred Pedestrian Treatments	One of seven policies to enhance the downtown. Incorporate preferred pedestrian treatments into downtown projects, as feasible.	N/A	N/A
(L6) Encourage Alley Enhancements	One of seven policies to enhance the downtown. Encourages property owners along alleys to enhance the environment through improved landscaping, businesses oriented towards the alley and other similar characteristics.	N/A	N/A
(L7) Incorporate Bicycle Parking	One of seven policies to enhance the downtown. As feasible, incorporate bicycle parking into downtown projects.	N/A	N/A
(L8) Develop Incentives for Truck Loading/Unloading	One of seven policies to enhance the downtown. Work with Chamber of Commerce and downtown business owners to reduce delivery and pick-up of goods in peak hours.	N/A	N/A
(L9) Update Downtown Parking Management	One of seven policies to enhance the downtown. Work with Chamber of Commerce and downtown business to update parking management strategies.	N/A	N/A
(L10) Green Street Treatments	Incorporate green street treatments into transportation, sewer, water, and stormwater projects.	N/A	N/A
(L27) Fee In Lieu	Develop a fee in lieu policy for sidewalk construction projects that apply to streets designated as Shared Streets (See Policy L1)	N/A	N/A

(S1) Funding Sources Feasibility Study	Study to identify future feasible funding sources to support improvements to the transportation system.	Medium (5-15 years)	$30,000
(S2) Downtown Parking and Multi-Modal Circulation Study	The City of Ashland will conduct a downtown parking management and multi-modal circulation study to evaluate the effectiveness of existing downtown parking management and truck loading zones and potential changes in parking management and travel demand management (TDM) strategies to increase overall accessibility to downtown for tourists, customers, and employees. The multi-modal circulation study will review pedestrian circulation, bicycle circulation, and vehicle circulation for vehicles and trucks downtown. The study will evaluate the alternatives generated for providing bicycle lanes and wider sidewalks on E Main Street through downtown that were generated during the TSP alternatives analysis phase. The alternatives evaluation will consider impacts to vehicle and truck parking and circulation.	High (0-5 years)	$100,000

Notes:

N/A Indicates category is not applicable to the policy or study. For examples, policies do not have costs or priorities associated with them, because they do not require funding to implement.

Section 7 Pedestrian Plan

PEDESTRIAN PLAN

The pedestrian network in Ashland is made up of sidewalks, multi-use paths, and trails as well as marked and unmarked, signalized and unsignalized pedestrian crossings. In general, high activity areas such as downtown and along N Main Street/Siskiyou Boulevard are well-served by sidewalks and designated crosswalks that are either marked or signalized. Newer developments also have good sidewalk coverage, with sidewalks constructed on both sides of nearly all streets. Section 3 provides more information on the existing pedestrian network. Technical memorandums 3.1 and 4.1 in the Technical Appendix also contain more detailed and extensive information on the existing pedestrian network.

The following sections present the City of Ashland's pedestrian related policies, programs, and projects.

POLICIES AND PROGRAMS FOR IMPROVING THE PEDESTRIAN ENVIRONMENT

The policies below focus on providing a more comfortable pedestrian environment consistent with Goals 1, 2, 3 and 4 outlined in Section 2.

- **Policy #13 (L13) Incorporate Preferred Pedestrian Treatments** – As feasible, integrate preferred pedestrian treatments into city-wide projects that arise through CIP investments or development. Preferred pedestrian treatments include pedestrian countdown signals, audible pushbuttons, landscape buffers, pedestrian refuge islands, benches, curb extensions, enhanced crosswalks, signalized crossings, and ADA compliant curb ramps (see A B for Bike and Pedestrian Design Treatment Toolbox). *These treatments will help enhance the environment for pedestrians and facilitate travel as a pedestrian (Goals 2 and 4).*
- **Policy #27 (L27) Fee In Lieu** – The City of Ashland should develop a fee in lieu policy for sidewalk construction projects that apply to streets designated as Shared Streets (See Project L1) as well as any other streets the Public Works Director requests or approves in order to help complete higher priority sidewalks first. *The fee in lieu applies to development applications that would otherwise be required to construct sidewalks along their site frontage. Rather than having the applicant construct the sidewalks along their site frontage, the fee in lieu policy would have them pay a fee into a sidewalk construction fund equivalent to the cost of constructing sidewalks along their site frontage. The sidewalk construction fund would be used to construct high priority sidewalk projects.*

- **Program #1 (O1) Create TravelSmart Educational Program** – Invest in individualized, targeted marketing materials to be distributed to interested individuals for the purpose of informing and encouraging travel as a pedestrian or by bicycle. The approximate cost of the program (including maps, materials, incentives, outreach staff and mail costs) is $30 per household. Program Funding: The first three years of this program will be funded at $15,000 per year enabling the City to distribute material to approximately 500 households per year. Funding for subsequent years will be determined based on the outcomes of the first three years. (This program is also presented in Section 6 Bicycle Plan.)

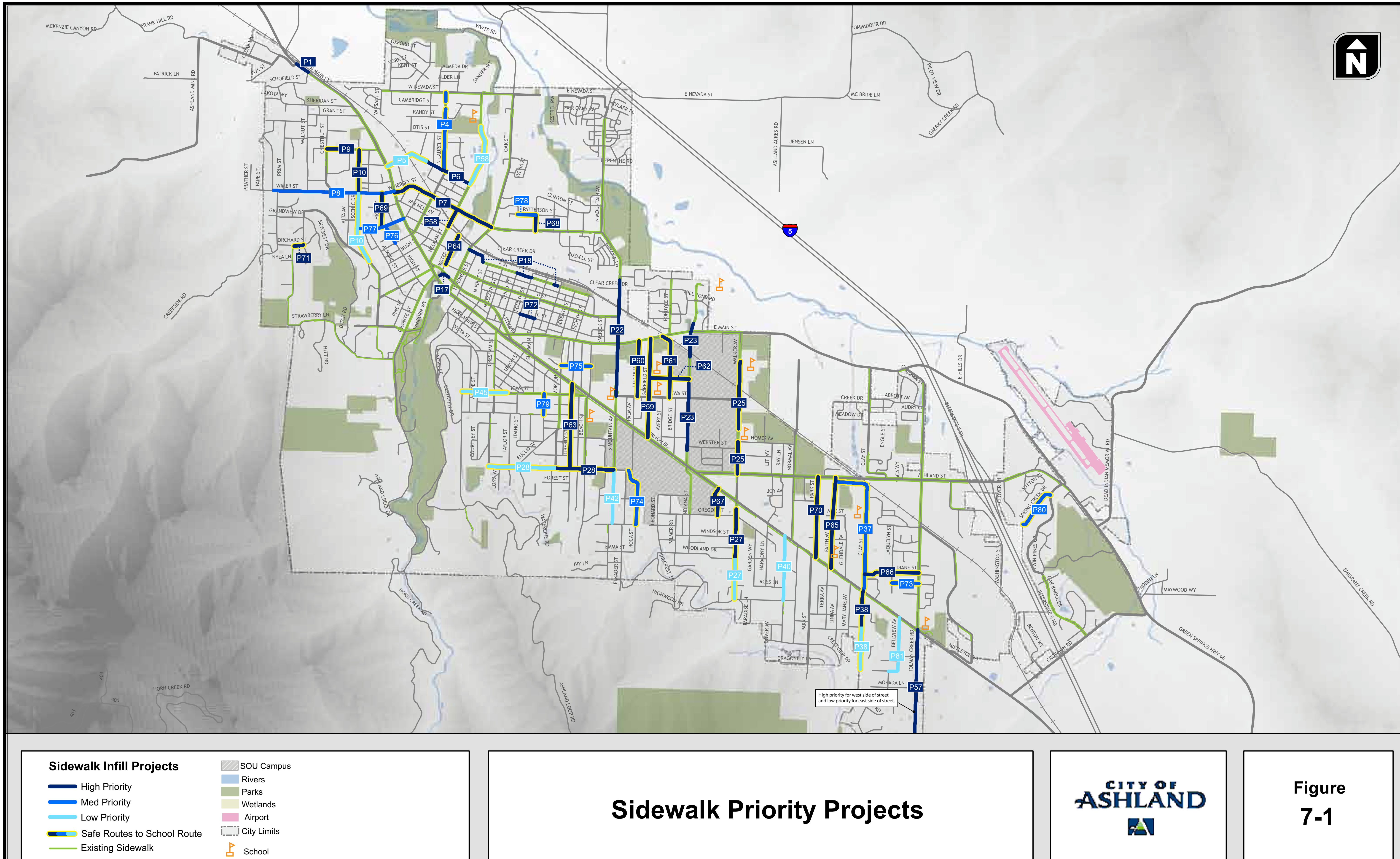
PEDESTRIAN FACILITY TYPES

The City of Ashland uses the following designations and definitions for their pedestrian facilities. These are consistent with the *Oregon Bicycle and Pedestrian Plan* (OBPP) designations and definitions.

- **Sidewalks** – Sidewalks are located along roadways, are separated from the roadway with a curb and/or planting strip, and have a hard, smooth surface, such as concrete. The Oregon Department of Transportation (ODOT) sidewalk width standard is 6 feet, with a minimum width of 5 feet acceptable on local streets. The unobstructed travelway for pedestrians should be clear of utility poles, sign posts, fire hydrants, vegetation and other site furnishings.
- **Shared Use Paths** – Shared use paths are used by a variety of non-motorized users, including pedestrians, cyclists, skaters, and runners. Shared use paths may be paved or unpaved, and are often wider than an average sidewalk (i.e. 10 – 14 feet). In circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, and maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.
- **Roadway Shoulders** – Roadway shoulders often serve as pedestrian routes in many rural Oregon communities. On roadways with low traffic volumes (i.e., less than 3,000 vehicles per day), roadway shoulders are often adequate for pedestrian travel. These roadways should have shoulders wide enough so that both pedestrians and bicyclists can use them, usually 6 feet or greater.

PLANNED PEDESTRIAN NETWORK

The planned pedestrian network for the City of Ashland is shown in Figure 7-1. This network improves the connection between residential neighborhoods and commercial, social and educational locations around the City—areas that require a high level of connectivity to meet resident's daily needs. The planned network reflects projects identified based on the crash analysis summarized in Section 3 and technical memorandums 3.1 and 4.1. The planned network also prioritizes projects that are located on designated Safe Routes to School, streets with higher street functional classifications (indicating higher traffic volumes and speed), and adjacent to land use destinations. Detailed information regarding project extent, priority designation and planning level cost estimates for each pedestrian project is provided in Table 7-1 below. Note the shared use path projects are documented in Section 6 Bicycle Plan. *Appendix A contains the project prospectus sheets for the pedestrian related projects.*



Sidewalk Priority Projects

Figure 7-1

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Table 7-1 Pedestrian Projects

(Project #) Name	Description	Safe Routes to School?[1]	Reasons for the Project	Priority (Timeline)	Cost[2]
(P1) N Main Street/Highway 99	From N Main Street to Schofield Street	-	Fill gap in existing sidewalk network	High (0-5 Years)	$50,000
(P4) Laurel Street	From Nevada Street to Orange Avenue	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$500,000
(P5) Glenn Street/ Orange Avenue	From N Main Street to 175' east of Willow Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$200,000
(P6) Orange Avenue	175' west of Drager Street to Helman Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$250,000
(P7) Hersey Street	From N Main Street to Oak Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$750,000
(P8) Wimer Street	From Thornton Way to N Main Street	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$800,000
(P9) Maple Street	From Chestnut Street to 150' east of Rock Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$100,000
(P10) Scenic Drive	From Maple Street to Wimer Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$250,000
	From Wimer Street to Grandview Drive	Yes	Fill gap in existing sidewalk network	Low (15-25 Years)	$300,000
(P17) Beaver Slide	From Water Street to Lithia Way	-	Fill gap in existing sidewalk network	High (0-5 Years)	$50,000
(P18) A Street	From Oak Street to 100' west of 6th Street	-	Fill gap in existing sidewalk network	High (0-5 Years)	$250,000
(P22) N Mountain Avenue	From 100' south of Village Green Way to Iowa Street	-	Fill gap in existing sidewalk network	High (0-5 Years)	$450,000
(P23) Wightman Street	From 200' north of E Main Street to 625' south of E Main Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$400,000
(P25) Walker Avenue	950' north of Iowa Street to Ashland Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$750,000
(P27) Walker Avenue	From Oregon Street to Woodland Drive	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$200,000
	From Woodland Drive to Peachey Road	Yes	Fill gap in existing sidewalk network	Low (15-25 Years)	$150,000
(P28) Ashland Street	From S Mountain Avenue to Morton Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$450,000
	From Morton Street to Guthrie Street	Yes	Fill gap in existing sidewalk network	Low (15-25 Years)	$500,000
(P37) Clay Street	From Faith Avenue to Siskiyou Boulevard	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$1,000,000
(P38) Clay Street	From Siskiyou Boulevard to Mohawk Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$300,000
	From Mohawk Street to southern terminus	Yes	Fill gap in existing sidewalk network	Low (15-25 Years)	$300,000
(P40) Hillview Drive	From Siskiyou Boulevard to Peachey Road	-	Fill gap in existing sidewalk network	Low (15-25 Years)	$250,000
(P42) S Mountain Avenue	From Ashland Street to Prospect Street	-	Fill gap in existing sidewalk network	Low (15-25 Years)	$400,000
(P54) Iowa Street	From Terrace Street to Auburn Street	Yes	Fill gap in existing sidewalk network	Low (15-25 Years)	$350,000
(P57) Tolman Creek Road	From Siskiyou Boulevard to City Limits (west side)	-	Fill gap in existing sidewalk network	High (0-5 Years)	$425,000
	From Siskiyou Boulevard to City Limits (east side)	-	Fill gap in existing sidewalk network	Low (15-25 Years)	$425,000

(P58) Helman Street	From Hersey Street to Van Ness Avenue	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$100,000
	From 1500' north of Orange Avenue to Orange Avenue	Yes	Fill gap in existing sidewalk network	Low (15-25 Years)	$200,000
(P59) Garfield Street	From E Main Street to Siskiyou Boulevard	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$750,000
(P60) Lincoln Street	From E Main Street to Iowa Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$450,000
(P61) California Street	From E Main Street to Iowa Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$500,000
(P62) Quincy Street	From Garfield Street to Wightman Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$150,000
(P63) Liberty Street	From Siskiyou Boulevard to Ashland Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$650,000
(P64) Water Street	From Van Ness Avenue to B Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$250,000
(P65) Faith Avenue	From Ashland Street to Siskiyou Boulevard	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$350,000
(P66) Diane Street	From Clay Street to Tolman Creek Road	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$20,000
(P67) Frances Lane	From Siskiyou Boulevard to Oregon Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$10,000
(P68) Carol Street	From Patterson Street to Hersey Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$150,000
(P69) High Street	From Wimer Street to Manzanita Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$250,000
(P70) Park Street	From Ashland Street to Siskiyou Boulevard	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$650,000
(P71) Orchard Street	From Sunnyview Drive to Westwood Street	Yes	Fill gap in existing sidewalk network	High (0-5 Years)	$100,000
(P72) C Street	From Fourth Street to Fifth Street	-	Fill gap in existing sidewalk network	High (0-5 Years)	$100,000
(P73) Barbara Street	From Jaquelyn Street to Tolman Creek Road	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$100,000
(P74) Roca Street	From Ashland Street to Prospect Street	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$250,000
(P75) Blaine Street	From Morton Street to Morse Avenue	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$100,000
(P76) High Street	From Manzanita Street to Laurel Street	-	Fill gap in existing sidewalk network	Medium (5-15 Years)	$100,000
(P77) Manzanita Street	From Scenic Drive to N Main Street	-	Fill gap in existing sidewalk network	Medium (5-15 Years)	$500,000
(P78) Patterson Street	From Crispin Street to Carol Street	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$100,000
(P79) Harrison Street	From Iowa Street to Holly Street	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$100,000
(P80) Spring Creek Drive	From Oak Knoll Drive to road end	Yes	Fill gap in existing sidewalk network	Medium (5-15 Years)	$350,000
(P81) Bellview Avenue	From Greenmeadows Way to Siskiyou Boulevard	-	Fill gap in existing sidewalk network	Low (15-25 Years)	$250,000
High Priority (0-5 Years)					$9,355,000
Medium Priority (5-15 Years)					$3,900,000
Low Priority (15-25 Years)					$3,125,000
Total					**$16,380,000**

Notes:

*Some sidewalk projects in the table above may not be feasible due to right-of-way and/or topographic constraints.

[1]A "Yes" indicates the project contributes to a Safe Routes to School Plan by helping to fill a sidewalk or bicycle network gap on a safe route to a local school. The safe routes are those identified in the City's Safe Routes to School Plan maps. A "-" indicates the project does not overlap with a designated safe route to school.

[2]Planning level cost estimates are for construction and engineering; does not include right-of-way costs.

Section 8 Bicycle Plan

BICYCLE PLAN

The existing bikeway network reflects the same structure as the major road network (i.e., neighborhood collectors, avenues, and boulevards). There are limited continuous alternative routes for bicyclists to use instead of the boulevard network, particularly routes that connect riders to the major land use attractions. The land use and road network pattern in Ashland consists of one or two continuous east-west streets (OR 99 and OR 66) that are supported by a north-south collector system. The east-west corridors provide a regional traffic mobility function as well as hosting the majority of the City's attraction-based land uses including its retail, commercial, service, and educational hubs. These locations are also attractive to bicycle riders.

Overall, the bicycle network consists of a variety of facility types and covers approximately 48-percent of the major road network with a little over half (54-percent) being on-street bike lanes. The remainder includes shared roadways (37-percent) and shoulder bikeways (9-percent). In some cases local streets may provide more comfortable alternatives to the major road network and these streets serve as the basis for a potential well-connected bicycle boulevard system. In addition to on-street facilities, there is also an existing 6.8 miles of off-street shared use path. Section 3 provides more information on the existing bicycle network. *Technical Memorandums #3 and #4 in the Technical Appendix also contain more detailed and extensive information on the existing bicycle network.*

Bicyclist Types

Increasingly, it is more recognized that there are various types of cycling populations. For example, many cities have found that its current ridership is represented by a small percentage of people that are "strong and fearless" and will generally ride regardless of the roadway conditions. They have also identified an "enthused and confident" group that is comfortable with the current policy of providing on-street bicycle lanes and similar facilities. This group represents the majority of recent growth in bicycle ridership.

There is also a larger segment of the population that is "interested but concerned" in cycling. These people would like to cycle but currently have some sort of concern about using the existing cycling system – often this is a concern about safety riding amongst traffic.

There is an opportunity to attract more travel by bicycle by providing a multi-level cycling system that caters to different types of cyclists. The existing cyclists, made up of the "strong and fearless" and "enthused and confident" groups, prefer direct, unimpeded, quick routes that tend to be along the major road network (i.e., neighborhood collectors, avenues and boulevards), whereas the "interested but concerned" group is less interested in speed and tend to seek greater comfort and an enhanced sense of safety. Generally, the "interested but concerned" group can be catered for in two ways:

1. By providing more protection along busy traffic streets (e.g., using buffered, protected, or separated bike lanes); or

2. By providing comfortable alternatives to the boulevard network, such as bicycle boulevards along low volume streets or alleyways.

The following sections present the City of Ashland's bicycle related policies, programs, and projects that are designed to increase bicycle ridership for each of the cycling populations.

POLICIES AND PROGRAMS RELATED TO BICYCLING AND BICYCLISTS

The policies and programs below focus on making bicycling more appealing to a wider range of ages and ability consistent with Goals 1, 2, 3 and 4 outlined in Section 2.

- **Policy #11 (L11) Integrate Bicycle Parking** – Work with the Planning Commission and Chamber of Commerce to establish on-street bicycle parking requirements to complement existing off-street bicycle parking requirements in the development review process. Also, establish a tier system for the on- and off-street parking requirements that recognizes some parts of the City of Ashland are likely to attract more bicycle trips than others parts *(Goal 1, 3 and 4)*.
- **Policy # L12 (L12) Establish Incentives for Bicycle Friendly Businesses** – Work with the Planning Commission and Chamber of Commerce to establish incentives for bicycle friendly businesses. The incentives should encourage businesses to facilitate and promote bicycling for employees and customers. The League of American Bicyclists has benchmarks for businesses to use to qualify for Bicycle Friendly status. City staff will work with the Planning Commission and Chamber of Commerce to pair the League of American Bicyclists benchmarks (or similar benchmarks customized to Ashland) with incentives attractive to local Ashland businesses. *Establishing these incentives and benchmarks will encourage travel by bicycle helping creating a green template, assisting the City in moving towards Platinum status as a bicycle community, while also supporting economic prosperity (Goals 1 and 3).*
- **Program #1 (O1) Create TravelSmart Educational Program** – Invest in individualized, targeted marketing materials to be distributed to interested individuals for the purpose of informing and encouraging travel as a pedestrian or by bicycle. The approximate cost of the program (including maps, materials, incentives, outreach staff and mail costs) is $30 per household.

  Program Funding: The first three years of this program will be funded at $15,000 per year enabling the City to distribute material to approximately 500 households per year. Funding for subsequent years will be determined based on the outcomes of the first three years. (This program is also contained in Section 5 Pedestrian Plan.)

- **Program # (O4) Retrofit Bicycle Parking Program** – Establish a retrofit bicycle parking program allowing interested property owners to apply for bicycle racks or bicycle corrals to be installed in front of their establishment. The City will coordinate with local business owners as to where bicycle racks are installed to be sensitive to the potential impacts on pedestrian space and vehicle parking.

  Program Funding: The program will be allocated $10,000 annually for a five year period and the funds will be administered on a first-come first-serve basis and only after minimum bicycle parking requirements have been satisfied. The City will purchase racks, mange the request process, install racks, and keep records of where bicycle racks have been placed. This level of funding is estimated to provide approximately 40 inverted-U style bicycle racks per year (including hardware and staff costs).

BICYCLE FACILITY TYPES

The City of Ashland uses the following bicycle facility designations, which are consistent with the designations and definitions recognized by AASHTO and OBPP. The purpose of having multiple bicycle facility types is to provide a multi-level cycling system that caters to different types of cyclists ranging from novice to experienced riders. In general, bicycles are allowed on roadways in the City of Ashland regardless of the presence or type of bicycle facility on the roadway.

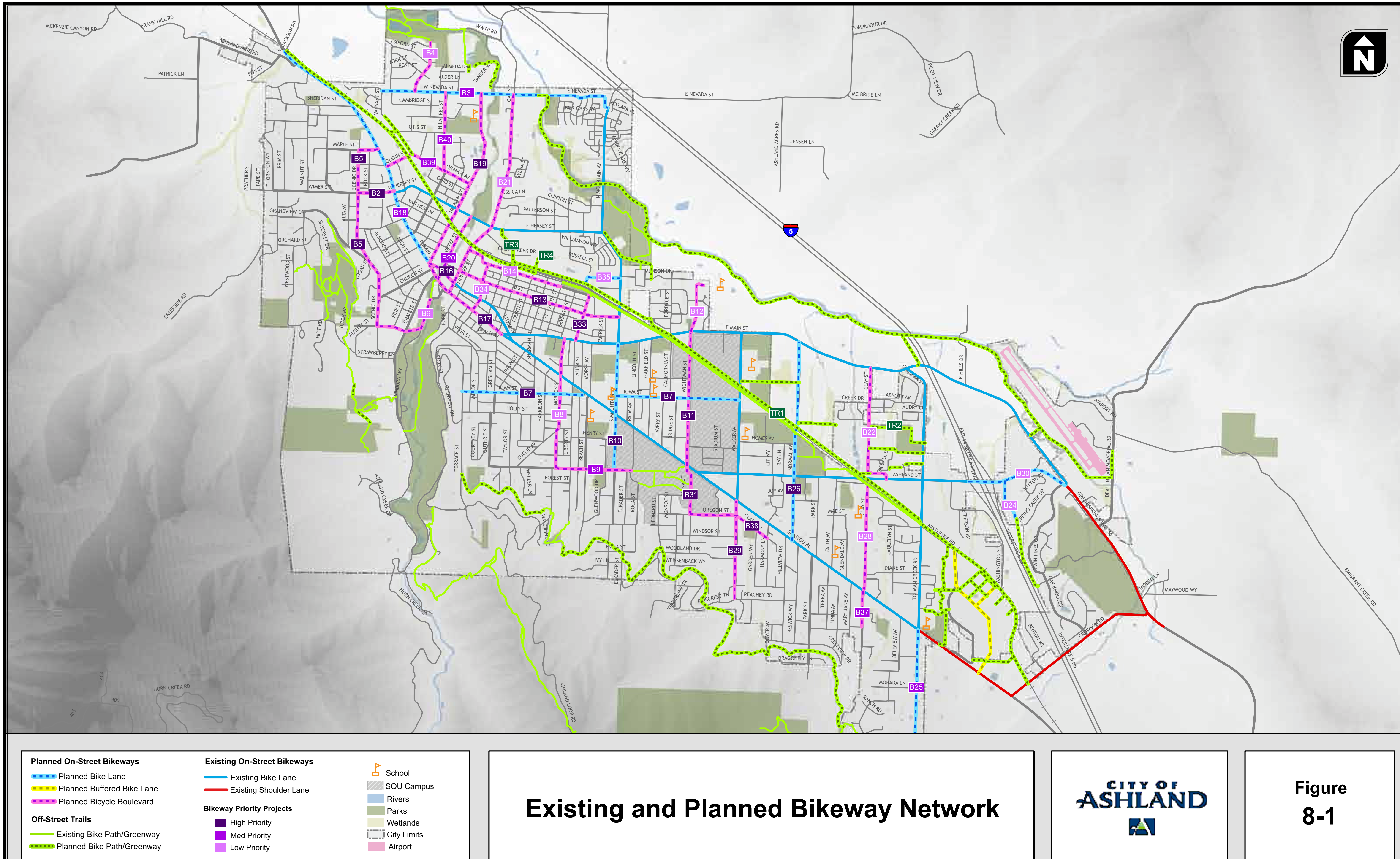
- **Shared Roadway / Signed Shared Roadway** – Shared roadways include roadways on which bicyclists and motorists share the same travel lane. This is the most common type of bikeway. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) or low traffic volumes (3,000 vehicles per day or fewer). Signed shared roadways are shared roadways that are designated and signed as bicycle routes and serve to provide continuity to other bicycle facilities (i.e., bicycle lanes) or designate a preferred route through the community. Common practice is to sign the route with standard Manual on Uniform Traffic Control Devices (MUTCD) green bicycle route signs with directional arrows. The OBPP recommends against the use of bike route signs if they do not have directional arrows and/or information accompanying them. Signed shared roadways can also be signed to highlight special touring routes or to provide directional information in bicycling minutes or distance (e.g., "Library, 3 minutes, 1/2 mile").
- **Shoulder Bikeway** – These are paved roadways that have striped shoulders wide enough for bicycle travel. ODOT recommends a 6-foot paved shoulder to adequately provide for bicyclists, and a 4-foot minimum in constrained areas. Roadways with shoulders less than 4-feet are considered shared roadways. Sometimes shoulder bikeways are signed to alert motorists to expect cyclists.
- **Bicycle Lane** - Bike lanes are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. ODOT standard width for a bicycle lane is 6

feet. The minimum width of a bicycle lane against a curb or adjacent to a parking lane is 5 feet. A bicycle lane may be as narrow as 4 feet, but only in very constrained situations. Bike lanes are most appropriate on arterials and major collectors, where high traffic volumes and speeds warrant greater separation.

- **Shared Use Path** - Shared use paths are used by a variety of non-motorized users, including pedestrians, cyclists, skaters, and runners. They may be paved or unpaved, and are often wider than an average sidewalk (i.e. 10 – 14 feet). In certain circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, and maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.
- **Bicycle Boulevard –** Bicycle boulevards are an adaptation of shared roadways that modify local streets to allow the through movement of bicycles whilst maintaining local access for automobiles. Bicycle boulevards typically include bicycle route signage and pavement markings and often feature traffic calming to slow vehicle speeds and provide a more comfortable environment for cyclists.

PLANNED BICYCLING NETWORK

The planned bicycle network is shown in Figure 8-1. It creates increased route options and connectivity to serve bicyclists with a wide range of skill sets and comfort (i.e., to serve novice to experienced riders). The planned network reflects projects identified based on the crash analysis summarized in Section 3 and technical memorandums 3.1 and 4.1. The planned network also prioritizes projects that are located on designated Safe Routes to School, streets with higher street functional classifications (indicating higher traffic volumes and speed), and adjacent to land use destinations. For detailed bicycle project information, including project extent, designated priority and planning level cost estimates, see Table 8-1. *Appendix B is a Bicycle and Pedestrian Facility Design Toolkit the City can use to in designing the specific attributes of the various planned bicycle facilities. Appendix A contains the project prospectus sheets for the bicycle related projects.*



Existing and Planned Bikeway Network

CITY OF ASHLAND

Figure 8-1

Table 8-1 Bicycle Projects

(Project #) Name	Description	Safe Routes to School?[1]	Reasons for the Project	Priority (Timeline)	Cost[2]
(B2) Wimer Street	Bicycle Boulevard - From Scenic Drive to N Main Street. Coordinate with Project R31.	-	Upgrade of existing bikeway to encourage greater use	High (0-5 Years)	$20,000
(B3) Nevada Street	Bike Lane - From Vansant Street to N Mountain Avenue. Coordinate with Project R17.	-	Fill gap in existing bicycle network	Medium (5-15 Years)	$230,000
(B4) Glendower Street	Bicycle Boulevard - From the Bear Creek Greenway to Nevada Street	-	Fill gap in existing bicycle network	Low (15-25 Years)	$20,000
(B5) Maple/Scenic Drive/Nutley Street	Bicycle Boulevard - From N Main Street to Winburn Way	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$110,000
(B6) Winburn Way	Bicycle Boulevard - From Calle Guanjuato to Nutley Street	-	Upgrade of bikeway, slow travel speeds, encourage commercial activity	Low (15-25 Years)	$10,000
(B7) Iowa Street	Bike Lane - From Terrace Street to road terminus and from S Mountain Avenue to Walker Avenue	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$240,000
(B8) Morton Street	Bicycle Boulevard - From E Main Street to Ashland Street	-	Fill gap in existing bicycle network	Low (15-25 Years)	$60,000
(B9) Ashland Street	Bicycle Boulevard - From Morton Street to University Way	Yes	Fill gap in existing bicycle network	Medium (5-15 Years)	$30,000
(B10) S Mountain Avenue	Bike Lane - From Ashland Street to E Main Street	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$120,000
(B11) Wightman Street	Bicycle Boulevard – E Main Street to Siskiyou Boulevard	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$60,000
(B12) Wightman Street	Bicycle Boulevard - From road end to E Main Street	-	Fill gap in existing bicycle network	Low (15-25 Years)	$20,000
(B13) B Street	Bicycle Boulevard - From Oak Street to N Mountain Avenue	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$80,000
(B14) A Street	Bicycle Boulevard - From Oak Street to 6th Street	-	Upgrade of bikeway, slow travel speeds, encourage commercial activity	Low (15-25 Years)	$50,000
(B16) Lithia Way	Bicycle Boulevard – From Oak Street to Helman Street	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$110,000
(B17) Main Street	Bicycle Boulevard - From Helman Street to Siskiyou Boulevard.	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$50,000
(B18) N Main Street	Bike Lane - From Jackson Road to Helman Street Included as part of Projects R35 and R36. See Table 10-2 for more details.	-	Fill gap in existing bicycle network	Medium (5-15 Years)	$260,000
(B19) Helman Street	Bicycle Boulevard - From Nevada Street to N Main Street	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$80,000
(B20) Water Street	Bicycle Boulevard - From Hersey Street to N Main Street	Yes	Fill gap in existing bicycle network	Medium (5-15 Years)	$30,000
(B21) Oak Street	Bicycle Boulevard - From Nevada Street to E Main Street	-	Fill gap in existing bicycle network	Low (15-25 Years)	$100,000
(B22) Clay Street[3]	Bicycle Boulevard - From E Main Street to Ashland Street	-	Fill gap in existing bicycle network	Low (15-25 Years)	$60,000
(B24) Clover Lane	Bike Lane - From Ashland Street to proposed bike path	-	Fill gap in existing bicycle network	Low (15-25 Years)	$40,000
(B25) Tolman Creek Road	Bike Lane - From Siskiyou Boulevard to Green Meadows Way	-	Fill gap in existing bicycle network	Medium (5-15 Years)	$100,000

(B26) Normal Avenue	Bike Lane - From E Main Street to Siskiyou Boulevard. Coordinate with Project R19.	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$190,000
(B28) Clay Street[3]	Bicycle Boulevard - From the rail line to Siskiyou Boulevard	-	Fill gap in existing bicycle network	Low (15-25 Years)	$50,000
(B29) Walker Avenue	Bicycle Boulevard - From Siskiyou Boulevard to Peachey Road	-	Fill gap in existing bicycle network	High (0-5 Years)	$40,000
(B30) Ashland Street	Bike Lane - From I-5 Exit 14 SB to Hwy 66	Yes	Fill gap in existing bicycle network	Low (15-25 Years)	$100,000
(B31) Indiana Street	Bicycle Boulevard - Siskiyou Boulevard to Oregon Street	-	Fill gap in existing bicycle network	High (0-5 Years)	$20,000
(B33) 8th Street	Bicycle Boulevard - A Street to E Main Street	Yes	Fill gap in existing bicycle network	High (0-5 Years)	$20,000
(B34) 1st Street	Bicycle Boulevard - A Street to E Main Street	-	Fill gap in existing bicycle network	Low (15-25 Years)	$20,000
(B35) Railroad Property	Bike Lane - From Proposed Bike Path to N Mountain Avenue	-	Fill gap in existing bicycle network	Low (15-25 Years)	$40,000
(B37) Clay Street[3]	Bicycle Boulevard - From Siskiyou Boulevard to Mohawk Street	-	Fill gap in existing bicycle network	Medium (5-15 Years)	$20,000
(B38) Oregon/Clark Street	Bicycle Boulevard - Indiana Street to Harmony Lane	-	Fill gap in existing bicycle network	High (0-5 Years)	$40,000
(B39) Glenn Street/Orange Avenue	Bicycle Boulevard - From N Main Street to Proposed Trail	-	Fill gap in existing bicycle network	Medium (5-15 Years)	$40,000
(B40) Laurel Street	Bicycle Boulevard - From Orange Street to Nevada Street	-	Fill gap in existing bicycle network	Medium (5-15 Years)	$40,000
(TR1) Northside Trail	Multi-use Path – From Orchid Avenue to Tolman Creek Road	-	Expand existing bicycle network	High (0-5 Years)	$2,000,000
(TR2) New Trail	Multi-Use Path – From Clay Street to Tolman Creek Road	-	Expand existing bicycle network	Medium (5-15 Years)	$400,000
(TR3) New Trail	Multi-use Path – From new trail to Hersey street	-	Expand existing bicycle network	Development Driven	$220,000
TR4 New Trail	Multi-use Path – From A Street to Clear Creek Drive Extension	-	Expand existing bicycle network	Development Driven	$110,000
High Priority (0-5 Years)					$3,180,000
Medium Priority (5-15 Years)					$1,150,000
Low Priority (15-25 Years)					$570,000
Development Driven					**$330,000**
Total					**$5,230,000**

Notes:

[1]A "Yes" indicates the project contributes to a Safe Routes to School Plan by helping to fill a sidewalk or bicycle network gap on a safe route to a local school. The safe routes are those identified in the City's Safe Routes to School Plan maps. A "-" indicates the project does not overlap with a designated safe route to school.

[2]Planning level cost estimates are for construction and engineering; does not include right-of-way costs. Cost estimates assume striping and signing changes occur within the existing pavement width (i.e., no additional construction or road expansion is required).

[3]Jackson County currently does not have standards for Bicycle Boulevard and may not permit the use of sharrows.

Section 9 Transit Plan

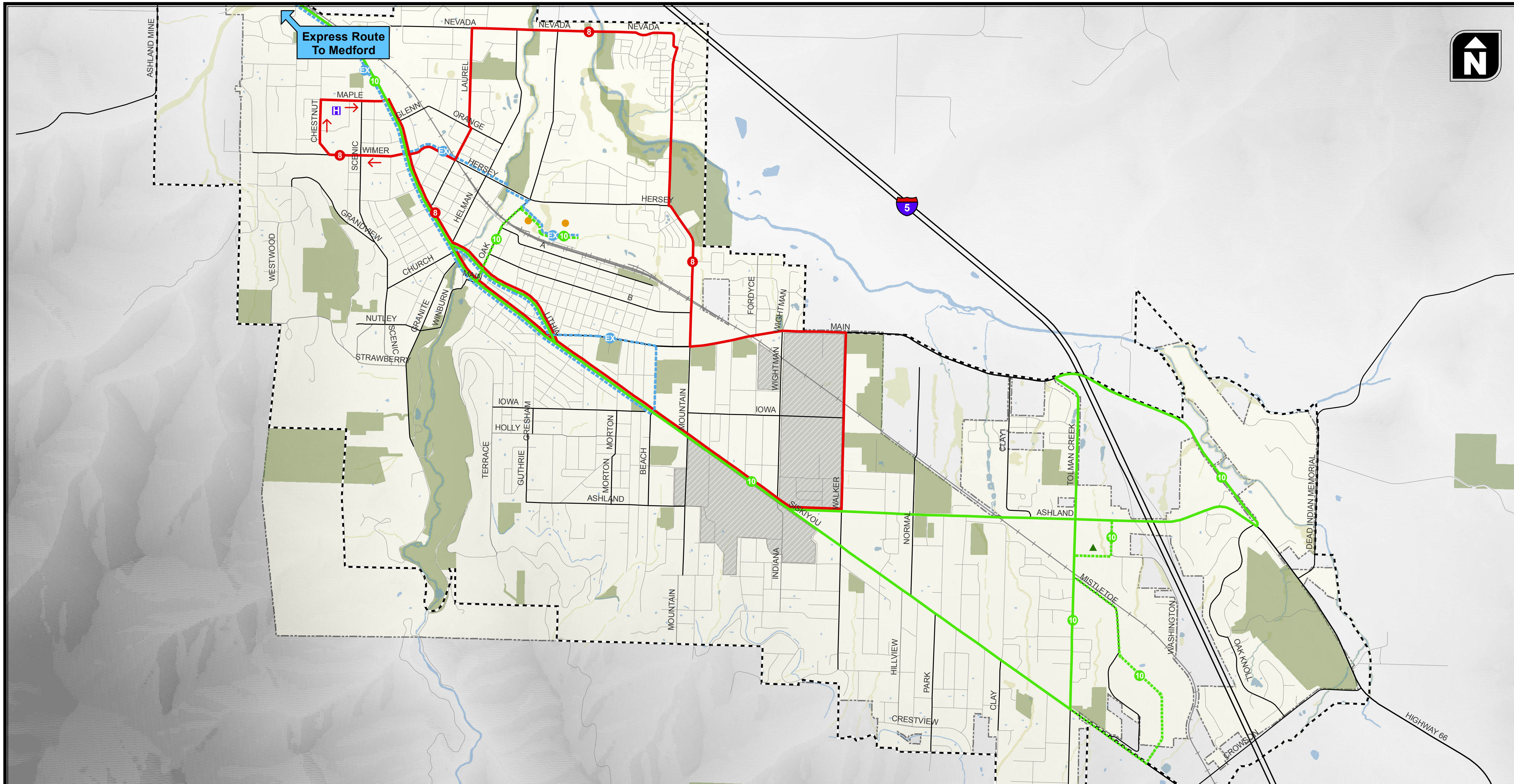
TRANSIT PLAN

The transit plan presents policies and programs focused on improving transit service within and to/from Ashland. Figure 9-1 illustrates the existing and planned transit routes in the City of Ashland based on the City's transit priorities. The planned routes and service improvements are discussed below in the subsection: Program #5 (O5) Transit Service Program.

Policy #14-19 (L14 through L19) Transit Enhancement Policies

The following transit enhancement policies improve access to transit, land uses surrounding transit, and/or physical elements or attributes which the City has the direct ability to influence.

- **Policy #14 (L14) Encourage Greater Concentrations of Housing** – Establish policies and/or incentives to encourage a greater concentration of housing along transit corridors and within urban renewal districts as a means to increase transit ridership and establish transit attractive destinations *(Goal 3 and 4).*
- **Policy #15 (L15) Upgrade Sidewalk Facilities** – As project opportunities arise through Capital Improvement Program (CIP) investments or development, upgrade sidewalk facilities to ADA compliance on streets where transit service is provided and/or planned *(Goals 2 and 4)*.
- **Policy #16 (L16) Provide Street Lighting** – As project opportunities arise through CIP investments or development, install and/or improve street lighting at transit stops and along streets leading to transit stops *(Goals 2 and 4)*.
- **Policy #17 (L17) Provide Bicycle Storage** – As project opportunities arise through CIP investments or development, incorporate bicycle storage at major transit stops, including the downtown core, Southern Oregon University (SOU), and the Ashland Street (OR 66)/Tolman Creek Road intersection *(Goals 3 and 4).*
- **Policy #18 (L18) Increase and Improve Pedestrian Crossing Opportunities –** As project opportunities arise through CIP investments or development, improve pedestrian crossing opportunities across major roadways to facilitate access to transit stops *(Goals 2 and 4).*



- Existing Route 10
- Potential Long-Term Route 10 Modification
- Potential Long-Term Express Route
- Modified Route 8B
- Potential Long-Term Park & Ride
- Potential Croman Mill Site Park & Ride

Existing and Planned Transit Service

Figure 9-1

- **Policy #19 (L19) Work with RVTD to Monitor and Improve Transit Stop Amenities** – As opportunities arise, upgrade transit stop amenities based on ridership thresholds *(Goals 2 and 4)*. Ridership thresholds and amenities include:
  - Level 1 (stops with 0 to 19 riders/day) -
    Bus stop sign with route information and attached bench
  - Level 2 (stops with 20 to 49 riders/day) –
    Level 1 amenities plus separate bench and ADA landing pad
  - Level 3 (stops with 50 or more riders/day) –
    Level 2 amenities plus covered, lit shelter and
    secure bicycle parking (e.g., bicycle lockers)

Policies related to other critical transit service elements such as hours of service, service frequency, fare, and service coverage are included below under "Programs"; these require coordination with the Rogue Valley Transportation District (RVTD), the regional transit provider.

Program #5 (O5) Transit Service Program

The Transit Service Program provides funds and guidance on how to allocate funds to improve transit service (and increase transit ridership) in Ashland in collaboration with RVTD. *Improving transit service to, from, and within the City of Ashland is an important element to help the City move toward its goals of creating a green template (Goal 1), supporting economic prosperity (Goal 3), and creating system-wide balance (Goal 4).*

Brief History of Transit Service in Ashland

The City of Ashland has a history of subsidizing transit in the form of reducing fares for trips within Ashland and paying for an additional transit route in Ashland. These investments were made with the goal of increasing transit ridership.

In approximately January of 2003, the City of Ashland began subsidizing fares for transit trips within Ashland such that transit use was free to riders. Completely subsidized fare continued until approximately June 2006 at which time the City reduced the amount of the subsidy such that trips within Ashland were $0.50 for riders. From 2009-2011, the City of Ashland has continued to subsidize fares for transit trips within Ashland (although at a rate less than in 2006) and paid for additional service within Ashland (Route 15) to increase the frequency of bus service to approximately 15-minute headways on weekdays. The addition of Route 15 did not have the level of impact on ridership desired by the City and in 2011, RVTD decided to increase service frequency on Route 10 to 20-minute headways. Route 10 provides service within Ashland and to Medford. As a result, the City of Ashland has ended its subsidy to fund Route 15 and is not currently subsidizing fares.

Subsidies to RVTD for reduced fares and 15-minute service in Ashland were approximately $200,000 per year after the Business Energy Tax Credit (BETC) credit. Any future subsidized program should have the outcome of increased ridership.

Transit Service Priorities

Transit service priorities for RVTD and the City are discussed below. The priorities identified by RVTD in their long range plan are relevant to the City, because RVTD is currently the City's public transportation provider. The City's priorities discussed below are the specific transit service enhancements the Transit Service Program will use to fund.

RVTD's Transit Service Priorities

RVTD's Long-Range Plan for transit service expansions includes three tiers of transit service expansion priorities based on three potential funding scenarios. Tier 1 includes the highest priorities for service expansion and primarily includes extended hours on existing transit service with some minor service expansion. Tier 2, which is based on a higher funding scenario, includes Tier 1 service expansions in addition to a second level service expansion priorities which include additional routes, express routes, and peak service. Tier 3 expansions, although still a priority, are lower in priority than the Tier 1 and Tier 2 expansions and include additional routes and the formation of a transit grid system.

The Tier 1, 2, and 3 projects identified in RVTD's long-range plan that would enhance transit service to, from and in Ashland are described in Table 9-1.

Table 9-1 RVTD's Transit Service Enhancement Tiers

Transit Service Enhancement Tiers	Transit Service Expansions
Tier 1	Expanded service hours on weekdays (4 a.m. to 10 p.m.) and provide Saturday service (8 a.m. to 6 p.m.)
Tier 2	Provide Circulator Service in Ashland on the east side of OR 99, Four Hour Peak Service, and Express Route (15 minute service) from Medford to Ashland Plaza.
Tier 3	Provide additional transit routes in South Ashland.

The City of Ashland's Transit Service Priorities

The City of Ashland's priorities for expanded transit service are compatible with RVTD's priorities although slightly different and are described in more detail below.

1) **Establish a Customized Bus Pass Program** – Establish a customized community bus pass program that will target groups such as high school students, seniors, public employees, and those in financial need. *The program should be crafted to provide passes to groups that are likely to have the most impact on ridership as well as those in financial need of assistance.*

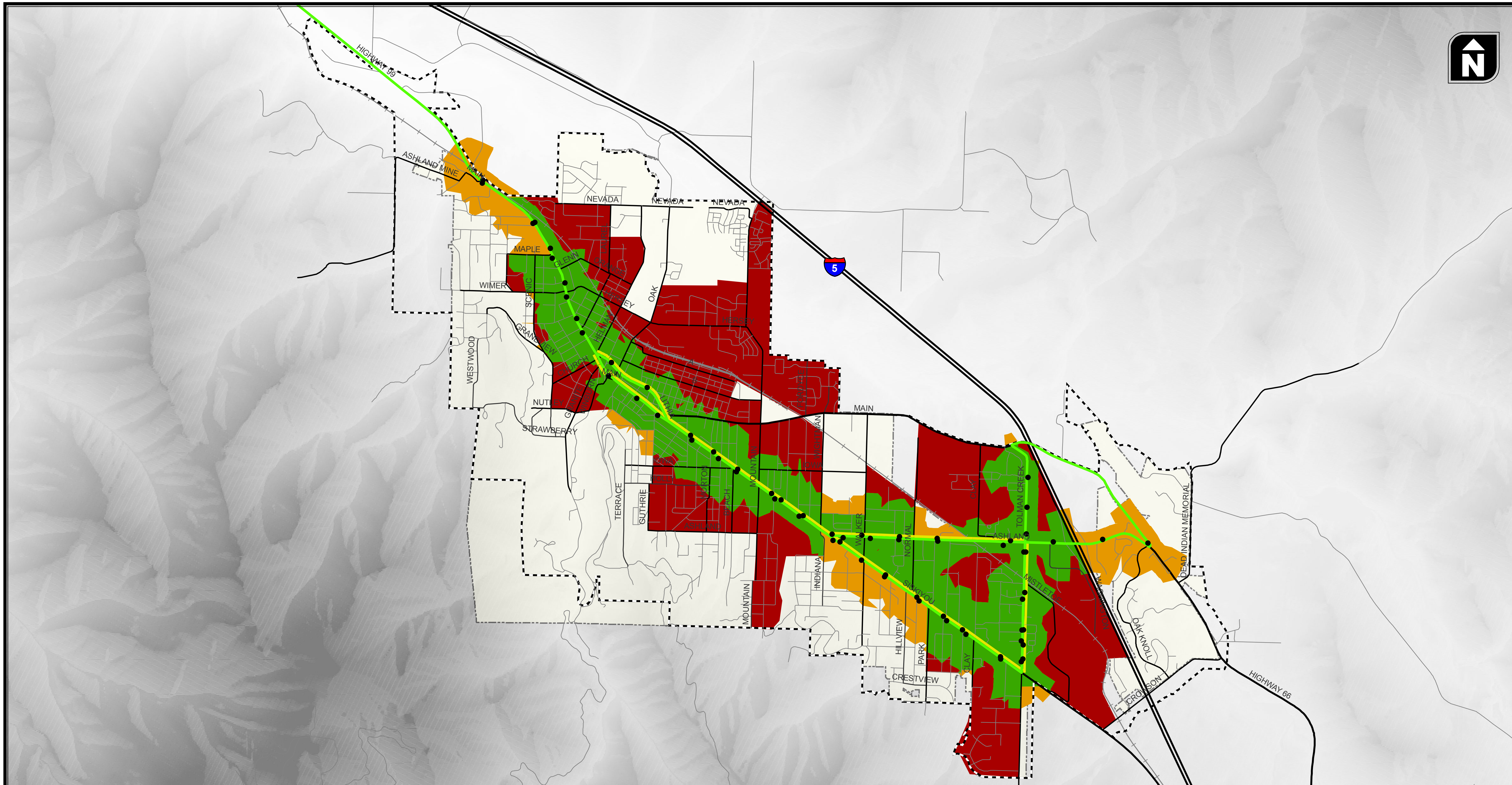
2) **Extend Service Hours** – Extend service hours for Route 10 into the weekday evenings (e.g., 10:00 p.m.) and provide service on Saturday and Sunday. Encourage RVDT to implement extended service hours on other key routes.

   The benefit of extended service hours would be limited to local trips unless additional routes that connect to Route 10 in Medford also had extended service hours. There is the potential for extended service hours on Route 10 only to serve a need between SOU and SOU's Medford campus; however, this need may be best served with a shuttle service operated by SOU.

3) **Provide Express Bus Service to Medford and the Rogue Valley International Airport** – Continue to explore opportunities with RVTD to establish express bus service to and from Medford and the Rogue Valley International Airport during the morning and evening commute hours and timed with flight arrivals and departures.

   Express bus service could be provided via additional service on Route 10 with limited to no stops between downtown Ashland, downtown Medford, and the Rogue Valley International Airport. Figure 9-1 illustrates the potential express bus service route including two long- term park-and-ride locations within the City of Ashland. The two long-term locations are: 1) Railroad District adjacent to Hersey Street and 2) the Croman Mill Site. The Railroad District location preserves the opportunity establish a transit hub near downtown that would be well served by future commuter or passenger rail service. The Croman Mill Site provides the opportunity to operate a two-hub system, if the site and surrounding area develops to such a density to warrant a second hub.

4) **Expand Service Area** – Work with RVTD to expand the transit service area as additional areas within the City become capable of supporting transit services. Areas capable of supporting transit service that are not currently being provided transit service are shown in red in Figure 9-2.



- Bus Stops
- Bus Route 10
- Bus Route 15
- Transit Supportive Areas Served
- Current Service Coverage Area
- Transit Supportive Areas Unserved
- City Limits
- City UGB

Transit Supportive Areas Based on Existing Service
(Based on 2034 Household and Employment Forecasts)

Figure 9-2

As documented in the Supplemental Transit Information Memorandum (dated May 16, 2011), certain areas of Ashland not currently served by transit are forecasted to be capable of supporting transit by the year 2034 based on their population and/or employment densities. Areas within ¼ mile walk of a transit stop are considered to be served by transit as indicated by the green and yellow areas on Figure 9-2. The areas shown in red are based on the Transportation Analysis Zones (TAZs) in the regional travel demand model and do not necessarily warrant transit service within a ¼ mile. Rather, the areas in red help identify key corridors where future densities will be supportive of transit service (such as Hersey, Mountain, East Main, and Mistletoe). The City should work with RVTD to identify and fund new routes and/or modify existing routes to best serve these corridors when they develop to a point that transit service becomes feasible.

Figure 9-1 illustrates the additional transit route, Route 8, identified to serve the unserved transit supportive area along Mountain Avenue. *Route 8 is shown circulating via Nevada Street after the Nevada Street extension is complete (see project R17). The estimated cost to operate Route 8 is approximately $580,000 per year. This assumes two buses operating on 30-minute headways for 10 hours per weekday.*

The need for an additional route in the south end of Ashland is likely longer-term than the proposed Route 8. The route to serve south Ashland would be dependent upon the development pattern but it could potentially travel within the Croman Mill development (as opposed to only along Tolman Creek Road) and serve the portion of E Main Street that is served less frequently by Route 10.

5) **Central Hub** – Identify a location for a future transit hub to serve as a multi-modal transfer center for bus routes and Express Service operating in and to Ashland. Potential locations could include the long term park-and-ride locations shown on Figure 9-1.

A typical early step for a city where transfers need to occur between routes is to have them occur on-street, perhaps at an enhanced stop (e.g., one with a larger, decorative shelter). Once the system grows to a size where multiple routes are meeting to transfer passengers, then an off-street center begins to make sense. As discussed as part of the Priority 3, two potential long-term transit hubs are: 1) Railroad District adjacent to Hersey Street; and 2) Croman Mill Site. The timing and extent to which these are developed will depend on the development occurring adjacent to the sites. The potential long-term Croman Mill Site could either be served by extending the express route or tied into the Railroad District hub via Route #10.

Another instance where an off-street center makes sense is when it serves intermodal transfers multiple times a day (e.g., intercity bus to local bus, commuter rail to local bus). A commuter express route to Medford could still pass through downtown to capture transfers from other routes while still serving the long-term park-and-ride site. Diverting existing routes should be avoided or minimized, because it increases travel time for the majority of passengers and risks increasing the costs of operating the route. The development of a central hub is estimated to *cost approximately $1,300,000. The preferred plan includes $300,000 as local match for potential grant funds.*

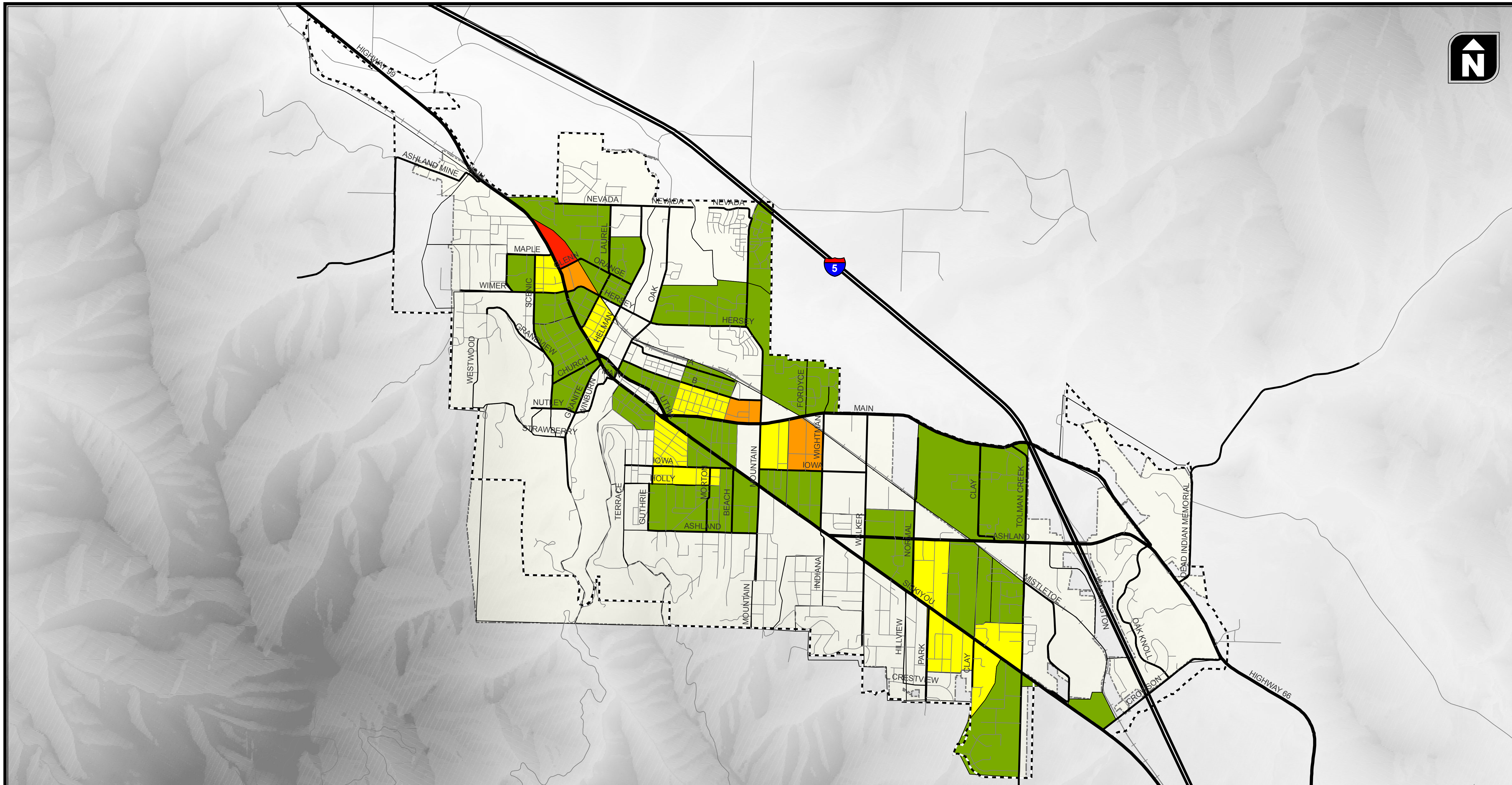
6) **Increase Service Frequency** – Use the thresholds documented in Table 9-2 to coordinate and program with RVTD increased transit service frequency in the future. *The current 20-minute headways on Route 10 are sufficient for Ashland given the existing and forecasted future residential densities*.

Table 9-2 Transit Service Frequency and Residential Housing Densities

Transit Service Frequency	Residential Density Threshold
Local bus service (1 bus per hour)	4-5 dwelling units/net acre[1]
Intermediate bus service (1 bus every 30 minutes)	7-8 dwelling units/net acre[1]
Frequent Bus Service (1 bus every 10 minutes)	12-15 dwelling units/net acre[1]
High Capacity Transit Systems (e.g., Streetcar, Light Rail)	25-50 dwelling units/net acre[1,2]

Notes:
[1]Net acres are developed land not including streets, parks, etc.
[2]This density applies to station areas.

Figure 9-3 illustrates the 2034 forecasted household densities (densities shown in Figure 9-3 are based on gross acres) and the corresponding transit service frequency.



2034 Forecasted Household Densities and Transit Service Frequency

Figure 9-3

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7) **Support Private Transit Circulator** – Work with Chamber of Commerce and existing businesses and hotels to provide a privately run circulator service (trolley or other type) to operate on a fixed route or on demand to help shuttle tourists from hotels to destinations throughout Ashland and potentially to the Rogue Valley International Airport. *Some hotels already provide some limited shuttle service and there could be benefit to consolidating these efforts to provide more robust service to all tourists. This service could be operated seasonally.*

8) **Support SOU Transit** – Work with Southern Oregon University (SOU) to provide a privately run circulator that targets SOU students' needs including service to the Medford campus.

Exhibit 9-1 illustrates the cities in which SOU students are living with approximately 45% living outside of Ashland some of whom it may be feasible to serve to via a circulator between SOU's campuses in Ashland and Medford. Exhibit 9-2 illustrates of the 55% of students living Ashland, the percentage of those students living within a 1/2 mile, mile and 2 miles of campus. This information illustrates a well routed local circulator may be able to efficiently serve most of the students within Ashland.

Exhibit 9-1 Percent of Students in Nearby Cities

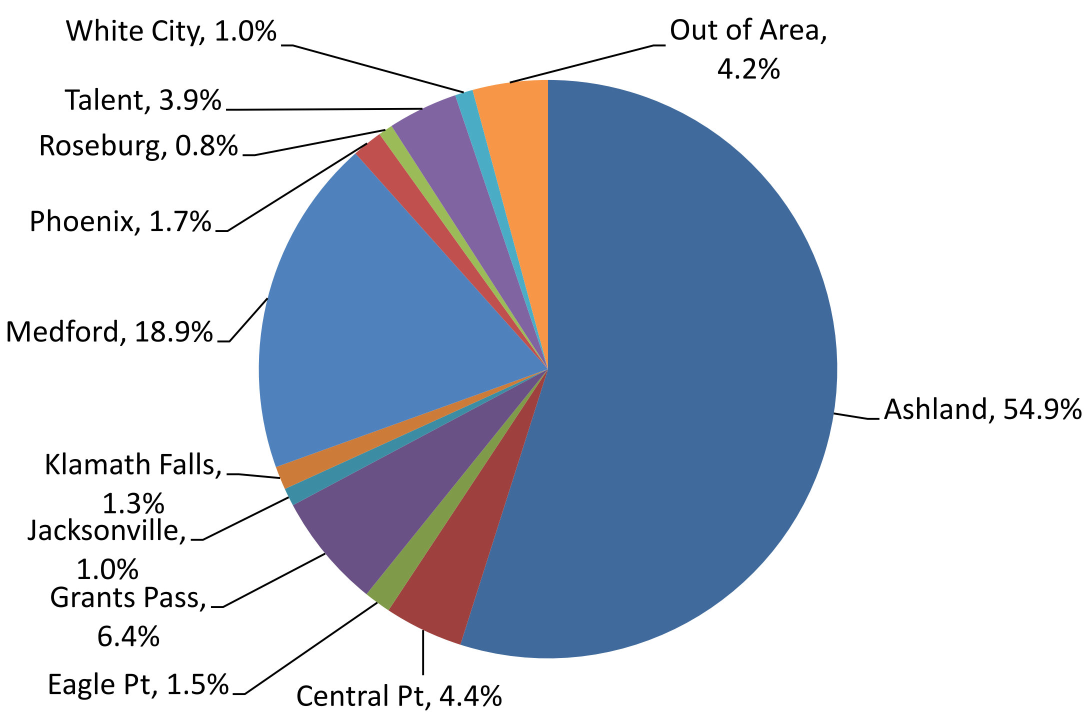
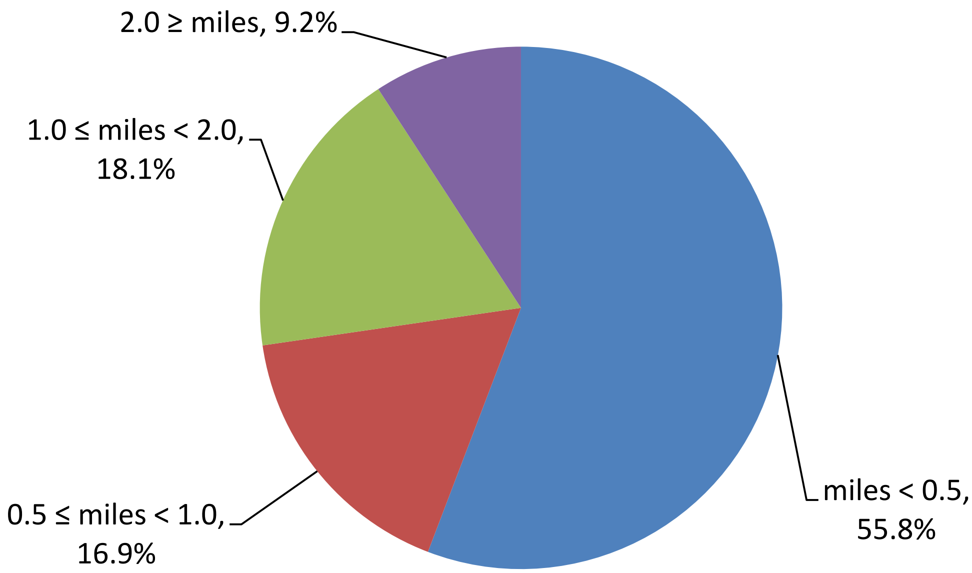


Exhibit 9-2 Percent of Ashland Students Distance from Campus

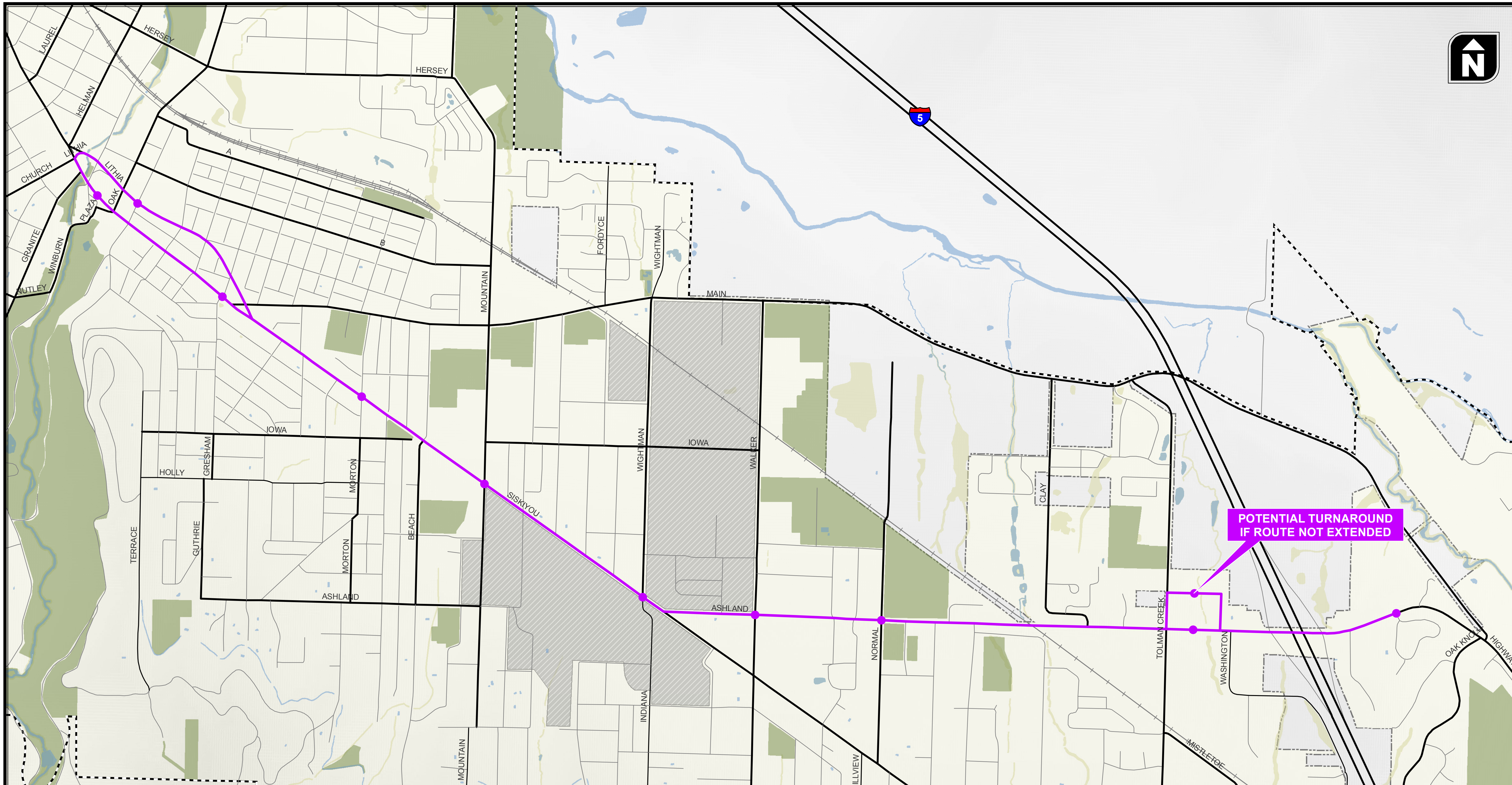


9) **Support Fare Free Transit in Ashland** – Work with RVTD to continue to explore the feasibility of fare free transit within Ashland.

   As documented in the Supplemental Transit Information Memorandum (dated May 16, 2011), a 2002 synthesis of fareless transit service policies concluded fareless policies may be appropriate for smaller transit systems in communities where some of the primary disadvantages of fareless service (e.g., overcrowding, security, and problem riders) may not be significant concerns. See the Supplemental Transit Information Memorandum (dated May 16, 2011) for more details.

10) **Establish Rubber Tire Trolley Circulator** – The City should explore opportunities to establish a rubber tire trolley circulator within Ashland as a means to facilitate non-auto travel by visitors, students, and residents making shorter trips. Figure 9-4 illustrates a potential circulator route and stop locations. *The conceptual level cost of establishing a circulator is estimated to be $2,800,000 to $4,500,000. This estimate assumes 15 stops along the circulator route (stops on Siskiyou Boulevard and Ashland Street would be located on the outbound and inbound direction of travel) and five trolley vehicles to provide 15 to 20 minute headways. The stops are estimated to cost $20,000/each to $50,000/each (depending on the amenities provided) and the vehicles are estimated to cost $500,000/each to $750,000/each (depending on quality and type*

The City may choose to implement lower priority transit service improvements before higher priority transit service improvements based on the opportunities that arise in discussions with RVTD (e.g., in the near-term, it may be more feasible to implement Priority 3 than Priority 1).



Rubber Tire Circulation Routes and Stops

Rubber Tire Trolley Route and Stops

Figure

9-4

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Transit Service Program Funds

The Transit Service Program funding approach is outlined below. The City will use the funds to support policies L14 through L19 and priorities 1 through 9 discussed above. This includes establishing transit hubs, supporting circulator service to serve visitors, and supporting service to SOU students.

- Years 0 to 5 - $200,000/year
- Years 5 to 10 – $250,000/year
- Years 10 to 15 – $300,000/year
- Years 15 to 25 - $350,000/year

To the extent the City uses these funds to support service provided by RVTD, the City will work with RVTD to establish a common set of performance measures to help guide decisions on whether changes to transit service have been cost effective investments for the City. The performance measures will help the City decide if incremental increased investment in transit service changes is financially sound. The performance measures may also indicate benefits to RVTD as well as the City, which may provide the basis to establishing a matching funds agreement, where RVTD invests a certain amount of money for every dollar invested by the City.

At some point in the future, the City may choose to alter the funding allocated to the Transit Service Program based on the effectiveness of their investments with RVTD. The City may also choose to use their Transit Service Program funds to hire a private transportation company to provide some or all of their public transit service.

Section 10 Intersection and Roadway Plan

INTERSECTION AND ROADWAY PLAN

The intersection and roadway plan presents policies, studies and projects related to access management, alternative mobility standards, intersection improvements, modifying existing roadway cross-sections or streetscapes, extending existing roadways, and constructing new roadways. Projects within the intersection and roadway plan influence travel by auto and freight and many also facilitate pedestrian and bicycle travel. For example, the intersection and roadway plan includes the N Main Street Temporary Road Diet which reallocates existing right-of-way by removing one auto-lane in each direction and replacing them with bicycle lanes in each direction. The intersection and roadway plan also includes streetscape projects identified to support the Pedestrian Places planning activities. The street map for the City of Ashland is shown in Figure 10-1; it illustrates the existing and planned street network for the City of Ashland.

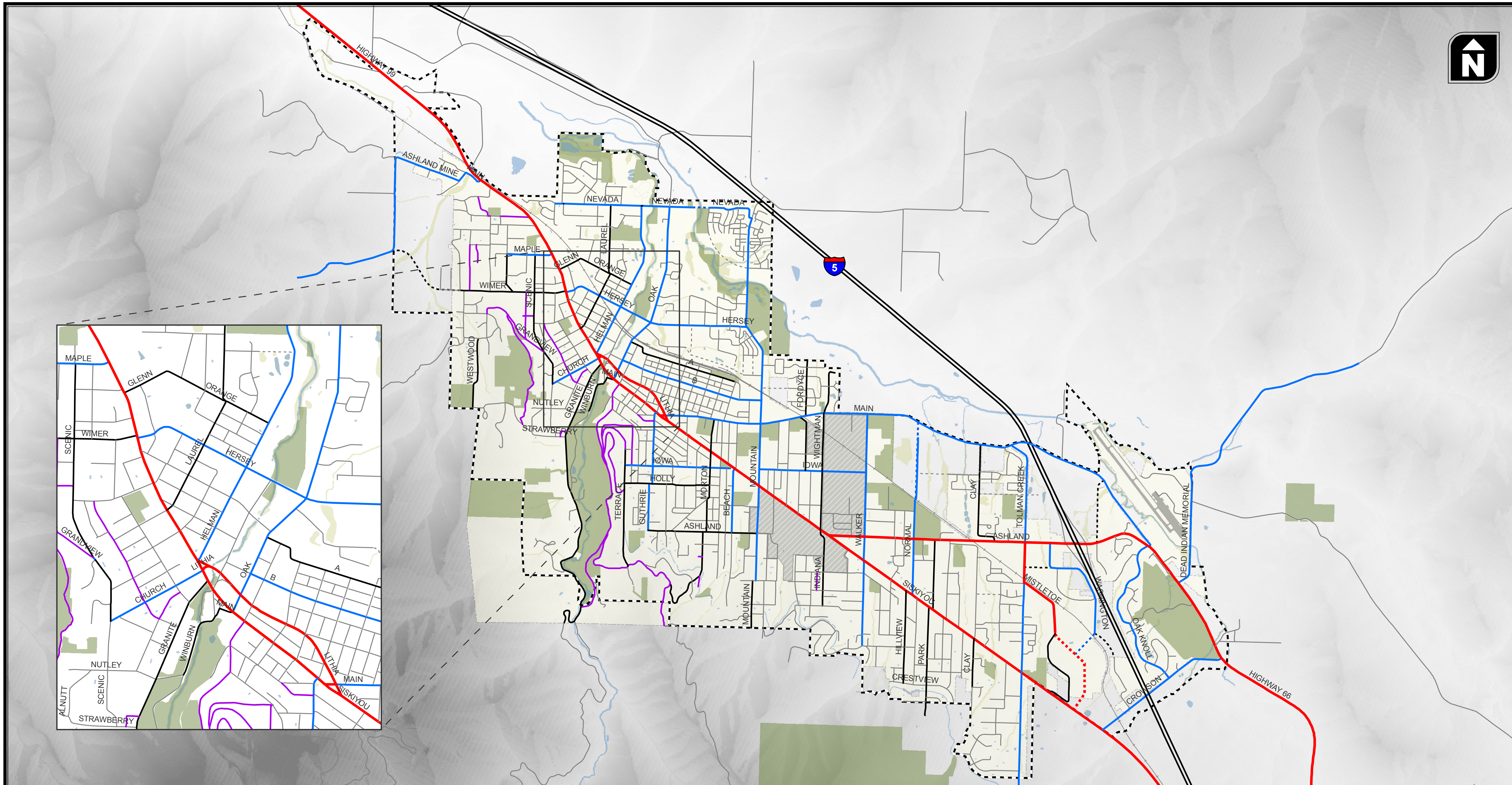
Policy #21-26 (L21 through L26) Intersection and Roadway Plan Policies

The subsections below contain the policies pertaining to intersections and roadways, which consist of access management, alternative mobility standards, transportation system management (TSM), traffic calming, and Eagle Mill Road.

Policy #21 (L21) Access Management

Access management is the systematic implementation and control of the locations, spacing, design, and operations of driveways, median openings, interchanges, roundabouts, and street connections to a roadway, according to the Access Management Manual (AMM) (*1*). It involves roadway design applications, such as median treatments and auxiliary lanes, and the appropriate spacing and design of signalized intersections. Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways on the higher end of the functional classification system (i.e., Boulevards and Avenues) tend to have higher spacing standards to facilitate movement of through traffic, while facilities such as Neighborhood Collectors and Neighborhood Streets allow more closely spaced access points to facilitate access to land uses.

ODOT has legal authority to regulate access points along state highways within the city’s urban growth boundary. However, per an agreement with the City of Ashland, the segments of OR 66 and OR 99 that are under ODOT’s jurisdiction are subject to minimum spacing standards different than those typically applied to District Highways. These segments are held to a public roadway spacing standard of ¼ mile and a minimum driveway spacing standard of 300 feet. The segments of OR 99 and OR 66 that are under Ashland’s jurisdiction (Siskiyou Boulevard between Walker Avenue and E Main Street; and Ashland Street between Siskiyou Boulevard and 300 feet east of Faith Avenue) are subject to Ashland’s access spacing standards for Boulevards.



- Interstate
- Boulevard
- Avenue
- Neighborhood Collector
- Shared Roadway
- Neighborhood Street
- Boulevard
- Planned Avenue
- Planned Neighborhood Collector
- Planned Neighborhood Street
- Special Transportation Area Designation
- Urban Business Area Designation
- City UGB
- City Limits

Existing and Planned Street Network

Figure

10-1

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The City of Ashland and Jackson County also jointly manage several roadways (E Main Street, Tolman Creek Road, and Clay Street) within the City limits to manage the efficient movement of traffic and enhance safety. While the Jackson County access spacing standards documented in Table 5-2 of the Jackson Country Transportation System Plan apply to each of these roadways, the City independently manages access on all other Boulevards, Avenues, Neighborhood Collectors, and Neighborhood Streets within its jurisdiction which are not owned by ODOT or Jackson County.

Table 10-1 identifies the minimum public street intersection and private access spacing standards for the City of Ashland roadway network as they relate to new development and redevelopment. Existing accesses are allowed to remain as long as the land use does not change or safety issues do not arise. As a result, access management is a long-term process in which the desired access spacing to a street slowly evolves over time as redevelopment occurs. County facilities within the city's UGB are planned and constructed in accordance with these street design standards. As discussed above, ODOT and the City of Ashland have an agreement that OR 66 and OR 99 within the City limits are not subject to ODOT's typical minimum spacing standards for District Highways. OR 66 and OR 99 within the City of Ashland are subject to a minimum access spacing standard of a ¼ mile for public streets and 300 feet for driveways. The access spacing standards described above are illustrated in Figure 10-2.

Table 10-1 Access Spacing Standards on City Streets

Functional Classification	Access Spacing Standard – Distance from Streets (feet)1	Access Spacing Standard – Distance between Driveways (feet)[1]
Neighborhood Collectors	35 feet	75 feet
Avenues	50 feet	75 feet
Boulevards	100 feet	100 feet
OR 66 and OR 99 in Ashland (ODOT Jurisdiction Segments Only)2	1,320 feet	300 feet

[1]Measurement of the approach road spacing is from the centerline of the subject street or driveway on both sides of the roadway.
[2]This is applicable to the segments of OR 66 and OR 99 that are under ODOT jurisdiction and is consistent with the City's agreement with ODOT. Boulevard spacing standards apply to the segments of OR 66 and OR 99 under City jurisdiction.

Several corridors warrant more attention to access management than programmatic improvement of access spacing over time as part of land use actions. Sound access management principals should be emphasized at these locations to improve access management more rapidly through capital improvement projects and/or as development and redevelopment occur. Access management refinement studies have been identified for the corridors warranting more attention. These corridors and corresponding studies are:

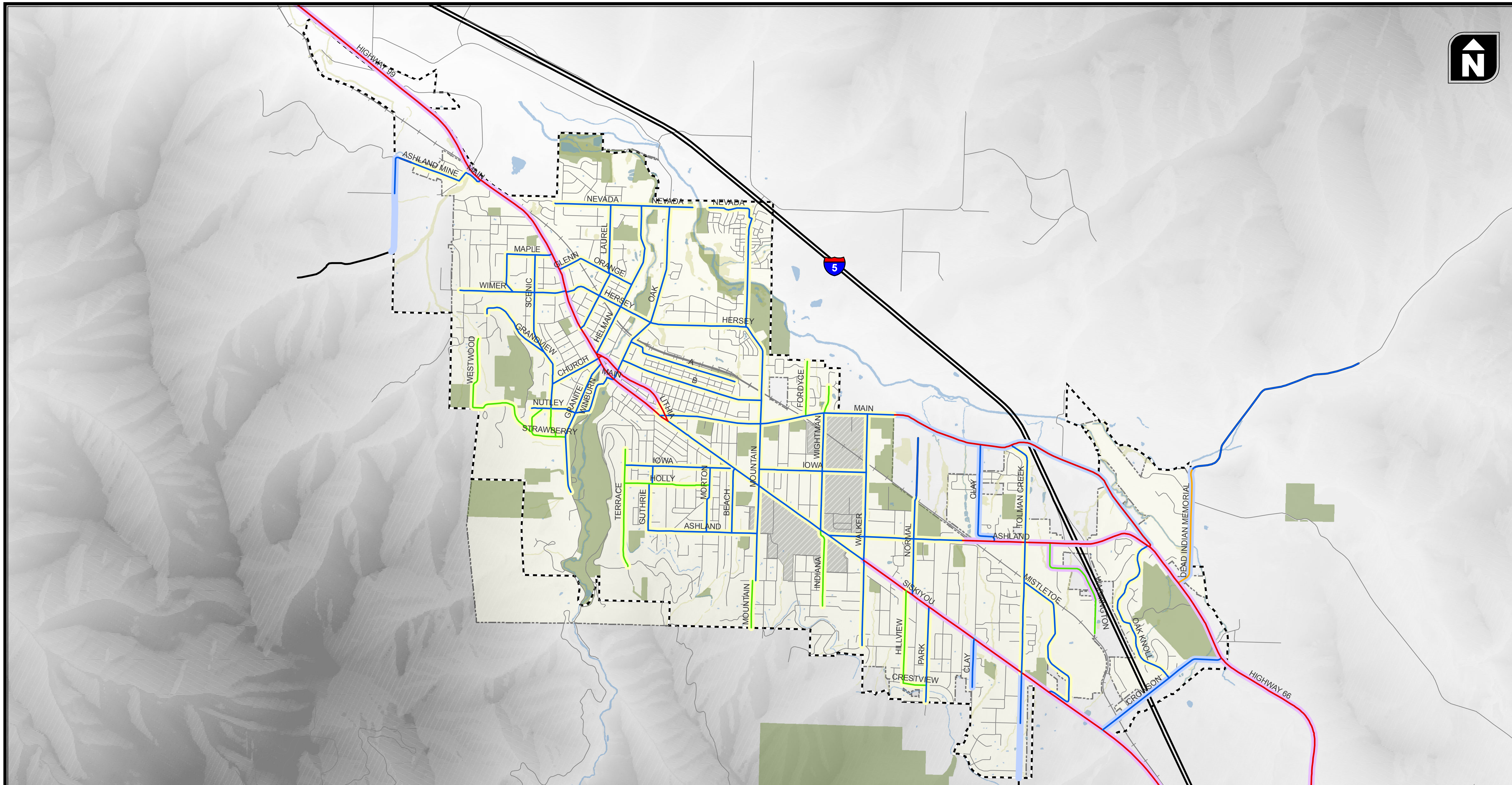
- Study #3 - (S3) N Main Street (OR 99) from Helman Street to Sheridan Street;
- Study #5 - (S5) Siskiyou Boulevard (OR 99) from Ashland Street to Tolman Creek Road;
- Study #6 - (S6) Ashland Street (OR 66) from Siskiyou Boulevard (OR 99) to Tolman Creek Road; and
- Study #7 - (S7) E Main Street from Siskiyou Boulevard (OR 99) to Wightman Street.

The cost estimates and associated priorities for the studies above are summarized below in the subsection Intersection and Roadway Plan Studies. The scope of the studies above include assessing the degree to which the corridors above deviate from the access spacing standards, the likelihood of redevelopment along those corridors, the potential safety and operational benefits from improving the access spacing, and phased engineering and access improvements to improve the spacing in the near- and long-term.

Access management strategies beyond programmatic consolidation through the development process could include treatments such as center raised medians that restrict access to right-in/right-out only, or right-in/right-out/left-in in some cases. Medians with openings for left-turn lanes off of a facility resulting in right-in/right-out/left-in access points provide significant improvement in safety while still providing a high level of property access. Consolidating driveways from multiple parcels to mid-block locations is critical to being able to provide effective right-in/right-out/left-in access in locations where medians are warranted due to safety concerns.

According to Action 3B.3 of the Oregon Highway Plan, non-traversable medians should be considered on state highways when any of the following criteria are met. Similar consideration should be given on Ashland Boulevards and Avenues where:

- Forecasted average daily traffic is anticipated to be 28,000 vehicles per day during the 20-year planning period;
- The annual crash rate is greater than the statewide annual average crash rate for similar roadways;
- Pedestrians are unable to safely cross the highway, as demonstrated by a crash rate that is greater than the statewide annual average crash rate for similar roadways; and/or
- Topography and horizontal or vertical roadway alignment result in inadequate left-turn intersection sight distance and it is impractical to relocate or reconstruct the connecting approach road or impractical to reconstruct the highway to provide adequate sight distance.



Minimum Driveway Spacing
- 75 feet
- 100 feet
- 225 feet
- 300 feet

Ownership
- CITY
- COUNTY
- ODOT

Access Spacing Standards

Figure 10-2

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Policy #22 (L22) Alternative Mobility Standards on State Highways

Alternative mobility standards are not needed within the horizon year (2035) of the current TSP update. However, there are two locations within Ashland where alternative mobility standards will be useful to the City to provide additional flexibility as development occurs. It should be noted that the Oregon Transportation Commission (OTC) must approve the alternative mobility standards for them to take effect. The City will pursue alternative mobility standards (resulting in a higher volume-to-capacity ratio operations standard) for:

- **N Main Street (OR 99) from Helman Street to the northern Urban Growth Boundary** – The City will pursue alternative mobility standards for intersections along this roadway segment as a means to protect their potential investment in a road diet. Alternative mobility standards for the Maple Street/N Main Street (OR 99) intersection of a volume-to-capacity ratio of 1.0 and unsignalized intersections along this roadway segment would allow for higher volume-to-capacity ratios making it easier to sustain the road diet cross-section and smaller intersection footprints. *The Laurel Street/N Main Street (OR 99) and Hersey Street – Wimer Street/N Main Street (OR 99) intersections are forecasted to meet the current mobility standards assuming a signal is installed at the Hersey Street – Wimer Street/N Main Street (OR 99) intersection in the future.*
- **Ashland Street (OR 66)/Tolman Creek Road Intersection** – The City will pursue an alternative mobility standard of a volume-to-capacity ratio of 0.90. *This intersection is currently forecasted to meet mobility standards in 2034. However, if development in the surrounding areas were to occur at a rate faster than anticipated, an alternative mobility standard of volume-to-capacity ratio of 0.90 would help mitigate the need to increase the size of the intersection. Keeping the intersection footprint at its current size supports the Pedestrian Places planning activities.*

Establishing alternative mobility standards for intersections along these roadway segments will provide the City more flexibility in the future with regards to how funds are allocated for intersection and roadway improvements (Goal 4) by allowing funds to be focused on higher priority multi-modal improvements rather than auto-focused improvements at locations that are operating below capacity but over the ODOT standard.

Policy # 23 (L23) Transportation System Management (TSM)

As feasible, the City of Ashland will integrate the Transportation System Management (TSM) strategies below (see the subsections below) into transportation corridor studies and projects in cooperation with ODOT (ODOT manages many of traffic signals on the primary corridors in Ashland, which are OR 66 and OR 99).

TSM strategies include a wide variety of measures aimed at improving operations of existing transportation facilities. TSM measures can be focused on improving transportation "supply" through enhancing capacity and efficiency, typically with advanced technologies to improve traffic operations. Or they may be focused on reducing transportation demand, through promoting travel options and ongoing programs intended to reduce demand for drive alone trips, especially during peak travel periods.

Signal Retiming/Optimization

Signal retiming and optimization refers to updating timing plans to better match prevailing traffic conditions and coordinating signals. Timing optimization can be applied to existing systems or may include upgrading signal technology, including signal communication infrastructure or signal controllers or cabinets. Signal retiming can reduce travel times and be especially beneficial to improving travel time reliability.

Signal retiming could also be implemented to improve or facilitate pedestrian movements through intersections by increasing minimum green times to accommodate pedestrian crossing movements during each cycle in high pedestrian or desired pedestrian traffic areas, eliminating the need to push pedestrian crossing buttons. Bicycle movements could be facilitated by installing bicycle detection along existing or proposed bicycle routes. Signal upgrades often come at a higher cost and usually require further coordination between jurisdictions.

Advanced Signal Systems

Advanced signal systems incorporate various strategies in signal operations to improve the efficiency of a transportation network. Strategies may include coordinated signal operations across jurisdictions as well as centralized control of traffic signals. Advanced signal systems can reduce delay, travel time and the number of stops for vehicles, while potentially increasing average vehicle speed. In addition, these systems may help reduce vehicle emissions and have a high impact on improving travel time reliability. OR 66 and OR 99 are the primary corridors in the City of Ashland where advanced signal system strategies may be applicable.

Advanced signal systems may be applied to several innovative control strategies. The costs of these systems vary as a function of the types of controllers, programming needs and detection needs. Implementing any of these systems would require coordination with ODOT. Alternative signal systems include:

- **Adaptive or active signal control** systems improve the efficiency of signal operations by actively changing the allotment of green time for vehicle movements and reducing the average delay for vehicles. Adaptive or active signal control systems require several vehicle detectors at intersections in order to detect traffic flows adequately, in addition to hardware and software upgrades.

- **Traffic responsive control** uses data collected from traffic detectors to change signal timing plans for intersections. The data collected from the detectors is used by the system to automatically select a timing plan best suited to current traffic conditions. This system is able to determine times when peak-hour timing plans begin or end; potentially reducing vehicle delays.
- **Transit signal priority** systems use sensors to detect approaching transit vehicles and alter signal timings to improve transit performance. This improves travel times for transit, reliability of transit travel time, and overall attractiveness of transit.
- **Truck signal priority** systems use sensors to detect approaching heavy vehicles and alter signal timings to improve truck freight travel. While truck signal priority may improve travel times for trucks, its primary purpose is to improve the overall performance of intersection operations by clearing any trucks that would otherwise be stopped at the intersection and subsequently have to spend a longer time getting back up to speed. Implementing truck signal priority requires additional advanced detector loops, usually placed in pairs back from the approach to the intersection.

Policy #24 (L24) Traffic Calming

Traffic calming elements will be integrated as appropriate into transportation improvement projects particularly those taking place on designated Safe Routes to School routes, within a quarter-mile walking distance from a school, and within a quarter-mile walking distance of a transit stop. The following traffic calming elements are the City's preferred traffic calming tools to be considered. The measures below can be modified as needed on a case-by-case installation such that they will not prohibit or degrade the City's ability to conduct winter maintenance activities such as snow removal.

Curb Extensions

Curb extensions create additional space for pedestrians and allow pedestrians and vehicles to better see each other at crosswalks. Curb extensions are typically installed at intersections along roadways with on-street parking and help reduce crossing distances and the amount of exposure pedestrians have to vehicle traffic. Curb extension also narrow the vehicle path, slow down traffic, and prohibit fast turns.

Advantages to curb extensions include:

- Shorter crossing distances for pedestrians;
- Reduces the speed of turning vehicles;

- Increases visibility between pedestrians and motorists;
- Enables permanent on-street parking; and
- Enables landscaping and green street treatments.

Challenges regarding curb extensions include:

- Physical barrier exposed to traffic and therefore requires distinctive visible attributes such as landscaping;
- Reduced turning radii may impact truck circulation in some areas;
- Increased cost and time to install relative to traditional curb returns; and
- Retrofit installments may require changes to roadway drainage system.

Raised Median Islands

Raised median islands provide a protected area in the middle of a crosswalk for pedestrians to stop while crossing the street. The raised median island allows pedestrians to complete a two-stage crossing if needed. The _ODOT Traffic Manual_ states that for state highways a raised median, in combination with a marked crosswalk is desired when average daily traffic (ADT) volumes are greater than 10,000.

Advantages of raised medians include:

- Improves visibility of crossing to approaching motorists;
- Helps slow vehicle speeds by providing a sense of a narrower roadway to motorists;
- Provides a protected place for pedestrians to wait for a gap in traffic;
- Requires shorter gap in traffic for pedestrians to cross the street; and
- Effective for creating a gateway or entry type treatment into an area of high pedestrian activity.

Challenges to implementing raised medians include:

- Raised median must be able to provide at least six-feet of space to accommodate wheel chairs and not streets have sufficient right-of-way; and
- Places a physical barrier in the street and therefore requires distinctive visible attributes such as landscaping and signs.

Raised Crosswalk

A raised crosswalk is raised higher than the surface of the street to give motorists and pedestrians a better view of the crossing area. A raised crosswalk is similar to a speed table marked and signed for pedestrian crossing.

Advantages of a raised crosswalk include:

- Provides better view of pedestrians for motorists;
- Slows vehicle travel speeds; and
- Applicable on arterial and collector streets (i.e., Avenues, Neighborhood Collectors and potentially Boulevards in Ashland).

Challenges to implementing raised crosswalks include:

- Can be difficult for large trucks, snow plows, and buses to navigate; and
- Requires adequate signing on the approach to inform motorists of raised roadway.

Rectangular Rapid Flashing Beacon

Rectangular Rapid Flashing Beacons, or RRFBs, are user-actuated amber lights that have an irregular flash pattern similar to emergency flashers on police vehicles. These supplemental warning lights are used at unsignalized intersections or mid-block crosswalks to improve safety for pedestrians using a crosswalk.

Advantages of using rectangular rapid flashing beacons include:

- Typically increases yielding behavior of motorists;
- May be used at unsignalized intersections and mid-block crossing locations;
- May be installed on two-lane or multilane roadways;

  Low cost alternatives to traffic signals and hybrid signals.

Challenges to implementing rectangular rapid flashing beacons include:

- Flashing beacons do not force motorists to yield;
- Pedestrians may not activate flashing lights.

Pedestrian Hybrid Signal

The pedestrian hybrid signal is a pedestrian-actuated hybrid signal that stops traffic on the mainline to provide a protected crossing for pedestrians at an unsignalized location. Warrants for the installation of pedestrian-actuated hybrid signal are based on the number of pedestrian crossings per hour (PPH), vehicles per hour on the roadway, and the length of the crosswalk. Thresholds are available for two types of roadways: locations where prevailing speeds are above 35 mph and locations where prevailing speeds are below 35 mph.

Advantages of implementing pedestrian hybrid signals include:

- Produce a high rate of motorists yielding to pedestrians; and
- Drivers experience less delay at hybrid signals compared to other signalized intersections.

Challenges to implementing pedestrian hybrid signals include:

- Expensive compared to other crossing treatments; and
- Requires pedestrian activation.

Mini-Roundabouts

Mini-roundabouts are round islands positioned in the center of intersections. Drivers must turn around them to continue along a street. This turning maneuver encourages slow speeds without requiring drivers to come to a complete stop at the intersection. The intersection approaches are YIELD – controlled.

Advantages to implementing mini-roundabouts include:

- Effective at slowing vehicle speeds through intersections;
- Eliminate severe conflict points that can lead to sever crashes (e.g., turning crashes, opposite direction crashes, and angle crashes);
- If located at the highest point in the street's cross section, constructing mini-roundabouts can be relatively inexpensive because the high cost of adjusting stormwater drains can be avoided; and
- Relatively simple design and are also simple to construct; thus a basic set of standard drawings and construction specifications could be developed to keep design and construction costs to a minimum.

Challenges to implementing mini-roundabouts include:

- Intersection needs to be designed to accommodate large vehicles and emergency vehicles;
- Design also needs to consider winter maintenance activities such as snow removal and movement of snow plows;
- Crosswalks at the intersection may need to be moved away from the intersection to make sure pedestrian crossing areas and vehicle maneuvering areas do not overlap; and
- On-street parking must be prohibited in the vicinity of the mini-roundabout to create vehicle maneuvering space.

Planting Strips

Planting strips narrow the width of streets by moving curbs away from sidewalks to create space for native street trees and ground cover and/or decorative rock.

Advantages for planting strips include:

- Narrows the roadway and provides a place for adding planting strips
- Creates a buffer between roadways and sidewalks while still retaining enough roadway width for traffic and all existing on-street parking;
- Moves traffic farther from adjacent businesses, schools, homes and front yards;
- Reduces motor vehicle speeds, and provides shade to reduce heat absorption from streets; and
- Stormwater can be readily integrated into the design and construction of planting strips through green street treatments.

Challenges associated with implementing planting strips include:

- Construction costs particularly for retrofits can be relatively high, because it may require modifications to the existing drainage system.
- Maintenance responsibility is typically turned over to the adjacent property owner(s).
- In residential areas, the choice of landscaping and the quality of its maintenance varies in quality from home owner to home owner.
- Opportunities to implement this treatment are constrained by the location, design of existing storm drains, and location of low elevations where stormwater can collect.

Policy #26 (L26) Eagle Mill Road

The City of Ashland supports the use of Eagle Mill Road as an Alternative Bypass Route of the downtown area from the I-5/Valley View Road interchange. The City of Ashland encourages Jackson County to make improvements to Eagle Mill Road on a similar timeframe to the City's Nevada Street Extension project.

Study #3-9 (S3 through S10) Intersection and Roadway Plan Studies

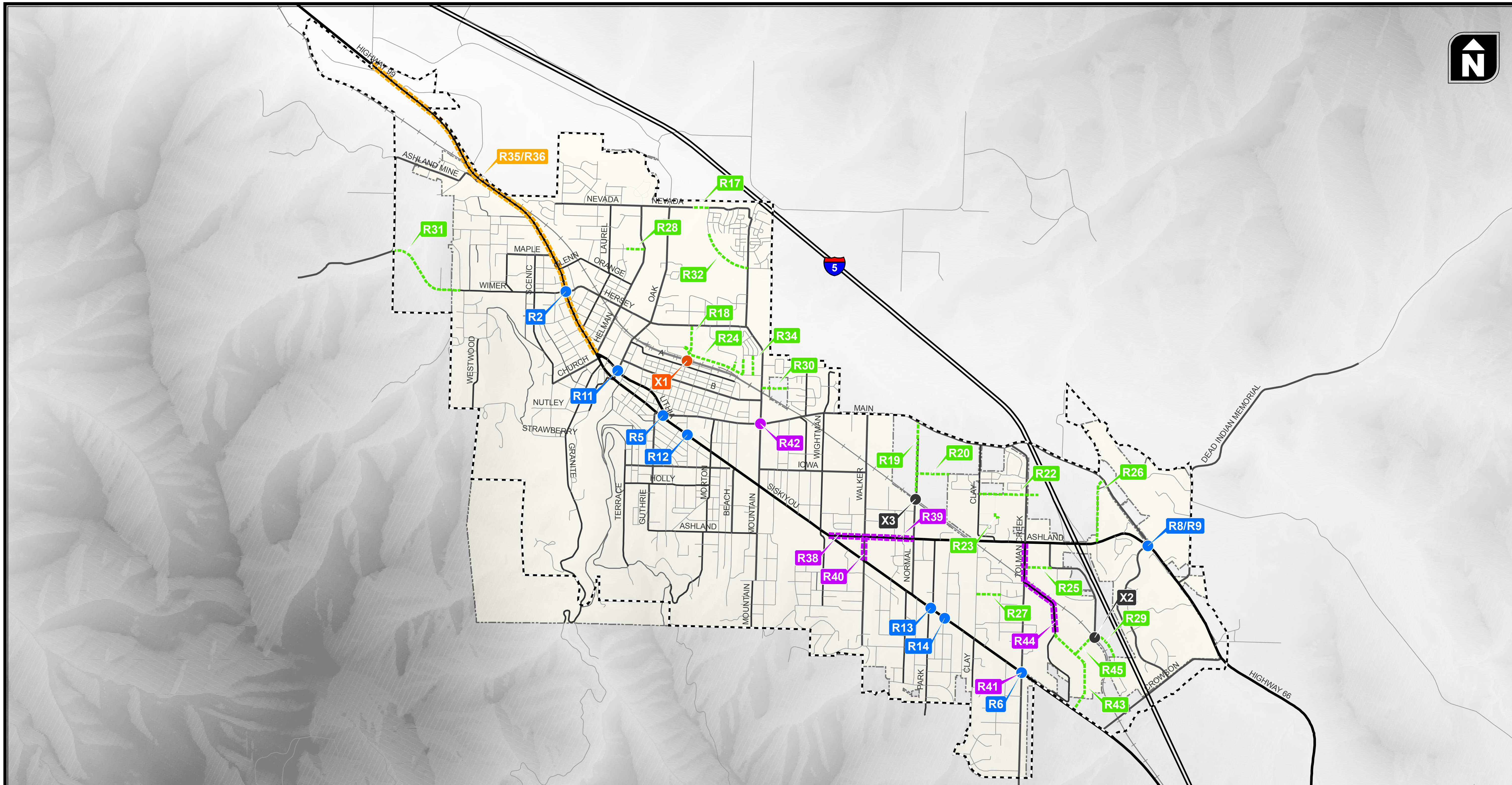
Table 10-2 summarizes the preferred plan intersection and roadway related studies. *Additional explanation regarding why the Study #7 (S7) was identified follows Table 10-2.*

Table 10-2 Refinement Plan Studies

(Study #) Study Name	Description	Priority (Timeline)	Cost
(S3) N Main Street (OR 99) from Helman Street to Sheridan Street	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Medium (5-15 years)	$75,000
(S5) Siskiyou Boulevard from Ashland Street to Tolman Creek Road	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Medium (5-15 years)	$75,000
(S6) Ashland Street (OR 66) from Siskiyou Boulevard to Tolman Creek Road	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Medium (5-15 years)	$75,000
(S7) E Main Street from Siskiyou Boulevard to Wightman Street	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Low (15-25 Years)	$75,000
(S9) Ashland Street (OR 66) Safety Study	Conduct a transportation safety assessment in five years along Ashland Street (OR 66) between Clay Street and Washington Street to identify crash trends and/or patterns (if they exist) as well as mitigations to reduce crashes.	Medium (5-15 years)	$20,000
(S10) Siskiyou Boulevard Pedestrian Crossing Evaluation and Feasibility Study	Evaluate the feasibility and costs associated with providing enhanced pedestrian crossing treatments at the Wightman-Indiana/Siskiyou Boulevard intersection.	High (0-5 years)	$20,000
		Total	**$340,000**

Intersection Projects, New Roadways, and Roadway Extensions

Table 10-3 summarizes the preferred plan intersection projects, new roadways, and roadway extension projects. Figure 10-3 illustrates the location of these projects. *Appendix A contains the prospectus sheets for all preferred plan projects; the prospectus sheets provide more detail regarding the project location, description, and images illustrating the vision for the completed project.*



- Proposed New At-Grade Ped/Bike Rail Crossing
- Proposed New At-Grade Rail Crossing
- Planned Intersection Projects
- Planned Streetscape Projects
- Planned Streetscape Projects
- Planned Road Diet
- Planned Roadway Projects
- XX Project Number

Planned Intersection and Roadway Projects

Figure 10-3

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Table 10-3 Preferred Plan Intersection and Roadway Projects

(Project #) Name	Description	Reasons for the Project	Priority (Timeline)	Cost2
(R2) N Main Street (OR 99)/Wimer Street-Hersey Street Intersection Improvements	Install a traffic signal at the intersection once MUTCD traffic volume or MUTCD crash warrants are met	Improve Safety, Improve Operations	Low (15-25 Years)	$300,000
(R5) Siskiyou Boulevard (OR 99)-Lithia Way (OR 99 NB)/E Main Street Intersection Improvements	Improve visibility of signal heads. Identify and install treatments to slow vehicles on northbound approach	Improve Safety	High (0-5 Years)	$50,000
(R6) Siskiyou Boulevard (OR 99)/Tolman Creek Road Intersection Improvements	Conduct a speed study. Identify and install speed reduction treatments on northbound approach	Improve Safety	High (0-5 Years)	$61,000
(R8) Ashland Street (OR 66)/Oak Knoll Drive-E Main Street Intersection Improvements	Realign E Main Street approach to eliminate offset and install speed reduction treatments	Improve Safety	High (0-5 Years)	$76,000
(R9) Ashland Street (OR 66)/Oak Knoll Drive-E Main Street Intersection Improvements	Install a roundabout[1]	Improve Safety, Gateway to Urban Area	Low (15-25 Years)	$3,150,000
(R11) Lithia Way (OR 99 NB)/Oak Street Intersection Improvements	Install a traffic signal	Improve Operations	Low (15-25 Years)	$200,000
(R12) Siskiyou Boulevard (OR 99)/Sherman Street Intersection Improvements	Realign Sherman Street approach to eliminate offset	Improve Street Continuity	Development Driven	$196,000
(R13) Siskiyou Boulevard (OR 99)/Park Street Intersection Improvements	Realign Park Street approach to eliminate offset	Reduce Conflicts, Improve Street Continuity	Development Driven	$296,000
(R14) Siskiyou Boulevard (OR 99)/Terra Avenue-Faith Avenue Intersection Improvements	Realign Faith Avenue approach to eliminate offset	Reduce Conflicts, Improve Street Continuity	Development Driven	$216,000
(R17) East Nevada Street Extension	Extend Nevada Street from Bear Creek to Kestrel Parkway	Balance Mobility and Access	High (0-5 Years)	$,2,261,000
(R18) 4th Street Extension	Extend 4th Street from A Street to Hersey Street; Coordinate with Project X1.	Balance Mobility and Access	Low (15-25 Years)	$897,000
(R19) Normal Avenue Extension	Extend Normal Avenue to E Main Street; Coordinate with Project X3	Balance Mobility and Access	Medium (5-15 Years)	$2,705,000
(R20) Creek Drive Extension	Extend Creek Drive from Meadow Drive to Normal Avenue Coordinate with IAMP Exit 14 Access Management on Ashland Street (OR 66)	Balance Mobility and Access	Development & Access Management Driven	$1,012,000
(R22) New Roadway (B)	Construct a New Roadway from Clay Street to property Northwest of Exit 14 Southbound Off Ramps if and when Tolman Creek Road Manufactured Park property is redeveloped. Coordinate with IAMP Exit 14 Access Management on Ashland Street (OR 66) and Surrounding Development	Facilitate Economic Growth Balance Mobility and Access	Development & Access Management Driven	$1,867,000
(R23) New Roadway (C)	Construct a New Roadway from McCall Drive to Engle Street	Facilitate Economic Growth Balance Mobility and Access	Development & Access Management Driven	$251,000
(R24) Clear Creek Drive Extension	Construct a New Roadway Connecting the Two Existing Segments of Clear Creek Drive providing a continuous east-west roadway between Oak Street and N Mountain Avenue	Facilitate Economic Growth Balance Mobility and Access	Development & Access Management Driven	$2,097,000

(R25) Washington Street Extension to Tolman Creek Road	Extend Washington Street to Tolman Creek Road. This is a City funded project; not developer driven. Coordinate with IAMP Exit 14 Access Management on Ashland Street (OR 66) and Surrounding Development	Facilitate Economic Growth Balance Mobility and Access	High (0-5 Years)	$1,015,000
(R26) New Roadway (D)	Construct a New Roadway from E Main Street to Ashland Street (OR 66) Coordinate with IAMP Exit 14 Access Management on Ashland Street (OR 66) and Surrounding Development	Facilitate Economic Growth Balance Mobility and Access	Development & Access Management Driven	$2,329,000
(R27) Grizzly Drive Extension	Extend Grizzly Drive from Jacquelyn Street to Clay Street	Balance Mobility and Access	Development Driven	$767,000
(R28) Mountain View Drive Extension	Extend Mountain View Drive from Parkside Drive to Helman Street	Balance Mobility and Access	Development Driven	$587,000
(R29) Washington Street Extension to Benson Way	Extend Washington Street to Benson Way	Facilitate Economic Growth Balance Mobility and Access	Development Driven	$1,153,000
(R30) Kirk Lane Extension	Extend Kirk Lane to N Mountain Avenue	Balance Mobility and Access	Development Driven	$842,000
(R31) Wimer Street Extension	Extend Wimer Street to Ashland Mine Road	Balance Mobility and Access	Development Driven	$3,125,000
(R32) Kestrel Parkway Extension	Extend Kestrel Parkway to N Mountain Avenue at Nepenthe Road	Balance Mobility and Access	Development Driven	$1,764,000
(R34) Railroad Property Development	Extend Existing Adjacent Streets to Provide Connectivity within, to and from the property	Facilitate Economic Growth Balance Mobility and Access	Development Driven	$1,372,000
(R35) N Main Street Temporary Road Diet	Implement a temporary road diet on N Main Street. Temporary road diet includes converting N Main Street to a two-lane roadway with a two-way center turn lane and bicycle lanes in both directions	Improve Safety, Balance Mobility and Access	High (0-5 Years)	$160,000
(R36) N Main Street Implement Permanent Road Diet	Convert temporary road diet to permanent installation, which includes, at a minimum, signal modifications to the N Main Street/Maple Street and the N Main Street/Laurel Street intersections	Improve Safety, Balance Mobility and Access	Medium (5-15 Years)	$200,000
(R38) Ashland Street Streetscape Enhancements (Siskiyou Boulevard to Walker Avenue)	Widen and reconstruct sidewalks with street trees, stormwater planters and bus shelters. Ashland Street/Walker Avenue intersection enhancements to include concrete crosswalks, paving, and ornamental lights.	Support Pedestrian Places Planning	Medium (5-15 Years)	$1,100,000
(R39) Ashland Street Streetscape Enhancements (Walker Avenue to Normal Avenue)	Widen and reconstruct sidewalks with street trees, stormwater planters and bus shelters.	Support Pedestrian Places Planning	Development Driven	$1,300,000
(R40) Walker Avenue Festival Street (Siskiyou Boulevard to Ashland Street)	Street reconstruction with flush curbs and scored concrete roadway surface. Sidewalk treatments to include decorative bollards to delineated pedestrian space, street trees, LID stormwater facilities and ornamental lighting.	Support Pedestrian Places Planning	High (0-5 Years)	$780,000
(R41) Ashland Street/Tolman Creek Road Streetscape Enhancements	Widen and reconstruct sidewalks with street trees, stormwater planters and bus shelters. Ashland Street/Tolman Creek Road intersection enhancements to include concrete crosswalks, paving, and ornamental lights.	Support Pedestrian Places Planning	Development Driven	$1,500,000
(R42) E Main Street/N Mountain Avenue Streetscape Enhancements	Widen and reconstruct sidewalks with street trees, stormwater planters and bus shelters. E Main Street/N Mountain Avenue	Support Pedestrian Places Planning	Development Driven	$1,500,000

	intersection enhancement with concrete crosswalks and paving, and ornamental lights.			
(R43) New Roadway (E)	Construct a new roadway from Mistletoe Road to Siskiyou Boulevard (OR 99) consistent with the Croman Mill District Plan	Facilitate Economic Growth Balance Mobility and Access	Development Driven	$4,236,000
(R44) Tolman Creek-Mistletoe Road Streetscape Enhancements	Widen and reconstruct sidewalks with street trees, stormwater planters and bus shelters.	Support Pedestrian Places Planning	Development Driven	$3,478,000
(R45) New Roadway (F)	Construct a new roadway from Washington Street to New Roadway (E) consistent with the Croman Mill District Plan. Coordinate with Project X2.	Facilitate Economic Growth Balance Mobility and Access	Development Driven	$998,000
High Priority (0-5 Years)				$4,403,000
Medium Priority (5-15 Years)				$4,005,000
Low Priority (15-25 Years)				$4,547,000
Development Driven				$30,886,000
Total				**$43,841,000**

Notes:

[1]Initial roundabout operations analysis and high-level feasibility assessment were performed to confirm a roundabout appears physically and operationally feasible. A more detailed preliminary roundabout design and study should be conducted before activities such as right-of-way acquisition and/or developing detailed design plans.

It should also be noted that in November 2008, the State Traffic Engineer issued a directive to ODOT staff to consider a roundabout as an alternative whenever a traffic signal was being considered on the state highway system. However, in March 2011, ODOT issued updated guidance to staff that no roundabouts should be approved or designed by staff on the state highway system due to concerns raised by the trucking industry. Subsequently, the requirement previously issued to evaluate roundabouts as an alternative to traffic signals was temporarily lifted. Currently, ODOT is awaiting the results of a study being led by the Kansas Department of Transportation evaluating the effects of roundabouts on oversized loads. Upon completion of that study, the agency has indicated that the current prohibition of roundabouts on the state system will be reconsidered.

[2]Cost estimates are for engineering and construction costs. They do not include right-of-way. They are rounded to the nearest thousand dollars.

The projects in Table 10-3 and Figure 10-3 were identified based on input received from the PMT, TAC, PC, and .The intersection projects were also developed based on the 2034 future conditions analysis results, safety analysis results, and planning-level feasibility assessments (e.g., is a roundabout physically possible, could the street actually be realigned given adjacent historic structures). The new roadway and roadway extension projects were identified from previous and/or related plans such as the 1998 TSP, the unadopted 2007 TSP update, and the Interchange Area Management Plan (IAMP) for Exit 14. The projects identified to support pedestrian places were documented as part of the Pedestrian Places planning activities. The Pedestrian Places planning is discussed further in the following section.

Railroad Crossing Projects

Table 10-4 summarizes the preferred plan railroad crossing projects. They include one existing crossing upgrade and two new railroad crossing locations. Figure 10-3 illustrates the location of these railroad crossings. *Appendix A contains the prospectus sheets for all preferred plan projects; the prospectus sheets provide more detail regarding the project location, description, and images illustrating the vision for the completed project.*

Currently under Federal and ODOT rail policy, the City would need to close an existing at-grade crossing or go through a potentially timely and costly rail order process to obtain an additional new public crossing within Ashland. The City will pursue all possible alternatives to closing existing at-grade crossings including exceptions to the policies based on the low projected train volumes (currently none) and will consider grade separation of future crossings.

Table 10-4 Railroad Crossing Projects

(Project #) Name	Description	Reasons for the Project	Priority (Timeline)	Cost2
(X1) 4th Street At-Grade Railroad Crossing	Pursue a New At-Grade Ped/Bike Railroad Crossing at 4th Street. Coordinate with Project R18.[1]	Improve North-South Connectivity	Development Driven	$275,000
(X2) Washington Street At-Grade Railroad Crossing	Pursue a New At-Grade Railroad Crossing at Washington Street as Part of the Croman Mill Site Development. Coordinate with project R45.[1]	Facilitate Economic Growth, Balance Mobility and Access	Development Driven	$1,000,000
(X3) Normal Avenue At-Grade Railroad Crossing Upgrade	Upgrade Existing At-Grade Railroad Crossing at Normal Avenue to Public Crossing Standards. Coordinate with Project R19.[1]	Improve North-South Connectivity, Balance Mobility and Access	Medium (5-15 Years)	$750,000
High Priority (0-5 Years)				-
Medium Priority (5- 15 Years)				$750,000
Low Priority (15- 25 Years)				-
Development Driven or Driven by Need based on Rail Order Outcomes				$1,275,000
Total				$2,025,000

Notes:

[1]Currently under Federal and ODOT rail policy, the City would need to close an existing at-grade crossing or go through a potentially timely and costly rail order process to obtain an additional new public crossing within Ashland. The City will pursue all possible alternatives to closing existing at-grade crossings including exceptions to the policies based on the low projected train volumes (currently none) and will consider grade separation of future crossings.

[2]Planning level cost estimates are for construction and engineering of at-grade crossings and do not include right-of-way costs.

Section 11 Pedestrian Places

PEDESTRIAN PLACES

Pedestrian Places are small walkable nodes that provide a concentration of gathering places, housing, businesses, and pedestrian amenities grouped in a way to encourage more walking, bicycling, and transit use. The land uses and buildings in and around Pedestrian Places are typically a mix of housing and services to provide a variety of places within easy walking distance. Amenities may include plazas, bus shelters, shade and seating, drinking fountains, public art, landscaping, information displays, and bicycle parking. Pedestrian Places can help create vibrant, livable places where people congregate and can function as neighborhood centers.

Incorporating projects into the preferred plan to support the Pedestrian Places planning is a unique opportunity to satisfy complementary objectives:

- Reduce travel trips by car;
- Create momentum for enhanced transit, pedestrian, and bicycle facilities;
- Establish an implementation strategy for coordinating public and private actions that includes updates to zoning and ordinances;
- Identify changes in transportation funding that directly affect private development; and
- Encourage more affordable housing choices.

The following subsections provide an overview of the concept plans for the pedestrian places, discuss key elements for successful pedestrian places and present implementation considerations.

Concept Plans

The selected locations for the conceptual planning studies are at the intersections of N Mountain Avenue/E Main Street, Ashland Street/Tolman Creek Road, and Ashland Street/Walker Avenue. Great Streets, gathering places, new shops/offices, transit improvements, and new and public art opportunities were set out as the building blocks for these places. The study areas included an approximate 5-minute walk area surrounding the intersections. A vision statement was developed and neighborhood development and connectivity opportunities were identified.

A conceptual development plan for an individual parcel was developed for each location. The intent of the plans was threefold. First, they illustrate one possible expression of the building blocks of pedestrian-oriented design that were established at the first community workshop. A number of other design concepts could also be built from those blocks. Second, they explored whether or not transit-supportive densities could be achieved and with assumptions about parking, building height, and size of residential uses. Lastly, the concepts helped shed light on any changes to current zoning and ordinances that might support or hinder any of the opportunity sites identified within the selected areas. The plans should not be taken as specific or imminent development proposals or as architectural design recommendations subject to current planning approval. The concept plans for each of the three pedestrian places include opportunity sites for redevelopment.

A brief concept overview is provided below for each Pedestrian Place.

Mountain/Main

Create a neighborhood center that encourages the growth of an arts community to complement the civic uses, school uses and the historic neighborhood that surround the center. Land use strategies that will support that vision might include adaptive reuse of the existing Art Academy and of an historic home. Reuse could provide small gallery and workshop spaces, and provide community educational opportunities for the arts. Another supportive strategy would be affordable in-fill housing as apartments and live/work spaces. Both of these housing choices appeal to artists, younger educators and other new residents that will contribute this kind of neighborhood community. Exhibits 11-1 through 10-4 illustrate some of the concepts developed for Mountain/Main Pedestrian Place.

Exhibit 11-1 Mountain/Main Pedestrian Place Concepts

Exhibit 11-2 Mountain/Main Pedestrian Circulation

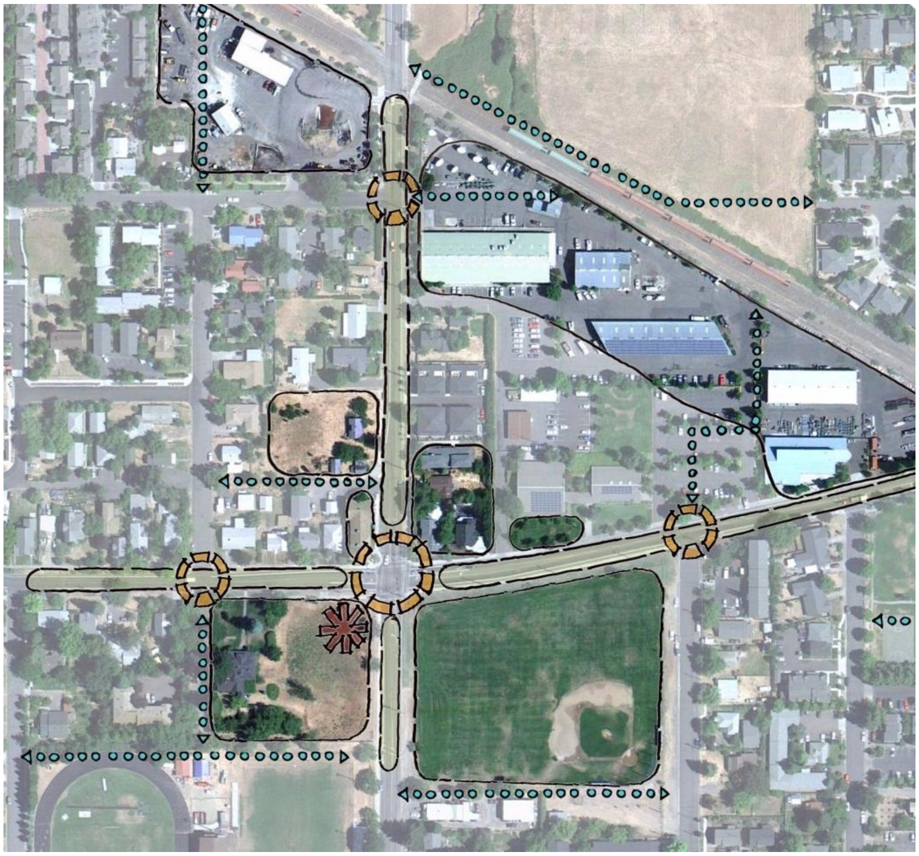


Exhibit 11-3 N Mountain Avenue Cross Section

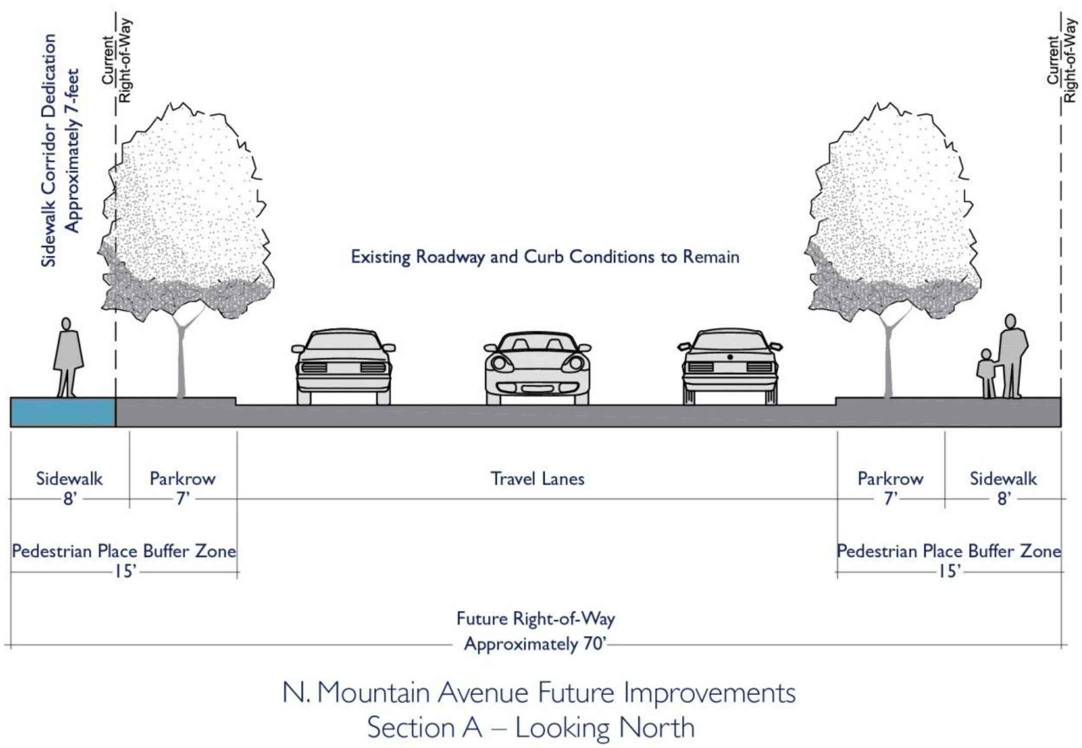
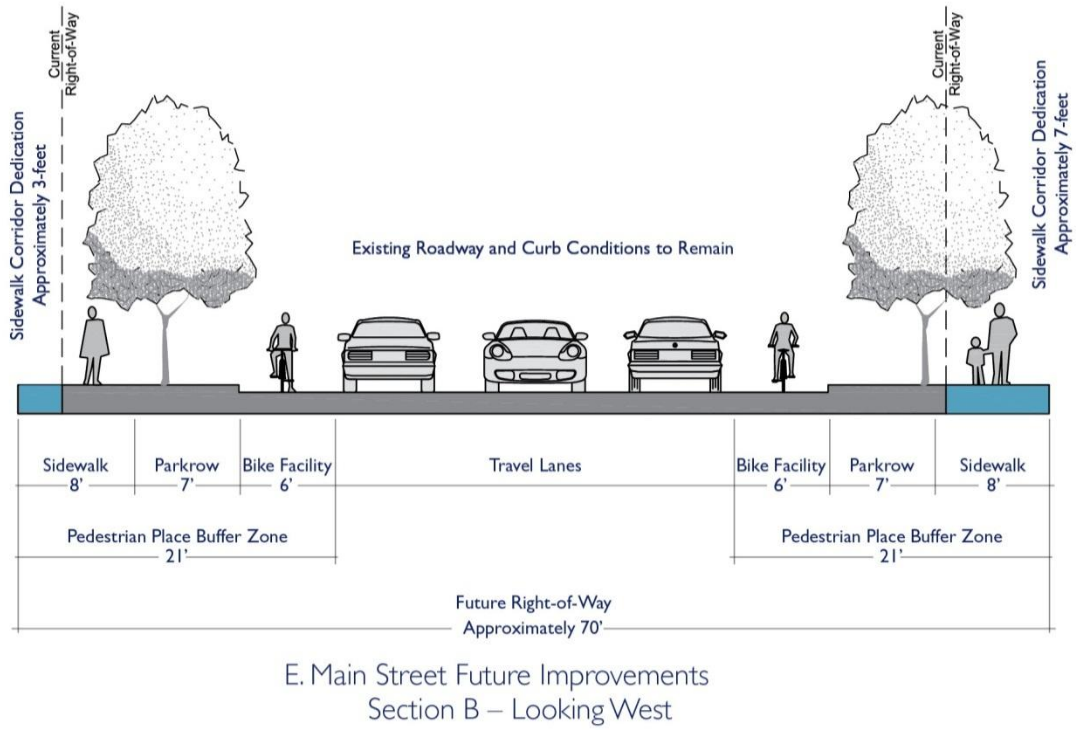


Exhibit 11-4 E Main Street Cross Section



The neighborhood center also needs a more complete and continuous grid of walking routes connecting people to the Pedestrian Place. Those routes are not necessarily new local streets. They could be multiuse pathways for pedestrians and bikes or alleys that are part of new in-fill housing plans.

Walker/Ashland

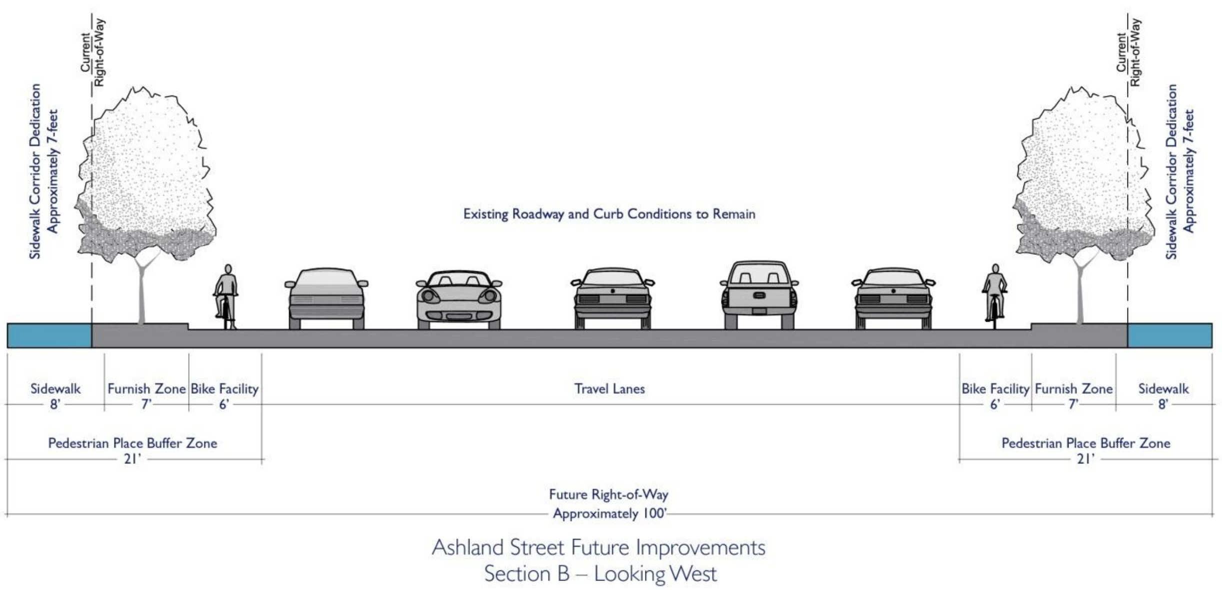
Create a complete and compact university district 'hub' that complements the SOU Master Plan for additional student housing. From a development perspective, this is a long-term vision requiring time and a favorable set of market and financing conditions, along with some stimulus from implementation of the SOU Master Plan. Elements of the hub could be greatly enhanced streetscape for both Walker Avenue and Ashland Street, and redevelopment that ultimately results a well-designed cluster of retail and entertainment uses with affordable housing choices. Exhibits 11-5 through 11-8 illustrate some of the concepts developed for Ashland/Walker Pedestrian Place.

Exhibit 11-5 Walker/Ashland Pedestrian Place Concepts

Exhibit 11-6 Walker/Ashland Pedestrian Circulation

Exhibit 11-7 Walker/Ashland Pedestrian Circulation (cont.)

Exhibit 11-8 Ashland Street Cross Section



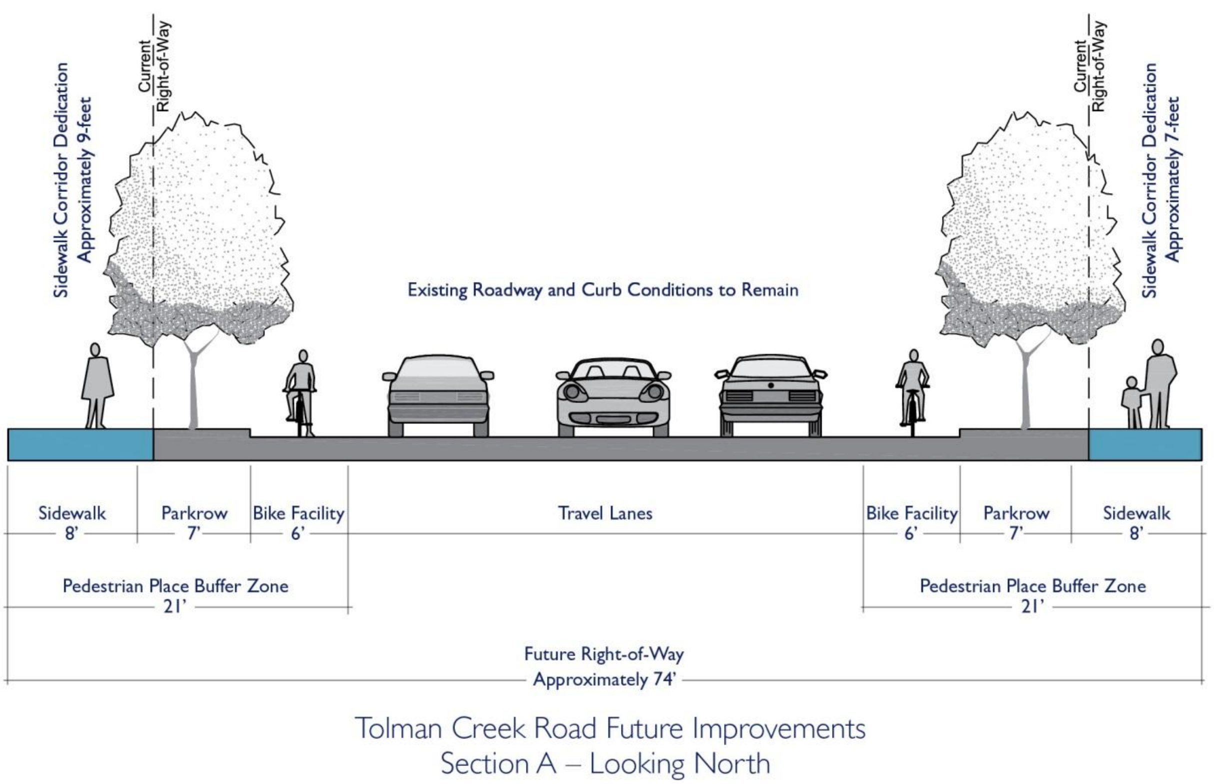
Tolman/Ashland

Creating a Pedestrian Place here will require strategies for overcoming the context of a major arterial street leading directly to the freeway, fast moving traffic and large surface parking lots – each of which is unfriendly to pedestrians. That unfriendliness is reflected in relatively low levels of pedestrian activity today. Improvements to the street edges, in the form of sidewalk corridors with more a complete and attractive palette of streetscape elements will be an important starting point. Exhibits 11-9 through 11-11 illustrate some of the concepts developed for Ashland/Tolman Pedestrian Place.

Exhibit 11-9 Tolman/Ashland Pedestrian Place Concepts

Exhibit 10-10 Tolman/Ashland Pedestrian Circulation

Exhibit 11-11 Tolman Road Cross Section



As redevelopment occurs over time, a good strategy would be to encourage a better balance between the viable commercial uses there today and housing located very near to the intersection. Development of mixed use projects, combining residential choices such as apartments or condominiums, with smaller scale retail or office uses will significantly alter the pedestrian environment. People living there will increase the observed walking activity and provide the presence of other people around you during both daytime and nighttime hours.

Key Characteristics for Success

The following discuss some of the key pedestrian places characteristics that will help contribute to their success as centers of activity facilitating economic growth in a sustainable and multimodal manner.

Transit-Supportive Characteristics

For the individual parcels studied, achieving densities supportive of frequent bus service was an important criterion. The results were encouraging with regard to potentially increasing ridership and creating a more comfortable environment for transit riders to wait for and board the bus.

Increased Ridership

The threshold density for frequent bus service would be met and exceeded with two-story residential and mixed-use buildings. The achievable densities would range from approximately 22 dwelling units/acre to 30 dwelling units/acre. Those densities are consistent with current zoning for the parcels studied.

Enhanced Transit Environment

High-quality bus stop environments would be created through the generous passenger waiting areas, shelters and other passenger amenities, zero set-back for buildings, front doors and display windows, and the potential for small shops that may occasionally meet other needs of transit riders. Increased walking connectivity will also encourage transit use.

Transit-Supportive Corridors

Redevelopment of a single parcel will not achieve the overall ridership potential to change the level of transit service. Housing density supportive of transit would need to be present throughout a 5- to 10-minute walking area of the stop. With closely spaced bus stops, these areas overlap, suggesting that increasing average density throughout the corridor may be the metric to address. However, a full analysis of transit ridership potential needs to also consider demographic and income factors.

Designing the Public Realm

The concept of a Pedestrian Places integrates land use and transportation planning through emphasizing the importance of the 'public realm'. The public realm is more than what lies within the strict confines of the street right-of-way. It is all the exterior places, linkages, and built elements that can be physically and visually accessed from the street and from the building entries fronting the street. These places, linkages, and elements are all subject to design. They will affect how comfortable, safe, and appealing the street is for its intended users.

Implementation

From a transportation perspective, implementation of the Pedestrian Places includes the projects in the public right-of-way listed below. These implement the cross sections and circulation plans identified above.

- (R25) Washington Street Extension to Tolman Creek Road
- (R38) Ashland Street Streetscape Enhancements from Siskiyou Boulevard to Walker Avenue
- (R39) Ashland Street Streetscape Enhancements from Walker Avenue to Normal Avenue
- (R40) Walker Avenue Festival Street from Siskiyou Boulevard to Ashland Street
- (R41) Ashland Street/Tolman Creek Road Streetscape Enhancements
- (R42) E Main Street/N Mountain Avenue Streetscape Enhancements

Projects R25, R38, R39, R40, R41, and R42 are incorporated into the Intersection and Roadway Plan preferred project list shown previously in Table 10-3.

Section 12 Other Modes Plan (Air, Rail, Water, Pipeline)

OTHER MODES PLAN (AIR, RAIL, WATER, PIPELINE)

This section addresses the air, rail, pipeline, and surface water for the City of Ashland. Each subsection below describes each respective network and how it operates within the City. Future projects were not identified for these service areas, because service is provided by private entities. A policy related to rail and railroad crossing projects are identified below.

AIR

The Ashland Municipal Airport is located 3 miles northeast of downtown at the eastern boundary of the city limits. The airport has two runways, both 3,600 feet long, paved in asphalt and in good condition. The surface area of the airport is approximately 95 acres. The airport is only for general aviation and private use. The land within Ashland city boundary within the Airport Overlay Zone is zoned as E-1, RR-1, R-110 and C-1. This TSP includes pedestrian and bicycle projects to enhance access to the airport with the intent of providing more travel options for employees at the airport and surrounding supporting land uses.

The Ashland Municipal Airport does not offer commercial flights. The nearest commercial flights are out of the Rogue Valley International-Medford Airport. Medford offers both passenger and freight service to cities throughout the Northwest with connections to larger airports and markets. The Rogue Valley International-Medford Airport is 989 acres in size and is located 3 miles north of the Medford central business district near I-5.

RAIL

The heavy rail plan consists of a Freight by Rail Policy and set of railroad crossing projects. The railroad crossing projects are included in Section 5 Intersection and Roadway Plan.

Policy #20 (L20) Freight by Rail Policy

The City of Ashland supports increasing rail freight service to local businesses.

The Freight by Rail Policy seeks to improve freight movement into and through the City (see Freight White Paper and Technical Memorandum #7 Alternatives Analysis for more details). Increasing local freight service to Ashland supports the City's goals for facilitating economic prosperity (Goal 3) and creating system-wide balance (Goal 4).

WATER

The Rogue River is the largest body of water in the area but is not large enough to use as a form of transportation, only recreation. The nearest port is located in Coos Bay and is an international/national shipping facility.

PIPELINE

Within the Rogue Valley there is a natural gas pipeline owned and operated by Avista Corporation. Originally the pipeline extended from Portland to Medford but a subsequent project connected this pipeline to a line that crosses central Oregon. The distribution lines for this pipeline are located along I-5 between Grant's Pass and Ashland and the main pipeline is located within the I-5 corridor.

Recently a new pipeline was installed from Ashland to Klamath Falls to increase the natural gas capacity of the local lines and meet increasing demand.

There are no intermodal terminals located in or near Ashland. Natural gas can only be transported by pipeline.

Section 13 Sustainability Plan

SUSTAINABILITY PLAN

This section presents the Sustainability Plan for the City of Ashland. The key elements of the sustainability plan discussed below are transportation demand management (TDM), reduction of Ashland's carbon footprint, climate change, environmental impact to transportation benefit matrix, private sector sustainability solutions, and other relevant policies, goals, and objectives. These elements contribute to the City's goal of creating a green template for other communities to follow.

TRANSPORTATION DEMAND MANAGEMENT

TDM measures include methods aimed at shifting travel demand from single occupant vehicles to non-auto modes or carpooling, travel at less congested times of the day, or to locations with more available vehicle capacity. Some common examples of TDM strategies include programs such as carpool matching assistance or flexible work shifts; parking management strategies; direct financial incentives such as transit subsidies; or facility or service improvements, such as bicycle lockers or increased bus service.

Some of the most effective TDM strategies are best implemented by employers and are aimed at encouraging non-single occupancy vehicle (SOV) commuting. Strategies include preferential carpool parking, subsidized transit passes, and flexible work schedules. Cities and other public agencies can play a critical role in support of TDM through provision of facilities and services, as well as development policies that encourage TDM.

While many TDM strategies are most effectively implemented by employers, there are strategies cities can implement or support with other agencies. These include access management and connectivity strategies that are more often associated with roadway elements of planning. Other strategies include providing non-auto facilities (sidewalks, bicycle lanes, transit amenities) and managing existing resources (parking). Another critical role that cities play is in the policies related to development activities. Through support, incentive, and mandate, cities can monitor new development such that it supports a balanced transportation system. The City of Ashland's Multimodal/Safety Based (Alternative) Development Review Process (see Policy #2 (L2)) is one example of enabling and supporting a balanced system.

Several broad TDM strategies are summarized in Table 13-1. The table also identifies typical implementation roles.

Table 13-1 TDM Strategies and Typical Implementing Roles

TDM Strategy		City/County	Transportation Management Association1	Developer s	Transit Provider	Employers	State
TDM-1	Public parking management	P		S	S	S	
TDM-2	Flexible parking requirements	P		S		S	

TDM-3	Access management	P					P
TDM-4	Connectivity standards	P		S			P
TDM-5	Pedestrian facilities	P		S		S	S
TDM-6	Bicycle facilities	P		S			S
TDM-7	Transit stop amenities	S		S	P		
TDM-8	Parking management	P		S		S	
TDM-9	Limited parking requirements	P		S			
TDM-10	Carpool match services	S	P			S	
TDM-11	Parking cash out		S		S	P	
TDM-12	Subsidized transit passes	S or P			S	P	
TDM-13	Carsharing program support	P	S	S	S	S	

[1]A Transportation Management Association does not currently exist in the City of Ashland
P: Primary role
S: Secondary/Support role
* Primary implementation depends on roadway jurisdiction

As noted above, the City of Ashland's Pedestrian and Bicycle Plans, Transit Plan, and Intersection and Roadway Plan already address a number of the TDM strategies above. These include:

- Pedestrian Facilities – See the Pedestrian Transportation Plan
- Bicycle Facilities – See the Bicycle Transportation Plan
- Subsidized Transit Passes and Transit Stop Amenities – See the Transit Plan
- Access Management – See the Intersection and Roadway Plan and Plan Implementation Section
- Parking Management – See the proposed Policy #9 and Study #2
- Updated Development Review Process – See the Multimodal/Safety Based (Alternative) Development Review Process (Policy #2)

Incentives can also be used to encourage development to incorporate facilities, strategies and programs that promote TDM. For example, a tiered system of SDC credits could be provided to developers that implement two or more TDM strategies such as paid parking, special carpool parking, free transit passes, shower facilities, and/or electric vehicle charging stations.

CARBON FOOTPRINT REDUCTION

Transportation measures to reduce the carbon footprint should ultimately be considered as part of a more comprehensive Climate Action Plan for Ashland. The goal of a local Climate Action Plan is a sizable reduction in greenhouse gases (GHG) to help mitigate the global effects of climate change. Carbon dioxide is responsible for approximately half of the global GHG, and fossil fuel transportation has been this country's fastest growing source of GHG emissions for decades. It is clear that critical areas for change are: shifting travel away from single occupancy vehicles (SOV) and toward alternative forms of transportation; reducing vehicle miles traveled (VMT) that exceed population growth; and reducing tail pipe emissions associated with traffic congestion.

The TSP update began with a commitment to '"greener" transportation that could build on City policies, practices, and programs already in place, and having a favorable impact on climate change. The draft Preferred and Financially Constrained Plan recommends additional beneficial policies, actions, and programs. As part of a larger context, there are even stronger federal and state requirements, resources, and funding for local actions to slow climate change. It adds up to an opportunity for the City to embrace a comprehensive and integrated planning perspective with an explicit and quantifiable emphasis on 'low carb' planning. That perspective can present a new approach for evaluating transportation plans, projects, and how they might be integrated with other climate change factors such as land use development patterns, energy efficiency in buildings, recycling, solid waste management, and preservation of urban forest and open spaces that sequester carbon.

Setting that comprehensive planning in motion should take the following steps:

Complete a GHG Inventory

This inventory enables you to set a baseline for emissions. It can be limited to transportation, for now, if the City is not ready to undertake a full Climate Action Plan. Assess the relative quantities of emissions from different sources, and create informed policies and strategies based on this information. Use the baseline to monitor progress. Ashland may decide to join with other communities to create a regional inventory and baseline.

Set a Target and a Time Frame

Examples of potential targets are 30% carbon reduction from the baseline year, and limiting increases in VMT to be equal to or less than the annual population growth. Targets help prioritize actions and policies that will be the most effective or the most cost-effective by a certain year. This will allow you to better assess funding investments and opportunities, short-term versus long-term strategies, integration with complementary policies, and the focus for community outreach and education.

Create a Comprehensive Plan

Integrate comprehensive planning, City operations, and community interests in a plan that integrates transportation with community design and development, buildings and energy efficiency, buildings and wastewater, solid waste, renewable energy, government operations, and public health. It should become a community vision for a climate-wise future.

Establish New Evaluation Criteria

Rethink traditional criteria for policies and projects where individual problems and objectives are considered by groups with narrowly defined responsibilities, who are accustomed to evaluating relatively similar options. In transportation planning, this has tended to underprice SOV travel, undervalue alternative transportation benefits, and will not be well-suited to the comprehensive analysis required to address climate change.

Implement While You Plan

Identify measures that can be implemented while comprehensive climate protection planning takes place. There may be measures with low implementation costs, quick results with regard to quantifiable GHG reductions, or other benefits like better public health, improvements in transit service or economic development. For instance, you can lead by example through short-term actions that reduce trips by city vehicles, and long-term commitments such as converting to more fuel-efficient vehicles or to alternative fuels.

Change Your Planning Perspective for Now

Local climate action plans are being completed in some of the larger cities and MPOs of Oregon. Until a state-wide initiative if fully implemented in all regions, Ashland may wish to take a new look at transportation planning as an outcome of the TSP update. Public agencies often evaluate options and develop projects from the confines of their mandate and current budget. Consider adapting your transportation planning to include the following perspectives:

Sustainability Planning

Consider direct, indirect, and long-term economic, social, and environmental impacts. This will address both the local community and the larger global impacts. Give special consideration to long-term, non-market, and difficult to measure impacts, such as social and economic impacts.

Equity Planning

Transportation equity should be part of a broad community commitment to sustainability. It requires a roughly even distribution of transportation investment costs and benefits; this can be difficult to evaluate. However, as guiding principles for policy, it could be based on a full cost profile for transportation. That profile is not equitable when it shifts much of the cost burden of GHG impacts to external groups (external to the users and infrastructure generating the emissions). It is also inequitable if it provides greater transportation benefits to higher income groups. As an example of investment equity, the City might compare public expenditures by mode based on an assumption that per capita spending to facilitate non-motorized travel should be approximately equal to spending for alternative modes of transportation.

In order to arrive at a new perspective, transportation planning to more fully address climate change might benefit from consideration of the following:

- Understand Full Transportation Costs
- Prioritize Non-Motorized Transportation
- Pursue Strategies to Integrate Transportation and Land Use Planning

Understanding Full Transportation Costs

There are a number of well-developed databases and tools to help assess quantities of GHG emissions for various transportation modes, activities, and decisions. Such an assessment will be critical to eventually completing your local Climate Action Plan. What is less understood are external monetary costs (costs internal to the actual infrastructure and users) that could be assigned to GHG emissions as the full cost of transportation. The complexity of monetizing potential cost categories is beyond the scope the TSP. However, if you think of monetary costs as another way of appreciating and quantifying impacts, then it is important to recognize that a major portion of GHG costs are external (not borne by the primary users and the facilities) and non-market (affecting such things as health, social and economic equity and livability). By not accounting for these costs, conventional transportation planning underprices transportation choices, especially SOV travel and parking. This leads to excessive motor vehicle trips, especially for non-commute trips for work which make up approximately two-thirds of household trips. This works against Ashland's desire to realize the benefits of a more balanced and multimodal transportation system, and against planning aimed at reducing the carbon footprint.

A comprehensive understanding of the full costs of transportation is complex. However, there is growing amount of research and study focused on identifying monetized costs for all transportation modes that are external to the direct user. It includes internal variable costs related to the amount of travel and the mode of travel, external costs imposed on non-users as well as market and non-market costs. Non-market costs include social, economic, and environmental impacts. A number of those costs are directly associated with carbon footprint. In general, there are two types of cost to consider when trying to reduce the carbon footprint. Damage costs address the value of the resources damaged or lost as a result of GHG emissions. Control costs result from measures taken to avoid damaging impacts. These costs are essentially avoidance and mitigation costs, and range from the cost of reducing emissions to the cost compensation for global climate impacts such rising sea levels and intensification of hurricanes. At the local level, these costs could be reflected in appropriate roadway fees or congestion pricing, parking taxes or parking fees, and encouraging insurance companies to offer "pay as you go" insurance.

Prioritize Non-Motorized Transportation

If reducing the carbon footprint is a transportation priority, then increasing bicycle and pedestrian travel is a cost-effective strategy. It is the alternative to autos for frequent and short trips. That makes it essential to reducing VMT. Significant barriers to walking and cycling as travel choices can be identified in roadway design, access to transit, land use patterns, and parking strategies (particularly in downtown or other business districts). Strategies and design changes to lessen those barriers can be assigned a measurable expectation with regard to carbon savings and become criteria for project approval and funding. If full cost accounting is also considered, it will be apparent that carbon costs from not reducing auto trips are not directly born by motorists. This contributes to the underpricing of automobile travel and the tendency to undervalue non-motorized travel.

Barrier effects also compromise transportation equity since disadvantaged populations will share a disproportionate share of these costs because they depend on non-motorized travel and transit. A shift in planning and policy perspective might include examining this barrier effect as part of a more comprehensive examination of potential cost allocation methodologies to determine the full cost and fair share of roadways and transportation service associated with various users.

Integration of Transportation and Land Use

This represents an opportunity to consider combined policies, ordinances, strategies, and incentives that reduce the carbon footprint and achieve multiple community benefits. The Pedestrian Places work and implementing ordinances was a good beginning in shifting the planning perspective toward 'low carb' planning. Ashland should continue a strong land use planning approach to encouraging pedestrian-oriented and transit-supportive land use. Transit can serve the most potential riders when higher density residential development and employment centers are located in transit corridors and compact, walkable mixed use surrounds stop locations.

Most transit riders begin and end their trips on foot or on a bike. Ashland's current street and development standards provide for good connectivity and access to transit, especially when coupled with the type of mixed use development envisioned in the Pedestrian Places section of the Draft Preferred Plan. For existing development in transit corridors, Ashland should consider conducting an accessibility audit to identify and prioritize improvements to sidewalks, bike routes, curb ramps, street crossings, and lighting that will make getting to transit safer and more appealing.

With transit-supportive land use and pedestrian environment measures in place, TDM measures intended to shift travel choices away from the SOV trip will be more successful. As transit ridership goes up there should be increases in convenience and service, and it will become easier for the City and RVTD to work together to stabilize costs. With regard to carbon footprint, it should be recognized that, transit service in the fossil fuel vehicles (especially diesel) requires high ridership in order to have a smaller carbon footprint than automobile travel.

CLIMATE CHANGE BENEFITS FROM TRANSPORTATION AND LAND USE PLANNING

Carbon footprint reductions are about minimizing the risk of damaging, disruptive, or even catastrophic long-term climate change. Failure to mitigate that change will have global consequences that are likely to locally affect Ashland's natural resources, air and water quality, economy and affordable access to goods and services and public health. Acting now, through transportation choices, will begin to reduce those risks. Strategies can also be linked with other objectives to provide a number of co- benefits. For example, implementation of a better multimodal transportation system may result in financial savings through reduced automobile expenses, more convenient access to jobs and shopping, better health, and a greater sense of social and economic equity.

Increasing Bicycle and Pedestrian Travel

Increased use of alternative transportation by a wider range of users is the goal of the Pedestrian, Bicycle, and Transit Plans. These trips tend to be far more frequent, and are often shorter in distance. They are the most convertible trips, and often carry relatively low implementation costs. Shifting trips away from automobiles has multiple benefits. It means the transportation system is balanced, optimizing the quantity and quality of transportation services at all locations and times of day and for the needs of all users. Without adequate balance, people are often forced to make SOV trips that are not optimal, which means the carbon footprint rises and climate change benefits are lost.

With policies and programs such Complete Streets, Safe Routes to Schools, and comprehensive Bicycle and Pedestrian Plans in place, and with investment in the appropriate street infrastructure to support them, a modest conversion of auto trips is a reasonable expectation. Even a modest shift brings significant air quality and carbon reduction benefits. For example, consider only Safe Routes to Schools: studies show that if the country returned to the 1969 level of walking and bicycling to school, VMT would be reduced by 3.2 billion miles, which translates to an annual savings of 1.5 million tons of carbon dioxide, the equivalent of taking more than 250,000 cars off the road for a year. The benefits of non-motorized travel become even more apparent if improved public health and transportation equity are added as plan and project criteria, and full cost accounting is better understood by the community.

Adequate transportation choices also provides a “value option” within the broader understanding of sustainability. As a community, Ashland may value and support facilities that accommodate a relatively small part of the total transportation needs, such as bike and transit service which can be seen as improving transportation equity among all citizens. This value is intrinsically linked to transportation equity, which has social and economic value. For example, increasing comfort and safety for lower-income residents when they are walking and cycling may result in financial savings needed for better housing, food, or other services.

Transit and Transit-Supportive Land Uses

This is an opportunity for combined strategies that simultaneously realize climate change benefits from changes in travel behavior and more energy-efficient development. Transit-supportive development can indirectly influence transportation by shifting trips away from automobile travel. The range of benefits from increases in transit use, walking, and bicycling, and the corresponding reductions in automobile trips and consequent benefits of climate change have been noted. With regard to the transit component of this promising synergy, estimates vary in quantifying the actual carbon reduction to expect from transit use. Some studies conclude the results will be dramatic. The American Public Transportation Association (APTA) has concluded that transit use, when combined with more compact development patterns and TDM measures, can result in a national reduction of 37 million metric tons of carbon dioxide emissions annually. Others predict more modest reductions given the complexity of factors involved in development and travel choices. Factors working against big gains from changes in travel behavior include:

- Household factors - income and demographics influence travel choices more than simple density.
- Most households don't select locations in order to minimize commutes.
- Employment is increasingly decentralized and moving away from centers and downtowns which are well-served by transit.
- Non-work trips are increasing and are not typically transit trips since they often involve multiple destinations.

The compact and higher density development typical of transit-supportive land use policies can also bring about direct reductions in GHG through site and building design. Mixed use and infill development tend toward smaller and more energy-efficient buildings types, fewer construction materials, and small amounts of paved service. All of those characteristics result in some reduction of GHG. However, continuing research suggests that the gains may be more modest than once thought, and are the result of a complex set of interactions between literally dozens of factors such as household characteristics and the qualities of design and construction. To date, no clear and simple evaluation of the overall carbon footprint of transit-supportive development is available.

Addressing the Parking Problems

The relevance of parking to GHG emissions is often overlooked. Some of the biggest problems with parking in urban areas are too much demand, too much supply and underpricing of the full cost. Correcting these problems can have significant benefits with respect to GHG reductions. Off-street parking consumes and paves an enormous amount of land. On-street parking utilizes a significant portion of the street right-of-way. Immediately, this amount of pavement in an urban setting has a "heat island" effect, which indirectly increases GHG emissions through attempts to stay cool with building and automobile air conditioning. And, there is a problem with the numbers. For residential uses, many studies have suggested that there are actually three off-street spaces for each vehicle (one residential and two non-residential), as well as one or more on-street parking spaces. This is an external carbon cost not directly borne by any user of the parking spaces, and benefit to be captured through reducing the amount of urban land devoted to parking cars.

Land consumption is also a direct cost issue that influences development patterns and locations. Development patterns influence the GHG profile of a community through transportation choices and building energy efficiency. For residential infill development, which has a relatively good GHG profile, off-street parking increases the development cost per unit and reduces achievable density. At some point, that cost factor helps push development further away from accessible downtowns and neighborhood centers to where land is less expensive. These locations take on a larger carbon footprint as they become harder to serve with transit, less compact and walkable, and create more vehicle trips and congestion. Higher ratios of parking result in lower densities, which further suppresses transit ridership.

Extensive use of on-street parking also creates a competition for right-of-way allocation between pedestrian facilities, bicycle facilities and vehicle parking. Setting aside market factors, the real dynamics of that competition are often not well understood. For example, converting on-street parking to bicycle lanes and wider sidewalks will have an undeniable short-term impact on available parking seen as a negative impact by many. In the long-term, there may be a different impact. If this conversion of right-of-way results in a fairly small shift away from vehicle trips and increases bicycle and walking trips, the reduced demand for parking may eventually equal or exceed the initial loss of parking. This represents a long-term opportunity to reduce GHG emissions.

PRIVATE SECTOR SUSTAINABILITY SOLUTIONS

Steps taken by the private sector, particularly employers, can have a positive impact on climate change. The City of Ashland should explore ways in which they can encourage and provide incentives for those steps to be taken. Examples of potential private sector transportation solutions include:

- Encourage certain types of employees to telecommute twice a month.
- Employee education regarding the benefits of efficient transportation and energy use.
- If parking subsidies are provided, offer employees a "cash out" option.
- Offer a purchase discount for retail customers who arrive by alternative transportation.
- Create a downtown business competition for the number of employees and customers using alternative transportation.
- Sponsor and maintain upgraded transit stop amenities near a group of businesses.
- Work with the City to development a parking management program.
- Work with the City to develop and engage in a Climate Wise Program for local businesses to submit their own action plans for reducing GHG.

OTHER RELEVANT POLICIES, GOALS, AND OBJECTIVES

Government operations themselves can initiate community-wide efforts to embrace climate-wise transportation. Some measures are relatively low-cost and could be implemented in the short-term. Other measures will require more investment and a longer time frame to enact. Examples include:

- Increase awareness of fuel consumption by department.
- Consider satellite park maintenance shops to reduce staff travel.
- Establish goals for transitioning city vehicles to alternative fuel or electric vehicles.
- Phased replacement of incandescent street lights and traffic signals with LED lighting.

Section 14 Funding and Implementation

FUNDING AND IMPLEMENTATION

This section provides context regarding the City's historical funding sources, which was the basis for forecasting the funds likely available in the future for transportation projects, studies and programs. Also presented within this section is the financially constrained plan which helps guide the City's implementation of the TSP.

FUNDING – HISTORICAL PERSPECTIVE AND FUTURE FORECAST

Historically, the City's transportation program has been funded through the Street Fund. The Street Fund is a combination of federal, state, and city funds including Local Improvement Districts (LID) and System Development Charges (SDCs). The City portion of LID total project costs may vary. The transportation program includes streets, sidewalks, bike paths, railroad crossings, and transit. The Street Fund also covers maintenance costs associated with landscaping for medians, entry ways, and downtown landscaping. This landscape maintenance is accomplished through an agreement with the Parks Department. The Transportation Commission, specific transportation studies and the current update of the TSP are also funded as elements of the transportation program.

Street Fund Revenue sources include:

- Oregon State gasoline taxes that may be used on roadway pavement and maintenance projects.
- City franchise fees paid by other city enterprise funds such as electric, water, wastewater, and others for use of the transportation system.
- City transportation systems development charges (SDCs which were updated in FY08) to pay for future growth needs of the system. ***It should be noted that development of a multimodal system development charge methodology and program is part of the TSP Update scope of work. Work will begin on the multi-modal SDC following the TAC's, PC's, and TC's initial acceptance of the draft preferred and financially constrained plans.***
- City transportation user/utility fees assessed to all property owners,
- City Local Improvement District charges for specific projects assessed through a benefiting district, and,
- State and federal grants including:
  - TE – Federal Transportation Enhancement projects for sidewalks, bike path, etc.

- STP – State Transportation Program funds for major improvements and system upgrades to the City's system.
- STIP – State Transportation Improvement Plan funds for urban upgrades on state facilities.
- CMAQ – Federal Congestion Mitigation and Air Quality grant funds for projects that help reduce emissions (Diesel Retrofit and Sweeper purchases) and dust (paving projects).
- OECDD SPWF – Oregon Economic Commission Development Division Special Public Works Funds for projects that relate to the creation of new jobs.
- Other safety and specific transportation funding program opportunities.
- Federal Stimulus funds (ARRA).
- TGM – Transportation and Growth Management Grants for studies.

Economic uncertainty has created funding shortfalls and a newly created "Unfunded" category for Capital Improvements Program (CIP) projects. In Fiscal Year (FY) 2009-10, the proposed CIP was over $12 Million. For FY 2010-11 the total has declined to less than $6 Million, with $2.5 Million identified for Transportation/LID projects. Table 14-1 summarizes the Transportation/LID portion of the CIP through FY 2012-17.

Table 14-1 CIP Funding for Construction Years 2008-2017

Transportation Program	Project Totals	Street SDC	Grants	LIDs	Fees & Rates
Transportation	$5,260,216	$605,070	$2,140,100	-	$2,515,406
Street Improvements and Overlays	$2,635,000	-	$651,000	-	$1,984,000
Local Improvement Districts	$827,400	$148,932	-	$320,100	$358,368
Transportation and LID Totals	**$8,722,616**	**$754,002**	**$2,791,100**	**$320,100**	**$4,857,414**
Annual Total	$970,000/year				
0-5 Year Revenues	$4,850,000				
6-15 Year Revenues	$9,700,000				
16-25 Year Revenues	$9,700,000				
25 Year Capital Revenues	$24,250,000				

Based on the information in Table 14-1, and assuming equal funding each year based on current funding levels, it is assumed that approximately $24,250,000 will be available for capital projects over the next 25 years.

It should be noted that the constrained funding forecast of $24,250,000 is based on current funding programs and could be altered from revised projections or changes in or creation of new funding sources by the City Council (e.g., the proposed multi-modal system development charge).

Potential additional funding sources the City may choose to pursue at some point in the future are documented in Section 4 Future Demand, Land Use and Funding.

IMPLEMENTATION

The Financially Constrained Plan and Preferred Plan facilitate the TSP's implementation. The projects, programs, and studies included in the Financially Constrained Plan are higher priority projects on which the City plans to focus their funding resources. The Preferred Plan helps the City leverage opportunities that may arise through development, unexpected grant monies, and/or agency partnerships to implement additional projects, studies and/or programs identified as needed and desired.

Preferred Plan

The Preferred Plan consists of all of the policies, programs, projects, and studies identified in Sections 6 through 12. Table 14-2 summarizes the program, project, and study costs by mode and desired timeframe based on need and priority. *In general, policies do not require funds to implement; therefore, the preferred plan policies are not reflected in Table 14-2. The policies presented in Sections 5 through 11 are however, included in the Preferred Plan.*

Table 14-2 Transportation Programs, Studies and Project Cost Summary by Timeline

Priority (Timeline)	General	Pedestrian	Bicycle	Transit	Freight	Intersection and Roadway (Projects & Studies)	Total Program Study and Project Costs
High (0-5 Years)	$100,000	$9,355,000	$3,180,000	$1,000,000,	-	$4,423,000	$18,058,000
Medium (5-15 Years)	$30,000	$3,900,000	$1,150,000	$2,750,000	$750,000	$4,250,000	$12,830,000
Low (15-25 Years)	-	$3,125,000	$570,000	$3,800,000	-	$4,622,000	$8,317,000
Development Driven	-	-	$330,000	-	$1,275,000	$30,886,000	$32,491,000
Total	$130,000	$16,380,000	$5,230,000	$7,550,000	$2,025,000	$44,181,000	$75,496,000

As shown in Table 14-2, a total of $75,496,000 of programs, studies, and projects have been identified for the City of Ashland over the next 25 years. The following section discusses the Desired Financially Constrained Plan, which includes as many of the higher priority projects identified in Preferred Plan as fiscally possible.

Financially Constrained Plan

Given the anticipated funding available shown in Table 14-1, nearly all of the high and medium priority programs, studies and projects could be completed within the forecast revenues from existing sources. The list below includes projects the City would like to have funded. They include projects that are under the sole jurisdiction of the City of Ashland as well as projects that would require the City's financial participation in joint projects with ODOT, Jackson County, and RVTD. The City will coordinate with other agencies to leverage funding opportunities and therefore the projects in the "Financially Constrained Project List" should be looked at as an illustration of the City's current funding priorities but one that will change over time.

Table 14-3 presents a list of programs, studies, and projects organized by modal plan that can be considered reasonably likely to have funding over the next 25 years at the current time. *As noted in the Preferred Plan Summary section, all Preferred Plan policies presented above will be carried through to the Draft TSP pending revisions based on comments received from TAC, PC, and TC members.* Only projects with anticipated costs are included in Table 14-3.

As noted above, the list in Table 14-3 will change over time. Potential additional funding sources that the City could consider to increase future transportation revenues are included in the Funding Programs White Paper.

Table 14-3 Financially Constrained Programs, Studies and Projects List

(ID #) Name	Description	Reasons for the Program, Study or Project	Cost
High Priority Programs, Studies, and Projects			
General Studies			
(S2) Downtown Parking and Multi-Modal Circulation Study	The City of Ashland will conduct a downtown parking management and multi-modal circulation study to evaluate the effectiveness of existing downtown parking management and truck loading zones and potential changes in parking management and travel demand management (TDM) strategies to increase overall accessibility to downtown for tourists, customers, and employees. The multi-modal circulation study will review pedestrian circulation, bicycle circulation, and vehicle circulation for vehicles and trucks downtown. The study will evaluate the alternatives generated for providing bicycle lanes and wider sidewalks on E Main Street through downtown that were generated during the TSP alternatives analysis phase. The alternatives evaluation will consider impacts to vehicle and truck parking and circulation.	Facilitate Economic Growth, Balance Mobility and Access	$100,000
Active Transportation Plan Programs and Projects			
(O1) TravelSmart Education Program	Invest in individualized, targeted marketing materials to be distributed to interested individuals for the purpose of informing and encouraging travel as a pedestrian or by bicycle	Encourage and facilitate travel as a pedestrian and/or bicyclist Part of creating a green transportation template	$45,000
(O4) Retrofit Bicycle Program	Establish funds and process for installing bicycle racks at existing	Facilitate bicycle travel Part of creating a green	$50,000

	business/establishments	transportation template	
(P1) N Main Street/Highway 99	From N Main Street to Schofield Street	Fill gap in existing sidewalk network	$50,000
(P5) Glenn Street/ Orange Avenue	From N Main Street to 175' east of Willow Street	Fill gap in existing sidewalk network	$200,000
(P6) Orange Avenue	175' west of Drager Street to Helman Street	Fill gap in existing sidewalk network	$250,000
(P7) Hersey Street	From N Main Street to Oak Street	Fill gap in existing sidewalk network	$750,000
(P9) Maple Street	From Chestnut Street to 150' east of Rock Street	Fill gap in existing sidewalk network	$100,000
(P10) Scenic Drive	From Maple Street to Wimer Street	Fill gap in existing sidewalk network	$250,000
(P17) Beaver Slide	From Water Street to Lithia Way	Fill gap in existing sidewalk network	$50,000
(P18) A Street	From Oak Street to 100' west of 6th Street	Fill gap in existing sidewalk network	$250,000
(P22) Mountain Avenue	From 100' south of Village Green Way to Iowa Street	Fill gap in existing sidewalk network	$450,000
(P23) Wightman Street	From 200' north of E Main Street to 625' south of E Main Street	Fill gap in existing sidewalk network	$400,000
(P25) Walker Avenue	950' north of Iowa Street to Ashland Street	Fill gap in existing sidewalk network	$750,000
(P27) Walker Avenue	From Oregon Street to Woodland Drive	Fill gap in existing sidewalk network	$200,000
(P28) Ashland Street	From S Mountain Avenue to Morton Street	Fill gap in existing sidewalk network	$450,000
(P38) Clay Street	From Siskiyou Boulevard to Mohawk Street	Fill gap in existing sidewalk network	$300,000
(P57) Tolman Creek Road	From Siskiyou Boulevard to City Limits (west side)	Fill gap in existing sidewalk network	$425,000
(P58) Helman Street	From Hersey Street to Van Ness Avenue	Fill gap in existing sidewalk network	$100,000
(P59) Garfield Street	From E Main Street to Siskiyou Boulevard	Fill gap in existing sidewalk network	$750,000
(P60) Lincoln Street	From E Main Street to Iowa Street	Fill gap in existing sidewalk network	$450,000
(P61) California Street	From E Main Street to Iowa Street	Fill gap in existing sidewalk network	$500,000
(P62) Quincy Street	From Garfield Street to Wightman Street	Fill gap in existing sidewalk network	$150,000
(P63) Liberty Street	From Siskiyou Boulevard to Ashland Street	Fill gap in existing sidewalk network	$650,000
(P64) Water Street	From Van Ness Avenue to B Street	Fill gap in existing sidewalk network	$250,000
(P65) Faith Avenue	From Ashland Street to Siskiyou Boulevard	Fill gap in existing sidewalk network	$350,000
(P66) Diane Street	From Clay Street to Tolman Creek Road	Fill gap in existing sidewalk network	$20,000
(P67) Frances Lane	From Siskiyou Boulevard to Oregon Street	Fill gap in existing sidewalk network	$10,000
(P68) Carol Street	From Patterson Street to Hersey Street	Fill gap in existing sidewalk network	$150,000
(P69) High Street	From Wimer Street to Manzanita Street	Fill gap in existing sidewalk network	$250,000
(P70) Park Street	From Ashland Street to Siskiyou	Fill gap in existing sidewalk	$650,000

	Boulevard	network	
(P71) Orchard Street	From Sunnyview Drive to Westwood Street	Fill gap in existing sidewalk network	$100,000
(P72) C Street	From Fourth Street to Fifth Street	Fill gap in existing sidewalk network	$100,000
(B2) Wimer Street	Bicycle Boulevard - From Scenic Drive to N Main Street. Coordinate with Project R31.	Upgrade of existing bikeway to encourage greater use	$20,000
(B5) Maple/Scenic Drive/Nutley Street	Bicycle Boulevard - From N Main Street to Winburn Way	Fill gap in existing bicycle network	$110,000
(B7) Iowa Street	Bike Lane - From Terrace Street to road terminus and from N Mountain Avenue to Walker Avenue	Fill gap in existing bicycle network	$240,000
(B10) S Mountain Avenue	Bike Lane - From Ashland Street to E Main Street	Fill gap in existing bicycle network	$120,000
(B11) Wightman Street	Bicycle Boulevard – E Main Street to Siskiyou Boulevard	Fill gap in existing bicycle network	$60,000
(B13) B Street	Bicycle Boulevard - From Oak Street to N Mountain Avenue	Fill gap in existing bicycle network	$80,000
(B16) Lithia Way	Bicycle Boulevard – From Oak Street to Helman Street	Fill gap in existing bicycle network	$110,000
(B17) Main Street	Bicycle Boulevard - From Helman Street to Siskiyou Boulevard.	Fill gap in existing bicycle network	$50,000
(B19) Helman Street	Bicycle Boulevard - From Nevada Street to N Main Street	Fill gap in existing bicycle network	$80,000
(B26) Normal Avenue	Bike Lane - From E Main Street to Siskiyou Boulevard. Coordinate with Project R19.	Fill gap in existing bicycle network	$190,000
(B29) Walker Avenue	Bicycle Boulevard - From Siskiyou Boulevard to Peachey Road	Fill gap in existing bicycle network	$40,000
(B31) Indiana Street	Bicycle Boulevard - Siskiyou Boulevard to Oregon Street	Fill gap in existing bicycle network	$20,000
(B33) 8th Street	Bicycle Boulevard - A Street to E Main Street	Fill gap in existing bicycle network	$20,000
(B38) Oregon/Clark Street	Bicycle Boulevard - Indiana Street to Harmony Lane	Fill gap in existing bicycle network	$40,000
(TR1) Northside Trail	Multi-use Path – From Orchid Avenue to Tolman Creek Road	Expand existing bicycle network	$2,000,000
Transit Plan Program			
(O5) Transit Service Program	Provides funds and guidance on how to allocate funds to improve transit service in Ashland	Improve transit service to increase ridership Part of creating a green template, supporting economic prosperity, and creating system-wide balance	$1,000,000
Intersection and Roadway Plan Studies and Projects			
(S10) Siskiyou Boulevard Pedestrian Crossing Evaluation and Feasibility Study	Evaluate the feasibility and costs associated with providing enhanced pedestrian crossing treatments at the Wightman-Indiana/Siskiyou Boulevard intersection.	Improve Safety	$20,000
(R5) Siskiyou Boulevard (OR 99)-Lithia Way (OR 99 NB)/E Main Street Intersection Improvements	Improve visibility of signal heads. Identify and install treatments to slow vehicles on northbound approach	Improve Safety	$50,000
(R6) Siskiyou Boulevard (OR	Conduct a speed study. Identify	Improve Safety	$61,000

99)/Tolman Creek Road Intersection Improvements	and install speed reduction treatments on northbound approach		
(R8) Ashland Street (OR 66)/Oak Knoll Drive-E Main Street Intersection Improvements	Realign E Main Street approach to eliminate offset and install speed reduction treatments	Improve Safety	$76,000
(R17) East Nevada Street Extension	Extend Nevada Street from Bear Creek to Kestrel Parkway	Balance Mobility and Access	$,2,261,000
(R25) Washington Street Extension to Tolman Creek Road	Extend Washington Street to Tolman Creek Road. This is a City funded project; not developer driven. Coordinate with IAMP Exit 14 Access Management on Ashland Street (OR 66) and Surrounding Development	Facilitate Economic Growth Balance Mobility and Access	$1,015,000
(R35) N Main Street Temporary Road Diet	Implement a temporary road diet on N Main Street. Temporary road diet includes converting N Main Street to a two-lane roadway with a two-way center turn lane and bicycle lanes in both directions	Improve Safety, Balance Mobility and Access, Creating Space for Bikes	$160,000
(R40) Walker Avenue Festival Street (Siskiyou Boulevard to Ashland Street)	Street reconstruction with flush curbs and scored concrete roadway surface. Sidewalk treatments to include decorative bollards to delineated pedestrian space, street trees, LID storm water facilities and ornamental lighting.	Support Pedestrian Places Planning	$780,000
High Priority Sub Total			**$18,153,000**
Medium Priority Programs, Studies, and Projects			
General Studies			
(S1) Funding Sources Feasibility Study	Study to identify and evaluate the feasibility of additional funding sources to support transportation programs, studies, and projects.	Enable the City to Implement more Programs, Studies, and Projects to Achieve Goals	$30,000
Active Transportation Plan Projects			
(P4) Laurel Street	From Nevada Street to Orange Avenue	Fill gap in existing sidewalk network	$500,000
(P8) Wimer Street	From Thornton Way to N Main Street	Fill gap in existing sidewalk network	$800,000
(P37) Clay Street	From Faith Avenue to Siskiyou Boulevard	Fill gap in existing sidewalk network	$1,000,000
(P73) Barbara Street	From Jaquelyn Street to Tolman Creek Road	Fill gap in existing sidewalk network	$100,000
(P74) Roca Street	From Ashland Street to Prospect Street	Fill gap in existing sidewalk network	$250,000
(P75) Blaine Street	From Morton Street to Morse Avenue	Fill gap in existing sidewalk network	$100,000
(P76) High Street	From Manzanita Street to Laurel Street	Fill gap in existing sidewalk network	$100,000
(P77) Manzanita Street	From Scenic Drive to N Main Street	Fill gap in existing sidewalk network	$500,000
(P78) Patterson Street	From Crispin Street to Carol Street	Fill gap in existing sidewalk network	$100,000
(P79) Harrison Street	From Iowa Street to Holly Street	Fill gap in existing sidewalk	$100,000

		network	
(P80) Spring Creek Drive	From Oak Knoll Drive to road end	Fill gap in existing sidewalk network	$350,000
(B3) Nevada Street	Bike Lane - From Vansant Street to N Mountain Avenue. Coordinate with Project R17.	Fill gap in existing bicycle network	$230,000
(B9) Ashland Street	Bicycle Boulevard - From Morton Street to University Way	Fill gap in existing bicycle network	$30,000
(B18) N Main Street	Bike Lane - From Jackson Road to Helman Street Included as part of Projects R35 and R36. See Table 10-2 for more details.	Fill gap in existing bicycle network	$260,000
(B20) Water Street	Bicycle Boulevard - From Hersey Street to N Main Street	Fill gap in existing bicycle network	$30,000
(B25) Tolman Creek Road	Bike Lane - From Siskiyou Boulevard to Green Meadows Way	Fill gap in existing bicycle network	$100,000
(B37) Clay Street	Bicycle Boulevard - From Siskiyou Boulevard to Mohawk	Fill gap in existing bicycle network	$20,000
(B39) Glenn/Orange Street	Bicycle Boulevard - from N Main Street to Proposed Trail	Fill gap in existing bicycle network	$40,000
(B40) Laurel Street	Bicycle Boulevard - From Orange Street to Nevada Street	Fill gap in existing bicycle network	$40,000
(TR2) New Trail	Multi-Use Path - From Clay Street to Tolman Creek Road	Fill gap in existing bicycle network	$400,000
Transit Plan Program			
(O5) Transit Service Program	Provides funds and guidance on how to allocate funds to improve transit service in Ashland	Improve transit service to increase ridership Part of creating a green template, supporting economic prosperity, and creating system-wide balance	$2,750,000
Heavy Rail Plan Programs and Projects			
(X3) Normal Avenue At-Grade Railroad Crossing Upgrade	Upgrade existing at-grade railroad crossing to public crossing standards. Coordinate with Project R19.	Improve North-South Connectivity, Balance Mobility and Access	$750,000
Intersection and Roadway Plan Studies and Projects			
(S3) N Main Street (OR 99) from Helman Street to Sheridan Street	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Improve Safety	$75,000
(S5) Siskiyou Boulevard from Ashland Street to Tolman Creek Road	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Improve Safety	$75,000
(S6) Ashland Street (OR 66) from Siskiyou Boulevard to Tolman Creek Road	Conduct access management spacing study and provide near- and long-term recommendations for improvement.	Improve Safety	$75,000
(S9) Ashland Street (OR 66) Safety Study	Conduct a transportation safety assessment in five years along Ashland Street (OR 66) between Clay Street and Washington Street to identify crash trends and/or patterns as well as mitigations to reduce crashes.	Improve Safety	$20,000
(R19) Normal Avenue Extension	Extend Normal Avenue to E Main	Balance Mobility and Access	$2,705,000

	Street; Coordinate with Project X3		
(R36) N Main Street Implement Permanent Road Diet	Convert temporary road diet to permanent installation, which includes, at a minimum, signal modifications to the N Main Street/Maple Street and the N Main Street/Laurel Street intersections	Improve Safety, Balance Mobility and Access	$200,000
(R38) Ashland Street Streetscape Enhancements (Siskiyou Boulevard to Walker Avenue)	Widen and reconstruct sidewalks with street trees, storm water planters and bus shelters. Ashland Street/Walker Avenue intersection enhancements to include concrete crosswalks, paving, and ornamental lights.	Support Pedestrian Places Planning	$1,100,000
Medium Priority Sub-Total			**$12,830,000**
High + Medium Priority Total (Cost Constrained Plan)			**$30,983,000**

Section 15
Plan Implementation Recommendations for Ordinance Amendments

PLAN IMPLEMENTATION RECOMMENDATIONS FOR ORDINANCE AMENDMENTS

The following present recommended ordinance amendments to support the transportation elements presented in sections 4 through 10 of the TSP.

SHARED ROADWAY STREET FUNCTIONAL CLASSIFICATION

The Shared Roadway street functional classification should be added to the Comprehensive Plan and the Street Design Guidebook. The proposed Shared Street definition is below.

Shared Street – Provides access to residential or commercial uses in an area in which right-of-way is constrained by topography or historically significant structures. The constrained right-of-way prevents typical bicycle and pedestrian facilities such as sidewalks and bicycle lanes. Therefore, the entire width of the street is collectively shared by pedestrians, bicycles, and autos. The design of the street should emphasize a slower speed environment and provide clear physical and visual indications the space is shared across modes.

The Shared Streets and Alleyways white paper dated February 2, 2011 provides more information regarding Shared Streets.

MULTIMODAL/SAFETY BASED (ALTERNATIVE) DEVELOPMENT REVIEW PROCESS

The Multimodal/Safety Based (Alternative) Development Review Process is a means to help support the City's TSP goals by providing funding for multimodal and safety programs and projects. It is inherently multimodal helping to create a green template (Goal 1), improvements are safety and multimodal driven making safety a priority for all modes (Goal 2), it supports economic growth by streamlining the development review process for developers (Goal 3), and facilitates system wide balance by placing all modes, safety, and access at the same level as mobility (Goal 4). See the Alternative to Traditional Development Review and Transportation Funding White Paper (dated March 7, 2011) for more details.

The City of Ashland should amend Chapter 18 of the Municipal Code to establish a Multimodal/Safety Based (Alternative) Development Review Process for reviewing and approving development applications. The development review process is outlined below.

6) Applicants that generate 10 peak hour trips or more are required to prepare a transportation assessment that focuses on:

    E. On-site vehicular, pedestrian, bicycle, truck delivery, and emergency service circulation and safety;

F. Safety, using principles and information from the *Highway Safety Manual*, of the proposed site access(es) to the transportation system;

G. Multimodal LOS, per the *2010 Highway Capacity Manual*, along the adjacent collector and/or arterial corridors; and

H. Person trips generated by the development, including those person trips expected to travel through any of the City's previously identified safety focus intersections. As of the City's TSP 2011 TSP update, these intersections are:

- N Main Street (OR 99)/Hersey Street – Wimer Street
- Ashland Street (OR 66)/Oak Knoll Drive – E Main Street
- Siskiyou Boulevard (OR 99)-Lithia Way (OR 99)/E Main Street
- E Main Street (OR 99 Southbound)/Oak Street
- Siskiyou Boulevard (OR 99)/Tolman Creek Road
- Ashland Street (OR 66)/Tolman Creek Road

7) The Applicant mitigates safety issues on-site and at their access(es) points to the transportation system.

8) The Applicant contributes financially to the safety and multimodal improvements identified for the City's safety focus intersections identified in Step 1.

The City assesses a Multimodal SDC, whereby an applicant is assessed a fee based on the number of person trips the proposed development is estimated to generate. *This allows the system revenues to be used to fund capacity related improvements to the vehicular, pedestrian, bicycle, and transit systems.*

AMENDMENT TO SUPPORT ACCESS MANAGEMENT

The City should Amend Chapter 18 of the Municipal Code to include the following policies for land use actions such as partition sub divisions, site redevelopment, and expansions to maintain and/or improve traffic operations and safety along the boulevard, avenue and collector roadways. Access decisions should be based upon the review of an approved traffic assessment and applicable land use and site design requirements.

- Developments with frontage on two roadways should locate their driveways on the lower functional classified roadway.
- Access driveways should be located to align with opposing driveways.

- If spacing standards cannot be met, effort should be made to consolidate access points with neighboring properties.
- Where standards cannot be met and joint access is not feasible, temporary conditional access can be granted with the provision of crossover easements on compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels.
- Right-of-way dedications may be provided to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) shall be provided along site frontages that do not have full build-out improvements in place at the time of development unless otherwise directed by the public works director.

Exhibit 15-1 on the following page illustrates the application of cross-over easements and conditional access permits over time to achieve the desired access management objectives. The individual steps are described in Table 15-1, following Exhibit 15-1. As illustrated in the figure and supporting table, using these guidelines, all driveways along city, county, and state roadways will eventually move in the overall direction of the access spacing standards as development and redevelopment occur along a given street.

Exhibit 15-1 Example of Cross-over Easement/Indenture/Consolidation/Conditional Access Process

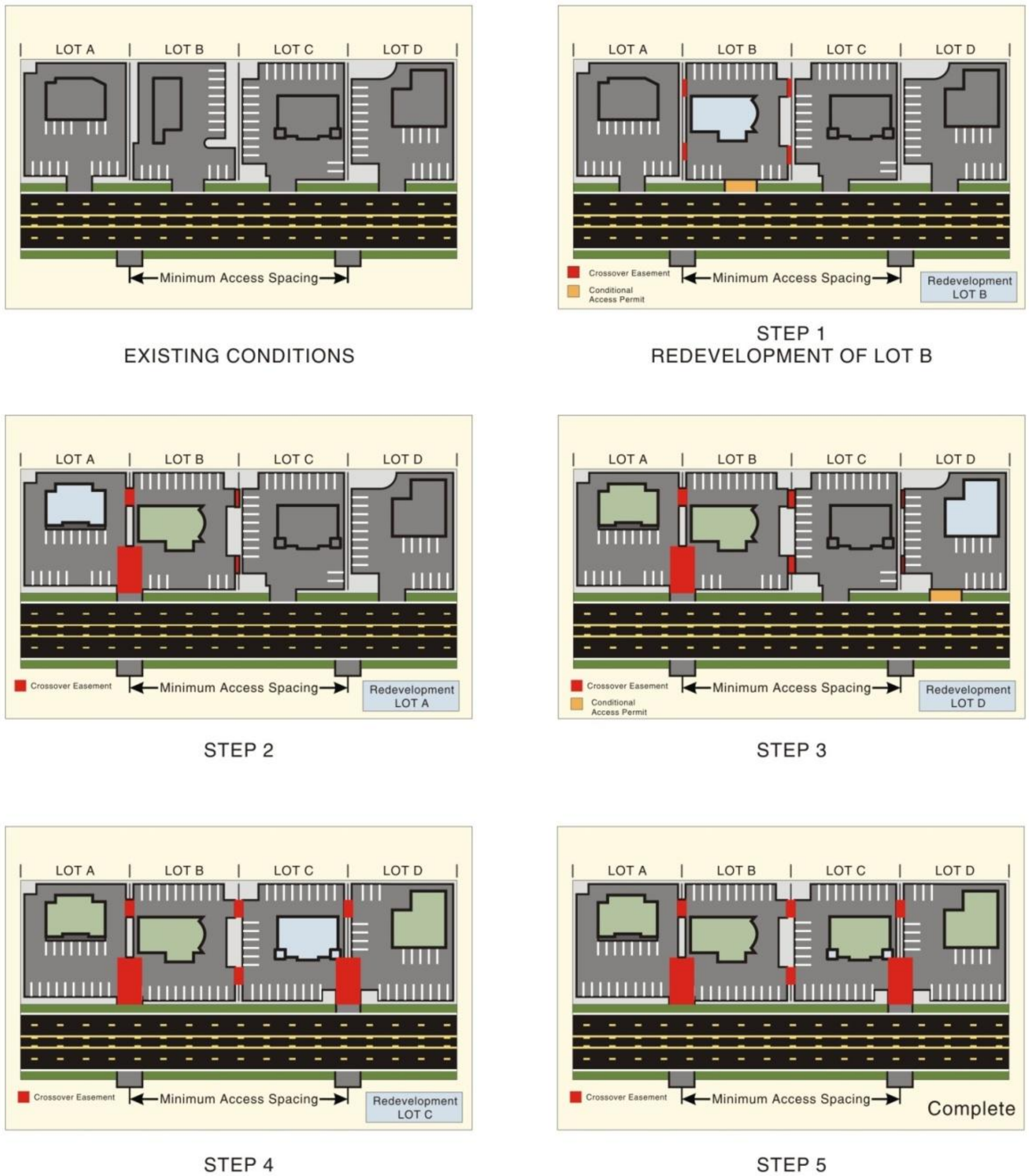


Table 15-1 Example of Crossover Easement/Indenture/Consolidation - Conditional Access Process

Step	Process
1	EXISTING – Currently Lots A, B, C, and D have site-access driveways that neither meet the access spacing criteria of 300 feet nor align with driveways or access points on the opposite side of the roadway. Under these conditions motorists are into situations of potential conflict (conflicting left turns) with opposing traffic. Additionally, the number of side-street (or site-access driveway) intersections decreases the operation and safety of the roadway.
2	REDEVELOPMENT OF LOT B – At the time that Lot B redevelops, the City would review the proposed site plan and make recommendations to ensure that the site could promote future crossover or consolidated access. Next, the City/County/ODOT would issue conditional permits for the development to provide crossover easements with Lots A and C, and City/County/ODOT would grant a conditional access permit to the lot. After evaluating the land use action, the City/County/ODOT would determine that LOT B does not have either alternative access, nor can an access point be aligned with an opposing access point, nor can the available lot frontage provide an access point that meets the access spacing criteria set forth for segment of roadway.
3	REDEVELOPMENT OF LOT A – At the time Lot A redevelops, the City/County/ODOT would undertake the same review process as with the redevelopment of LOT B (see Step 2); however, under this scenario the City/County/ODOT would use the previously obtained cross-

	over easement at Lot B consolidate the access points of Lots A and B. City/County/ODOT would then relocate the conditional access of Lot B to align with the opposing access point and provide and efficient access to both Lots A and B. The consolidation of site-access driveways for Lots A and B will not only reduce the number of driveways accessing the roadway, but will also eliminate the conflicting left-turn movements the roadway by the alignment with the opposing access point.
4	REDEVELOPMENT OF LOT D – The redevelopment of Lot D will be handled in same manner as the redevelopment of Lot B (see Step 2)
5	REDEVELOPMENT OF LOT C – The redevelopment of Lot C will be reviewed once again to ensure that the site will accommodate crossover and/or consolidated access. Using the crossover agreements with Lots B and D, Lot C would share a consolidated access point with Lot D and will also have alternative frontage access the shared site-access driveway of Lots A and B. By using the crossover agreement and conditional access permit process, the City/County/ODOT be able to eliminate another access point and provide the alignment with the opposing access points.
6	COMPLETE – After Lots A, B, C, and D redevelop over time, the number of access points will be reduced and aligned, and the remaining access points will meet the access spacing standard.

Appendix A Project Prospectus Sheets

Appendix B Bicycle and Pedestrian Facility Design Toolkit