County of Chelan
Washington State

Transportation Element
DRAFT

Prepared by
Fehr & Peers
Safeco Plaza
1001 4th Avenue, Suite 4120
Seattle, WA 98154
www.fehrandpeers.com

Prepared for
Chelan County
316 Washington Street, #402
Wenatchee, WA 98801

April 2017

Contents

Figures

Tables

EXECUTIVE SUMMARY

Chelan County, named for the Salish word for "deep water," is a county rich in history and natural beauty. Over the past century, the county has grown into one of Washington's most attractive destinations and places to live. This Transportation Element aims to provide a 20-year vision for Chelan County's transportation system, which respects the region's history and character and supports anticipated growth through 2037.

The overall vision for Chelan County's Transportation Element is to provide a safe, balanced, and efficient multi-modal transportation system that serves anticipated local and regional growth. Guidance from county staff, the Board of County Commissioners, the Chelan-Douglas Transportation Council, stakeholders, and citizens helped identify six goals, which serve as the foundation for this plan:

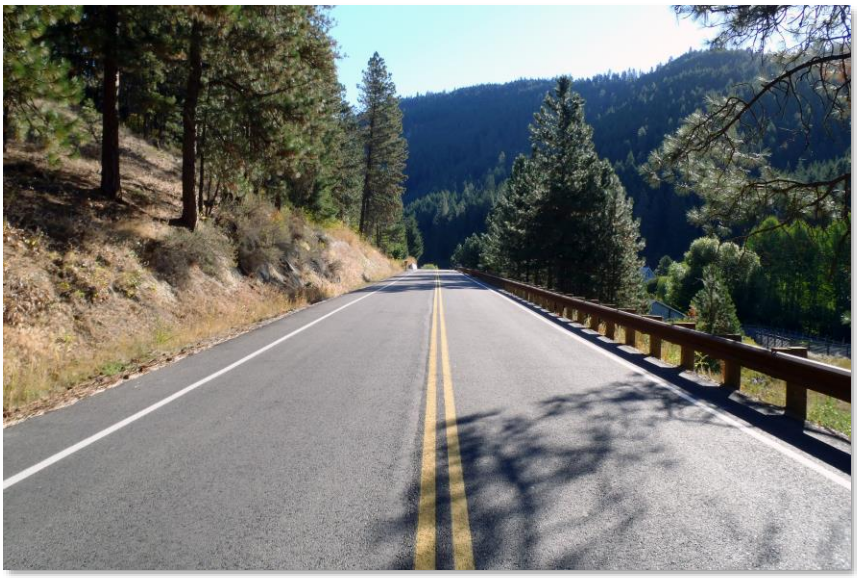
- **Maintain existing transportation facilities** in a state-of-good-repair to ensure their continued function, which is critical to achieving all of the county's mobility goals
- Create a transportation network that can be **shared safely by all users** and that provides sufficient access for emergency response
- Plan for a system that is **financially viable**, including consideration of lifecycle costs in infrastructure investments and leveraging outside funds wherever possible to maximize community benefits
- Provide a transportation system that **complements existing and planned land uses**, supports farm-to-market and recreational tourism needs, and balances economic development with existing users
- **Avoid and minimize negative environmental and societal impacts** from the transportation system and enhance the natural and social environment when possible
- **Coordinate with a broad range of groups** (including local, state, and regional agencies, key stakeholders, businesses, and the public) to develop and operate the transportation system.

Lake Chelan

The Transportation Element sets a framework for understanding, prioritizing, measuring, and creating a transportation network to help Chelan County achieve its vision. This document includes seven chapters:

- **Chapter 1 – Introduction:**
  Describes the purpose of the Transportation Element and the planning requirements it needs to address. Also provides an overview of Chelan County's position in the state and related planning efforts.
- **Chapter 2 – Conditions and Trends:**
  Describes conditions for all travel modes in the existing transportation system. This chapter also identifies challenges and trends that may affect Chelan County's transportation network in the future.
- **Chapter 3 – Maintaining Our System:**
  Describes how the county operates and maintains its transportation system, including ongoing programmatic activities and expenditures. This chapter discusses best practices in good state of repair.
- **Chapter 4 – Transportation Goals and Policies:**
  Explains the county's vision for transportation and the goals and policies that serve as the basis for this Transportation Element.
- **Chapter 5 – Future Transportation Vision:**
  Details how to accommodate each travel mode and establishes the county's qualitative level of service standards.
- **Chapter 6 – Capital Plan:**
  Provides the 20-year capital plan based on the community's values expressed in the transportation goals and layered network.
- **Chapter 7 – Implementing the Transportation Element:**
  Evaluates Chelan County's financial conditions over the next 20 years and provides guidance on plan implementation.

To serve as a useful document for all residents and staff of the county, this Transportation Element focuses on the county's vision and the projects and programs intended to meet that vision. Technical and supporting information are available in the **Appendices**.



Eagle Creek Road, Chelan County

CHAPTER 1: INTRODUCTION

Chelan County, named for the Salish word for "deep water," is a county rich in history and natural beauty. Aided by tourist destinations like Lake Chelan and the city of Leavenworth and economic drivers like the fruit industry, the county has grown over the past century into one of Washington's most attractive destinations and places to live.

This Element aims to provide a 20-year vision for Chelan County's transportation system, which respects the community's history and character and supports anticipated growth through 2037.

I. PURPOSE

The overall vision for Chelan County's Transportation Element is to provide a safe, balanced, and efficient multi-modal transportation system that serves anticipated growth. Guidance from county staff, the Board of County Commissioners, stakeholders, and citizens helped identify several key priorities:

- **Maintain existing transportation facilities** in a state-of-good-repair to ensure their continued function, which is critical to achieving all of the county's mobility goals
- Create a transportation network that can be **shared safely by all users** and that provides sufficient access for emergency response
- Plan for a system that is **financially viable**, including consideration of lifecycle costs in infrastructure investments and leveraging outside funds wherever possible to maximize community benefits
- Provide a transportation system that **complements existing and planned land uses**, supports farm-to-market and recreational tourism needs, and balances economic development with existing users
- **Avoid and minimize negative environmental and societal impacts** from the transportation system and enhance the natural and social environment when possible
- **Coordinate with a broad range of groups** (including local, state, and regional agencies, key stakeholders, businesses, and the public) to develop and operate the transportation system.

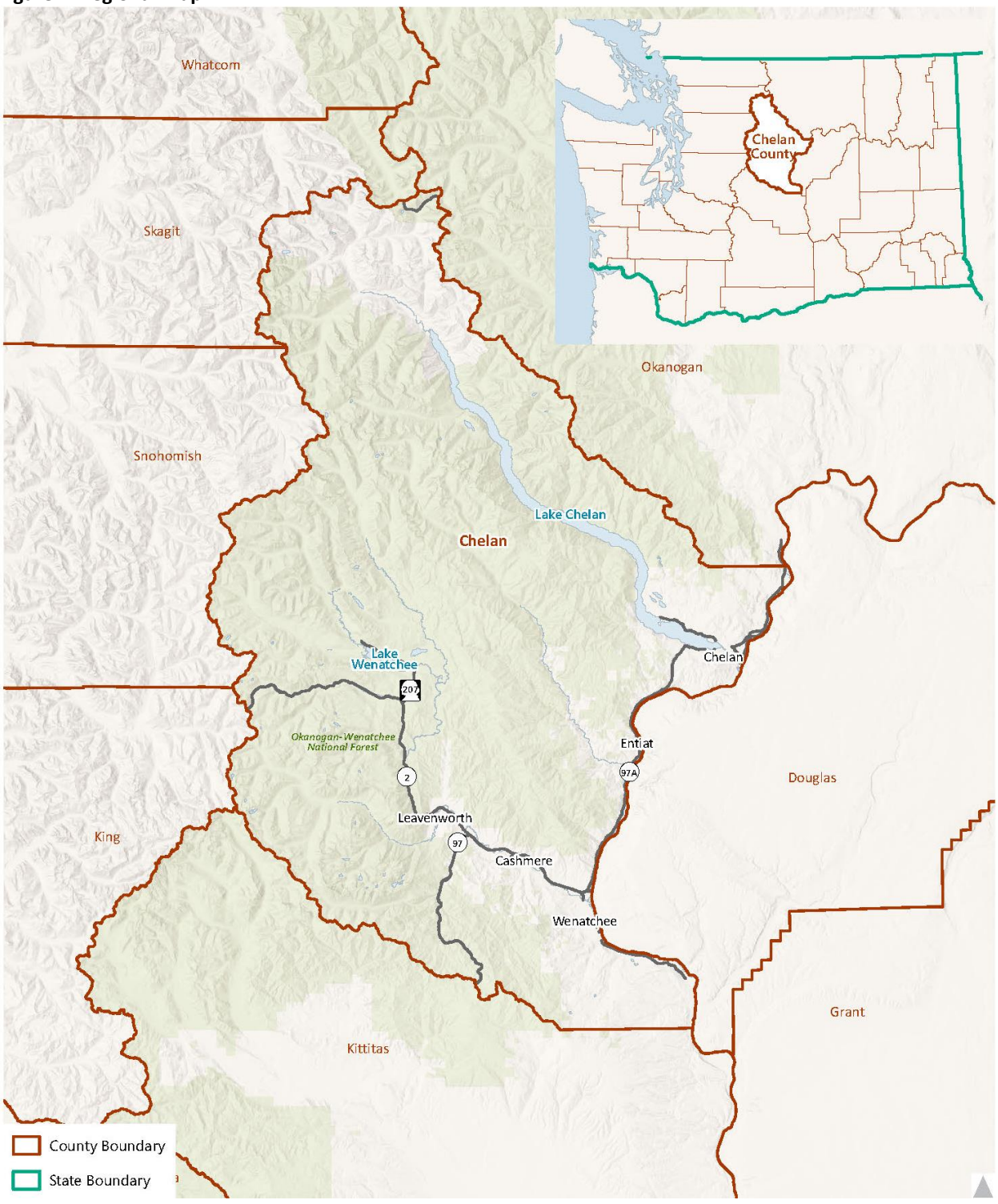
The Transportation Element sets a framework for understanding, prioritizing, measuring, and creating a transportation network to help Chelan County achieve its vision.

II. PLANNING REQUIREMENTS

Chelan County's regional location plays a role in the demands put on its transportation system. The county encompasses Lake Chelan, Leavenworth's Bavarian village, several major forests and mountains, many farm-to-market connections, and many other destinations. The county is bordered by the Columbia River to the east and the Cascades to the west. US 2 connects Chelan County to King County in the west and Douglas County in the east while US 97 links Chelan County to Kittitas County in the south and Okanogan to the north.

Figure 1 shows the location of Chelan County in its statewide and regional setting.

Figure 1. Regional Map



The County must coordinate its transportation planning with a variety of jurisdictions, agencies and stakeholder groups.

Coordinated with:

- City of Cashmere
- City of Chelan
- Chelan County Public Utility District
- Chelan-Douglas Transportation Council
- City of Entiat
- City of Leavenworth
- Community Council of Peshastin
- Greater Wenatchee Bicycle Advisory Board
- Lake Wenatchee Fire and Rescue
- LINK Transit
- Malaga Community Council
- Manson Community Council
- Monitor Rural Community
- U.S. Forest Service
- Wenatchee
- WSDOT

GROWTH MANAGEMENT ACT

Washington State's Growth Management Act of 1990 requires communities to prepare a transportation element that ties directly to the county's comprehensive plan, land use decisions and financial planning. This Transportation Element Update fulfills that mandate.

Additionally, given the status of US 2 as a major transportation corridor that travels through Chelan County, this plan aims to coordinate with the Washington State Department of Transportation (WSDOT) and adjacent counties to ensure that these state facilities can adequately serve the region's needs.

OTHER PLANS

As part of this planning process, several local, regional, state plans, and documents that influence transportation planning in Chelan County were reviewed. This section summarizes some of the key regional plans reviewed.

TRANSPORTATION 2040 - CHELAN AND DOUGLAS COUNTIES

The 2040 Regional Transportation Plan, prepared by the Chelan-Douglas Transportation Council, lays out the long term goals for growth management, economic, and transportation issues.

The plan identifies six key priorities for transportation in the region:

1. **Public Involvement** – Develop awareness of community preferences and stakeholder concerns, and build community support for plans and proposals

2. **Intergovernmental Coordination** – Align policy objectives with land use, economic development and transportation, promote regional strategies to increase transportation funding, and develop actionable plans to address urban, rural, and small city transportation needs

3. **Transportation Safety** – Improve safety for vehicle drivers, transit riders, bicyclists, and pedestrians

4. **Access and Mobility** – Develop actionable plans for maintaining adopted performance standards for vehicle drivers, transit riders, bicyclists, and pedestrians, and integrate multimodal improvements whenever possible with roadway maintenance and improvements. Improve freight access and mobility

5. **Financial Stewardship** – To increase roadway capacity and safety, apply technology, manage access to major roadways, maximize the use of non-single occupancy vehicle modes, and balance future investments in roadways and other modal infrastructure. Ensure that financial resources allocated to

transportation improvements maximize community benefits

6. **Environmental Stewardship** – Avoid and minimize negative environmental and societal impacts from transportation improvements. Enhance the natural and social environment when possible

DOUGLAS COUNTY COMPREHENSIVE PLAN TRANSPORTATION ELEMENT

Douglas County borders Chelan County directly to the east and since Wenatchee and East Wenatchee are so close in proximity, the work force, business markets, and residents often cross county boundaries. Its transportation element is important to consider when developing Chelan County's own element.

The land use pattern in the Transportation Element determines the demand for travel to, from and through various locations. Therefore, the transportation element has been integrated with other elements of the plan to ensure consistency.

Chelan County

ADDITIONAL PLANS

Other local plans and documents that were reviewed include:

- Cashmere Area Transportation Study
- Chelan County Six Year Transportation Improvement Program
- Chelan County 2009 Transportation Element
- Chelan Douglas Transportation Council 2016-2019 Regional Transportation Improvement Program
- City of Cashmere Comprehensive Transportation Plan
- City of Wenatchee Comprehensive Plan Transportation Element
- Entiat Shoreline Public Access Plan
- Greater Wenatchee Bicycle Master Plan
- Malaga Vision Plan
- Manson Subarea Plan
- Monitor Rural Community Vision Statement
- North Wenatchee Transportation Master Plan
- Peshastin Urban Growth Area Comprehensive Plan
- Revised Schedule A to Forest Development Road Cooperative Agreement between Chelan County and U.S. Forest Service Memorandum
- Urban Valley Regional Trails Plan
- Wenatchee Valley Urbanized Area Freight Study

III. ROLE OF THE TRANSPORTATION ELEMENT

The Transportation Element provides a framework that outlines the policies, projects, and programs necessary to implement Chelan County's vision of future mobility. The Transportation Element also projects the financial environment for transportation investments out to 2037.

In essence, the Transportation Element informs the prioritization of projects by identifying the types of investments the county should make to support future travel trends. The plan also evaluates how these projects coincide with the community's values and financial resources.

North Wenatchee Avenue, Wenatchee

Cottage Avenue, Cashmere

IV. PLAN ORGANIZATION

This Transportation Element includes six chapters in addition to the Introduction **(Chapter 1)**:

- **Chapter 2 – Conditions and Trends:** Describes conditions for all travel modes in the existing transportation system. This chapter also identifies current challenges and trends that will affect Chelan County's transportation network in the future.

- **Chapter 3 – Maintaining Our System:** Describes how the county operates and maintains its transportation system, including ongoing programmatic activities and expenditures on into the future. This chapter discusses best practices in good state of repair.

- **Chapter 4 – Transportation Goals and Policies:** Explains Chelan County's vision for transportation as well as the goals and policies that form the basis for the Transportation Element.

- **Chapter 5 – Transportation Vision:** Details how to accommodate each travel mode and establishes the county's qualitative transportation level of service standards.

- **Chapter 6 – Capital Plan:** Provides the 20 year transportation investment list which reflects on the community values expressed in the transportation goals and layered network.

- **Chapter 7 – Implementing the Transportation Element:** Evaluates the county's financial conditions over the next 20 years and provides guidance on plan implementation.

CHAPTER 2: CONDITIONS AND TRENDS

I. EXISTING CONDITIONS

This chapter describes how people use Chelan County's transportation network today and how that may change over the next 20 years as the region grows. The way people travel is influenced by the land use, travel corridors, and key destinations where people live, work, play, shop, and recreate.

LAND USES AND KEY DESTINATIONS

The places where people live, work, and play are impacted by how a county and its communities guide where development occurs. The Land Use Element of this Comprehensive Plan provides the guidance mentioned here. It is important to consider land use when planning for transportation because it provides insight into areas where more people may concentrate their travel. **Figures 2-4** show some of the many key destinations throughout the county. These figures include recreational, educational, and employment locations.

The incorporated cities in Chelan County are Cashmere, the City of Chelan, Entiat, Leavenworth, and Wenatchee. Wenatchee is the largest of these cities and the hub of commercial activity, with the cities of Chelan and Leavenworth acting as the centers of recreational tourism. Even within these denser communities, the majority of housing is detached single family.

Agricultural and industrial developments are located throughout Chelan County which include farms, orchards, and fruit packing warehouses, particularly along the US 2 and SR 97 corridors. Large swaths of the southwest and northwest portions of the county are highly mountainous, with the Okanogan-Wenatchee National Forest and the Lake Chelan National Recreation Area comprising large areas of public land.

It is important to consider that areas of commercial, industrial, and dense residential land use within the cities, urban growth areas (UGAs), and local areas of more intense rural development (LAMIRDs) tend to have more concentrated trips and can be supportive of alternative modes of travel such as transit, walking, and biking, whereas more rural areas tend to have dispersed trip patterns that are often best accommodated by car or truck.
In the following pages, some of the county's key destinations and land uses are described and mapped.

Chelan / Manson Vicinity

Many residents and visitors alike enjoy the lake and adjacent parks to recreate outdoors in the Chelan / Manson vicinity which serves as a gateway to the Lake Chelan National Recreation Area. Various parks, piers, and boat launches provide access to the lake. The parks along the lake generate significant amounts of vehicle traffic in addition to the non-motorized uses at the parks themselves. South Lakeshore Road and SR 150 (along the north shore) serves as a cycling route for residents and visitors in addition to being an active motorway.

In addition to being a popular tourist and recreation destination with numerous vineyards and wineries, the City of Chelan is also a key employment center. Some major employers are situated in eastern Chelan, which include: Trout Blue Chelan, Chelan Fruit, and Manson Growers.

This area also contains two of the four airports in the county: The Chelan Municipal and Stehekin State airports. Chelan Municipal Airport is classified as a local service airport and generates the highest amount of daily airplane traffic in the county.[1] This airport provides service for amphibious floatplanes that land on

[1] Washington State Airports. Airport Facilities and Services Report.

and take-off from Lake Chelan. The airport is located approximately five miles northeast of the City of Chelan.

Lake Chelan (Source: Lake Chelan Chamber of Commerce)

The Stehekin Airfield is five miles northwest of Stehekin on the northern edge of Lake Chelan. It provides access for private landowners, commercial carriers, and recreational users. The airfield provides an alternative mode of access to Stehekin for residents or visitors. It is also used as a staging area for fire-fighting and for emergency evacuations.

In addition, commercial water transportation in this area includes passenger boats, commercial barges and small boat service on Lake Chelan. For the communities of Stehekin, Lucerne, and Holden, barges provide the only means of transportation of large goods, fuel, building supplies, and vehicles.

Entiat Vicinity

Entiat is located along the Columbia River and acts as an eastern gateway to the Wenatchee National Forest. It is situated along SR 97A and lies between the cities of Chelan and Wenatchee.

Between SR 97A and the Columbia River waterfront is a rail line operated by the Cascade and Columbia River Railroad. Discussions with the city indicate that increased rail traffic could impact future waterfront access in Entiat.

Entiat serves as one of the many recreational destinations in the county for visitors and residents with a developing recreational and commercial waterfront area near the Entiat City Park and many opportunities for boating and fishing. Entiat River Road provides access into the Wenatchee National Forest for biking, hiking, hunting, camping, horseback riding, and fishing.

Entiat Park, Entiat (Source: Daily Journal of Commerce)

Figure 2. Key Destinations (Chelan, Manson, and Entiat Vicinity)

Wenatchee/Sunnyslope Vicinity

The City of Wenatchee is the largest city in Chelan County. This city is a regional hub for employment, freight, residential, and commercial activity. The city borders the Columbia River, also the Chelan/Douglas County line. Access to East Wenatchee crossing the Columbia River is either on US 2/97 or SR 285 making it a key gateway to inter-county movement and transportation.

The Sunnyslope Subarea is a large unincorporated community north of the Wenatchee River and US 2/97. Easy Street is classified as an Urban Minor Arterial and serves as primary access to the Sunnyslope Subarea. Easy Street intersects US 2/97 generally southeast near Olds Station and further west near the community of Monitor. Railroads through the area provide opportunities for regional freight and passenger movement. The Columbia Station in downtown Wenatchee serves as one of two Amtrak stations in the county along its Empire Builder route as well as a transit center for the region's LINK Transit bus service.

Currently, no scheduled commercial passenger service is provided at airports located within Chelan County; however, Pangborn Memorial Airport in Douglas County provides that service to Chelan County and its cities.

Additionally, Wenatchee serves as the county seat and hosts the WSDOT regional office and Chelan-Douglas Transportation Council.

Wenatchee is home to recreational areas that range from local parks to regional ones such as Confluence State Park. There are also many trails and non-motorized facilities for bicyclists and pedestrians. Also, the Mission Ridge Ski Resort is located about 10 miles southwest of Wenatchee.

The area also consists of retail and employment centers from McDougall & Sons, Stemilt Growers, and Starr Ranch Growers to larger retail centers such as Walmart, Home Depot, Target and other commercial areas that serve the city.

With a population of 33,600[2], the City of Wenatchee is served by the Wenatchee School District and the Wenatchee Valley College, which provides secondary education for students in the region. In terms of public services, the county's main hospital is also located in Wenatchee.

Cashmere/Monitor Vicinity

The Cashmere/Monitor vicinity serves as a major employment center for the large fruit and produce distributors in the region which include Crunch Pak, Liberty Orchards, and Blue Star Growers.

Aplets & Cotlets (Source: Liberty Orchards)

The City of Cashmere has a historic downtown and provides many recreational amenities from local parks, to mountain biking trails, to a museum that give Cashmere its character.

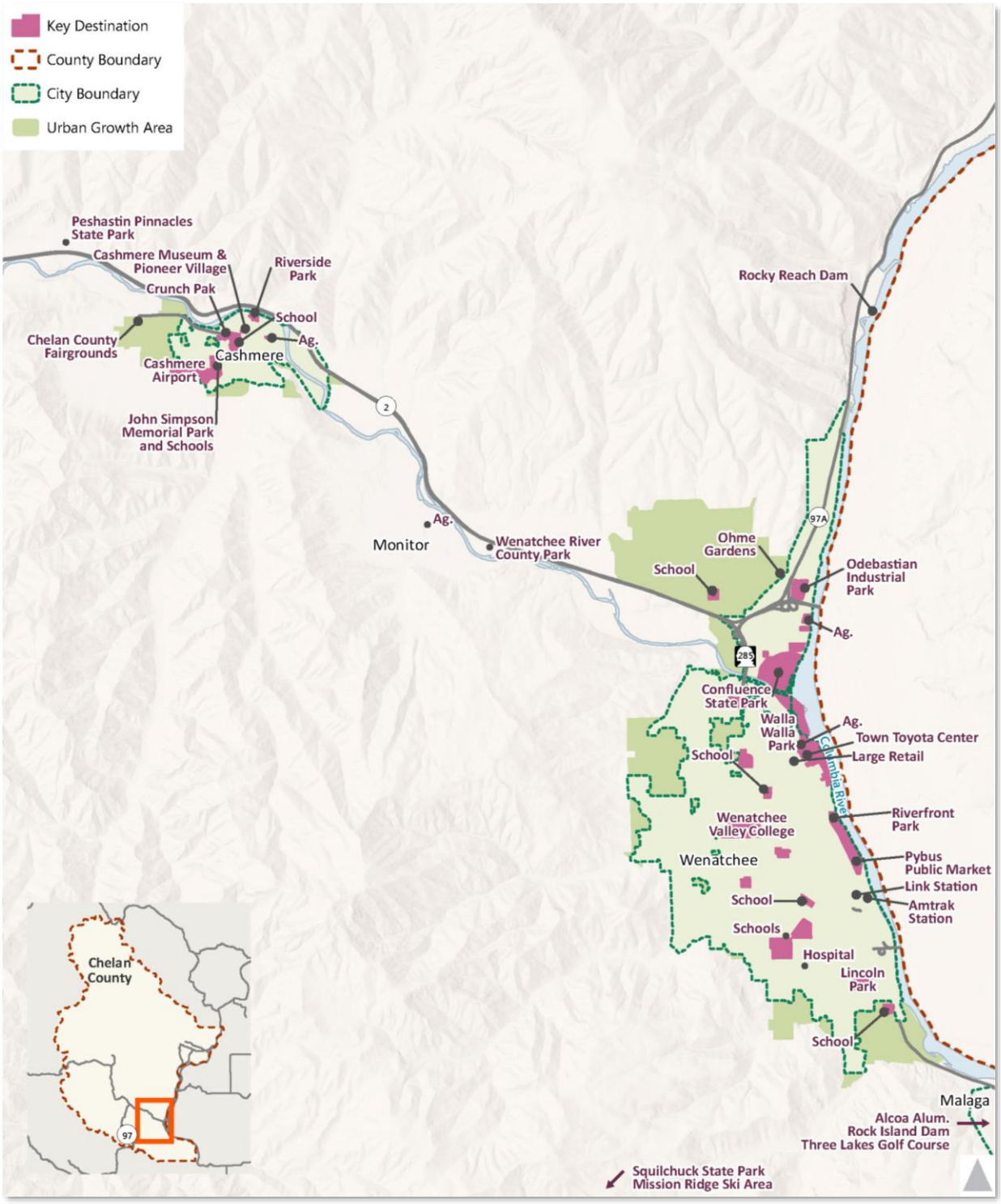
US 2/97, US 97A, and the railroad provide freight and passenger movement through and in the area.

[2] United States Census Bureau. *Quick Facts Wenatchee City, Washington. 2015.* http://www.census.gov/quickfacts/table/PST045215/5377105

Also, there has been discussions to provide trail access through the area to connect Wenatchee through Cashmere and Monitor to Leavenworth creating an additional option for travelers through the region; however, this project has gone no further than as a topic for discussion.

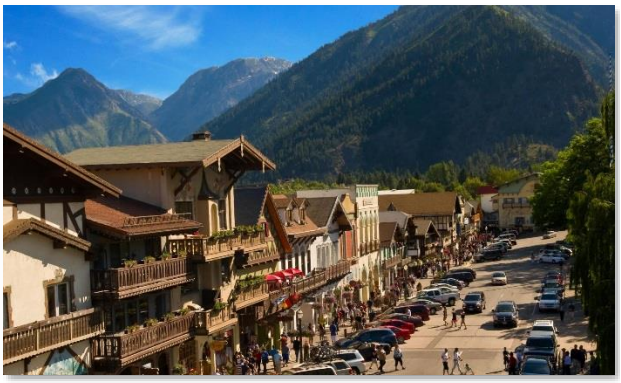
Additionally, the Cashmere-Dryden Airport is located to the southwest of Cashmere. It is a county-owned airport that accommodates general aviation operations.

Figure 3. Key Destinations (Cashmere/Monitor and Wenatchee/Sunnyslope Vicinity)



Leavenworth / Peshastin / Plain Vicinity

Leavenworth's Bavarian-styled main street is characterized as the historical city center and serves as a major attraction for residents and visitors alike. It features a mix of commercial, residential, and civic destinations such as City Hall and the Upper Valley Museum. As a result, it generates high traffic volumes for all modes of travel – vehicle, pedestrian, bike, transit, and rail.



Downtown Leavenworth (Source: Port of Chelan County)

The area is also home to two major employers of the region: Blue Bird and Hi-Up Growers.

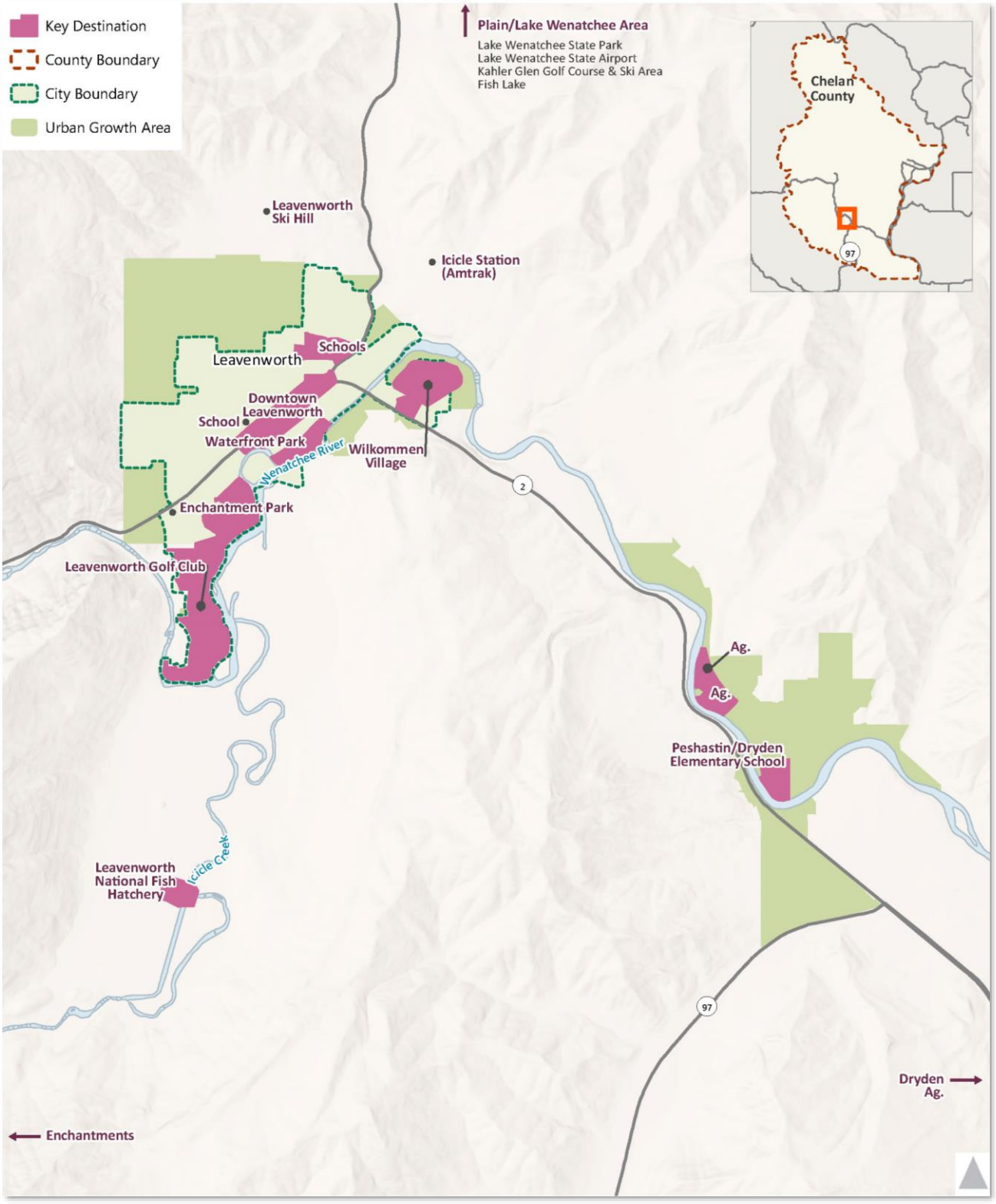
Many additional recreational attractions are located within this area such as parks, mountain bike trails, hiking trails, campgrounds, and Lake Wenatchee. The Okanogan-Wenatchee National Forest is also easily accessible through the Leavenworth and Plain areas.

US 2 bifurcates Leavenworth primarily separating much of its residential units from its commercial core. US 2 provides access to Stevens Pass and Western Washington.

The Lake Wenatchee State Airport, 16 miles northwest of Leavenworth and only a mile east of the lake provides direct access to Lake Wenatchee.

Icicle Station, located east of Leavenworth is one of two Amtrak stations along its Empire Builder Route in Chelan County, providing interstate connectivity.

Figure 4. Key Destinations (Leavenworth and Peshastin Vicinity)



TRANSPORTATION NETWORK OVERVIEW

Chelan County possesses a rich and diverse mix of land uses and destinations that require a specialized transportation plan to ensure efficient mobility and accessibility throughout the county.

The transportation network accommodates many modes of travel, including walking, bicycling, public transit, and driving. Vehicular travel is still the primary mode for most travelers in and around the county.

Rural roads and highways form the foundation of the transportation framework with roadways connecting the many communities in Chelan County. Additionally, intercity transit is available between and within many of these communities.

The incorporated cities have relatively well-connected street grids, while rural roadways with more limited pedestrian amenities characterize the remaining areas of the county.

Also, the United States Forest Service (USFS) maintains certain roadways within Chelan County. As county residents use USFS roadways, coordination between both parties is important to properly maintain these roadways.

This plan classifies Chelan County's roadways into freeways and expressways (highways), arterials, major and minor collectors, and local streets, as shown in **Table 1** and displayed in **Figure 5, Figure 6, and Figure 7.** Examples of each roadway type and characteristic are also described below.

Chelan County (source: Chelan County Public Works)

Chelan County (source: Chelan County Public Works)

Chelan County (source: Chelan County Public Works)

Table 1. Roadway Functional Classification

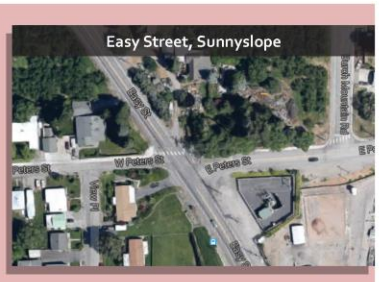
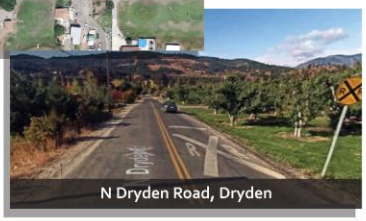
ROADWAY TYPE	DESCRIPTION/PURPOSE	
Freeways & Expressways (Highways) ***Examples***: US 2, US 97/97A, SR 285, SR 150	Freeways are designed and constructed for mobility and long-distance travel. The freeway network links many major cities and urban growth areas throughout Chelan County.	 US 2, Cashmere
Urban / Rural Minor Arterial ***Examples***: Easy St (within UGA), Squilchuck Rd (within UGA)	Minor arterials are designed for higher volumes, but tend not to be major regional travel ways. Minor arterial streets provide inter-neighborhood connections as well as connections to the regional freeways.	 Easy Street, Sunnyslope
Urban / Rural Major Collectors ***Examples***: Manson Blvd, Chumstick Hwy, W Malaga, N Dryden Rd	Collectors distribute trips between local streets and arterials and serve as transition roadways to and from commercial and residential areas. Collectors have lower volumes than arterials, and can include select traffic elements to balance experience for all modes. Urban and rural collectors differ in the areas that they serve.	 West Malaga Road, Malaga  N Dryden Road, Dryden
Urban / Rural Minor Collectors ***Examples***: Joe Miller Rd, Ski Hill Dr, Apple Acres Rd, Mission Creek Rd	These smaller collectors link the major collectors to local roads, providing connections to rural communities throughout the County.	 Ski Hill Drive, Leavenworth
Local Streets ***Examples***: Kimber Rd, Mountain Home Rd, Boetzkes Ave, Viewdale Ave, Zager Rd	Local streets are the lowest functional classification, providing circulation and access within residential neighborhoods and in accessing private properties.	 Boetzkes Avenue, Manson

Figure 5. Roadway Functional Classification (Chelan, Manson, and Entiat Vicinity)

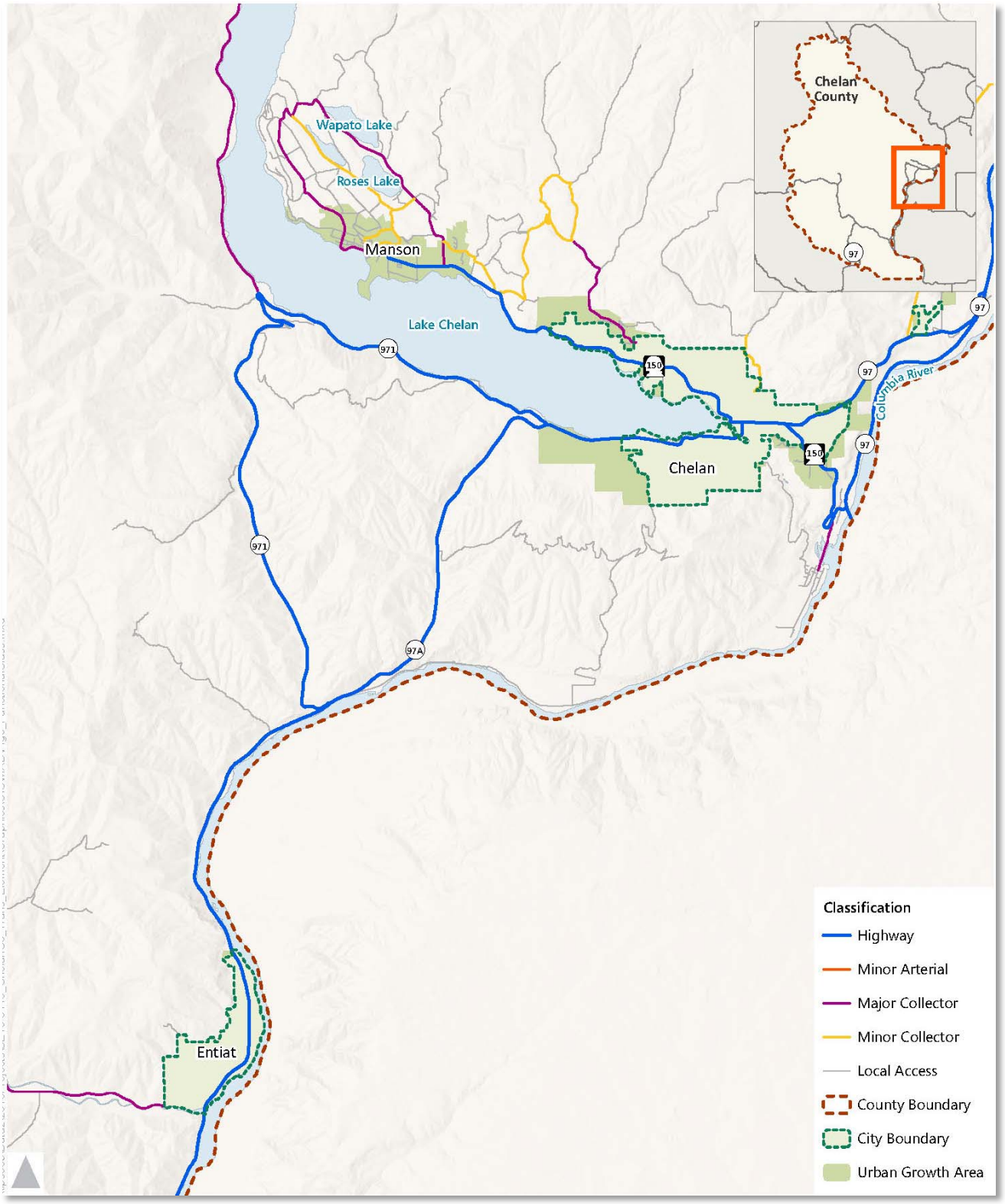


Figure 6. Roadway Functional Classification (Cashmere/Monitor and Wenatchee/Sunnyslope Vicinity)

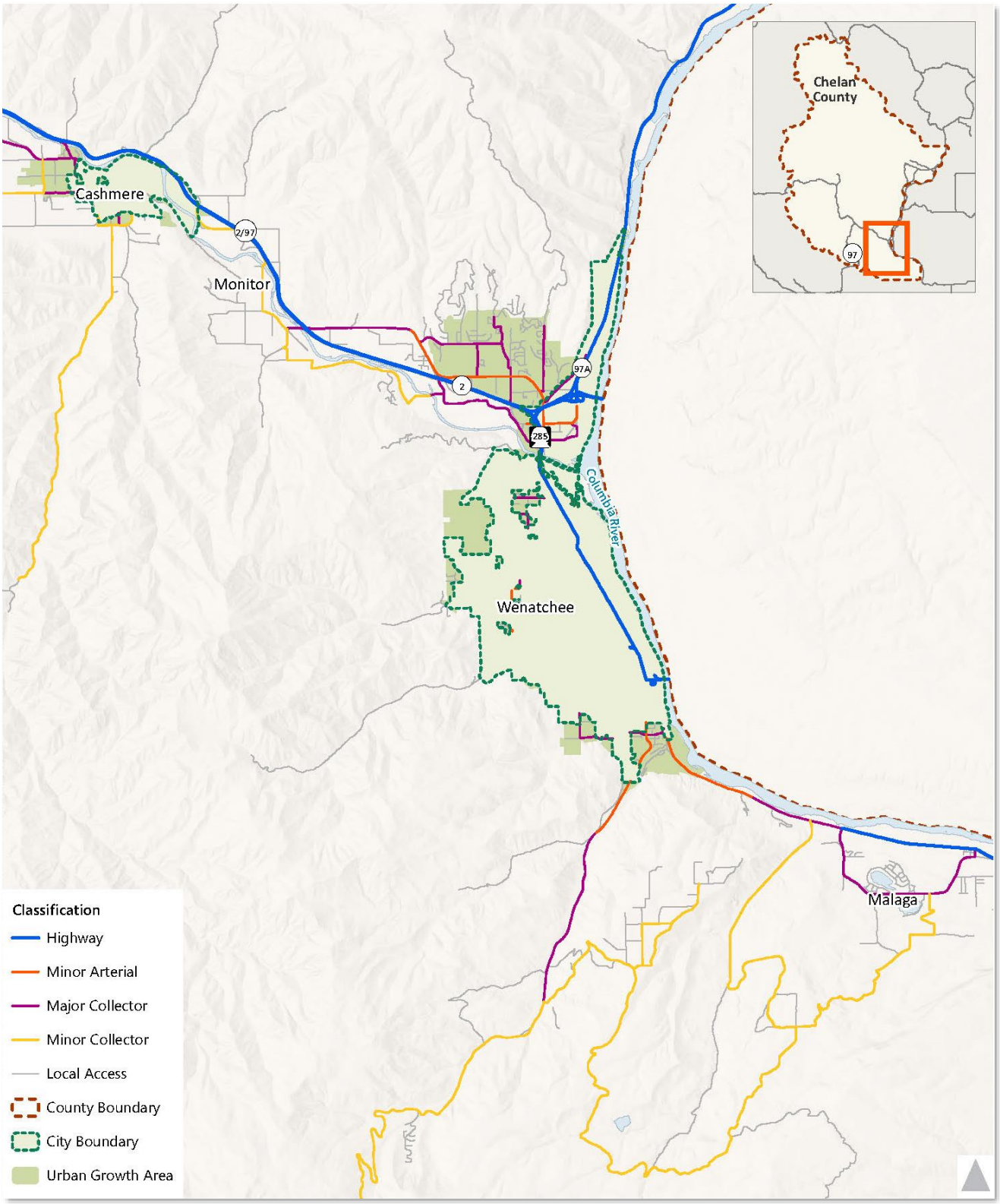
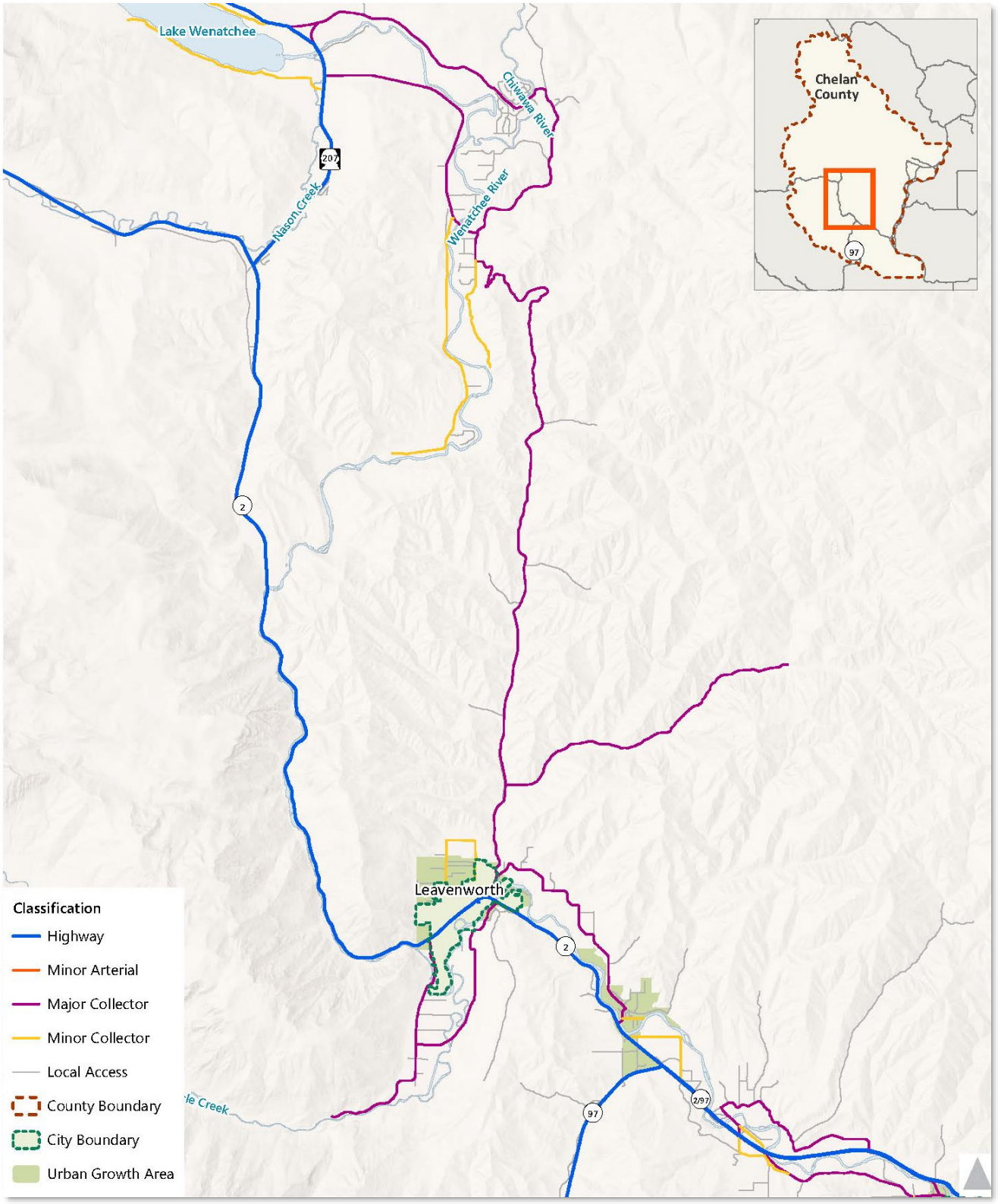


Figure 7. Roadway Functional Classification (Leavenworth, Peshastin, and Plain Vicinity)



PEDESTRIAN AND BICYCLE NETWORK

Provision of facilities for walking and biking is a goal for providing a functional, multimodal transportation system to accommodate all users. Residents and visitors walk and bike as part of their daily travel for many reasons. Children attending school, commuters taking the bus or connecting with a carpool to get to work, bicycle commuters, and senior citizens making mid-day trips, all require safe amenities.

Most of the great walkable areas in Chelan County are in incorporated downtowns: Wenatchee, Chelan, Leavenworth, and Cashmere all enjoy walkable downtowns with complete sidewalk coverage.

Outside of these downtowns and in the unincorporated areas, pedestrian facilities are much more limited. Cashmere, Chelan, Entiat, Leavenworth, Manson, Peshastin, and Wenatchee are all identified in *Transportation 2040* as communities with some pedestrian demand, but major rural routes with auto priority make walking a less desirable alternative to driving.[3]

Tigner Road near Cashmere High School lacks basic pedestrian facilities

With respect to biking, the City of Wenatchee offers a robust network of bike lanes and signed routes to make bike travel easy throughout the city. Wenatchee is unique among Chelan County communities with a CDTC-approved Greater Wenatchee Bicycle Master Plan. The plan includes further development of the Princeton, Western, North End, Hawley, Fifth Street, First Street, Orondo, Methow, Wenatchee Avenue, Bridge Street, and Miller Bikeways. These are programmed to see improved connections, better signage, better buffers, and spot improvements.

Countywide, biking is accommodated on trails, and on shoulders along rural roadways. The scenic Apple Capital Loop Trail encircles a section along the Columbia River in and around Wenatchee and East Wenatchee. Other plans include increasing bicycle access and connectivity throughout the county. The county has incorporated "share-the-road" signs on several of its roadways that see a higher use of multi-modal transportation. The Upper Valley Trail is an envisioned project that will connect the City of Leavenworth all the way to the City of Wenatchee through Peshastin, Cashmere, and Monitor.

Chelan County's Share the Road Sign alerts drivers of the many multi-modal-uses of the county's roadways

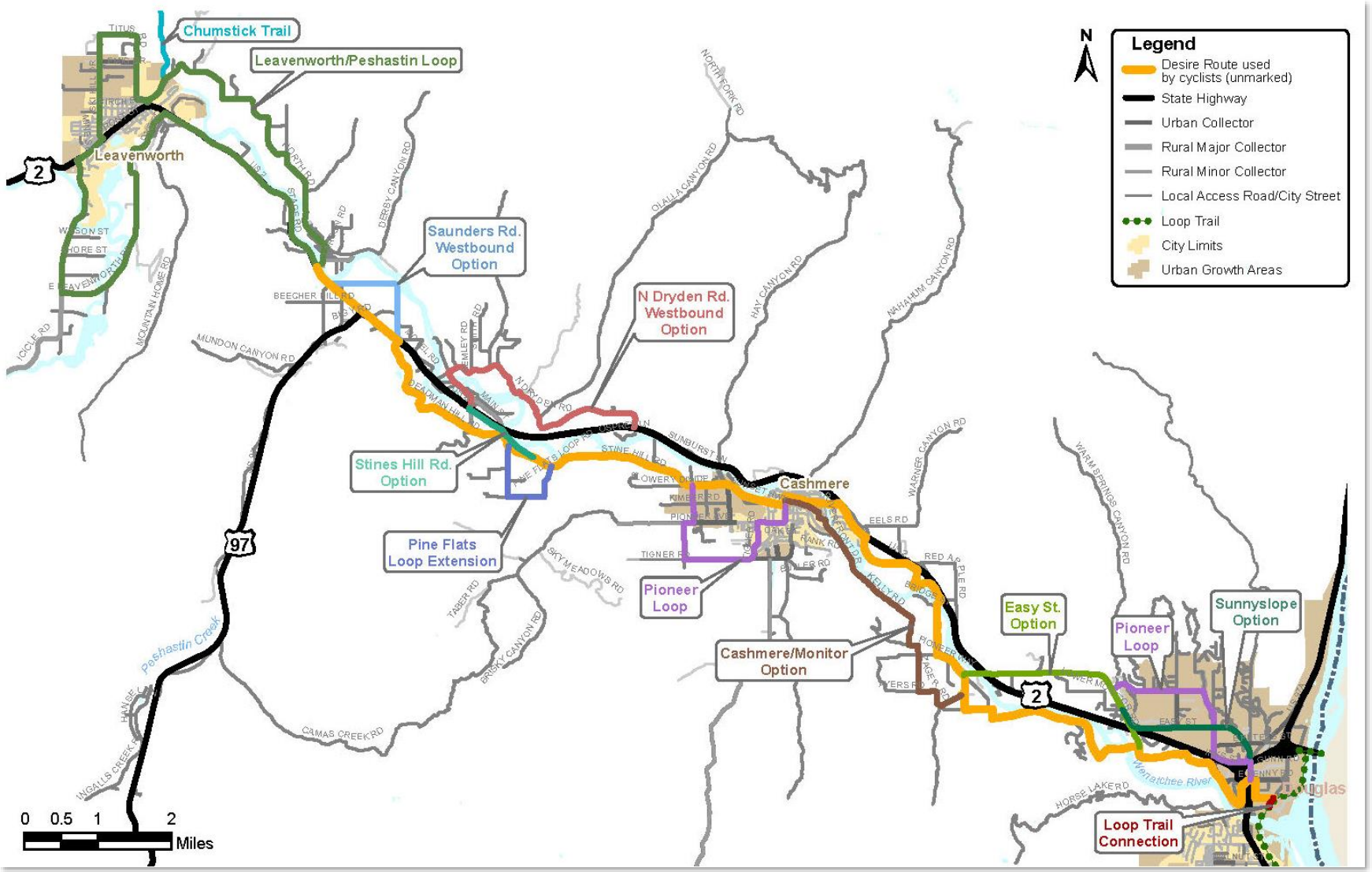
Outside of city jurisdictions, the bicycle and pedestrian network is sparse and contains many gaps due to the rural nature of the county. The county is interested in planning better connectivity from cities to the neighboring areas in the county where feasible and prudent.

[3] Transportation 2040. CDTC. Figures 2-4, 2-5, and 2-6.

The Chelan-Douglas Transportation Council has identified implementation of the Bicycle Master Plan as a performance target for *Transportation 2040*. Several of the subarea plans also call for improved pedestrian and bicycle safety. As a result, providing pedestrian and bike infrastructure remains an important goal throughout the county.

Figure 8 shows the locations of pedestrian facilities and bike facilities in Chelan County from Wenatchee to Leavenworth. This map was adopted from the previous Transportation Element. Existing sidewalk facilities throughout the county are mapped and shown in the **Appendices.**

Figure 8. Existing Bicycle and Pedestrian Facilities (Leavenworth, Peshastin, Cashmere and Sunnyslope Vicinity)[4]



[4] Source: Chelan County Transportation Element, 2009

TRANSIT NETWORK

LINK Transit provides local and intercity bus service throughout Chelan County. The majority of transit riders access this service by walking or parking at a park-and-ride lot or on-street parking and then connecting to transit. Three LINK Transit routes serve Chelan County with frequencies ranging from 15 – 30 minutes, with 10 other routes connecting communities in the county and offering local service in Wenatchee. Service is offered at all of Chelan County's seven park-and-ride lots (**Table 2**), which are located adjacent to state routes. The approximate number of parking spaces provided at each park and ride lot is also provided in **Table 2**.

LINK Transit also operates LinkPlus, a paratransit service that operates as a dial-a-ride service based on pre-scheduled requests. This fulfills the Americans with Disabilities Act mandate and is active within a ¾ mile radius of LINK Transit's fixed route services in Cashmere, Chelan, Entiat, Malaga, Manson, Monitor, and Wenatchee.

Table 2. Park and Ride Location and Spaces

Lot Name	Location	Approx. Spaces
Big Y	US 2 & SR 97	32 spaces
Columbia Station	Kittitas and Columbia Streets, Wenatchee	67 spaces
Easy Street	US 2 & SR 97	29 spaces
Entiat	SR 97A & Entiat Way	21 spaces
Lake Chelan	SR 97A & Center Street (Lakeside)	29 spaces
Leavenworth	SR2 near USFS	42 spaces
Olds Station	Olds Station Road	200 spaces

In addition to LINK Transit, AMTRAK provides long distance commuter rail services through Chelan County along its Empire Builder Route. The route runs from Seattle or Portland to Chicago. Within Chelan County, this route serves the cities of Leavenworth and Wenatchee providing interstate transit connections to and from the county. **Figure 9, Figure 10, and Figure 11** show existing LINK transit routes and park & rides throughout the county.

Link Transit's Columbia Station, located in Wenatchee (Source: Link Transit)

Figure 9. LINK Transit Routes (Chelan, Manson, and Entiat Vicinity)

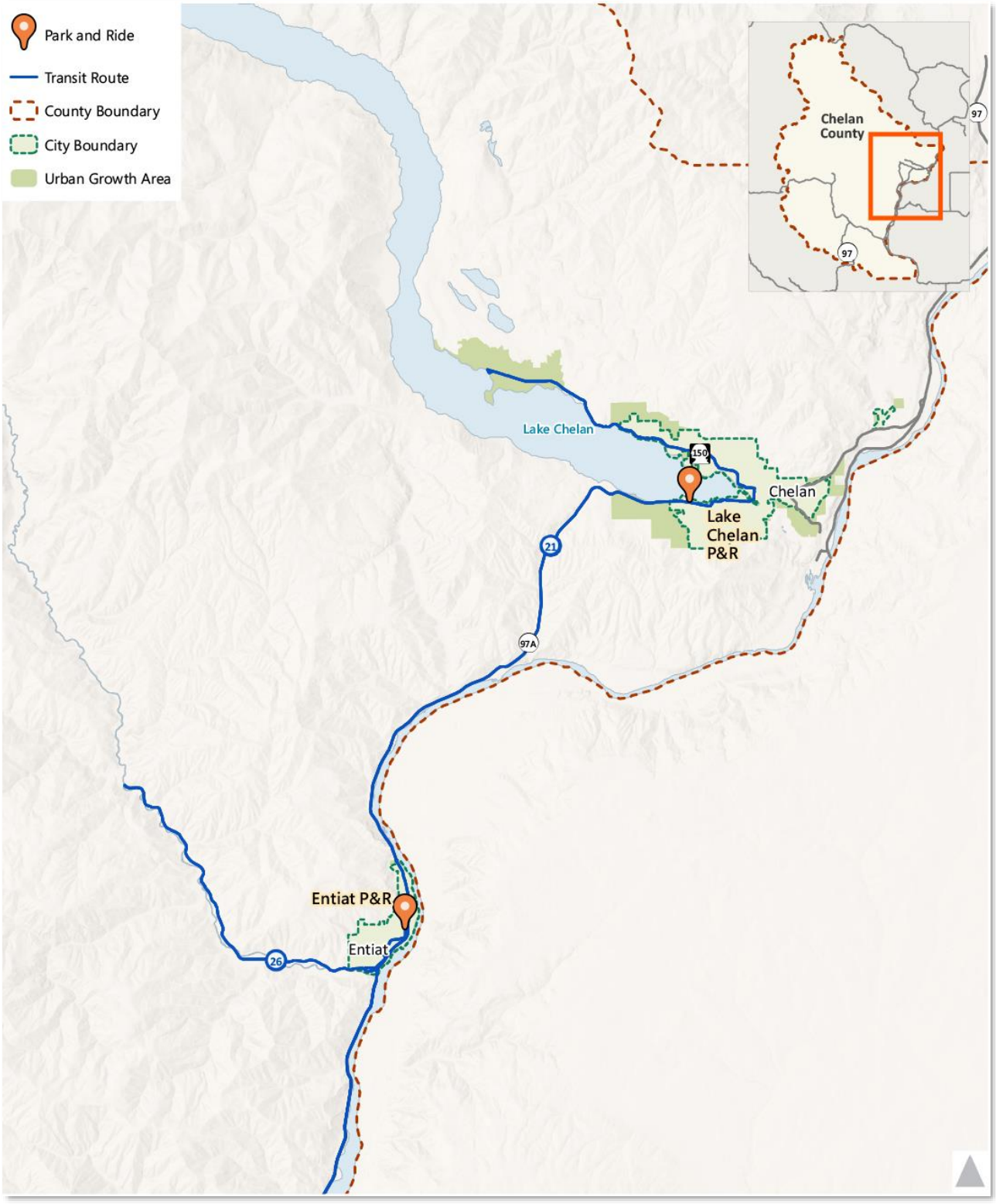
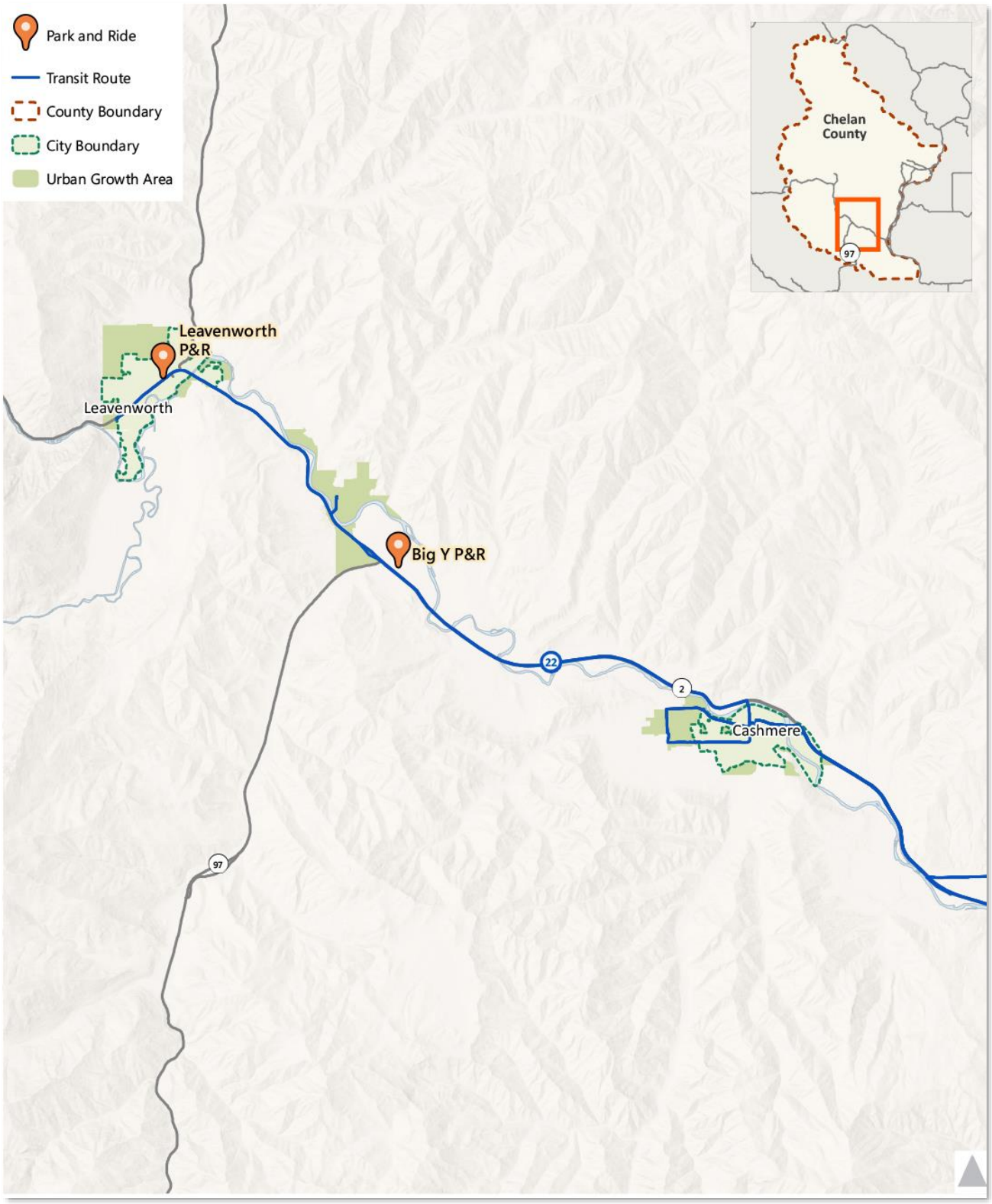


Figure 10. LINK Transit Routes (Cashmere/Monitor and Wenatchee/Sunnyslope Vicinity)

Figure 11. LINK Transit Routes (Leavenworth, Peshastin, and Plain Vicinity)



FREIGHT NETWORK

Freight and goods movement is a vital and often underappreciated element of the transportation network. Everyone is directly impacted by how goods are delivered to ports, distribution centers, stores and their homes. Chelan County is a key regional player in the movement of goods with major highway and arterial connections to distribution facilities.

Freight Hauling in Chelan County

As discussed earlier in this chapter, Chelan County is home to a number of key freight-generating and time-sensitive industries, including agriculture and forestry. Some of the key freight generators in the county are described in the key destinations section, including CrunchPak in Cashmere, Chelan Fruit in Chelan, and Hi-Up Growers in Peshastin. Providing a transportation system that accommodates these key economic generators and a timely movement of goods is of central importance to Chelan County.

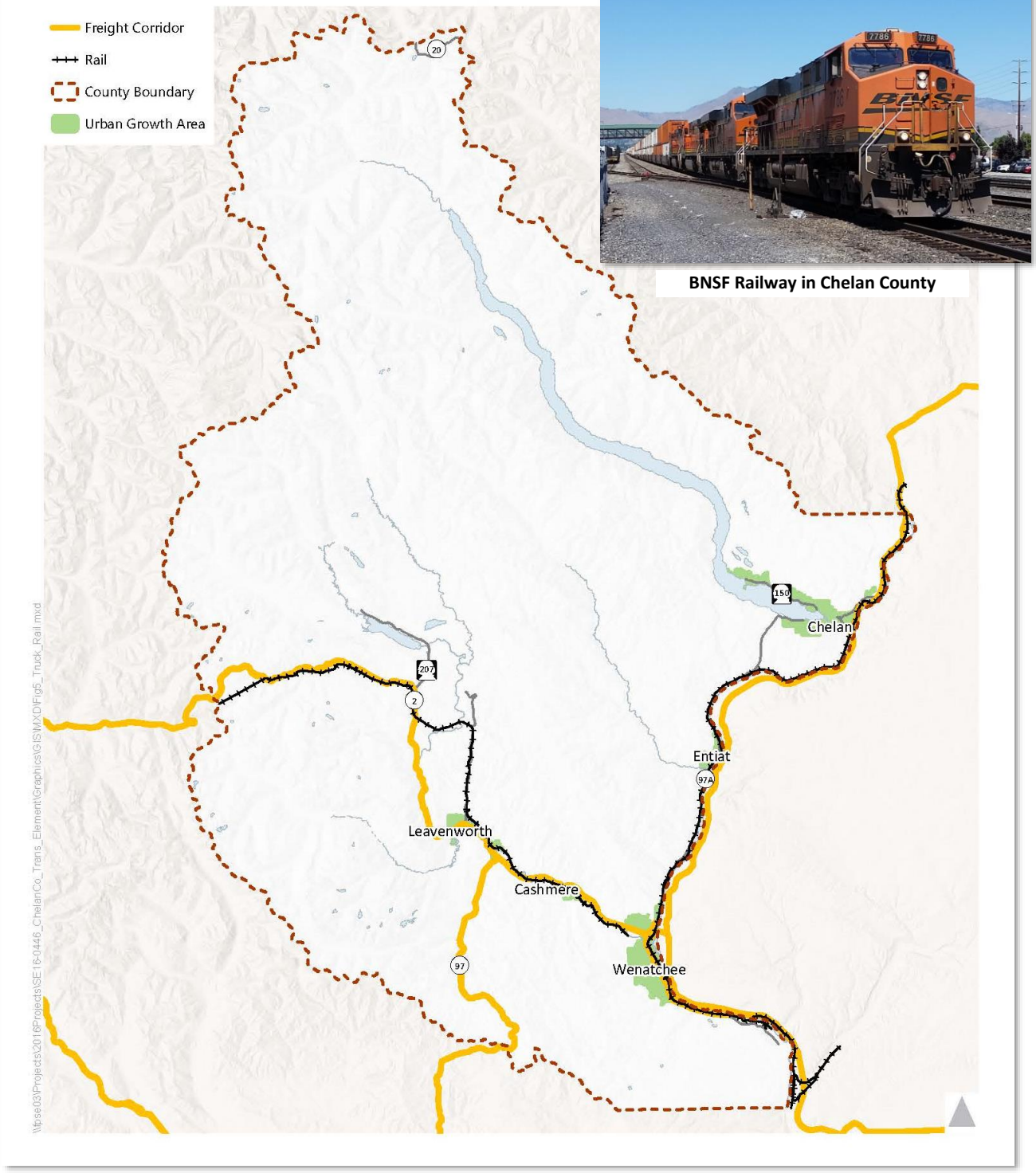
US 2, from SR 285 to the Chelan/Douglas County line, is the most heavily-traveled roadway facility in Chelan County, followed closely by many of the segments of US 2, US 97, and SR 285 in the immediate vicinity of Wenatchee. The Chelan-Douglas Transportation Council has identified many of these facilities for roadway and signage improvements to better facilitate freight movement.

The WSDOT freight and rail corridors within Chelan County are shown in **Figure 12**. The State's Freight and Goods Transportation System (FTGS) county maps are included in the **Appendices**. The freight network in Chelan County includes rail and water transportation as well. BNSF runs between Everett and Spokane, passing through Chelan County. The BNSF route supports double-stack intermodal containers, and is connected to the transcontinental BNSF network. A 2006 Washington State Transportation Commission study found that this route is over capacity with roughly 27 60-car trains passing along it every day, but no further studies have been conducted and no plans have been made for improvements. The Columbia River Railroad Company runs another line connecting to the BNSF mainline in Wenatchee, extending to Entiat, Chelan Falls, Chelan, and Oroville in Okanogan County. The route primarily serves small industrial and agricultural locations.

The major commercial water transportation operators are Tom Courtney Tug and Barge and the Lake Chelan Boat Company, whose barges transport many of the large goods to Stehekin, Lucerne, and Holden. The US Postal Service utilizes the passenger ferry system in these communities as well.

Figure 12. Freight and Rail Corridors

BNSF Railway in Chelan County



AUTO NETWORK

With most Chelan County residents, employees, and visitors relying on driving as their primary mode of transportation, the county's roadway network is critical to the transportation system.

Most of the congestion in Chelan County is experienced in the urban areas or at certain times of year – nearby ski resorts in winter or routes accessing Lake Chelan in the summer. In the unincorporated area, only one short segment of roadway regularly experiences congestion that exceeds the county's level of service standards - Easy Street in the Sunnyslope subarea.

Analyses were conducted on major arterial and collector roadways (the county's highest class of roadways) throughout the county and are shown in **Figure 13**. Roadway segment operations were evaluated and assigned a level of service (LOS) grade based on their operations in terms of volume to capacity ratio. In Chelan County, the standard for a roadway to be considered "acceptable" is LOS C or better in rural areas and LOS D or better in urban areas. **Table 3** describes the Level of Service definitions laid out in Chapter 17 of the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2010), which is a standard methodology for measuring the performance of roadway segments. In Chelan County, the standard for a roadway to be considered "acceptable" is LOS C or better in rural areas and LOS D or better in urban areas.

Table 3. Level of Service Definitions

Level of Service	Description
A	Free-flowing conditions.
B	Reasonably unimpeded operation.
C	Stable operating conditions, but individual motorists are affected by the interaction with other motorists.
D	Less stable operating conditions where a small increase in flow may cause substantial increases in delay an decreases in travel speed
E	Unstable operation and significant delay
F	Over capacity, with delays.

As described earlier, traffic volumes on the county's roads vary by season. Peak tourism seasons draw heavy traffic, and crop harvest times see increased numbers of trucks on the roads.

Based on traffic counts collected over many months of the year, May was identified as a "typical" month as it generally avoids abnormal travel seasons during the summer and winter periods. In contrast, August represents peak summer conditions, when tourism and the agricultural sector drive traffic congestion.

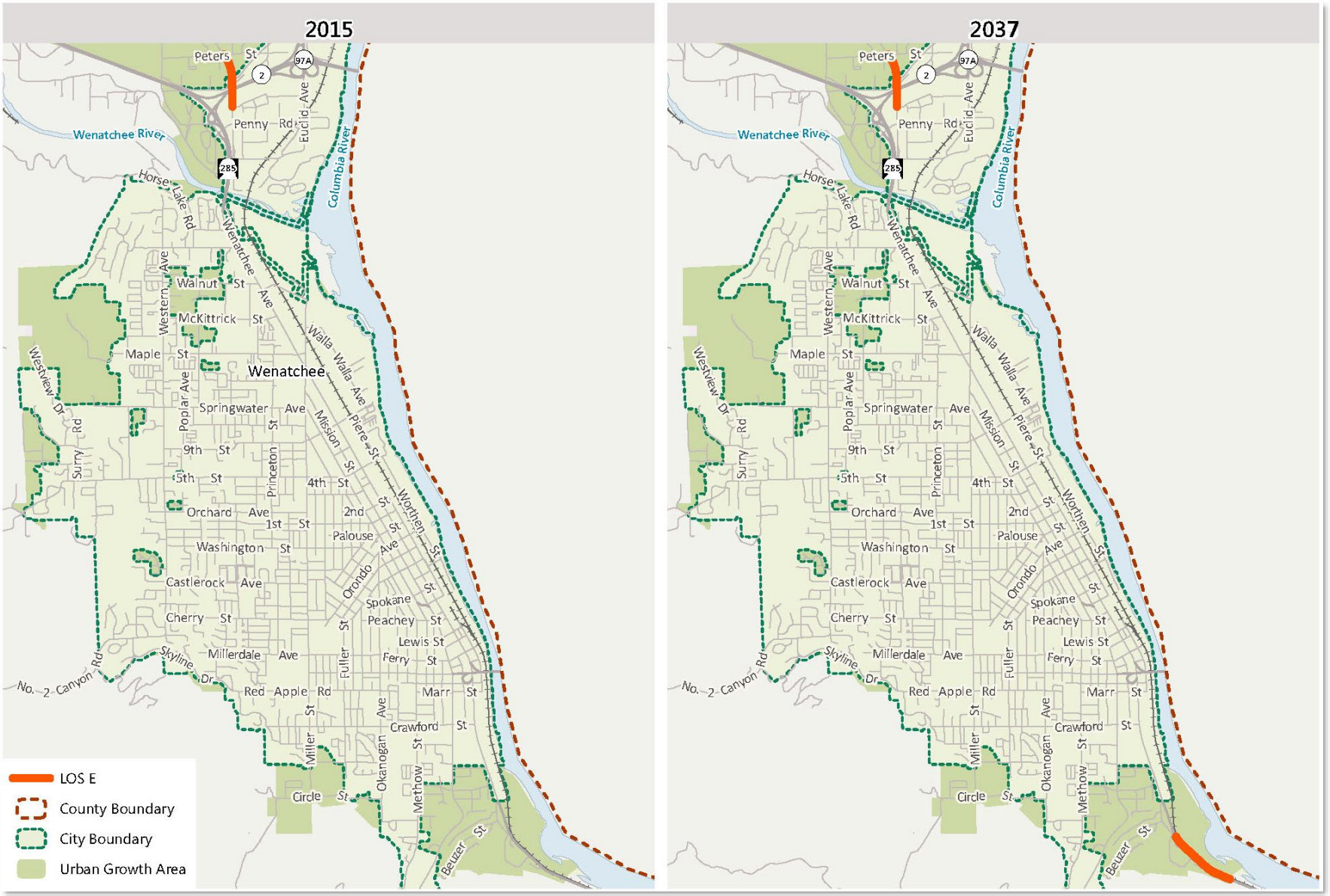
Under current year conditions, of the county's road system, only a short segment on Easy Street fails the county's LOS standard, as it operates at a level of service "E" in peak summer time conditions (see **Figure 13).**

2037 FORECAST

Of course, the traffic volumes seen today are expected to grow based on population and employment growth both in the county, as well as regionally. Using population growth estimates (provided in the **Appendices**), an annual growth rate of one percent was applied to roadway segment counts, which accounts for both Chelan County and regional growth. Roadway segment operations were evaluated under this 2037 condition, with anticipated LOS in peak summertime conditions in 2037 also shown in **Figure 13.** Based on the forecasted volumes, only two county roadway segments are expected to fall below the county's LOS standard: Easy Street near the US 2 intersection as well as a segment along the Malaga Alcoa Highway just south of the city of Wenatchee.

The finding that the Malaga Alcoa Highway fails in the future assumes full utilization of the facility that used to house the Alcoa Plant. Since that facility has been vacant since early 2016, it is unlikely that the roadway will fail the county's standard anytime soon. Since the Malaga Alcoa Highway serves as the main access roadway between Malaga and the rest of the county, it is recommended that operations along this roadway be monitored to ensure continued access to the Malaga community.

Figure 13. Roadway Segment Level of Service (2015 and 2037)



The county is aware of the capacity issues along Easy Street, especially near the US 2 and US 97 interchange. The county recognizes multiple projects that could improve conditions in this area, including the proposed Confluence Parkway as well as the US 2 and Easy Street intersection improvements. Chelan County will work closely with WSDOT and the City of Wenatchee to address the expected increase in traffic.

Based on the regional demand and the forecasted traffic volume, county roadways should be able to accommodate anticipated local and regional growth for the next 20 years. Nevertheless, the county should monitor key segments especially near freeway interchanges and potential bottleneck locations to maintain an efficient roadway network.

II. OPPORTUNITIES AND CHALLENGES

Chelan County has several important challenges to face as it prepares for future growth and development. Each community and stakeholder possesses a different set of priorities, which the county must balance as it works to provide a multimodal network that serves diverse needs.

NETWORK CONNECTIVITY

Maintaining a Functional System

The county's vast roadway network needs to be maintained to provide access for all roadway users. A poorly maintained network will hinder the county's ability to support future development as well as life safety and emergency operations. An important component of the roadway network is the county's bridge inventory. Bridge repair and maintenance is crucial to regional connectivity. In addition, seasonal changes and natural hazards (landslides, stormwater runoff, and fallen trees) guarantee that maintenance will be a significant component of Chelan County's transportation plan in the next 20 years.

Pedestrian and Bicycle Infrastructure

Sidewalks are generally available within city jurisdictions. However, in more rural areas of the county, only shoulders are provided and in most cases no separated pedestrian facilities are provided at all. This limits the mobility of pedestrians outside of city limits.

The City of Wenatchee has an existing bicycle plan as it provides bicycle facilities throughout the city. Other jurisdictions provide shared mixed-use lanes and signage. The county plans and implements pedestrian and bicycle facilities outside of city limits where feasible and funding is available.

Transit Access and Availability

Since population centers are distant from one another, bus service provides significant mobility. The county coordinates with and encourages transit usage and service to help residents, employees, and visitors reach their destinations.

REGIONAL GROWTH

Regional development will play a role in the growing demands on Chelan County's transportation network by 2037. The county is expected to continue adding residents and jobs at a steady rate. This growth will add traffic to Chelan County's streets, as well as US 2, US 97 and US 97A, which has an impact on the quality of life for county residents. To maintain and improve mobility, as well as connectivity to the rest of the region, the county should coordinate with regional and local partners. Continued coordination with regional entities and city agencies will be critical to ensure a complete and connected transportation system that serves Chelan County residents, employees, and visitors in the future.

FUNDING

Funding for transportation improvement projects as well as preservation and maintenance of the current network has been stretched thin in recent years. The county is exploring multiple options to best maximize its funds to best serve the needs of residents, employees, and tourists in the county. Chapters three and seven of this Transportation Element shed more light on the challenges and opportunities of funding the transportation network.

SAFETY

Since 2011, Chelan County has seen 150 to 175 traffic collisions per year. **Figure 14, Figure 15, and Figure 16** display traffic crashes around the county over a period spanning January 2011 to April 2016.

The county has a draft Roadway Safety Plan per the states mandate. This plan follows WSDOTs Target Zero methodology where primary crash factors and high risk behaviors are identified so that a countywide, or systemic, approach would be taken to generate high priority mitigation projects. The current analyses found that "Lane Departure crashes are identified as the top priority for the 2017 Chelan County Roadway Safety Plan (CCRSP). Based on the historical data from 2011 to 2016, over 54 percent of collisions involved a stationary object along rural roads (i.e. trees, signs, guardrails). The statistics not only verify Lane Departure as a Priority Level 1 factor but also demonstrate that other factors within the high risk behavior and road user groups may be positively affected by focusing efforts on reducing the occurrence and severity of lane departure crashes." This Plan analyzes fatal and serious injury crashes in the years 2005 through 2015.

Furthermore, the county and individual cities aim to provide safe access to schools through the state's Safe Routes to School (SRTS) grants as well as other key destinations. These agencies apply for the grants in an effort to increase pedestrian safety. In addition, the county is looking to provide more complete facilities for non-motorized users, such as shoulders, trails, and sidewalks.

Figure 14. Collisions from 2011-2016 (Chelan, Manson, and Entiat Vicinity)

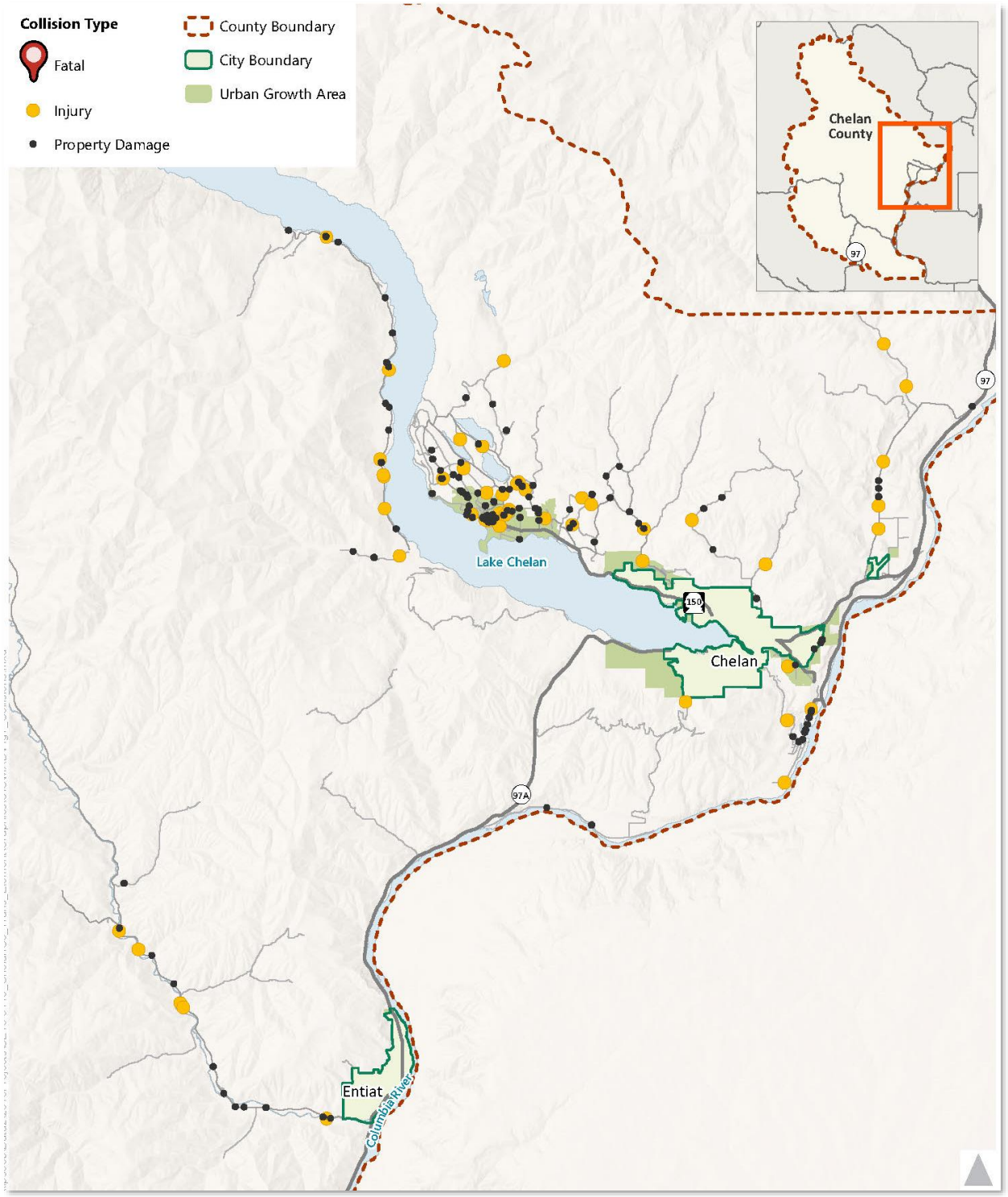


Figure 15. Collisions in 2011-2016 (Cashmere/Monitor and Wenatchee/Sunnyslope Vicinity)

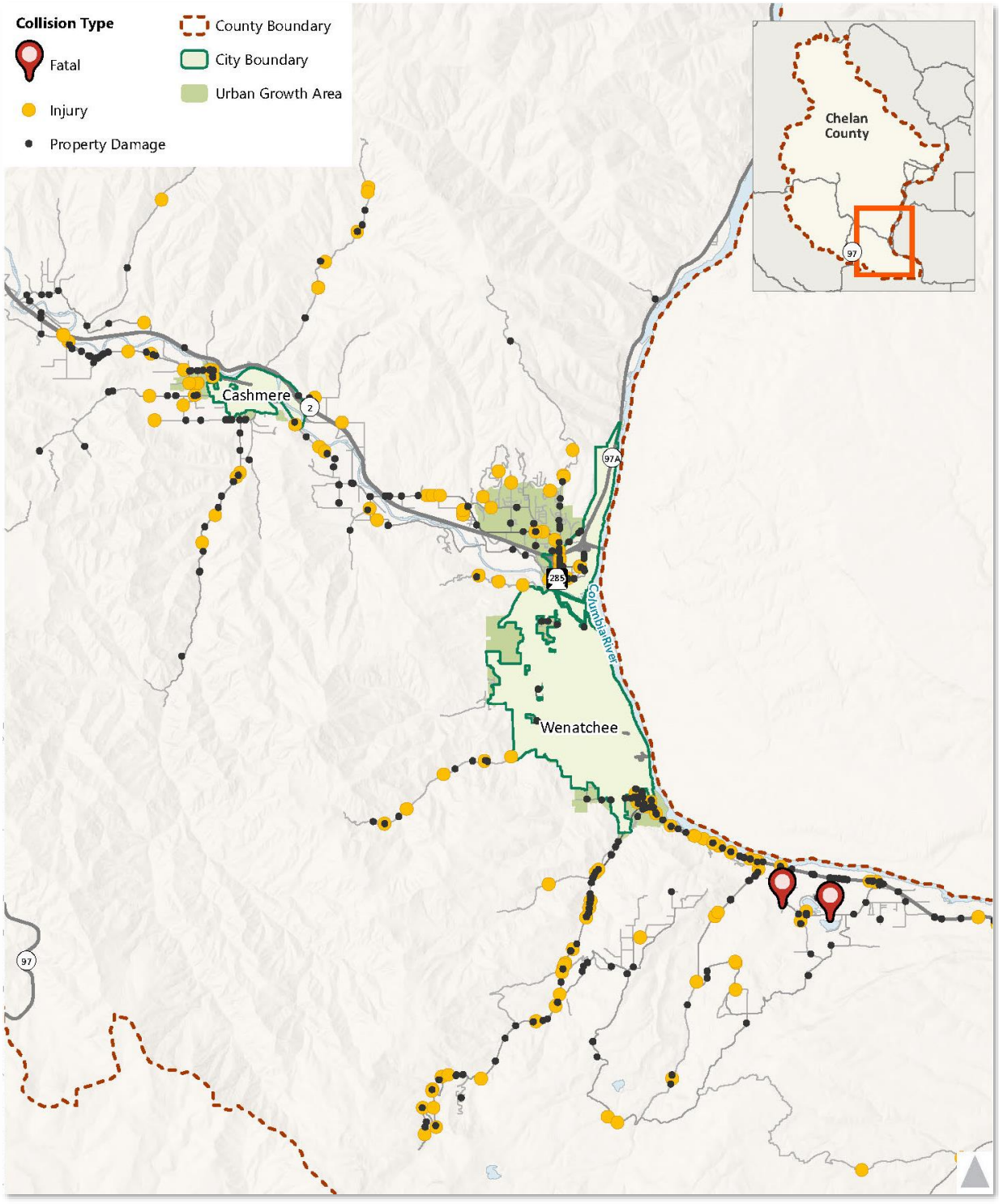
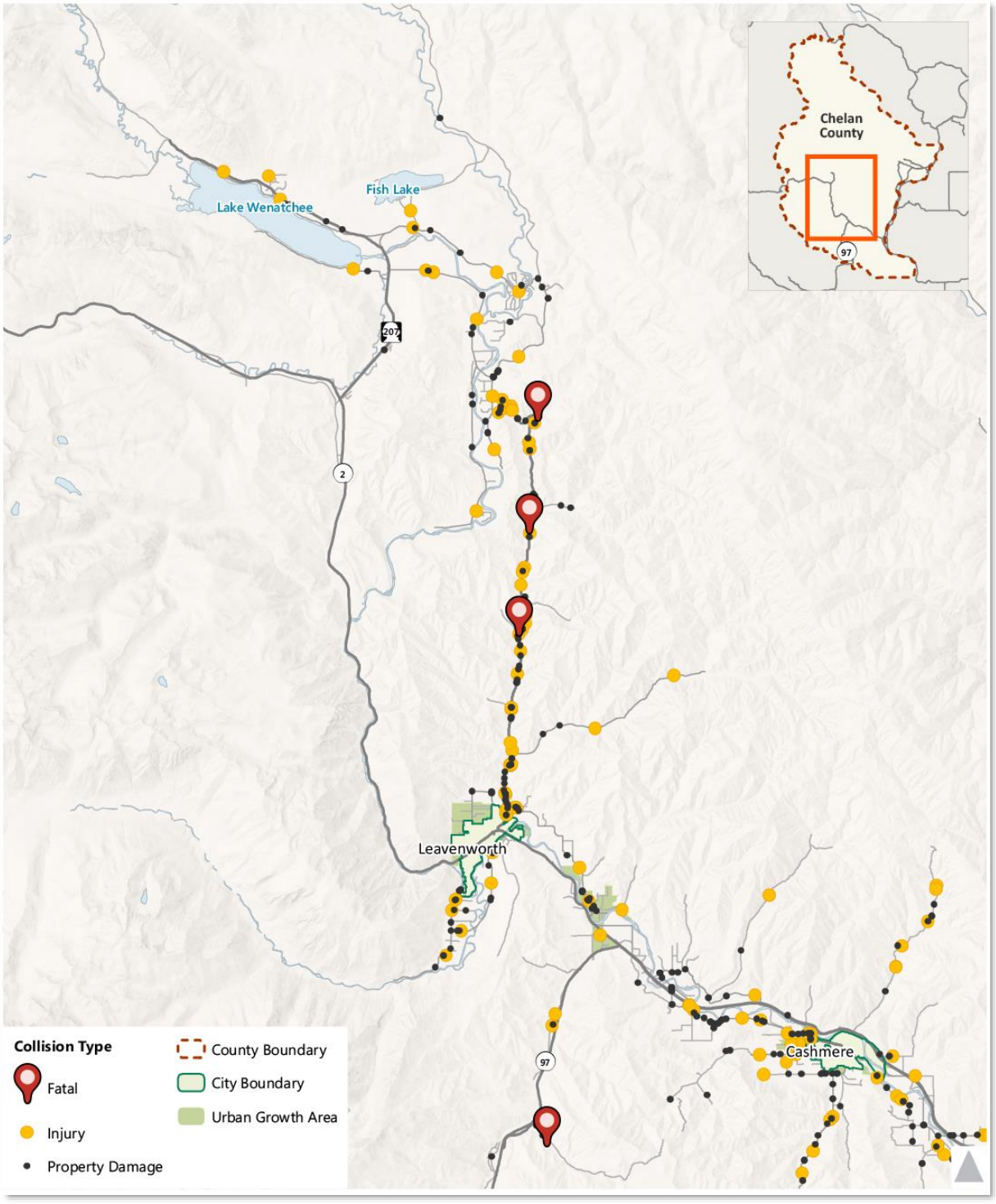


Figure 16. Collisions in 2011-2016 (Leavenworth, Peshastin, and Plain Vicinity)



CHAPTER 3: MAINTAINING OUR SYSTEM

The capital plan (Chapter 6) of this element presents the future transportation infrastructure investments that are recommended to achieve the county's mobility goals. However, the vast majority of the county's future transportation system is already on the ground today and needs to be operated, maintained, and preserved over the life of this plan. The critical importance of adequately funding ongoing programmatic expenditures is emphasized in Goal 1 of this plan: Maintain What We Have.

This chapter discusses conditions and trends in programmatic expenditures related to the county's existing roads and bridges.

I. EXISTING SYSTEM

The county road inventory consists of a total of 644 miles of roads and 52 county-owned bridges. This inventory does not include State Routes or city streets, which are maintained and operated by the State and city agencies, respectively. Rural roads form the majority of the system (567 miles). A total of 123 miles of county roadways were unpaved in 2016.

To keep this system functioning, the county makes the following types of investments, which are described in further detail below:

- **Maintenance.** Routine and ongoing activities to ensure facility utility, e.g. pothole repair and snow and ice control.
- **Preservation.** More substantive improvements to extend the useful life of assets, like pavement repair and chip seals.
- **Administration and Operations.** Public works transportation administration and support; engineering and planning services that support transportation projects.
- **Capital Outlay.** Buildings and maintenance facilities that support the transportation program.

MAINTENANCE

The county performs regular maintenance on its roadway system. Maintenance is considered a routine activity associated with repairing a physical asset or keeping the physical asset functional during its useful life. The major maintenance activities conducted by the county include:

- Pavement crack sealing and pothole repair
- Gravel road maintenance
- Shoulder maintenance
- Roadside maintenance
- Road storm drainage facility maintenance
- Bridge repair and maintenance
- Guardrail repair and maintenance
- Signing and striping
- Snow plowing and ice removal

PRESERVATION

Preservation is the replacement or repair of an asset to keep it in service at its lowest life cycle cost. Examples of preservation are replacing a bridge or repaving a roadway. There is a strong relationship between maintenance and preservation, in that if the county's roadways are well maintained, it will maximize their useful life and minimize the cost of keeping the roadways functional when it comes time to repair/replace them.

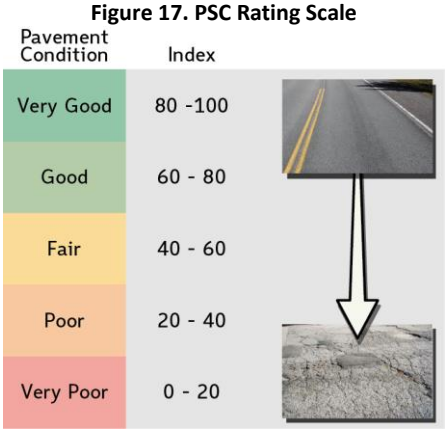
The following activities are examples of preservation:

- Pavement repair followed by
  - Chip Sealing

- Hot Mix Asphalt overlay
- Bridge repair/replacement

To monitor pavement maintenance and preservation needs, Chelan County maintains a Pavement Management (PM) program that regularly collects data and rates pavement conditions for all paved roadways under the county's jurisdiction. The ratings are the result of field assessments of the percentage of roadway surface experiencing conditions like alligator cracking, longitudinal cracking, patching, asphalt raveling, and transverse cracking in a given length of roadway. From these observations, the Pavement Surface Condition (PSC) rating is calculated. The rating is a scale of 0 to 100 (**Figure 17).**

Figure 17. PSC Rating Scale

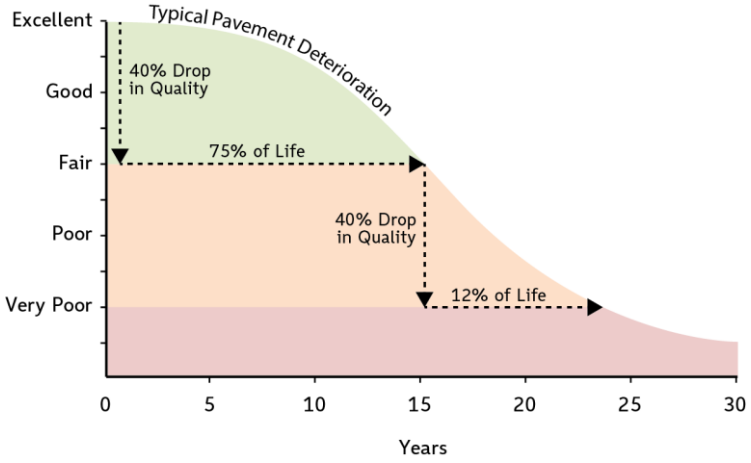


These ratings are used to evaluate treatment strategies, assess overall management of the roadway surface network, and inform future funding needs.

As the figure (**Figure 18**) below shows, pavement degrades in a non-linear fashion. Once pavement falls into the fair/poor categories, its condition rapidly degrades without maintenance intervention. The cost to bring a road into good condition or maintain it at this level escalates quickly as the roadway degrades. A road in good condition can be maintained with simple patching and sealing, whereas roads in fair condition may require an overlay, and very poor condition roads often require full reconstruction.

(Source: Chelan County Public Works)

Figure 18. National Standard Deterioration Curve for Pavement



In addition to roadways, the other major asset that the county is responsible for is bridges. The State mandates a biannual review of all bridges to determine their condition. The result of this analysis is a rating of bridges to determine the condition of the structure and if they are functionally obsolete or structurally deficient. Of the 52 bridges under the county's jurisdiction, 11 are deficient, either structurally deficient or functionally obsolete, while several other structures require deck rehabilitation, scour repairs, painting, or structural concrete repairs.

It is a federal requirement that signs be replaced when the visibility of the sign at night falls below a prescribed visibility. To comply with this mandate, the county must determine when signs need to be replaced based on the average visibility of a sign. Different sign material fades at different rates.

There are many other elements of county roads including shoulders, drainage features, walls, guardrail, pedestrian facilities, traffic signals and street lights. Most of these elements have not had a systematic method of evaluating condition over time, with elements of the system replaced only when they fail or fall out of compliance. The county's recent efforts to develop an Asset Management System for all roadway elements will close this gap and provide a systematic means for replacing or refurbishing these elements over time.

ADMINISTRATION AND OPERATIONS

Another critical component to keeping the county's transportation system functioning are the public works staff that administer and support the system by responding to emergencies, conducting maintenance activities, and providing planning and engineering improvements to the system.

CAPITAL OUTLAY

Last, but not least, are the support infrastructure for the transportation system, such as snow plows, maintenance shops, and other heavy machinery that are owned and maintained by the county to keep the transportation system functioning year round.

(Source: Chelan County Public Works)

The following table (**Table 4**) shows programmatic expenditures over the past 10 years.

Table 4. Historical Programmatic Expenditures, 2005-2015

Year	Preservation	Maintenance	Administration & Facility Operations	Capital Outlay for Facilities	Total Programmatic Expenditures
2005		$4,762,181[5]	$1,407,740	$494,992	$6,664,913
2006		$6,305,543	$1,659,964	$15,123	$7,980,630
2007		$7,432,486	$2,193,314		$9,625,800
2008		$5,342,218	$2,349,098	$129,475	$7,820,791
2009	$1,121,213	$5,090,481	$2,358,031		$8,569,725
2010	$1,473,810	$4,658,762	$2,076,978		$8,209,550
2011	$1,430,599	$4,700,316	$2,384,530		$8,515,445
2012	$1,193,949	$5,031,611	$2,492,566		$8,718,126
2013	$2,020,342*	$4,913,515	$2,893,629	$78,647	$9,906,133
2014	$2,472,675*	$4,930,081	$2,492,189	$74,129	$9,969,074
2015	$1,163,702*	$5,543,230*	$2,719,765	$18,767	$9,445,464
TOTAL	**$10,876,290**	**$58,710,424**	**$25,027,804**	**$811,133**	**$95,425,651**

Source: Chelan County Public Works, 2016.

*These years had an injection of funding allocated from the Distressed County fund with some Preservation dollars moved to Maintenance in 2015. The Distressed County funding was a one-time allocation.

[5] Maintenance expenditure includes preservation expenditures from 2005 to 2008.

II. BUDGETING FOR GOOD STATE OF REPAIR

The county evaluated its transportation system inventory and likely maintenance and preservation needs over the next 20 years. Below, each element of the county's inventory is described with annual expenditure needs summarized at the end.

PAVEMENT

There are two primary types of paved roadways under Chelan County's jurisdiction:

- Hot mix asphalt (HMA) is the most durable asphalt treatment regularly performed in the county. These roadways have a design life of 20 years. Performing a roadway overlay with HMA costs approximately $210,000 per center line mile for roadways that are in fair condition or better and $252,000 per center line mile for roads in poor condition. The county has 79 center line miles of HMA paved roadways, 5.5 miles of which are in poor condition (PSC less than 40). (Roadways that are HMA paved generally receive a chip seal within 10-years to further the life of the road. These roads may be listed included in the BST inventory.)

- Bituminous surface treatment (BST), also known as chip seal, is a lower-cost treatment that has a shorter design life of approximately 7 years. The county currently has 444-centerline miles of BST paved roadways, 13 miles of which are in poor condition (PSC less than 40). Performing an overlay of a BST roadway is approximately $30,000 per center line mile. (An undetermined number of miles of BST roadways were originally constructed with HMA surfacing.)

Table 5, below, summarizes the annual investment need for pavement preservation based on this inventory. Consistent with Goal 1 of Maintaining What We Have, this plan recommends front loading pavement preservation costs in the first six years of this plan to address the existing backlog in pavement needs.

OTHER ROADWAY ELEMENTS

While pavement preservation is the primary cost related county roads, there are other important elements to consider, including shoulders, drainage features, pedestrian facilities, guardrail, concrete barriers, signals and signage. **Table 5** summarizes costs associated with replace/refurbishing guardrail, concrete barriers, and signage over the life of this plan.

BRIDGES

As described earlier, there are 52 bridges under Chelan County's jurisdiction and 11 are considered functionally obsolete or structurally deficient. While the County does not have the resources to address all 11 deficient bridges in the near future, to protect the safety and continued mobility of Chelan County residents and businesses, this Plan recommends starting rehabilitation of two of these bridges over the next 10 years. It is assumed that the cost to rehabilitate two bridges is approximately $28 million. Assuming the federal match of 80 percent for those bridges, the cost to the county of retrofitting these bridges would be approximately $560,000 annually over the next 10 years.

Table 5. Recommended Preservation Expenditures

Element	Conditions PSC	Qualitative Condition	Inventory	Unit	Design Life (years)	Unit cost ($)	Annual Investment
Paved County Roads							
Paved Roads	PSC ≥ 40	Fair to Very Good	507	Center line (CL) miles	7	$30,000 per CL mile	$2,173,000
	PSC < 40	Poor to Very Poor	18	CL miles	6	$400,000 per CL mile	$1,200,000
Annual Pavement (Years 1-6)							**$3,373,000**
Annual Pavement (Years 7-20)							**$2,173,000**
Other Roadway Elements							
Guardrail			75	CL miles	30	$158,400 per CL mile	$396,000
Signs			45,150	SF	10	$15 per SF	$68,000
Concrete Barriers			12	CL miles	40	$45 per linear foot	$77,000
Pedestrian Facilities			118,117	LF	50	$58	$138,000
Drainage Facilities			35	EA	75	$176,790	$83,000
Annual Other Roadway Elements							**$762,000**
Bridges							
Bridges			52	EA	100	$28,000,000 for the replacement of 2 bridges	**$560,000** *(Assumes federal funding)*
Annual Preservation Years 1-6							**$4,695,000**
Annual Preservation Years 7-10							**$3,495,000**
Annual Preservation Years 11-20							**$3,495,000**

MAJOR FINDINGS

It is worthwhile to note that this analysis suggests that the county's investments in preservation should increase substantially relative to recent spending levels. To make room for this growth in preservation expenditures, the county will need to reconsider its funding priorities and potentially consider additional funding sources for transportation. The final chapter of this Plan considers ways to increase transportation revenues, such as local option gas taxes and a levy lid lift, both of which could fund system preservation.

III. POLICIES TO SUPPORT A GOOD STATE OF REPAIR

The following policies are recommended to enhance Chelan County's ability to preserve its existing system over the course of this Plan. Many of these policies have been applied in other jurisdictions and already with Chelan County.[6]

[6] Pierce County's May 2008 Transportation System Preservation Discussion white paper was a source for some of these policies.

PRIORITIZE SYSTEM MAINTENANCE OVER SYSTEM EXPANSION

The cost-effective preservation of the existing and future transportation system should be a funding priority ahead of expanding the system. This Plan recommends addressing the backlog of pavement and bridge projects in the first 10 years, even at the expense of capital expansion.

IDENTIFY NEW SOURCES OF FUNDING THAT CAN PAY FOR SYSTEM MAINTENANCE AND PRESERVATION

The county should look for ways to increase the amount of annual funding available for system maintenance and preservation activities. In considering new sources of funding, those that can fund maintenance and system preservation activities should be prioritized.

MAINTAIN THE COUNTY'S TRANSPORTATION SYSTEM AT LOWEST LIFECYCLE COST

To maximize the county's funding resources, transportation assets should be replaced or rehabilitated at the point of lowest cost in the lifecycle of the asset.

ENHANCE THE CURRENT PAVEMENT MANAGEMENT SYSTEM TO CONSIDER MORE COMPREHENSIVE INVENTORY OF ASSETS

A comprehensive asset management system for all road assets is a key strategy for being able to accomplish the goal of lowest life-cycle cost for these assets. The county's Pavement Management system is an excellent step in the right direction, although the system could be expanded to monitor the condition of a comprehensive list of roadway assets, such as guardrail, signs, and concrete barriers. A comprehensive asset management system includes the following elements:

- Setting level of service goals
- Developing and maintaining a complete inventory of assets
- Regularly collecting asset condition and usage data
- Tracking costs
- Developing a method for evaluating risk
- Developing a method for evaluating when and how to replace or refurbish the asset
- Adopting performance measures that provide information to best manage the resources used to manage the asset.

Once all of these elements of a system are in place to manage an asset, county staff can justify and allocate the resources needed to effectively preserve the assets.

DEVELOP A RESERVE FUND TO ADDRESS UNFUNDED PROGRAMMATIC AND UNANTICIPATED EVENTS

In recent years, the county has seen an uptick in system failures related to weather and aging infrastructure. The county should consider developing an emergency infrastructure fund to address these unanticipated events, as they can strongly impact safety and quality of life in Chelan County. The types of expenditures that might be covered by this sort of account includes the needs shown in **Table 6**.

Table 6. Reserve Fund

Need	Annual Cost	Note
Bridge Repairs	$150,000	
Culvert Replacement and Stormwater Mitigation	$1,000,000	Over 7 years to replace culvert with a mandated bridge and other significant infrastructure
Guardrail Infill	$75,000	
ADA Compliant Needs	$100,000	
Slope/Wall Stabilization Needs	$500,000	For first 10 years then $250,000 per year after
Hazardous Tree Removal	$150,000	For first 6 years, then $50,000 per year after
Increase in Regulatory Mandates	$30,000	Increases that impact Public Works from operations and maintenance to unforeseen impacts of projects
Emergency Funding	$100,000	$200,000 is already budgeted under Extraordinary Operations

CHAPTER 4: TRANSPORTATION GOALS AND POLICIES

This chapter provides a summary of the six main goals that encompass the county's transportation vision. These goals incorporate the many different priorities from different jurisdictions to promote consistency between the county and other stakeholders. Ultimately, this transportation element is guided by one overarching goal:

Provide a safe, balanced, and efficient multimodal transportation system that is consistent with the county's overall vision and adequately serves anticipated growth.

I. GOAL 1 – MAINTAIN WHAT WE HAVE

Maintain existing transportation facilities in a state-of-good-repair to ensure their continued function, which is critical to achieving all of the county's mobility goals.

1.1 Maintain a comprehensive transportation system plan, showing roadway classifications, roadway extensions, future facility locations and right-of-way needs.

1.2 Prioritize the cost-effective maintenance and preservation of the existing transportation system over system expansion.

1.3 Identify new sources of funding that can fund system maintenance and preservation.

1.4 Enhance, or add to, the current pavement management system to consider replacement needs of a more comprehensive inventory of assets.

1.5 Develop an emergency fund to address unanticipated events, such as slides and bridge failures.

1.6 Document, in rank-order from highest to lowest priority, Chelan County roads that are to be maintained during snow periods.

1.7 Require a maintenance agreement for private roads that are approved as a result of development or changes in land use.

1.8 Define and implement improvements to preserve the level of service and operations of the existing county road system.

1.9 Implement a transportation concurrency program to deny approval of any development proposal that would cause a roadway segment to fall below the adopted minimum level of service (except for highways of statewide significance) unless transportation improvements or strategies to accommodate the impacts of the proposed development are made concurrent with the development.

1.10 For SEPA review of new development and planning and design of transportation facilities, recognize that the minimum level of service adopted for State Routes and county arterials and collectors is level "C" for rural areas and level "D" for urban areas.

1.11 Prioritize and program road improvements to minimize seasonal road restrictions or closures.

1.12 Minimize direct vehicular access from private property onto arterial streets and collectors. Instead, encourage access via frontage roads or connecting local streets.

1.13 Pursue the restriction/elimination of roadway access points as opportunities arise to maintain the capacity, operations and safety of existing arterials and collectors.

1.14 Maintain access to existing airport and floatplane facilities and accommodate needed

expansion to serve growing population and employment needs.

1.15 Support the Emergency Management Service and the school bus services to address their specific needs in the prioritization of roadway maintenance activities.

1.16 Where possible, use the planning process and SEPA to evaluate impacts to safety, access, roadway/intersection operations, environmental processes, and apply transportation concurrency to measure the adequacy of the impacted roadway segments from new development.

II. GOAL 2 – PROVIDE A SAFE SYSTEM

Create a transportation network that can be shared safely by all users and provides sufficient access for emergency response.

2.1 Recognize the needs of all users of the transportation system including motor and freight vehicle drivers, bicyclists, pedestrians, and public transportation users, and balance the needs in all types of *rural* and *urban* transportation and development projects and through all phases of a project.

2.2 Apply adopted County Road Classification and Design Standards in the design and construction of roadways consistent with Title 15.30 of the Chelan County Code.

2.3 Maintain a functional classification system, and design roadways in accordance with functional classifications and 20-year travel demands.

2.4 Treat safety, and preservation of the existing roadway systems as high priorities.

2.5 Work with WSDOT and other agencies to improve traffic safety of roadways and intersections that intersect with county facilities.

2.6 Evaluate proposed transportation projects for their impacts to emergency service access and existing uses.

2.7 Include specific provisions for non-motorized travel in the design of all new and existing transportation facilities, where feasible.

2.8 Encourage safe and convenient non-motorized connections between developed and developing areas.

2.9 Establish a system of designated bicycle and trail routes for transportation and other recreational uses utilizing existing transportation corridors where safety considerations are not compromised.

2.10 Support improved non-motorized and trail signage.

2.11 Recognize the non-motorized system as an extension of transit, and support needed linkages and access to transit stops.

2.12 Apply Americans with Disabilities Act (ADA) guidelines to facilitate access within urbanized areas.

2.13 Improve the safety and efficiency of railroad crossings.

2.14 Discourage the use of dead-end roadways in new developments, where feasible.

2.15 Develop and maintain a countywide safety plan to address systemic safety concerns on county rural roadways.

III. GOAL 3 – ENSURE FINANCIAL VIABILITY

Plan for a system that is financially viable, including consideration of full lifecycle costs in infrastructure investments and leveraging outside funds (including grants and private dollars) wherever possible to maximize community benefits.

3.1 Establish a prioritization system based on criteria and ranking of transportation projects based on the three highest county priorities – safety, leveraging of outside funding sources, coordination with other agencies.

3.2 Promote the equitable distribution of the costs of transportation facilities between the public and the private sector.

3.3 Develop the annual Six-Year Transportation Improvement Program (TIP) so it is financially viable, leverages available county funding, and is consistent with the Comprehensive Plan.

3.4 Ensure that new development mitigates their impacts on the transportation system.

3.5 Maintain the existing development review process for transportation that addresses concurrency, SEPA, Road Standards, and other impacts and potential mitigation requirements per Title 15. Review the cumulative transportation impacts of new development and implement methods of sharing mitigation costs.

3.6 Provide for Latecomer Agreements to better allocate improvement costs.

3.7 Explore implementation of a Transportation Impact Fee program to help fund the implementation of growth-related transportation projects.

3.8 Improve the sustainability of the county's funding maintenance, operations, and capital improvements. Periodically review funding status and consider increasing the County Road Levy, including possible voter approval of a Levy lift. Consider formation of a Transportation Benefit District (TBD) to help fund county and/or regional transportation improvement projects. Explore and implement other public/private funding options such as Local Improvement Districts (LID) and Road Improvement Districts (RID).

3.9 Coordinate among jurisdictions (Chelan County, Cities, LINK Transit, Port Authority of Chelan County, WSDOT, and incorporated cities) to jointly fund transportation improvements.

3.10 Pursue a range of grants to help fund roadway and multimodal transportation improvement projects.

3.11 Work with State legislators, other counties, local cities, and other stakeholders to reduce restrictions on use of Planned Action Ordinances, Transportation Benefit Districts, and other available funding programs.

IV. GOAL 4 – SUPPORT LAND USE

Provide a transportation system that works hand-in-hand with existing and planned land uses, supports farm-to-market and recreational tourism needs, and balances economic development with existing users.

4.1 Review and update the transportation element concurrent with major Comprehensive Plan Update to respond to changes in land use planning, funding, or operating of the

transportation system and in accordance with state law

4.2 Prioritize and support improvements to facilities that are critical components of the intermodal transportation systems (e.g. roads leading to airports, rail transfer facilities, access to businesses, agricultural lands and employment centers, etc.).

4.3 Prioritize and support improvements to the County Freight and Goods Transportation System (FGTS) roads to complete an All-Weather Road System.

4.4 Promote coordinated non-motorized system improvements focusing on access to schools, parks, transit services, employment and service centers, and shorelines.

4.5 Coordinate with other agencies to develop a Comprehensive Trails Plan to analyze alignment, design, cost, phasing and relative priority of trail projects, and to identify the needed linkages between the trails.

4.6 Encourage transit facilities and services as mitigation, where appropriate, for new developments.

4.7 Encourage improved water transportation on Lake Chelan.

4.8 Protect existing public access to public waterways and lands and seek opportunities to increase public access wherever practical.

4.9 Coordinate with Cities, communities and port districts, where possible, to accommodate industry in new growth areas.

4.10 Require development to include public and non-motorized transportation compatible designs in all projects.

4.11 Support urban growth boundaries, urban nodes, residential centers, and employment centers identified in local comprehensive plans in order to promote an efficient land use pattern and transportation network integration.

4.12 Ensure development regulations are flexible and receptive to innovations and advances in transportation technology.

V. GOAL 5 – ENVIRONMENTAL STEWARDSHIP

Avoid and minimize negative environmental and societal impacts from the transportation system and enhance the natural and social environment when possible.

5.1 Consider and be respectful of the rural and historic character of the county while implementing the transportation element.

5.2 Encourage the development and implementation of transportation demand management programs appropriate for the various communities in the County.

5.3 Coordinate with and adhere to regional, State, and Federal agencies on reducing air quality impacts.

5.4 Consider refinements to roadway design standards so as to minimize impacts on hydrologic systems, including surface and groundwater quality.

5.5 Provide flexibility on the width of pavement and lanes to allow for narrower lanes while still assuring that roadways function safely for cars and trucks, public transportation, bikes, pedestrians, and other service vehicles. The use of alternatives to impervious surface materials, wherever possible, should also be considered.

5.6 Develop alternatives to transportation improvement projects when significant adverse environmental impacts have been identified.

5.7 Develop and apply mitigation strategies to reduce unavoidable adverse environmental impacts of transportation improvements.

VI. GOAL 6 – BE AN ACTIVE PARTNER

Coordinate with a broad range of groups (including local, state, and regional agencies, key stakeholders, businesses, and the public) to develop and operate the transportation system.

6.1 Coordinate with Cities, Chelan-Douglas Transportation Council (CDTC), LINK Transit, Washington State Department of Transportation (WSDOT), and other adjoining agencies.

6.2 Encourage public participation in transportation-related decisions and provide forums to help citizens understand transportation issues.

6.3 Work with cities to develop and adopt street design standards for each city's Urban Growth Area.

6.4 Develop consistent or compatible processes to identify and set priorities for transportation improvement projects in each agency's six-year transportation improvement program.

6.5 Coordinate with the US Forest Service relative to their activities and policies on transportation.

6.6 Prioritize projects that help to create a comprehensive, integrated and connected network of roads, trails, and other transportation services.

6.7 Coordinate maintenance activities and annual maintenance programs with adjacent jurisdictions, Forest Service, and WSDOT.

6.8 Work with WSDOT to provide input into the planning process and to explore opportunities to implement the State Airport Plan.

6.9 Work with WSDOT to provide input on the State Rail Plan and to facilitate implementation of rail transportation facilities and services.

6.10 Work closely with local, regional and State partners to monitor rail freight activity and ensure that the county's priorities, preferences, and interests are represented and factored into emerging State and County policies and programs.

6.11 Explore opportunities for separated mixed-use paths to enhance enjoyment of natural/scenic areas in a safe manner.

6.12 Work with LINK Transit, WSDOT, and local agencies to develop park-and-ride, park-and-pool, and express transit service where the need for such facilities has been identified.

6.13 Work with other local, State, and Federal agencies to achieve improvements to transportation systems that promote safe and efficient access for recreational and tourism activities throughout the county.

6.14 Require dedication of roadway rights-of-way in land development processes, in accordance with the appropriate functional classification, County Road Standards, and County/WSDOT policies.

6.15 Recognize that Forest Service and primitive roads are generally unsuitable for residential development.

6.16 Support cooperative efforts to provide for docking of boats, barges, and float planes on Lake Chelan with the National Park Service, Forest Service, Chelan County Public Utility District, and the Port of Chelan County.

CHAPTER 5: TRANSPORTATION VISION

Looking into the future, Chelan County aspires to provide a transportation system that serves all users through the provision of safe and well-maintained facilities.

The following chapters detail the capital plan to meet this transportation vision and the funding plan needed to ensure these capital investments and ongoing programmatic expenditures, including system operations and maintenance, are in place during the life of this plan.

In general, Chelan County roads are rural two lane roads which mainly serve automobile traffic. Determining how the entire transportation network fits together throughout the county requires identifying desirable facilities for each mode and then identifying infrastructure enhancements to ensure safe and complete facilities for all users.

I. WALKING

Walking is the most fundamental transportation mode since a portion of every trip is made by walking. While most county streets tend not to need fully separate sidewalks or paths due to their low pedestrian and vehicle volumes, some of the county's arterials and collectors do warrant dedicated pedestrian infrastructure.

Population dense areas with commercial land uses and roadways that serve schools, parks, regional recreational destinations and churches support more pedestrians and may have a larger portion of vulnerable users than other streets.

Measures such as widened shoulders that provide increased separation from moving vehicles, multi-use trails, marked crosswalks, and sidewalks at roadway crossings support pedestrian travel throughout the county.

Table 7 and Table 8 establish guidance in terms of the level of accommodation that the county wishes to provide for pedestrians. **Table 7** applies to the UGA and LAMIRD areas, where pedestrian demands warrant special attention.

The highest level of accommodation for walking, indicated in the green row, would provide improved pedestrian facilities such as trails and separated facilities that are ADA accessible and have wayfinding signage and milepost markers. The yellow level of accommodation would make strong progress in maintaining the existing sidewalk and pedestrian network and building out the network by filling sidewalk gaps or pedestrian shoulders to ensure that a pedestrian facility is provided on at least one side of the roadway. Incomplete or missing pedestrian facilities would fall into the red category and not satisfy the county's goals for accommodating pedestrians.

Table 7. Pedestrian Level of Service in UGA or LAMIRD Areas

LOS	Description
	Improved network of paved trails that are ADA accessible and have marked wayfinding signage and milepost markers.
	Maintain existing sidewalk and pedestrian facility provided on one side of the street.
	No pedestrian facility or degradation of existing facilities.

Table 8 applies to unincorporated areas outside of the UGA and LAMIRD areas, where pedestrian demands are considerably lower. The highest level of accommodation for walking, indicated in the green row, would provide enhanced pedestrian facilities relative to what exists today. These types of improvements could be provision of trails, wayfinding signage, or sidewalks or wide

shoulders on at least one side of the roadway. The yellow level of accommodation would include maintaining what exists today. The red category, or not meeting the county's standards, would be allowing existing pedestrian facilities to fall into disrepair.

Table 8. Pedestrian Level of Service Outside of UGA or LAMIRD Areas

LOS	Description
	Improved network pedestrian facilities from what exists today
	Maintain existing pedestrian facilities
	Degradation of existing facilities

II. BICYCLING

Chelan County already sees bicycling along its trails and rural roadways, which offer one popular form of recreation and a practical mode of transportation for some county residents, recreationalists and workers.

One of the county's goals is to support bike route connections to provide cross-county bicycle mobility. This can be challenging due to the lack of bicycle infrastructure. In most cases, shared shoulders and on-street bicycle lanes provide sufficient infrastructure for county roads. Shoulder widening and additional trails or trail extensions can enhance connectivity between destinations.

Chelan County strives for the green level of accommodation for bicycling by installing the bicycle facilities that offer more separation from vehicle traffic. At a minimum, maintaining its existing network of bicycle infrastructure along county roads and supporting city and regional entities in implementing bike projects will achieve the yellow level of accommodation for cycling as shown in **Table 9.**

Table 9. Bicycle Level of Service

LOS	Description
	Installation of facilities that provide more separation from vehicle traffic
	Maintain existing bicycle network and support regional entities in implementing improvements
	Removal or degradation of existing bicycle facilities.

III. TRANSIT

Transit operations throughout the county are managed by LINK Transit, but Chelan County can still aim to create an environment that is welcoming to transit. The county will work with LINK Transit to assist with transportation accommodations for planned service expansions and identify areas where additional or future service or improvements are needed.

Interstate transit service is provided by Amtrak. The county will also assist with transportation accommodations for access to Amtrak and connections to and from its own transportation system.

Table 10 provides guidance for the county's level of accommodation for Transit.

Table 10. Transit Level of Service

LOS	Description
	Work with transit to accommodate access to transit service expansion.
	Work with LINK Transit to maintain existing transit service.
	Removal of access to transit.

Amtrak Icicle Station, Leavenworth

LINK Transit Columbia Street Station, Wenatchee

IV. FREIGHT AND AUTO

Most trips in Chelan County occur along its roadway network, which serves as the backbone for accessing homes, jobs, and other destinations. Many of these trips occur along low-volume county rural roadways or local streets that do not see significant traffic volumes throughout the day. Similarly, goods movement and delivery vehicles for the many fruit producers and transporters use some corridors frequently while other roadways see only occasional local delivery. As fruit and produce production is a seasonal industry, county roads experience high volumes of freight and auto usage during harvest season.

Table 1 (Chapter 2) identifies the functional classification of all roadways. These classes indicate the level of use of each facility for automobiles, specifically in terms of facilitating vehicle and freight mobility as well as other modes.

Figure 12 (Chapter 2) specifies the WSDOT freight classification of Chelan County's major roadways that support goods movement. The classifications of these corridors (**shown in Appendix**) indicate the annual weight of goods that travel on a corridor. The functional classification and freight class of a roadway should guide future investments to ensure a roadway can carry appropriate freight loads.

Chelan County will maintain its current LOS standards roadways (LOS C for rural roads and LOS D for roadways in urban growth areas). Very few areas within the unincorporated parts of Chelan County have operational issues. Most roadways are currently meeting the LOS standard and are still expected to continue meeting that standard over the next 20 years as the county grows. One segment along Easy Street near the US 2 interchange is expected to fall below the LOS D standard. Additional notable segments to monitor include the Malaga Alcoa Highway which may fall below the LOS D standard if the Alcoa Plant reopens as well as Squilchuck Road which will see increased traffic if the Mission Ridge Ski Resort expands.

The capital list provided in the next chapter includes future roadway projects that would maintain the county's LOS standard through 2037.

Easy Street and School Street, Sunnyslope

Chiwawa Loop Road, Chelan County

Joe Miller Road, Chelan County

CHAPTER 6: CAPITAL PLAN

This chapter presents the capital program that forms the basis of this transportation element. Collectively, this program adds up to about $102 million in transportation capital improvements to be constructed over the next twenty years.

The components of the transportation program include $248 million for programmatic expenditures which include administration and operations, maintenance, and preservation of the county's transportation infrastructure. **Table 11** provides a summary of the total expenditures for the 20-year program. Maintaining Chelan County's transportation system is important for sustaining the quality and safety of roadways and is listed as the number one goal for this plan.

Table 11. Twenty Year Transportation Program

Expenditures	*Planning Level Costs*
Programmatic Expenditures	
Administration and Operations	*$53.5 million*
Maintenance	*$163.7 million*
Preservation	*$25.9 million*
Capital Outlay	*$5.4 million*
Capital	
Capital Projects	*$102 million*
Total	***$350.5 million***

Funding to support this program will come from a number of sources including property tax, fuel tax, Real Estate Excise Tax, and state and federal grants, as well as consideration of new funding sources, such as a Levy Lid Lift. Additional detail about funding to support the transportation plan can be found in the following chapter (**Chapter 7**).

The program was developed to realize Chelan County's goal: to provide a safe, balanced, and efficient multi-modal transportation system that is consistent with the county's overall vision and adequately serves anticipated growth. This vision is guided by the transportation goals outlined in this plan:

Goal 1: Maintain what we have
Goal 2: Safety
Goal 3: Ensure financial viability
Goal 4: Support land use
Goal 5: Environmental stewardship
Goal 6: Be an active partner

The six goals, as well as existing and anticipated needs gathered from countywide planning documents and conversations with stakeholders and the general public form the basis of this project list. **Table 12** provides the Chelan County 20-Year Project List, which represents a balance of maintenance, safety, and operational improvements for all modes. These projects are listed by geographical area and are ordered based on their priority, as determined by how well each project helps advance county goals. The projects are also mapped in **Figures 20-27**.

These projects provide a starting point for the county in developing its financially constrained Six-Year Capital Improvement Plan, which is updated annually and is developed based on knowledge related to project feasibility and funding availability.

While the scope of the 20-year project list exceeds revenues from exclusive county sources over the next few decades, it has been sized to fit within reasonable assumptions for grants and other outside funding sources. Additional projects that were identified in the planning process, but did not fit within the financially constrained 20-year project list are included in **Table 13** as Vision Projects.

Moreover, projects located in the county that are led by the cities and other agencies such as LINK Transit, CDTC and WSDOT are described at the end of this chapter under Regional Collaboration.

Table 12. Twenty Year Project List

*All of the recommended transportation projects in Table 11 will require further analysis prior to actual construction

Location	Project ID	Title	Description	Planning Level Cost
Cashmere/Monitor Vicinity	CA-1	West Cashmere Bridge Replacement	Replacement of bridge to support freight and safety	$23,000,000
	CA-2	Binder Road/ Tigner Road	Roadway relocation to support sidewalks and a safe route to school	$1,000,000
	CA-3	Goodwin Road	Roadway improvements from Sunset Hwy to Goodwin Road Bridge	$2,000,000
Cashmere / Monitor Subtotal				**$26,000,000**
Chelan Vicinity	CH-1	Slide Ridge	Retrofit and slope stabilization	$800,000
	CH-2	Anderson Road, Phase II	Phase 2: MP 0.28 to MP 0.46	$75,000
	CH-3	Howard Flats Road Relocation	Roadway relocation to accommodate airport expansion	$500,000
	CH-4	25-Mile Creek Culvert Rehabilitation	Maintenance of culvert	$185,000
	CH-5	Union Valley Road	Widen, grade, drain, add base and top course, and pave MP 2.42 to MP 3.63	$1,000,000
Chelan Subtotal				**$2,560,000**
Manson Vicinity	MAN-1	Totem Pole Road	Manson Schools (Hill Street) to end of Harris	$3,750,000
	MAN-2	Wapato Lake Road	Reconstruction and widening, MP 0.6 to MP 2.3	$2,600,000
	MAN-3	Summit Boulevard / Manson Boulevard	Intersection Improvements	$255,000
	MAN-4	Ivan Morse Road	Widen, grade, drain, add base and top course, and pave curve at MP	$300,000
	MAN-5	Grade Creek Road	Road Rehabilitation: repave and upgrade existing shoulders	$400,000
	MAN-6	Pedoi Street Recirculation	Reconfigure existing road to accommodate parking	$100,000
	MAN-7	Boetzkes Avenue	Truck route study between Totem Pole Road and Manson Road	$30,000
	MAN-8	Trail Access to Water	Open public rights-of-way for public access to Lake Chelan	$100,000
Manson Subtotal				**$7,535,000**
Entiat Vicinity	E-1	Entiat River Bridges Scour	Scour mitigation on bridges along Entiat River Road	$2,000,000
	E-2	Moe Ridge Bridge	Bridge replacement	$2,100,000
Entiat Subtotal				**$4,100,000**

Location	Project ID	Title	Description	Planning Level Cost
Leavenworth Vicinity	L-1	Chumstick Hwy / North Road	Intersection reconstruction	$1,300,000
	L-2	North Road	Construct/widen shoulders, improve horizontal curves, signange, and safety between Fox Road and Nibblelink Road (South connection)	$3,500,000
	L-3	Eagle Creek Road, Phase II	Full Depth Reclamation (FDR) with a cement treated base and an HMA overlay. MP 3.3 to MP 5.8	$3,520,000
	L-4	Titus Road	Multimodal improvements, illumination, signage, and provide traffic calming along Titus Road from city limits to Ski Hill Drive	$2,710,000
	L-5	Ski Hill Drive	Multimodal improvements, illumination, signage, and provide traffic calming along Ski Hill Drive from city limits to Titus Road	$1,790,000
	L-6	Yodelin Culvert	Culvert Replacement	$900,000
	L-7	Icicle Road	Potential improvements following federal safety audit	$100,000
	L-8	Icicle Station Trail with bridge	Shared-use trail connecting downtown to Icicle Station and Valley Trail.	$400,000
	L-9	Motteler Road Bridge Replacement	Bridge Replacement	$1,500,000
Leavenworth Subtotal				**$15,720,000**
Peshastin Vicinity	PE-1	Peshastin Main Street Bridge	Bridge replacement	$18,700,000
	PE-2	Peshastin Main Street Sidewalk	Sidewalk/pedestrian facility improvements from end of bridge to Megelos Street	$760,000
Peshastin Subtotal				**$19,460,000**
Plain Vicinity	PL-1	Chiwawa Loop, Phase III	Roadway reconstruction to address deteriorating pavement, includes drainage, guardrail, and clear zone improvements, from Wending Lane to Sumac Lane	$3,335,000
	PL-2	Chiwawa Loop, Phase IV	Roadway preservation to address deteriorating pavement, from Sumac Lane to SR207	$1,800,000
	PL-3	Beaver Valley Road Shoulder Improvement	Roadway expansion to include shoulders for multi-modal use	$500,000
	PL-4	River Road - milepost 6	Retaining wall and bank improvements	$250,000
	PL-5	Camp 12 Road	Slope stabilization	$500,000
Plain Subtotal				**$6,385,000**

Location	Project ID	Title	Description	Planning Level Cost
Malaga Vicinity	MAL-1	McEldowney / W. Malaga	Sight distance and intersection geometry improvements	$650,000
	MAL-2	Joe Miller Road Permanent Slide Repair	Slope stabilization	$400,000
	MAL-3	Dixie Lane	Road widening and pedestrian improvements.	$2,440,000
	MAL-4	Malaga-Alcoa Hwy Ped Access	Malaga store to W. Malaga Ave. MP 4.9 to 5.1	$450,000
	MAL-5	Bainard Road	Pedestrian facilities improvements	$420,000
	MAL-6	Saturday Avenue	Pedestrian facilities improvements	$420,000
	MAL-7	Malaga Area Circulation Plan	Update subarea plan to incorporate new growth assumptions and revise planned transportation network	$150,000
Malaga Subtotal				**$4,930,000**
Wenatchee Vicinity	W-1	Easy Street/School Street	Intersection Improvements	$1,500,000
	W-2	Easy Street/Peters Street	Intersection Improvements	$1,500,000
	W-3	Wenatchee Heights Road	Road Reconstruction: and upgrade existing shoulders	$2,500,000
	W-4	Easy St/Crestview St	Intersection Improvements	$140,000
	W-5	Knowles Road, Phase I	Roadway improvements - Phase I: American Fruit Road to Rolling Hills Lane	$1,800,000
	W-6	Knowles Road, Phase II	Roadway improvements - Phase II: School Street to American Fruit Road	$1,500,000
	W-7	So. Wenatchee Area Pedestrian, Phase II	Pedestrian improvements Mission View School to Crawford Avenue	$600,000
	W-8	Peters Street	Widening - Easy Street to School Street	$800,000
	W-9	S. Wenatchee Avenue	Construct sidewalk on S. Wenatchee Avenue between Boodry Street and city limit	$870,000
	W-10	American Fruit Road	Roadway Improvements - Knowles Road to Crestview Road	$800,000
	W-11	School Street	Mid-block crossing improvements (Rectangular Rapid Flashing Beacon and ped ramps)	$40,000
	W-12	Sunnyslope	Update subarea plan to incorporate new growth assumptions and revise planned transportation network (includes new connection to US 2)	$150,000
	W-13	West Wenatchee (new circulation areas)	Update subarea plan to incorporate new growth assumptions and revise planned transportation network	$150,000
	W-14	Boodry/S. Wenatchee Ave Improvement	Malaga-Alcoa Intersection to Squilchuck Creek Bridge	$1,800,000
	W-15	Easy St Bikeway (SR2/97 to School St)	Bike lane - mark and sign existing shoulder as designed bike lane for access to/from Sunnyslope	$66,000
	W-16	Number One Canyon Road	Improve drainage and stormwater runoff and provide pedestrian facility	$940,000
Wenatchee Subtotal				**$15,156,000**
Countywide Total				**$101,846,000**

Table 13. Vision Projects (Beyond 20 year timeframe)

*All of the recommended transportation projects in Table 12 will require further analysis prior to actual construction

Location	Title	Description	Planning Level Cost
Cashmere / Monitor	Monitor Main Street Bridge Replacement	Bridge replacement	$18,700,000
Cashmere / Monitor	Sunset Highway	Reconstruct to city standards (N Division St to Goodwin Rd); would follow Goodwin Bridge reconstruction	$7,000,000
Chelan	Boyd Road	Construct/widen shoulders, construct sidewalks in UGA, upgrade base material, and pave between city limits and Wapato Butte Road	$3,030,000
Leavenworth	Chumstick Highway Rehabilitation	Construct all-weather road and improve some safety elements including spot widening of roadway	$10,000,000
Malaga	Stemilt Creek Road	Spot improvements along the corridor to construct/widen shoulders, improve vertical/horizontal curves, add signage, and reconstruct sections of roadway	$6,720,000
Manson	Manson Stormwater Drainage Improvements	Improve drainage within the Manson Area	$15,000,000
Manson	Alternate Route from Chelan to Manson	Investigate alternate route	$300,000
Peshastin	Peshastin/Mill Site Connector	Port Proposed Bridge from US 2 to Peshastin	$50,000
Peshastin	Main Street	Railroad grade separated crossing structure	$10,000,000
USFS	Number 2 Canyon Road	Potential improvement of road bed structure	$180,000
Sunnyslope	School Street Improvements	Extend School Street improvements between US 2 and Easy Street	$700,000
Sunnyslope	Crestview Road to Knowles Road Connector	East / West connector north of Rolling Hills Lane	TBD

Figure 19. Twenty Year Projects (Cashmere / Monitor Vicinity)

Figure 20. Twenty Year Projects (Chelan Vicinity)

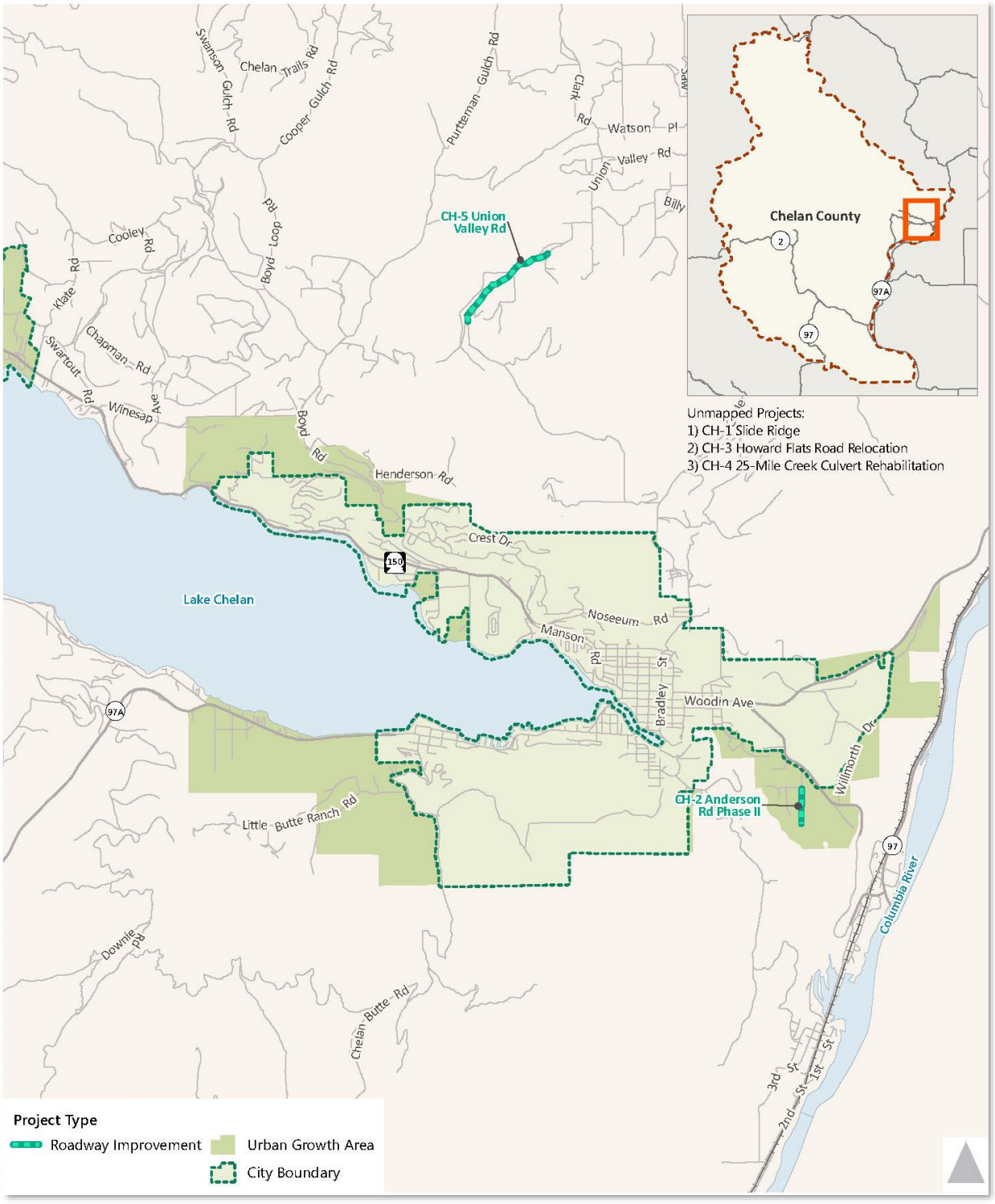


Figure 21. Twenty Year Projects (Manson Vicinity)

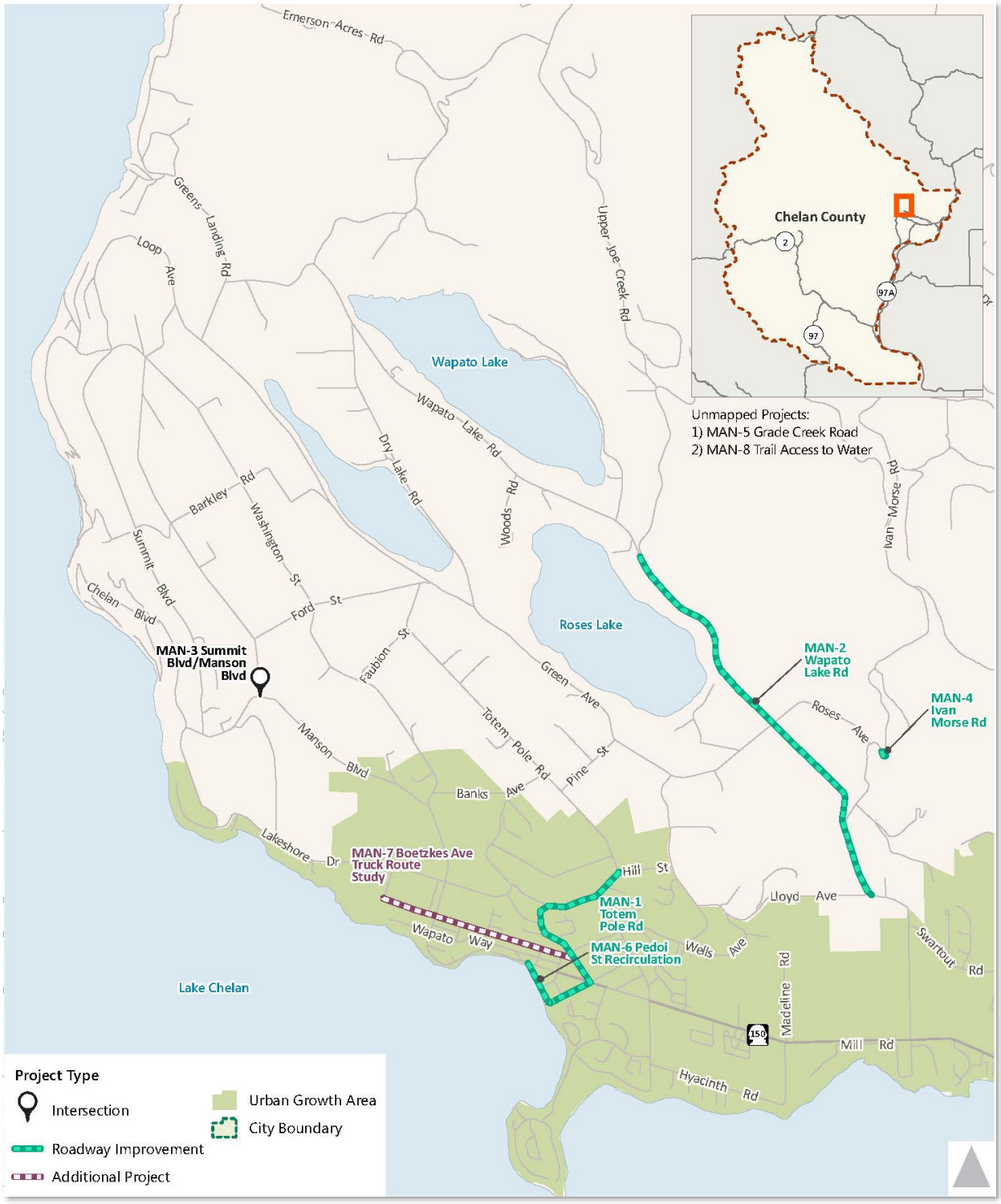


Figure 22. Twenty Year Projects (Entiat Vicinity)

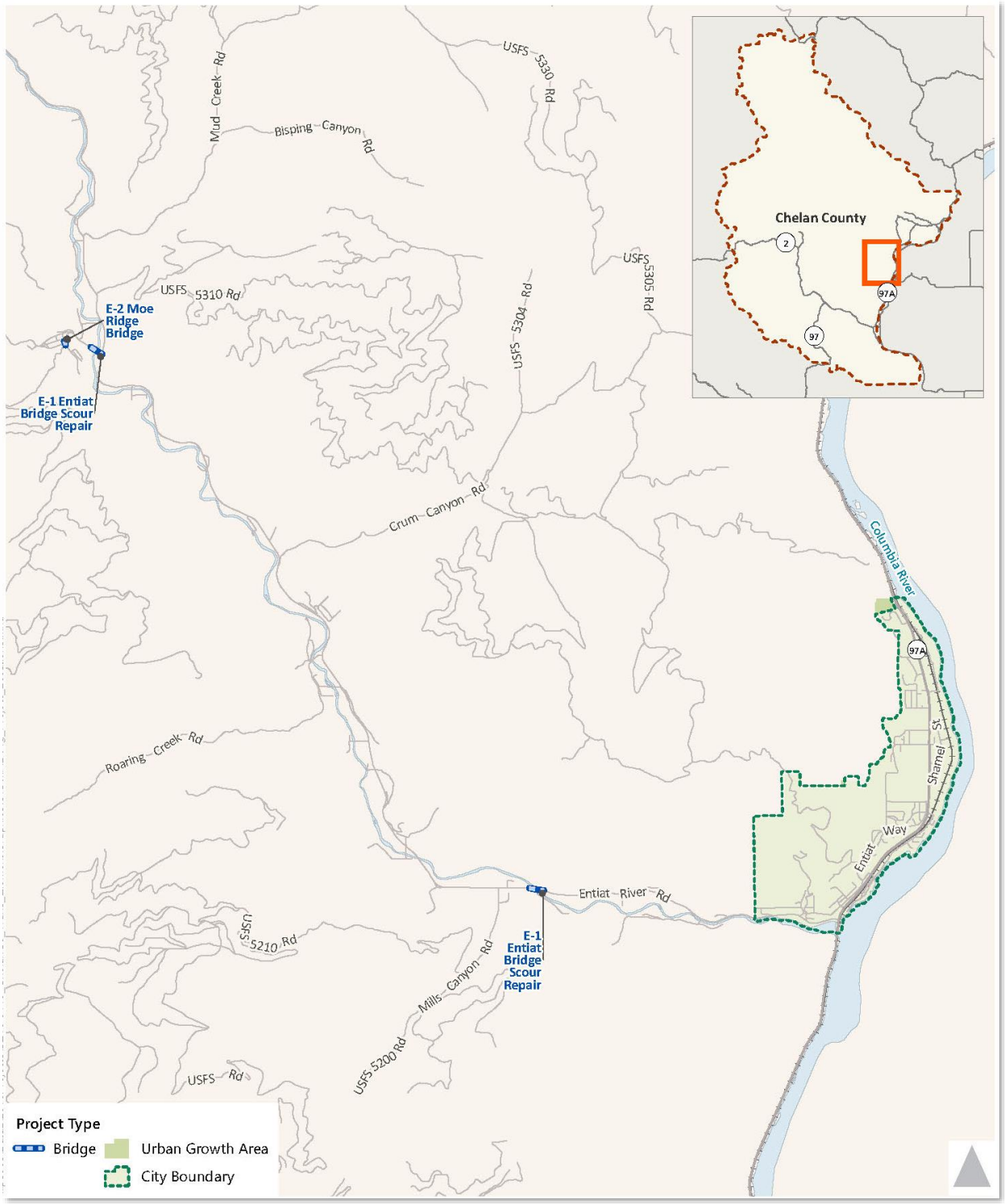


Figure 23. Twenty Year Projects (Leavenworth and Peshastin Vicinity)

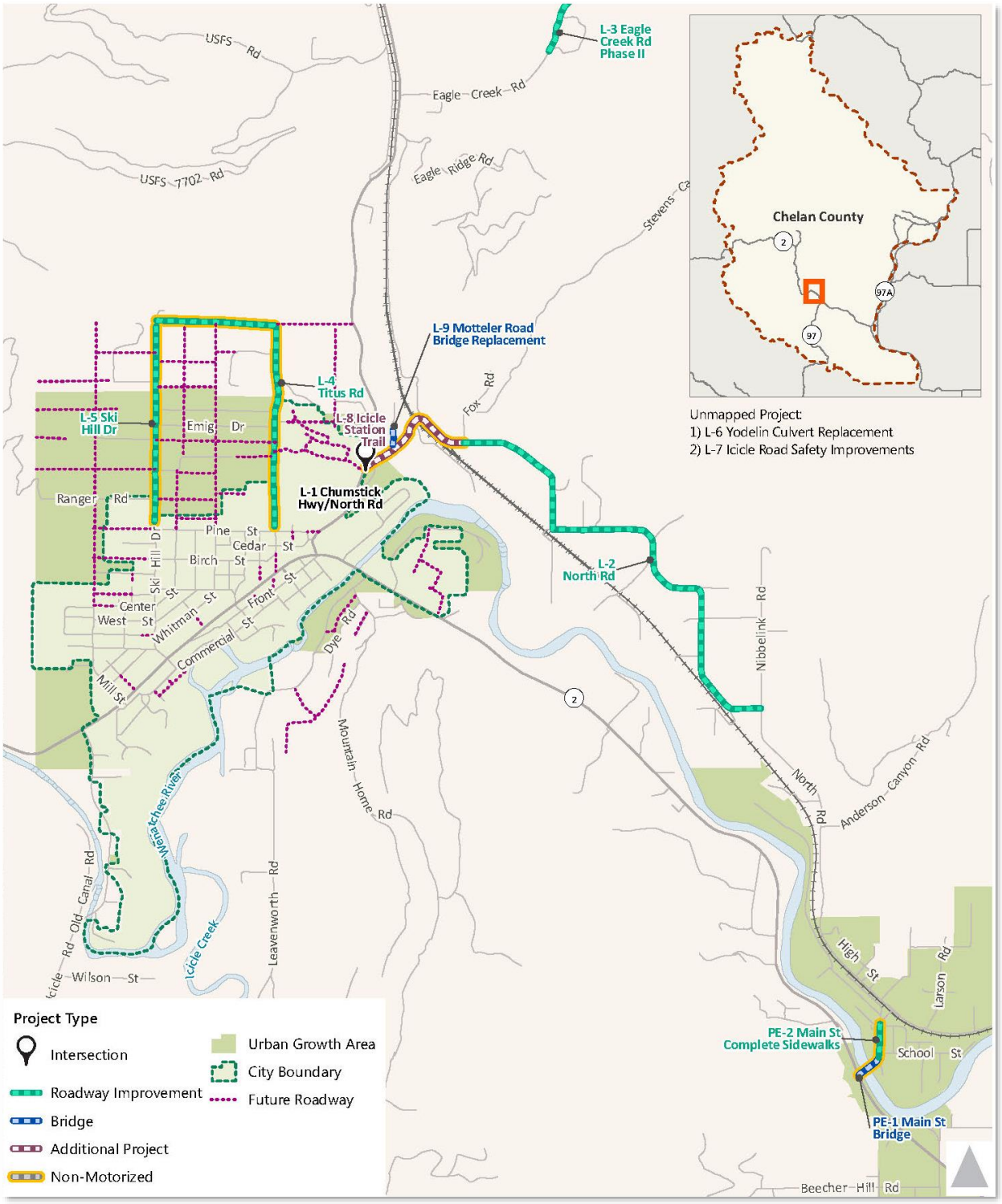


Figure 24. Twenty Year Projects (Plain Vicinity)

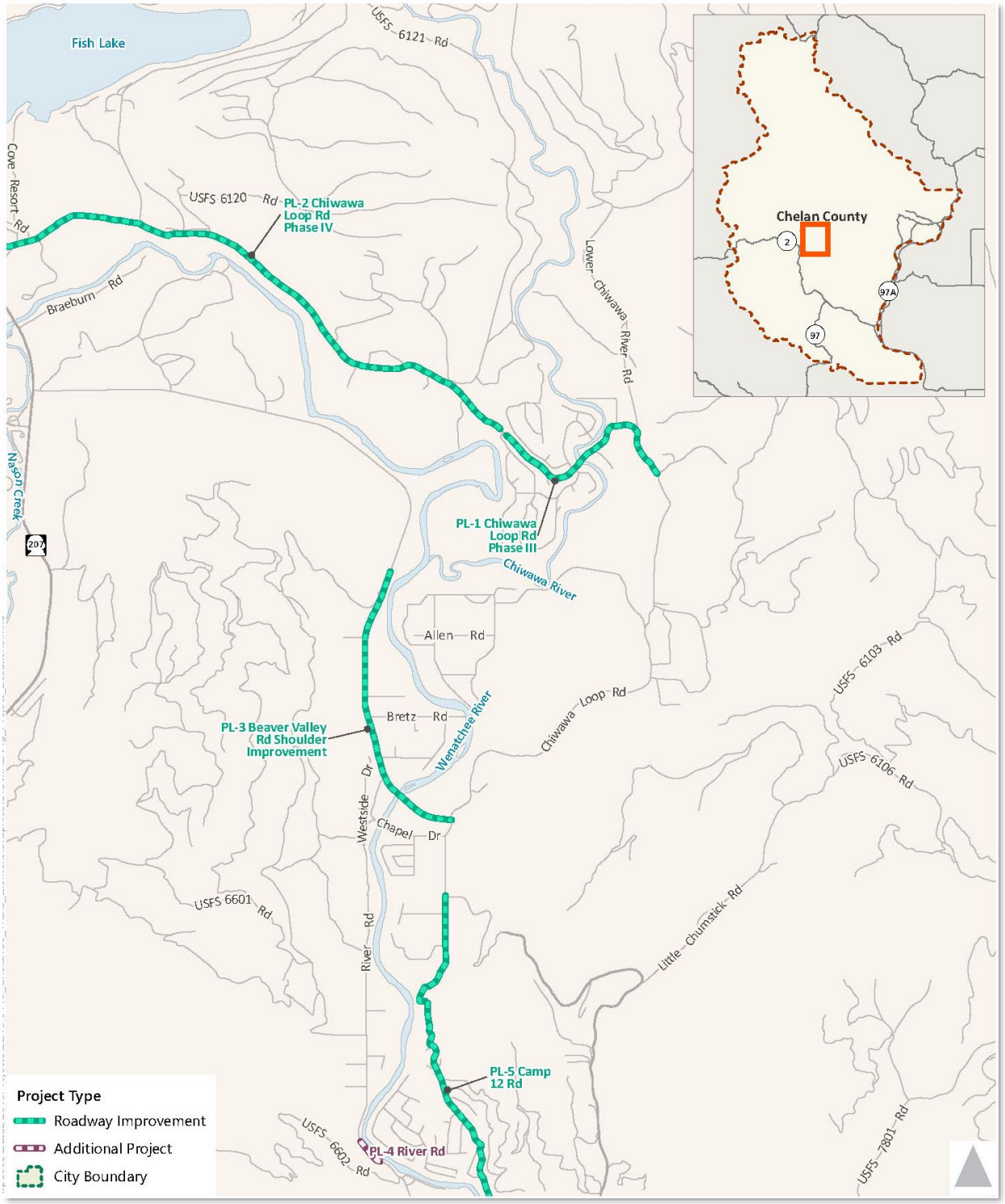


Figure 25. Twenty Year Projects (Malaga Vicinity)

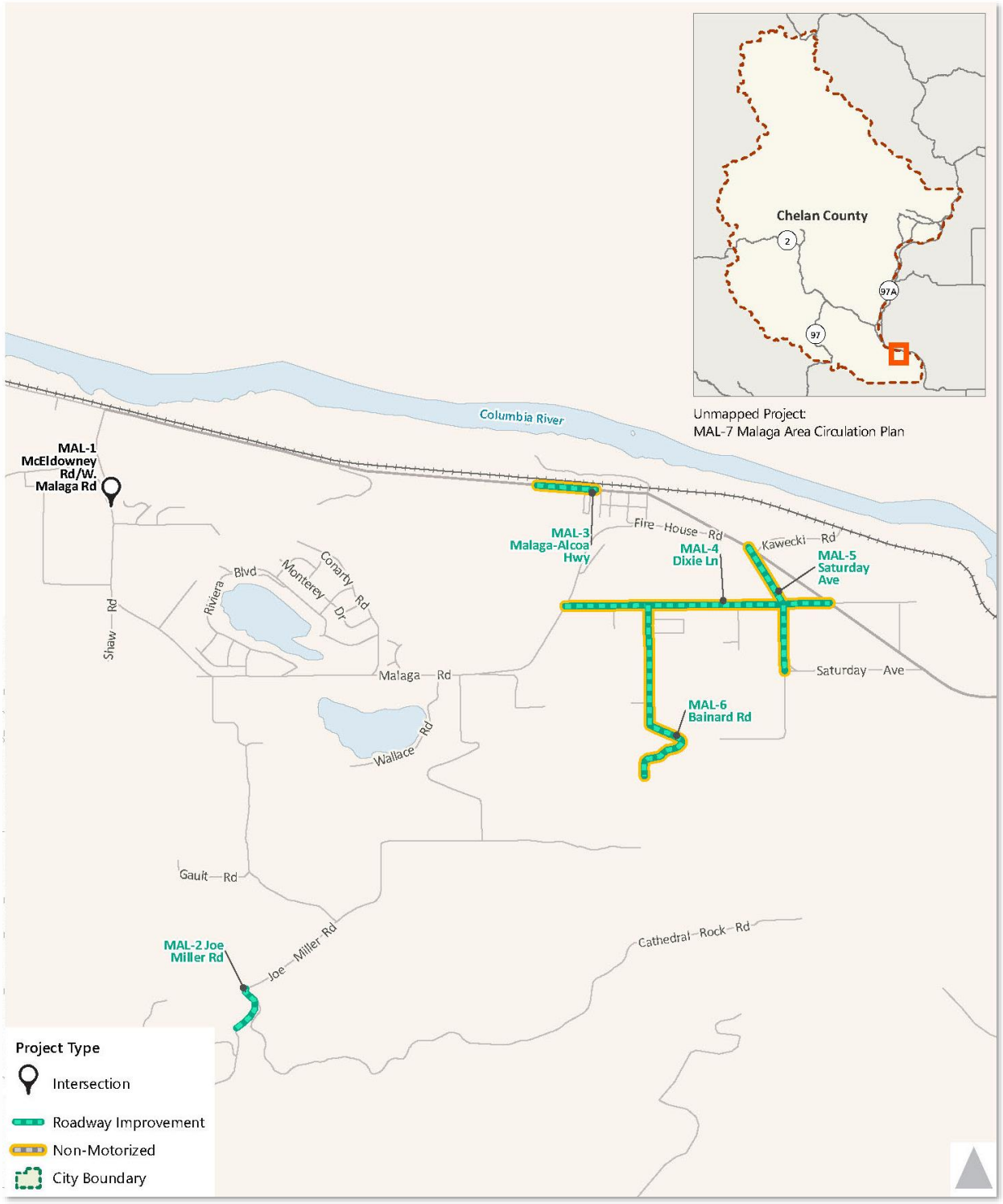
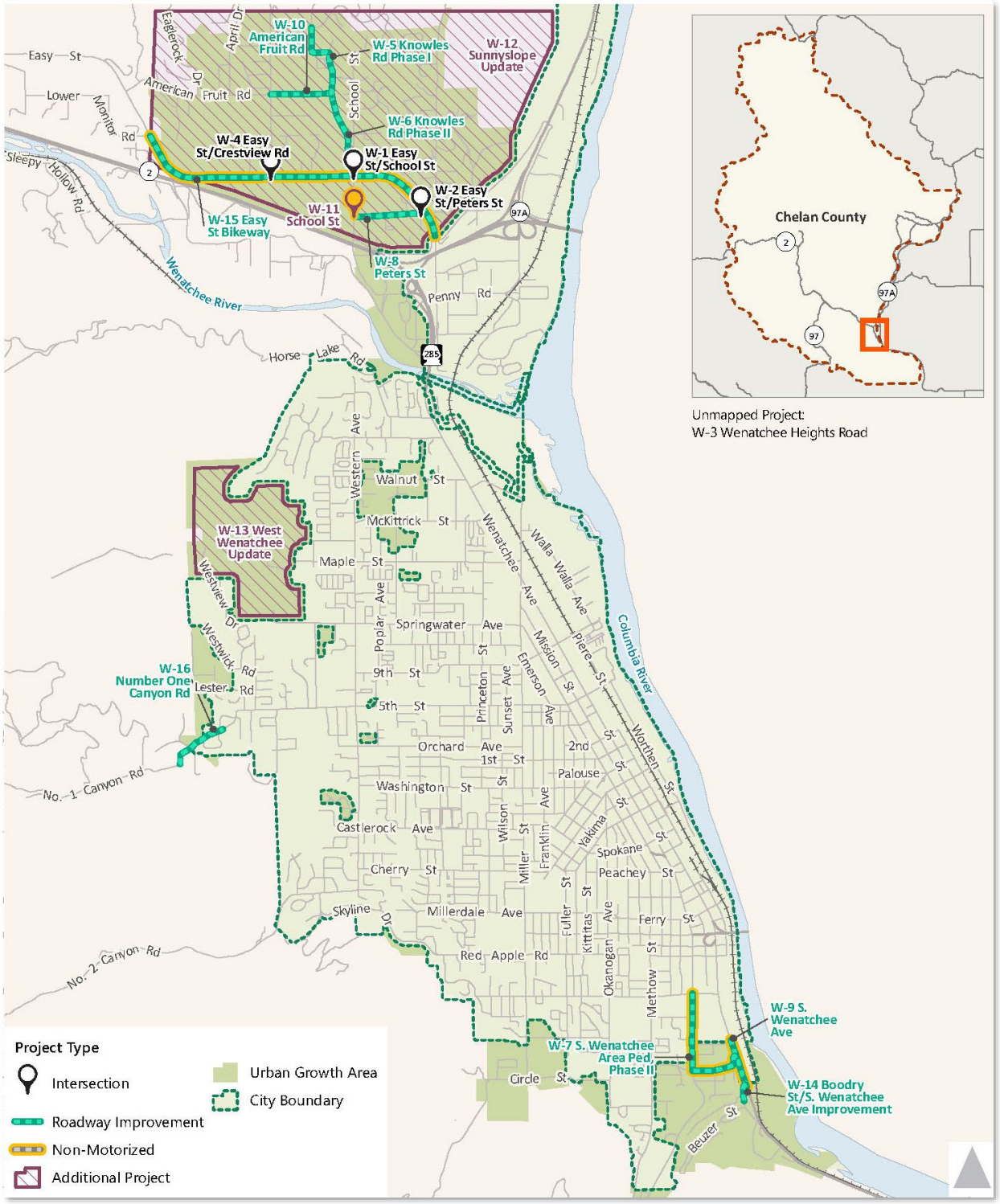


Figure 26. Twenty Year Projects (Wenatchee/Sunnyslope Vicinity)



I. REGIONAL COLLABORATION

As stated earlier, one of the county's main goals in this plan is effective coordination with other agencies to ensure that the local and regional transportation systems complement one another. A key element of this will be partnering with cities, neighboring counties, WSDOT, LINK Transit, and other agencies to ensure a cohesiveness in transportation planning throughout the county.

OTHER REGIONAL PROJECTS

There are projects outside of county jurisdiction that will impact travel through Chelan County. These projects are listed below in **Table 14**. These projects range from highway intersection improvements to bicycle and pedestrian access projects.

One of the major projects in the county is the Confluence Parkway project, identified in the 2011 the North Wenatchee Transportation Master Plan and the CDTC Transportation 2040 RTP for years 2028-2040, seeks to provide an alternate route into Wenatchee from the north due to increasing congestion along SR 285. There is no funding obligated for this project at this time.

Another major project that has been has been discussed includes a bicycle and pedestrian trail that extends from Leavenworth to Peshastin and from Monitor to Wenatchee providing access to all cities along US 2. No formal planning effort has taken place.

As part of this planning process, several transportation issues or performance gaps were identified through stakeholder meetings, meetings with county staff and project development that fall outside of county authority. These issues or performance gaps require cooperation between multiple agencies and increased regional collaboration will lead to more effective transportation systems throughout the county.

WSDOT

WSDOT supports multimodal integration into projects and planning multi-agency and community network interconnectivity. The state system provides access to key destinations within the county, so WSDOT will partner with Chelan County to ensure that both agencies' needs and concerns are addressed.

TRANSIT FACILITIES

On the transit side, LINK Transit is working to improve transit service and facilities within the county. LINK Transit has several goals for their future, the most important being creating a long range plan to examine needs and resources.

U.S. FOREST SERVICE

The USFS owns and maintains roads throughout the Okanogan-Wenatchee National Forest which covers a majority of Chelan County. Maintenance and repairs are necessary to provide access to popular recreation destinations. USFS provides grant funding for roads designated as Forest Highways which provide access to Forest Lands. Several Chelan County roads have this designation: Chumstick Highway, Eagle Creek Road, Chiwawa Loop Road, South Lakeshore Road are a few.

Okanogan-Wenatchee National Forest (Source: USFS)

Table 14. Other Notable Agency Projects

*All of the recommended transportation projects in Table 13 will require further analysis prior to actual construction

Lead Agency	Location	Title	Description
WSDOT	Cashmere	US 2 / Applets	Address congestion and geometric configuration of intersection.
WSDOT	Cashmere	US 2 / Cotlets	Address congestion and geometric configuration of intersection.
WSDOT	Entiat	SR 97A / Entiat River Road	Intersection improvements
WSDOT	Entiat	SR 97A / Hagen Street	Intersection improvements
Entiat	Entiat	Waterfront Development	Access/egress redesign and pedestrian and bike improvements to waterfront area
Leavenworth	Leavenworth	Valley Trail - Leavenworth to Peshastin	Currently in planning phases; working with private landowners to develop a trail connecting Waterfront Park to Peshastin. Sections have been cleared and are ready for trail construction.
Leavenworth	Leavenworth	Ski Hill/Freund Canyon Trails	Mountain bike and hiking trails connecting Ski Hill to Freund Canyon areas.
Leavenworth	Leavenworth	Better grid in UGA	Meet county standards for street alignments as land develops
Link Transit	Link Transit	Park & Ride Facility	New park & ride facility adjacent to Wilkommen Village in Leavenworth
Wenatchee	Wenatchee	Confluence Parkway	Construct new 2-lane arterial parallel to N. Wenatchee Avenue by extending Miller Street Roadway improvements to increase auto, bike, and pedestrian capacity including a new bridge and undercrossing of railroad tracks
Wenatchee	Wenatchee	Wenatchee Bicycle Improvements	Bicycle improvement projects denoted in the Greater Wenatchee Bike Master Plan
Wenatchee	Wenatchee	Squilchuck Road	Upgrade to urban standards, widen and add sidewalks within the UGA
Wenatchee	Wenatchee	McKittrick Street	Reconstruct and upgrade to urban standards between Western Avenue and Pershing Street; new storm, sewer, sidewalks and illumination
Wenatchee	Wenatchee	Walnut Street	Upgrade to urban standards, widen and add sidewalks between Western Avenue and Rogers Drive
Wenatchee	Wenatchee	Okanogan Avenue/Circle Street	Construct sidewalk on Okanogan Avenue between Circle Street and City limit, and Circle Street between Miller Street and Okanogan Avenue

CHAPTER 7: IMPLEMENTING THE TRANSPORTATION ELEMENT

I. INTRODUCTION

This chapter considers Chelan County's funding picture over the next 20 years to ensure that the recommendations made as part of this Transportation Element can be implemented.

BACKGROUND AND CONTEXT

This implementation plan is an update of the funding strategy developed as part of the Transportation Element update process in 2009. For that effort, the County established three principles to guide future funding strategies:

- Reserve regional funding sources for operation and maintenance of existing county-wide transportation facilities.
- Direct funding sources to projects (or categories of projects) that best relate the funding for those projects to their primary beneficiaries.
- Require new development to pay its fair share of expanding/upgrading transportation facilities in the County

In addition, any funding strategy must balance those goals against developing sustainable revenue sources that are feasible for the County to implement. This is even more pressing given the limited means counties have at their disposal for raising revenue. Over the past two decades, a combination of statewide initiatives and legislative actions has altered the landscape for local governments. The most sweeping changes have revolved around voters' decisions to (1) end the Motor Vehicle Excise Tax and (2) create strict limits on the growth of property taxes.

Across Washington State, the effect of these actions has varied by jurisdiction. Cities and local service providers, like counties, are facing increasing difficulty given their continued reliance on the property tax. Washington's counties are different from cities and special service districts in fundamental ways. These differences are brought into stark relief by considering the interplay of four factors:

- Counties face strict limits on their taxing authority.
- Counties are heavily reliant on property taxes, whose purchasing power is eroding due to Initiative 747, explained in Section III.
- Counties face a long list of regional service obligations that are mandated by the state.
- Counties have a complex set of relationships with multiple constituencies:
    - They collect *regional taxes* and provide *regional services* for all constituents in the county.
    - They collect *local taxes* and provide *local services* to unincorporated areas.

Given this combination of factors, Washington's counties have found themselves squeezed between two positions. They have a long list of service obligations that are non-negotiable with few statutory options for securing new revenue streams, and they face structural erosion in their most important revenue source. As they look to the future, Washington's counties face a fundamental, structural challenge—a challenge that will become increasingly unmanageable over time. Chelan County is no exception and this larger systemic issue must be considered as part of their long-term transportation funding strategy.

II. APPROACH

DATA SOURCES AND METHODOLOGY

HISTORICAL REVENUES AND EXPENDITURES

The data used to summarize historical revenues and expenditures came from WSDOT's County Road and City Street Revenues and Expenditures, FY 2006 to 2015 datasets.[7]

[7] 2016 data was not available at the time of this analysis.

WSDOT collects this data from counties and cities as part of its annual reporting to the Federal Highway Administration. The data is collected from counties and cities using a standard report that uses Budgeting, Accounting, and Reporting System codes to standardize the data among all reporting counties and cities. This standardization, along with the availability of significant longitudinal data, makes this data set excellent for this kind of revenue analysis.

For the purposes of this report, the WSDOT data set was reconciled with Chelan County's audited transportation actuals, to correct for differences between how WSDOT and Chelan County track transportation revenues and expenditures. For those reasons, there may be nominal differences between the data provided in this report and Chelan County's audited financial statements.

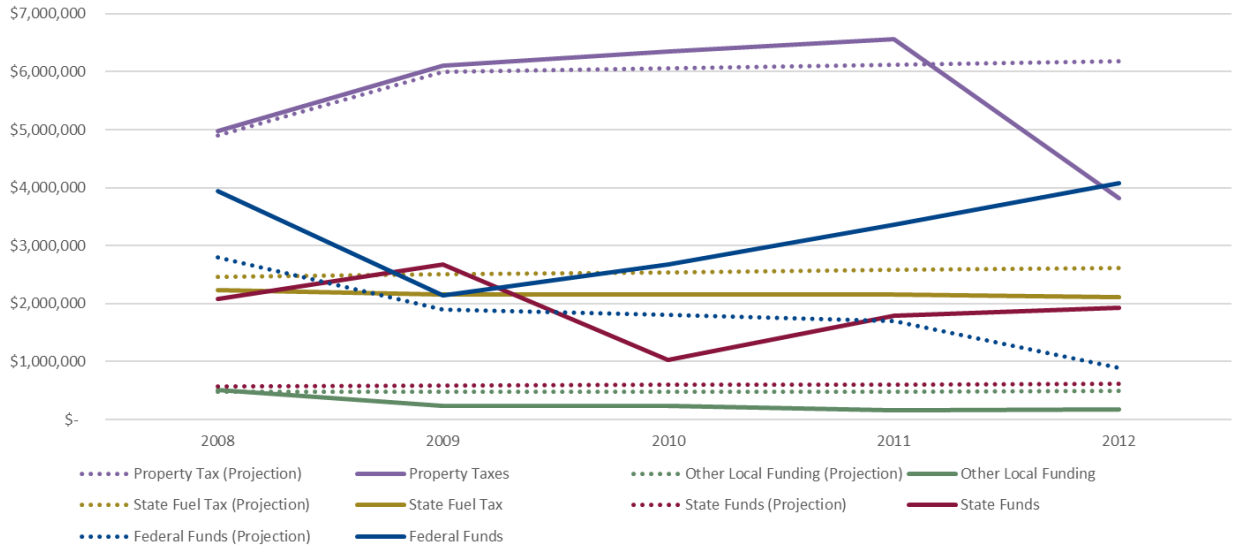
Projected Revenues and Expenditures

Future revenues and expenditures were projected on a per resident basis using the compound annual growth rates imputed from 10-year historical averages. Where they were outliers, inflation was used to override the compound annual growth rates. These projections are made on a per resident basis to reflect growth in revenue anticipated from growth in population. The land use projections from the Land Use Element were used to represent expected population growth.

These projections are intended to be both conservative and planning-level. Additionally, this projection methodology is intended to estimate the overall revenues collected over the 20-year planning period – it is not intended to estimate the revenues that might be collected in any given year.

The same projection methodology was employed in 2008 as part of the 2009 Comprehensive Plan. Projections from the previous plan were compared to actuals from the same years, and the results demonstrate that this methodology is defensible at the planning level.

Figure 27. Comparison of Transportation Revenue Projections and Actuals, 2008 to 2012 (2016$)



Source: "Chelan County Transportation Funding Report", Chelan County, 2009; Washington State Department of Transportation, 2016; and BERK Consulting, 2016.

DATA PRESENTATION

This section presents the data used to evaluate Chelan County's current and future financial position as it relates to transportation funding. This analysis is provided at a high level, in 2016 dollars, and rounded to communicate their only order-of-magnitude precision and in 2016 dollars.[8]

III. BASELINE FINANCIAL CAPACITY

TRANSPORTATION REVENUES

Historical Transportation Revenues

Over the last 10 years there have been six main sources of revenues available for transportation projects in Chelan County:

- Federal Revenues
- Property Taxes
- State Fuel Tax Distributions
- Other State Funds
- Other Local Receipts
- General Fund Appropriations

Chelan County's total transportation revenues, including the revenues collected from each of these sources are provided in **Table 15**.

[8] Projected numbers are rounded to the nearest $10,000. All of the fiscal data throughout this section is provided in 2016 dollars (2016$). This was done by dividing year of estimate dollars (YOE$) (historical actuals and future projections that reflect the expected value of a dollar [purchasing power] for those years) by a generalized inflation factor of 3.5%. The 2016 inflation factor is 1, with each of the following years being the previous year's Consumer Price Index (CPI) factor times one, plus the future inflation assumption.

Table 15. Historical Transportation Revenues, 2006 to 2015

	Property Taxes	General Fund Appropriations	Other Local Receipts	State Fuel Tax Distributions	Other State Funds	Federal Revenues	Total Revenues
2006	$ 4,467,820	$ 400,000	$ 511,117	$ 2,227,595	$ 1,220,155	$ 21,517	**$ 8,848,204**
2007	$ 4,843,816	$ 400,000	$ 216,059	$ 2,278,888	$ 1,849,035	$ 2,747,220	**$ 12,335,018**
2008	$ 4,982,551	$ 400,000	$ 523,542	$ 2,235,791	$ 2,083,728	$ 3,927,139	**$ 14,152,752**
2009	$ 6,100,781	$ 400,000	$ 237,835	$ 2,150,720	$ 2,676,742	$ 2,138,585	**$ 13,704,664**
2010	$ 6,342,060	$ 400,000	$ 229,596	$ 2,161,793	$ 1,029,533	$ 2,683,436	**$ 12,846,419**
2011	$ 6,568,592	$ 400,000	$ 148,002	$ 2,158,347	$ 1,795,551	$ 3,364,083	**$ 14,434,575**
2012	$ 3,814,661	$ 400,000	$ 167,920	$ 2,114,743	$ 1,922,140	$ 4,085,056	**$ 12,504,520**
2013	$ 6,921,424	$ 400,000	$ 255,971	$ 2,172,463	$ 1,385,246	$ 2,036,686	**$ 13,171,790**
2014	$ 7,104,646	$ 400,000	$ 380,723	$ 2,190,019	$ 744,807	$ 2,047,839	**$ 12,868,033**
2015	$ 7,174,913	$ 400,000	$ 2,260,756	$ 2,249,345	$ 600,204	$ 2,269,813	**$ 14,955,031**
Total	**$ 58,321,264**	**$ 4,000,000**	**$ 4,931,521**	**$ 21,939,704**	**$ 15,307,141**	**$ 25,321,374**	**$ 129,821,004**

Note: General fund appropriations includes an amount of $400,000 that is transferred from the general fund to repay $400,000 of county road levy capacity used for general purposes.

Source: Chelan County Public Works, 2016; Washington State Department of Transportation, 2016; and BERK Consulting, 2016.

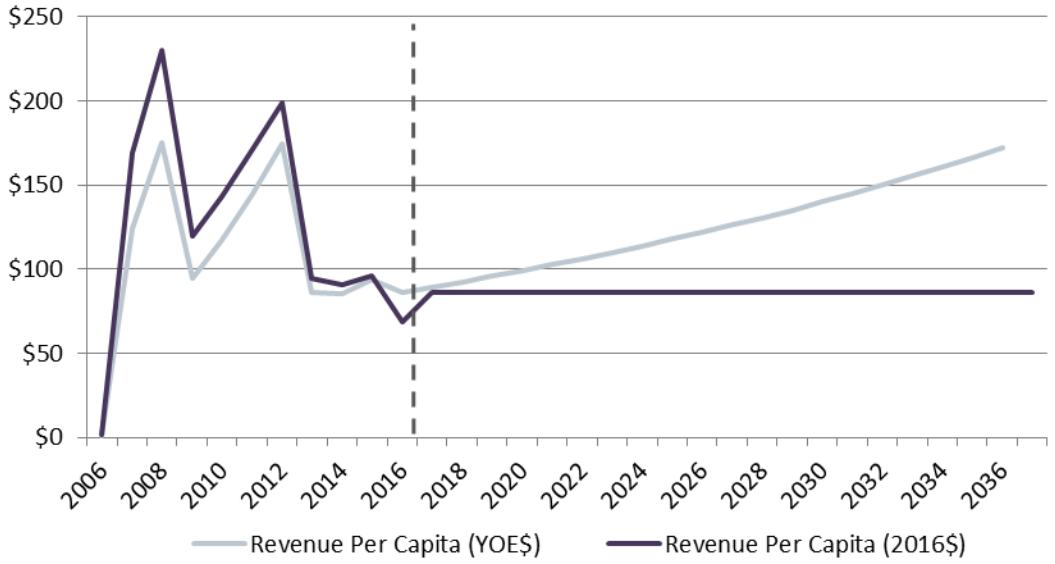
Baseline Revenues for Transportation

To estimate Chelan County's financial capacity for transportation over the 20-year planning program, revenues are projected based on current financial policies. In this case, that means projecting available revenues based on the County's six current transportation funding sources.

Current Source 1: Federal Revenues (Figure 28)

Federal transportation grants are funded through the federal portion of the Fuel Excise Tax. The federal gas tax rate has fluctuated between $0.183 and $0.184 per gallon since 1994. The majority of these funds are deposited into the Highway Trust Fund and disbursed to the states through the Highway and Mass Transit Accounts.

Figure 28. Federal Revenues - Per Capita Historical Actuals and Future Revenue Projection, 2006 to 2036 (2016$)



Source: Washington State Department of Transportation, 2016 and BERK Consulting, 2016.

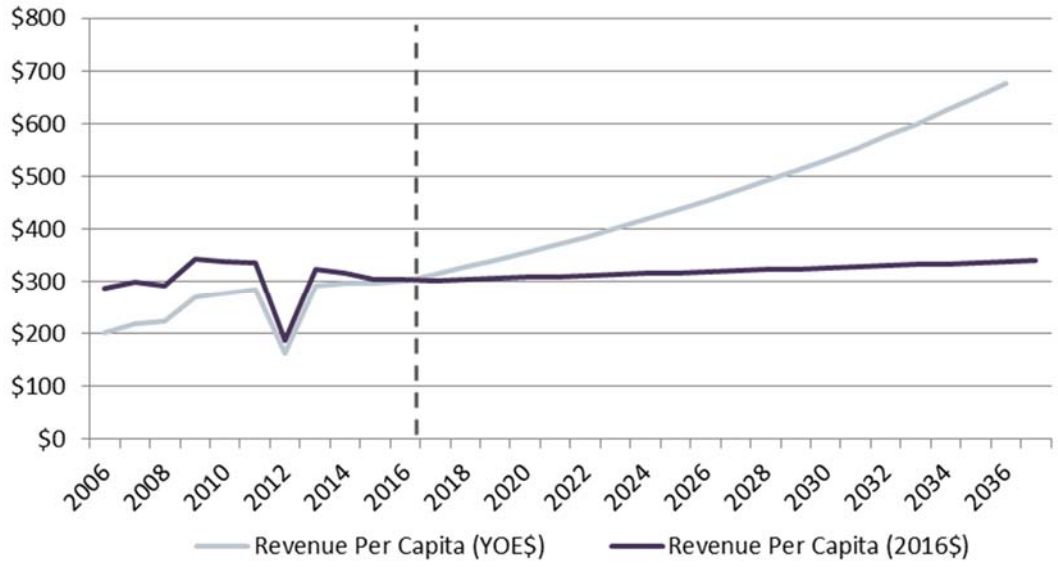
Federal transportation grants are awarded through a competitive process, and, therefore, not guaranteed. Historical data can provide a window into Chelan County's past success in obtaining a share of these funds. In addition, it is known that the County will not receive Secure Schools funding in 2017 and potentially into the future, so we have chosen to exclude that source from these projections (which accounts for the significant reduction in anticipated funds relative to historical receipts as shown in the figure). While Chelan County's receipt of federal grants increased between 2006 and 2015, the later years showed a drop in federal grants. For this analysis, it was conservatively estimated that federal revenues will remain flat over the 20-year planning period.

Current Source 2: Property Tax (Figure 29)

Property taxes are used by counties and cities as one primary transportation funding source. The county road levy is a property tax collected by Chelan County for transportation funding. Chelan County currently levies a property tax of $1.32 / $1,000 of Assessed Value (AV), which is below the $2.25 per $1,000 of AV allowed for "proper county road purposes."

Over the 20-year planning period, revenues from the county road levy (property taxes) are expected to make up the majority of available funds for roadway maintenance and transportation projects. While most cities and counties are seeing a decline in property tax purchasing power, Chelan County's growth assumptions are sufficient to maintain a very slight increase in property tax revenue over the planning period.

Figure 29. Chelan County Road Levy (Property Taxes) – Per resident Historical Actuals and Future Revenue Projection, 2006 to 2036 (2016$)

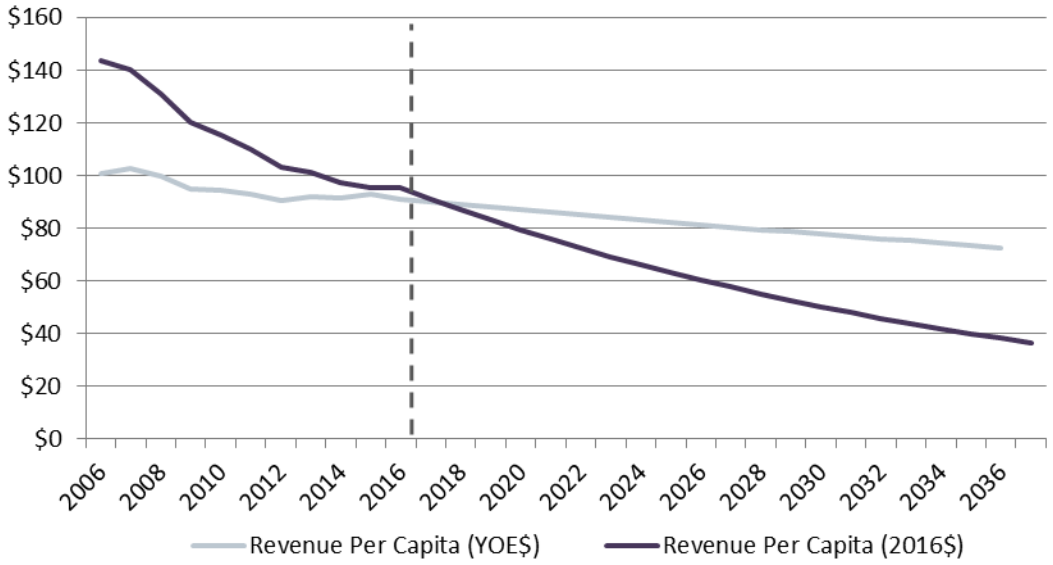


Source: Washington State Department of Transportation, 2016 and BERK Consulting, 2016.

Current Source 3: State Fuel Tax Distributions (Figure 30)

Although historical per capita fuel tax dollars have been increasing in nominal numbers, when adjusted for inflation it is clear that per capita revenues have been declining over time. This trend is becoming more pronounced in very recent history due to large increases in the price of gasoline and a significant shift toward more fuel efficient vehicles.

Figure 30. State Fuel Tax Distributions - Per Capita Historical Actuals and Future Revenue Projection, 2006 to 2036 (2016$)



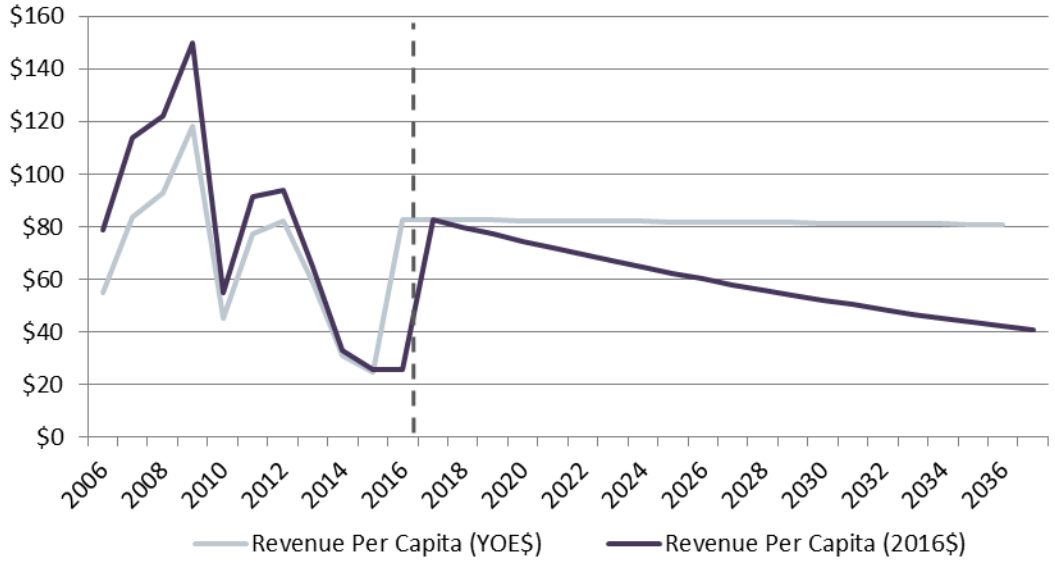
Source: Washington State Department of Transportation, 2016 and BERK Consulting, 2016.

Chelan County's state fuel tax distributions are expected to continue to decline over the 20-year planning period, for the reasons mentioned above. It is unknown whether this trend will level off. However, it is worth noting that there is significant statewide concern regarding the long-term viability of fuel tax as the fleet mix continues to shift toward ever more fuel efficient vehicles and automakers focus on meeting the new Corporate Average Fuel Economy standards. The state legislature has conducted several studies to explore options to replace the gas tax, but no new funding packages have yet been approved. In looking forward, there will continue to be uncertainty around revenues from this tax source.

Current Source 4: Other State Funds (Figure 31)

This category is primarily state grants, like those from the Department of Ecology; Urban Arterial Board; Transportation Improvement Board; Department of Community, Trade, and Economic Development; and WSDOT. Other funds in this category may include state county road administration board (CRAB) funding including the county arterial preservation account (CAPA) fund allocations and other state grants, including those from the traffic safety commission.

Figure 31. Other State Funds - Per Capita Historical Actuals and Future Revenue Projection, 2006 to 2036 (2016$)



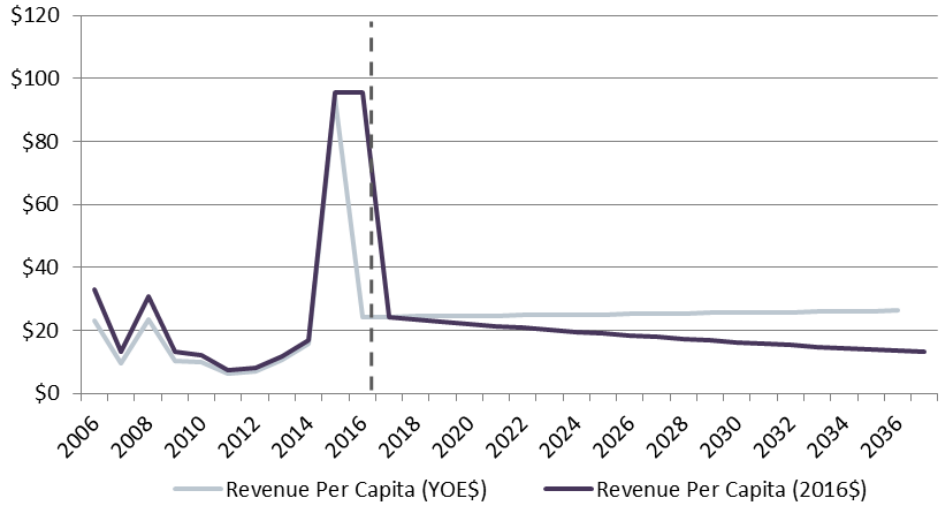
Source: Washington State Department of Transportation, 2016 and BERK Consulting, 2016.

Like federal grants, state grants are a particularly volatile funding source, so this projection presents a "best guess" based on historical data and precedent. Changes in Washington state legislative administration in 2017 could lead to changes in policy that affect this projection. Therefore, it is difficult to predict the magnitude of revenues to expect from this funding category.

Current Source 5: Other Local Receipts (Figure 32)

Local sources of transportation funding include several miscellaneous sources like impact fees and transfers-in for distressed counties. They also include a number of fees or other reimbursements collected by Public Works, including from the sale of maps and publications, for engineering services, for road and street maintenance services, and reimbursements from utilities or related to construction projects.

Figure 32. Other Local Receipts - Per Capita Historical Actuals and Future Revenue Projection, 2006 to 2036 (2016$)



Source: Washington State Department of Transportation, 2016 and BERK Consulting, 2016.

Current Source 6: General Fund Appropriations

Because general fund revenues have few restrictions on how they are spent and the County has a dedicated county road levy for transportation, it is relatively unusual for these funds to be used for transportation purposes. In recent history, Chelan County has appropriated approximately $400,000 per year to transportation to offset the portion of county road levy capacity transferred annually to the general expense levy.

These dollars are primarily made up of Real Estate Excise Tax (REET) funds. Historically, this has been a volatile source of funding for transportation in the county, with consistent divestment of these funds from that purpose, and, therefore, has contributed a relatively small share of total revenues for transportation.

Total Baseline Revenues for Transportation

Table 16 shows the expected baseline revenues for transportation based on projections for the County's sources of transportation revenue described above.

Based on current transportation funding policies the County expects approximately $302.4 million in transportation revenues between 2017 and 2036.[9]

Table 16. Total Baseline Revenues for Transportation, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
Federal Revenues	$ 13,290,000	$ 9,280,000	$ 22,570,000	$ 24,440,000	**$ 47,010,000**
Property Taxes	$ 47,400,000	$ 34,090,000	$ 81,490,000	$ 93,610,000	**$ 175,100,000**
State Fuel Tax Distributions	$ 11,930,000	$ 6,630,000	$ 18,560,000	$ 12,740,000	**$ 31,300,000**
Other State Funds	$ 11,240,000	$ 6,560,000	$ 17,800,000	$ 13,500,000	**$ 31,300,000**
Other Local Receipts	$ 3,350,000	$ 2,010,000	$ 5,360,000	$ 4,290,000	**$ 9,650,000**
General Fund Appropriations (REET)	$ 2,400,000	$ 1,600,000	$ 4,000,000	$ 4,000,000	**$ 8,000,000**
Total Revenues	**$ 89,610,000**	**$ 60,170,000**	**$ 149,780,000**	**$ 152,580,000**	**$ 302,360,000**

Source: BERK Consulting, 2016.

[9] These projections are conservative and planning level.

TRANSPORTATION PROGRAMMATIC EXPENDITURES

Transportation spending falls in two main categories: programmatic and capital. Capital expenditures for transportation are mainly from construction of new facilities, such as roads, sidewalks, and traffic signals. The County also has significant programmatic costs for running its existing system, including administration, operation, maintenance of existing facilities, preservation, and capital outlay, which account for the majority of its regular expenditures. More specifically, programmatic expenditures support things like pavement improvement, bridge retrofitting and rehabilitation, and other roadway elements, like guardrails, signs, concrete barriers, and pedestrian and drainage facilities.

Historical Transportation Programmatic Expenditures

There are four categories of activities in transportation programmatic expenditures:

- **Administration and Facility Operations.** General administration covers public works transportation administration and support. Operations accounts for engineering and planning services that support transportation capital projects.
- **Preservation.** Routine improvements like pavement overlays and bridge repairs/replacement.
- **Maintenance.** Routine and ongoing activities to ensure facility utility, e.g. pothole repair, and snow and ice control.
- **Capital Outlay for Facilities.** Costs of building and maintaining facilities that support the transportation program.

Chelan County expenditures for each category between 2006 and 2015 are shown in **Table 17**.

Table 17. Historical Transportation Programmatic Expenditures, 2006 to 2015

	Preservation	Maintenance	Administration & Facility Operations	Capital Outlay for Facilities	Total Programmatic Expenditures
2006	$	$ 6,305,543	$ 1,659,964	$ 15,123	$ 7,980,630
2007	$	$ 7,432,486	$ 2,193,314	$	$ 9,625,800
2008	$	$ 5,342,218	$ 2,349,098	$ 129,475	$ 7,820,791
2009	$ 1,121,213	$ 5,090,481	$ 2,358,031	$	$ 8,569,725
2010	$ 1,473,810	$ 4,658,762	$ 2,076,978	$	$ 8,209,550
2011	$ 1,430,599	$ 4,700,316	$ 2,384,530	$	$ 8,515,445
2012	$ 1,193,949	$ 5,031,611	$ 2,492,566	$	$ 8,718,126
2013	$ 2,020,342	$ 4,913,515	$ 2,893,629	$ 78,647	$ 9,906,133
2014	$ 2,472,675	$ 4,930,081	$ 2,492,189	$ 74,129	$ 9,969,074
2015	$ 1,163,702	$ 5,543,230	$ 2,719,765	$ 18,767	$ 9,445,464
TOTAL	$ 10,876,290	$ 53,948,243	$ 23,620,064	$ 316,141	$ 88,760,738

Note: Before 2008 preservation costs were included with maintenance, and were not tracked separately.
*During 2014 and 2015, approximately $9,300,000 in capital improvement projects that would be generally included as part of preservation programmatic expenditures were completed. These numbers do not reflect these additional expenditures.

Source: Chelan County Public Works, 2016.

Baseline Programmatic Expenditures for Transportation

This baseline projection for transportation programmatic expenditures estimates the costs of providing the same services that occurred during the historical period (2006 to 2015).

Table 18. Total Baseline Programmatic Expenditures for Transportation, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
Administration & Facility Operations	$ 15,110,000	$ 10,550,000	$ 25,660,000	$ 27,790,000	**$ 53,450,000**
Maintenance	$ 46,290,000	$ 32,320,000	$ 78,610,000	$ 85,090,000	**$ 163,700,000**
Preservation	$ 7,340,000	$ 5,120,000	$ 12,460,000	$ 13,490,000	**$ 25,950,000**
Capital Outlay for Facilities	$ 1,530,000	$ 1,070,000	$ 2,600,000	$ 2,810,000	**$ 5,410,000**
Total Programmatic Expenditures	**$ 70,270,000**	**$ 49,060,000**	**$ 119,330,000**	**$ 129,180,000**	**$ 248,510,000**

Source: BERK Consulting, 2016.

BASELINE FINANCIAL CAPACITY FOR TRANSPORTATION

Using these projections, a baseline picture was generated of the average annual revenue availability based on current financial policies for the next six and 20 years.

Table 19. Baseline Transportation Financial Capacity for Additional Programmatic Expenditures and Capital Projects, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
Total Revenue	**$ 87,220,000**	**$ 60,170,000**	**$ 149,780,000**	**$ 152,580,000**	**$ 302,360,000**
Administration & Facility Operations	$ 15,110,000	$ 10,550,000	$ 25,660,000	$ 27,790,000	**$ 53,450,000**
Maintenance	$ 46,290,000	$ 32,320,000	$ 78,610,000	$ 85,090,000	**$ 163,700,000**
Preservation	$ 7,340,000	$ 5,120,000	$ 12,460,000	$ 13,490,000	**$ 25,950,000**
Capital Outlay for Facilities	$ 1,530,000	$ 1,070,000	$ 2,600,000	$ 2,810,000	**$ 5,410,000**
Total Programmatic Expenditures	**$ 70,270,000**	**$ 49,060,000**	**$ 119,330,000**	**$ 129,180,000**	**$ 248,510,000**
Remaining Revenue for Capital Projects	**$ 16,950,000**	**$ 11,110,000**	**$ 30,450,000**	**$ 23,400,000**	**$ 53,850,000**

Source: Washington State Department of Transportation, 2016 and BERK Consulting, 2016.

Based on revenue projections, approximately $53.8 million will be available for transportation programs and projects beyond current activities during the planning horizon, as shown in **Table 19.**

However, it is important to also consider the flexibility of revenue sources, including statutory restrictions limiting funding for either programmatic or capital purposes.
Some of the County's transportation revenue sources are specifically earmarked for capital purposes. These include REET, state revenues (grants), federal revenues (grants), and any maintenance of effort or matching funds to support those grants (an average of about 20% per grant). To fully illustrate funds that may be restricted to capital, we estimated the expected maintenance of effort and matching funds for grants by multiplying the total grant amount by 20%, as it is expected that those amounts will average about 20%.

Due to these statutory restrictions in funding, only $200 million of the $248 million needed for programmatic expenditures is available, as shown in **Table 20**. This is a starting deficit of almost $48 million for programmatic activities. However, almost $102 million is available for capital projects.

Table 20. Baseline Transportation Financial Capacity for Additional Programmatic Expenditures and Capital Projects with Consideration of Fund Restrictions, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
All Future Revenues					
Federal Revenues	$ 13,290,000	$ 9,280,000	**$ 22,570,000**	$ 24,440,000	**$ 47,010,000**
Property Taxes	$ 47,400,000	$ 34,090,000	**$ 81,490,000**	$ 93,610,000	**$ 175,100,000**
State Fuel Tax Distributions	$ 11,930,000	$ 6,630,000	**$ 18,560,000**	$ 12,740,000	**$ 31,300,000**
Other State Funds	$ 11,240,000	$ 6,560,000	**$ 17,800,000**	$ 13,500,000	**$ 31,300,000**
Other Local Receipts	$ 3,350,000	$ 2,010,000	**$ 5,360,000**	$ 4,290,000	**$ 9,650,000**
General Fund Appropriations (REET)	$ 2,400,000	$ 1,600,000	**$ 4,000,000**	$ 4,000,000	**$ 8,000,000**
Total Revenues	**$ 89,610,000**	**$ 60,170,000**	$ 149,780,000	**$ 152,580,000**	**$ 302,360,000**
Capital Only Funds					
REET	$ 2,400,000	$ 1,600,000	**$ 4,000,000**	$ 4,000,000	**$ 8,000,000**
State Revenues (Grants)	$ 11,240,000	$ 6,560,000	**$ 17,800,000**	$ 13,500,000	**$ 31,300,000**
Federal Revenues (Grants)	$ 13,290,000	$ 9,280,000	**$ 22,570,000**	$ 24,440,000	**$ 47,010,000**
Estimated Minimum Match for Grants (20%)	$ 4,910,000	$ 3,170,000	**$ 8,070,000**	$ 7,590,000	**$ 15,660,000**
Total Available for Capital (Capital Restricted)	$ 31,840,000	$ 20,610,000	$ 52,440,000	$ 49,530,000	$ 101,970,000
Total Available for Programmatic Expenditures	$ 57,770,000	$ 39,560,000	$ 97,340,000	$ 103,050,000	$ 200,390,000
Baseline Programmatic Expenditures	$ 70,270,000	$ 49,060,000	**$ 119,330,000**	$ 129,180,000	**$ 248,510,000**
Projected Programmatic Expenditures Surplus	$ (12,500,000)	$ (9,500,000)	**$ (21,990,000)**	$ (26,130,000)	**$ (48,120,000)**

Source: BERK Consulting, 2016.

IV. BALANCING FINANCIAL CAPACITY WITH FUTURE FUNDING NEEDS

When comparing total available revenues for transportation with expected maintenance costs over the 20-year study period, revenues fall short of paying for even the current estimated programmatic costs, before considering policy changes that would increase those programmatic costs. This makes sense when considering that the main revenues used for transportation are increasing at a relatively slow rate, while costs are increasing more quickly. Although spending is currently balanced, the increase in costs begins to outpace the increase in revenues in the very near term.

There are two main types of strategies that can be used to balance this implementation plan:

1. **Increase revenue,** through increases in existing funding tools or implementation of new tools.
2. **Decrease expenses** by decreasing programmatic activities or further prioritizing capital projects.

Significant use of the latter strategy was used in the development of this plan.

FUTURE FUNDING NEEDS

Programmatic Needs

County staff evaluated state of repair to determine whether the status quo (baseline programmatic expenditures) was sufficient to support desired level of service of existing facilities. It was identified that status quo is not sufficient to support desired level of service, and that additional preservation spending, specifically additional monies for pavement, roadway elements, and bridges, would be required to meet programmatic needs, as shown in **Table 21**. These costs were extrapolated over the 20-year period based on additional, expected annual costs determined to be needed as part of the good state of repair evaluation.

Table 21. Additional Preservation-related (Roads and Bridges) Programmatic Expenditures, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
Total Needed Preservation Expenditures	$ 28,170,000	$ 13,980,000	**$ 42,150,000**	$ 34,950,000	**$ 77,100,000**
Baseline Preservation Expenditures	$ 7,340,000	$ 5,120,000	**$ 12,450,000**	$ 13,490,000	**$ 25,940,000**
Additional Preservation Expenditures (Beyond Baseline)	**$ 20,830,000**	**$ 8,860,000**	**$ 29,700,000**	**$ 21,460,000**	**$ 51,160,000**

Source: Chelan County, 2016.

An additional $51 million for preservation-related programs, beyond what would be needed to support baseline preservation levels, is needed over the 20-year planning period. Allocation of additional resources to these activities is a policy decision.

Additionally, County staff identified the need for a fund that supports unanticipated and upgrade needs, beyond existing programs. The proposed costs of this reserve are outlined in **Table 22**, below.

Table 22. Additional Programmatic Reserve-related Programmatic Expenditures

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
Bridge Repairs	$ 900,000	$ 600,000	$ 1,500,000	$ 1,500,000	$ 3,000,000
Drainage Upgrades	$ 6,000,000	$ 1,000,000	$ 7,000,000	$ -	$ 7,000,000
Guardrail Infill	$ 450,000	$ 310,000	$ 760,000	$ 750,000	$ 1,510,000
ADA Compliance Projects	$ 600,000	$ 400,000	$ 1,000,000	$ 1,000,000	$ 2,000,000
Slope/Wall Stablization	$ 3,000,000	$ 2,000,000	$ 5,000,000	$ 2,500,000	$ 7,500,000
Hazardous Tree Removal	$ 900,000	$ 200,000	$ 1,100,000	$ 500,000	$ 1,600,000
Response to Regulatory Mandates	$ 180,000	$ 120,000	$ 300,000	$ 300,000	$ 600,000
Total Programmatic Reserve	$ 12,030,000	$ 4,630,000	$ 16,660,000	$ 6,550,000	$ 23,210,000

Source: Chelan County, 2016.

In sum, between both additional preservation expenditures beyond baseline and additional programmatic reserve-related programmatic expenditures, an additional $74.4 million will be needed to support these additional programmatic expenditures. Again, allocation of additional resources to these activities is a policy decision.

Capital Needs

County staff have already heavily prioritized the capital projects that appear in this Transportation Element. However, additional prioritization is still a tool for balancing the plan if additional revenue options are not available.

The countywide cost of the transportation capital project list is $102 million as shown in **Table 23.**

Table 23. Additional Financial Capacity Beyond Baseline Needed for Transportation Capital Projects, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
Revenue Available for Capital Projects	**$ 31,840,000**	**$ 20,610,000**	**$ 52,440,000**	**$ 49,530,000**	**$ 101,970,000**
Capital Projects Expenditures	**N/A**	**N/A**	**N/A**	**N/A**	**$ 102,050,000**
Revenue Deficit	**N/A**	**N/A**	**N/A**	**N/A**	**$ (80,000)**

Source: Chelan County, 2016; Fehr & Peers, 2016; and BERK Consulting, 2016.

This financial analysis suggests that approximately $102 million is available for capital projects over the life of the plan. This is actually nominally less than needed. As it is expected that there will be additional capital projects that the County desires to complete over the 20-year period, it is expected that additional capital revenues will be needed.

FUTURE FUNDING STRATEGIES

While there is a surplus in capital funds, there is an estimated $122.5 million programmatic funding deficit over the 20-year planning horizon, as shown in **Table 24 and Table 25**.

Table 24. Total Transportation Financial Capacity for Capital Projects with Consideration of Fund Restrictions, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
All Future Revenues					
Federal Revenues	$ 13,290,000	$ 9,280,000	**$ 22,570,000**	$ 24,440,000	**$ 47,010,000**
Property Taxes	$ 47,400,000	$ 34,090,000	**$ 81,490,000**	$ 93,610,000	**$ 175,100,000**
State Fuel Tax Distributions	$ 11,930,000	$ 6,630,000	**$ 18,560,000**	$ 12,740,000	**$ 31,300,000**
Other State Funds	$ 11,240,000	$ 6,560,000	**$ 17,800,000**	$ 13,500,000	**$ 31,300,000**
Other Local Receipts	$ 3,350,000	$ 2,010,000	**$ 5,360,000**	$ 4,290,000	**$ 9,650,000**
General Fund Appropriations (REET)	$ 2,400,000	$ 1,600,000	**$ 4,000,000**	$ 4,000,000	**$ 8,000,000**
Total Revenues	**$ 89,610,000**	**$ 60,170,000**	**$ 149,780,000**	**$ 152,580,000**	**$ 302,360,000**
Capital Only Funds					
REET	$ 2,400,000	$ 1,600,000	**$ 4,000,000**	$ 4,000,000	**$ 8,000,000**
State Revenues (Grants)	$ 11,240,000	$ 6,560,000	**$ 17,800,000**	$ 13,500,000	**$ 31,300,000**
Federal Revenues (Grants)	$ 13,290,000	$ 9,280,000	**$ 22,570,000**	$ 24,440,000	**$ 47,010,000**
Estimated Minimum Match for Grants (20%)	$ 4,910,000	$ 3,170,000	**$ 8,070,000**	$ 7,590,000	**$ 15,660,000**
Total Available for Capital (Capital Restricted)	**$ 31,840,000**	**$ 20,610,000**	**$ 52,440,000**	**$ 49,530,000**	**$ 101,970,000**

Source: BERK Consulting, 2016.

Table 25. Total Transportation Financial Capacity for Additional Programmatic Expenditures with Consideration of Fund Restrictions, 2017 to 2036 (2016$)

	2017 - 2022 (Years 1 - 6)	2023 - 2026 (Years 7 - 10)	Total, 2017 - 2026 (Years 1 - 10)	2027 - 2036 (Years 11 - 20)	Total, 2017 - 2036 (Years 1 - 20)
All Future Revenues					
Federal Revenues	$ 13,290,000	$ 9,280,000	**$ 22,570,000**	$ 24,440,000	**$ 47,010,000**
Property Taxes	$ 47,400,000	$ 34,090,000	**$ 81,490,000**	$ 93,610,000	**$ 175,100,000**
State Fuel Tax Distributions	$ 11,930,000	$ 6,630,000	**$ 18,560,000**	$ 12,740,000	**$ 31,300,000**
Other State Funds	$ 11,240,000	$ 6,560,000	**$ 17,800,000**	$ 13,500,000	**$ 31,300,000**
Other Local Receipts	$ 3,350,000	$ 2,010,000	**$ 5,360,000**	$ 4,290,000	**$ 9,650,000**
General Fund Appropriations (REET)	$ 2,400,000	$ 1,600,000	**$ 4,000,000**	$ 4,000,000	**$ 8,000,000**
Total Revenues	**$ 89,610,000**	**$ 60,170,000**	**$ 149,780,000**	**$ 152,580,000**	**$ 302,360,000**
Capital Only Funds					
REET	$ 2,400,000	$ 1,600,000	**$ 4,000,000**	$ 4,000,000	**$ 8,000,000**
State Revenues (Grants)	$ 11,240,000	$ 6,560,000	**$ 17,800,000**	$ 13,500,000	**$ 31,300,000**
Federal Revenues (Grants)	$ 13,290,000	$ 9,280,000	**$ 22,570,000**	$ 24,440,000	**$ 47,010,000**
Estimated Minimum Match for Grants (20%)	$ 4,910,000	$ 3,170,000	**$ 8,070,000**	$ 7,590,000	**$ 15,660,000**
Total Available for Capital (Capital Restricted)	$ 31,840,000	$ 20,610,000	$ 52,440,000	$ 49,530,000	$ 101,970,000
Total Available for Programmatic Expenditures	**$ 57,770,000**	**$ 39,560,000**	**$ 97,340,000**	**$ 103,050,000**	**$ 200,390,000**
Baseline Programmatic Expenditures	$ 70,270,000	$ 49,060,000	**$ 119,330,000**	$ 129,180,000	**$ 248,510,000**
Additional Preservation and Program-reserve Expenditures (Beyond Baseline)	$ 32,860,000	$ 13,490,000	**$ 46,360,000**	$ 28,010,000	**$ 74,370,000**
Projected Programmatic Expenditures Surplus	**$ (45,360,000)**	**$ (22,990,000)**	**$ (68,350,000)**	**$ (54,140,000)**	**$ (122,490,000)**

Source: BERK Consulting, 2016.

County staff and Commissioners considered a detailed list of options for increasing transportation funding to support baseline programmatic activities, as well as additional desired programmatic activities beyond current level of funding:

- Reserve regional funding sources to fund programmatic activities related to operation and maintenance of existing County-wide transportation facilities.
- Direct funding sources to specific projects (or categories of projects) that best relate the costs of those projects to their primary beneficiaries.
- Require new development to pay its fair share of expanding/upgrading transportation facilities in the County.

Other considerations for funding strategies to balance the implementation plan include:

- Feasibility
- Taxpayer/resident support
- Order of magnitude of potential funding
- Considerations around revenue options:
    - Volatility of the revenue source
    - Levy and debt capacity impacts

Following is the list of options for balancing this implementation plan.

- Increase Revenues through Existing Funding Tools:
    - County Roads Levy (Property Taxes)
    - General Fund Appropriations
    - Sale of Existing Capital Assets
- Increase Revenues through New Funding Tools:
    - $20 Motor Vehicle Excise Tax (MVET) levied via a Transportation Benefit District
    - 0.02% Sales and Use Tax (SUT) levied via a Transportation Benefit District
    - Levy Lid Lift
    - Transportation Impact Fees
    - Road Improvement District (RID)
    - Local Option Fuel Tax
- Increase Revenues through New Financing Tools:
    - Limited Tax General Obligation (LTGO) Bonds
    - Unlimited Tax General Obligation (UTGO) Bond

BALANCING FINANCIAL CAPACITY WITH FUTURE FUNDING NEEDS

County Staff and Board of Commissioners, with input from stakeholders, identified use of, one or both, a Levy Lid Lift of the County Roads Levy and/or the Local Option Fuel Tax as potential tools for filling the funding gap over the 20-year period. Each of these potential tools is discussed following.

Potential Funding Option 1: County Road Levy

As discussed previously, the County currently levies a county road levy (property tax) of $1.32 / $1,000 of Assessed Value (AV). The County Road Fund is limited to collecting no more than $2.25 per $1,000 of assessed value to be used for “proper county road purposes.” Currently some of the levy capacity (approximately $400,000 per year) on the County Road Fund has been shifted to the Current Expense Fund. However, the Road fund is repaid through general fund appropriation during the year through the general fund.

The County does not have banked capacity (levy capacity reserved by levying less than the maximum allowable rate for any given year) to increase collections from the County Roads Levy. However, the County could use a Levy Lid Lift, a tool used by taxing districts without banked capacity, to increase its property taxes beyond the 1% limit; RCW 84.55. This occurs when taxing jurisdictions with a tax rate less than their statutory maximum ask voters to increase the tax rate to an amount equal to or less than the statutory maximum rate, effectively lifting the lid on the levy rate**.** With simple majority voter approval, Chelan County could install either a one-year or multi-year (up to six years) levy lid lift, allowing the County to

exceed the 1% revenue growth limit for that period. However, the property tax levy rate with the levy lid lift, still must be within the county's statutory rate limit, $1.80/$1,000 AV, limiting the extent to which the County can exceed the 1% revenue growth limit

Both one-year and multi-year Levy lid lifts can be permanent or temporary, as permanence does not relate to the term of the levy lid lift. Rather, if permanent, the revenue collected during the lid lift is used as the base to calculate the revenue limit for future levies. If temporary, the revenue limit for future collections is calculated as if the lid lift had not occurred. If the purpose of a permanent lid lift is to repay bonds, increased levies can be collected for up to nine years.

Lid lift ballots must be voted on in the August Primary or the November General Election. The ballot measure title must identify if the lid lift is permanent. The purpose for a multi-year lid lift must be stated in the ballot title. One-year lid lift ballot titles are not required to specify a purpose. The County can put a levy lid lift on the ballot for reauthorization after the initial period (either one or six years) concludes.

In 2015, Chelan County levied a $1.2559/$1,000 AV general levy and mental health levy. The County can levy a general and mental health levy of up to $2.475/$1,000 AV so long as the sum of the general levy and county road levy do not exceed $4.05/$1,000 AV.

The difference between the County's levy and the statutory limit is $1.22/$1,000. Assuming the assessed value stays constant at the 2015 level, the County could generate up to $11 million dollars a year. Over a 20-year period, the County could generate approximately $235 million, well beyond the current $133 million unmet need to fund programmatic expenditures.

According to the Municipal Research and Services Center Local Ballot Measure Database,[10] two fire protection districts in Chelan County passed levy lid lifts in 2014. Both levy lid lifts were 10-year (multi-year) levies, that were permanent, meaning that the revenue collected during the lid lift will be used as the base to calculate the revenue limit for future levies.

Potential Funding Option 2: Local Option Fuel Tax

Counties may, with voter approval, levy a local option motor vehicle fuel tax for local transportation purposes. The maximum rate is 10% of the state rate (i.e., 10% of the state rate is currently 4.9cents per gallon). in a Regional Transportation Improvement District (RTID) may not levy the tax if the RTID is already levying a local option fuel tax. Chelan County does not fall within a RTID.

The local option motor vehicle fuel tax must be imposed countywide.The tax is collected by the state treasurer and distributed to the County and its cities through a revenue sharing formula, wherein the population in the unincorporated areas is multiplied by 1.5 and counties get a shared based on that amount of the total population (where total population is 1.5 times the unincorporated population plus incorporated population). The collected tax dollars must be used for "highway purposes."

Currently, Chelan County does not levy a local option motor vehicle fuel tax. The statewide regular motor vehicle fuel tax collected over $1.5 billion in 2016, so depending on the share of those sales that occurred in Chelan County, this could be a sizable funding source, if voters were willing to authorize it.

[10] MSRC Local Ballot Measure Database, 2016. http://mrsc.org/Elections.aspx?ft=11#results.