

Appendices

A. Existing Planning & Context Memorandum

US 2 Upper Wenatchee Valley Planning Context Memorandum

Prepared for:
Chelan-Douglas Transportation Council







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FEHR  PEERS

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Introduction

As one of two major routes over the Cascades, US 2 serves as a route for travel to and from desirable locations across the state. Within the Upper Wenatchee Valley, US 2 also serves as a vital regional and local connection for the communities of Leavenworth, Dryden, Peshastin, Cashmere, and Wenatchee. Tourist travel in the area is driven by not only by outdoor recreation, especially in the summer months, but also by festivals hosted within the City of Leavenworth, including Oktoberfest and the Christmas Lighting Festival.

Throughout the study area (from Coles Corner to Hay Canyon Road), the US 2 corridor is constrained by geography, limiting options for capacity improvements. The goal of this project is to identify solutions that can be leveraged to serve all transportation modes along the corridor, and to manage expectations associated with festivals and seasonal travel.

Overall Process

The US 2 Upper Wenatchee Valley Corridor Transportation Study began in late 2018. WSDOT's Practical Solutions approach was applied during development of this study to ensure that projects identified throughout the course of this study are not only realistic, but also vetted by the community.

This process includes one-on-one stakeholder discussions, community workshops, a project website, and a Project Advisory Committee (PAC). The PAC is comprised of the following agencies and groups:

- WSDOT
- Chelan County
- Chelan-Douglas Transportation Council
- City of Leavenworth
- Link Transit
- Leavenworth Planning Commission
- Leavenworth Chamber of Commerce
- Chelan County Sheriff
- Chelan County Fire District #3
- Friends of Leavenworth
- Local Growers



Timeline

The following timeline shows the schedule for completing the US 2 Upper Wenatchee Valley Corridor Transportation Study. The study began in late 2018 and a final report is expected by April 2020.

Vision & Guiding Principles

To guide this process, including the selection and evaluation of preferred corridor improvements, the Project Team began by establishing a vision for the corridor and set of guiding principles based on input from the PAC.

Corridor Vision

This project establishes a future vision for the US 2 Upper Wenatchee Valley Corridor that:

- Provides reliable transportation options for all means of travel;
- Accommodates emergency access, local trips, US 2 highway travelers into and out of the area, and freight movement;
- Enhances the region's unique identity.



Figure 1: Project Advisory Committee February 2019 Meeting

Overall Project Guiding Principles

The following guiding principles were established for evaluating potential solutions along the US 2 Upper Wenatchee Valley Corridor. Improvements must advance the creation of a corridor that is:

- **Reliable.** Locals, regional commuters, freight, and emergency responders have options to maintain a reliable travel time between key destinations.
- **Safe & Complete:** The corridor offers complete, multimodal infrastructure where appropriate to meet users' needs and enhance corridor safety.
- **Vibrant.** Study recommendations support Leavenworth's tourism industry and growing seasonal usage of the corridor.
- **Realistic.** Study recommendations are practical, fundable and implementable within a reasonable timeframe and include creative solutions to better manage traffic impacts from seasonal and special event travel.



- **Supported.** Stakeholders and the community will be engaged to identify mutually beneficial solutions.

Corridor Segments

The study area is divided into four separate segments based on the roadway characteristics and the land use context in each area. The four corridors, shown on **Figure 3**, are:

1. Northwest: from Coles Corner to Icicle Road
2. Leavenworth: from Icicle Road to the Leavenworth city limits
3. Peshastin: from Leavenworth to US 97
4. Southeast: from US 97 to Hay Canyon Road

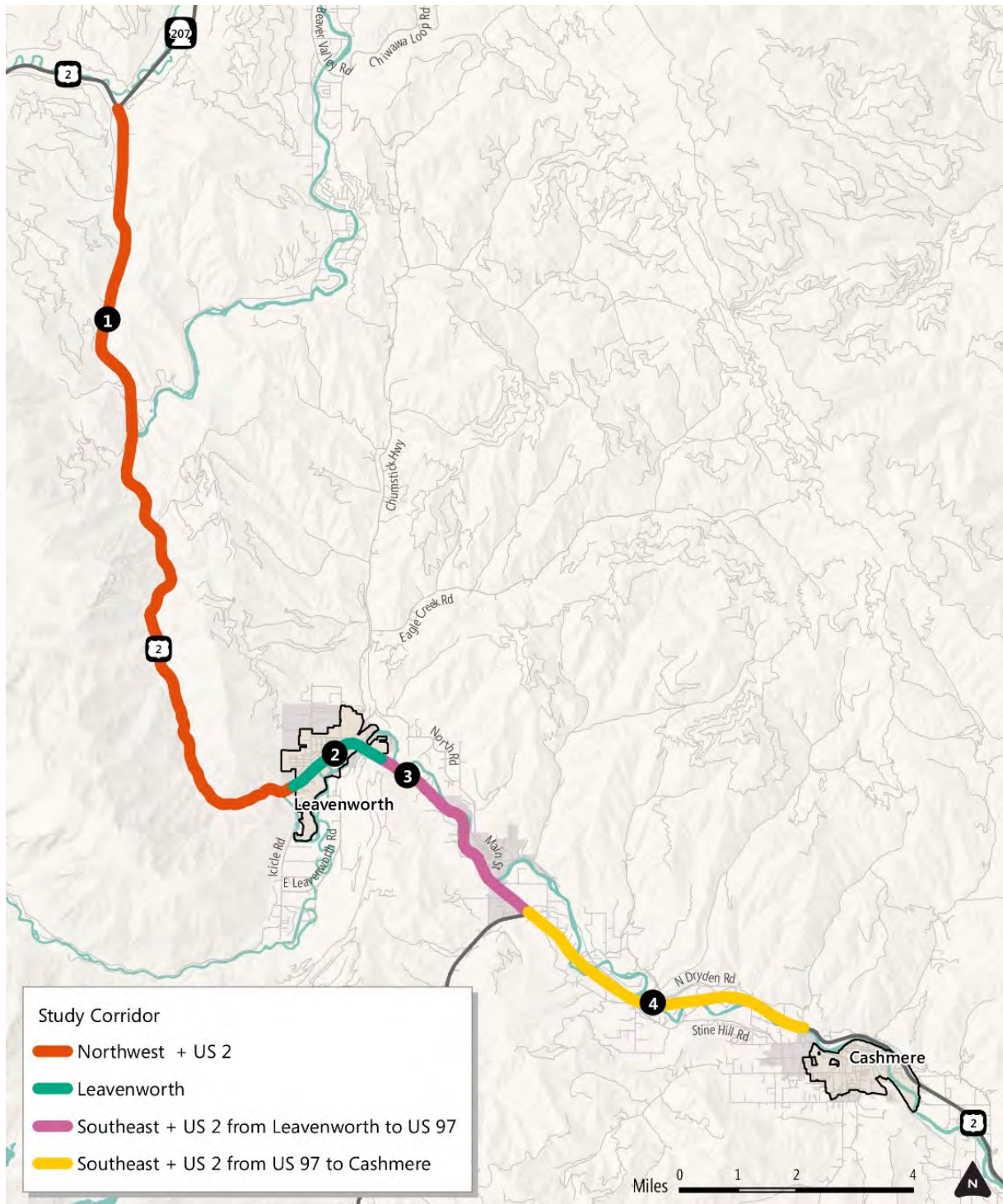


Figure 2: Study Segments



1. Corridor Profiles

Introduction

While US 2 is a major highway that traverses the Cascades connecting Eastern and Western Washington, it also operates as the “main street” through the City of Leavenworth.

This dual purpose as both a major highway and local main street, creates the need to serve both regional and local trips. While local residents rely on the corridor for daily errands and to commute to and from work, it must also accommodate regional auto and freight trips passing through the Upper Wenatchee Valley, as well as recreational travel by all modes.

The corridor has several unique travel characteristics, including:

- Peak usage occurring during the summer and on weekends.
- Constrained geography that limits options for parallel routes.
- Festival events, which tax corridor capacity both within and east of Leavenworth.
- A high demand by all modes given the mix of facilities within area.

As part of the first phase of this effort, existing plans, studies, and data collected along the corridor were reviewed and documented to inform subsequent phases. Plans, studies, and data gathered are summarized below.

Existing Plans & Studies

The four plans and studies reviewed include the Chelan County Transportation Element, the Leavenworth Comprehensive Plan, Leavenworth Six-Year Transportation Improvement Plan (TIP), and the Leavenworth Downtown Strategic Parking Management Plan. The sections of the plans relevant to the US 2 corridor are summarized below.

Chelan County Transportation Element

Chelan County completed their most recent Transportation Element in 2017, aiming to provide a 20-year vision for the County’s transportation system. Since the study area is entirely within Chelan County, the project list was investigated for planned projects relevant to the US 2 corridor.

The plan defined a daily auto Level of Service (LOS) C requirement for rural roads and LOS D requirement for roadways in urban growth areas. Some near-term vehicle capacity projects that are on the 20-year project list include:

- Chumstick Highway and North Road intersection reconstruction;
- North Road reconstruction, improving safety, signage and horizontal curves between Fox Road and Nibblelink Road; and,
- Icicle Road safety improvements.
- Replacement of the West Cashmere Bridge, expected to be completed by Chelan County in 2021.

The Plan also includes the following long-range WSDOT “vision” project, for which no funding is yet identified: a bicycle and pedestrian trail that extends from Leavenworth to Peshastin providing access along US 2. Moreover, the plan references Link Transit’s long-range plan examining future transit needs and resources, which is currently under development.

Leavenworth Comprehensive Plan

The City of Leavenworth’s Comprehensive Plan (2017) represents the community’s multimodal transportation plan for growth over the next twenty years.

Vehicles

The Comprehensive Plan designates a LOS of D for vehicles along US 2 and within the City and Urban Growth Areas (UGA), during the weekday AM and PM peak hours. Within the City of Leavenworth, intersections along US 2 are anticipated to become heavily congested if no improvements are implemented. US 2 intersections expected to operate poorly include:

- East Leavenworth Road
- Chumstick Highway
- Ski Hill Drive
- Mill Street
- Icicle Road

The plan identifies potential corridor enhancements along US 2 by partnering with WSDOT for adding turn lanes, improving sight distance and mid-block crosswalks, implementing access management, and adding traffic control, such as roundabouts at the East Leavenworth Road and Chumstick Highway intersections. Adaptive signal management and Intelligent Transportation Systems (ITS) improvements along the US 2 corridor within the City is also identified as a potential improvement along US 2.

Non-Motorized Users

The Comprehensive Plan identifies US 2 as a barrier to pedestrians as it separates the downtown commercial district from the residential area to the north. Therefore, the plan identifies pedestrian safety improvements along this corridor as vital. Crosswalk improvements are proposed at the Link Transit Station, City Hall and the City Municipal



Pool. The Comprehensive Plan also includes a grade separated pedestrian undercrossing near City Hall, and investigates the neighborhood impacts of routing US 2 away from the congested business center. At the regional level, the Upper Valley Trail is identified as an opportunity to connect non-motorized users from the City of Leavenworth to Wenatchee through Peshastin, Cashmere and Monitor.

Transit

Leavenworth has a vision to better serve commuters and visitors by transit. This includes an expanded Link Transit commuter and weekend service between Leavenworth and Wenatchee. To improve access, the City plans to construct an additional Park & Ride and bus stops in Leavenworth, as well as improve the Amtrak Icicle Station with a trail connecting Leavenworth to the station.

Leavenworth 6-Year Transportation Improvement Plan

Leavenworth adopted its most recent six-year TIP in 2018. This plan identifies projects that could be funded over this period. Along the US 2 corridor, the following projects are included:

- Relocate and improve the US 2 crosswalk at Front Street by Leavenworth Municipal Pool, including an upgrade to High-Intensity Activated Crosswalk (HAWK) beacon and illumination.
- Relocate and improve the US 2 crosswalk at City Hall, including a conversion from solar power to standard power, an upgrade to HAWK and illumination.
- Implement parking improvements based on outcome of 2018 Leavenworth Parking Study.
- Construct the Link Transit Park & Ride at Willkommen Village.
- Improve multimodal access and safety along US 2.
- Improve the North Road and Chumstick Highway intersection.

Leavenworth Downtown Strategic Parking Management Plan

The City of Leavenworth conducted a parking study in 2018 to respond to the City's unique environment, goals and objectives.

For the downtown area, the study found that the average length of stay for parked vehicles is less than three hours, despite 98% of stalls being designated as no limit parking. On Saturdays, the City has an off-street occupancy rate of over 90% and an on-street parking occupancy rate of over 85% from 11:30 AM to 7:30 PM. Recommendations for the downtown area include, an 85% occupancy rule for measuring performance of parking supply, converting parking to a 3-hour timed stall and evaluating a process for paid on-street parking.

Looking at areas outside of downtown, the study found that privately owned off-street parking lots are typically empty on both weekdays and weekends, and recommended coupling these with a shuttle for visitors and employees. For neighborhoods impacted by parking overflow, the study recommended implementing a Residential Parking Permit Zone.

Finally, the plan identified one solution for increasing parking capacity citywide and one solution for reducing parking demand citywide. The recommendation for increasing capacity was the addition of a parking garage within the City, while increasing transit to Leavenworth was identified as a solution to reduce parking demand.

Planning Context Topic Areas

As described earlier, this report focuses on the study corridor from Coles Corner to Cashmere. The following sections describe planning context topics considered along the corridor. An overview of each topic area is provided below.

Topic Areas



Land Use: Land use context around each segment, including land use types (residential, commercial, etc.), future plans for redevelopment, neighborhood access, environmental conditions, as well as the jurisdiction of properties in the corridor, as well opportunities and constraints created by these uses.



Pedestrian/Bike Facilities: Each segment area describes conditions for walking and biking along each segment as well as parallel routes in the area, and considerations for how the need to serve those users will influence potential treatments.



Transit: Each segment area provides a description of services operating along the segment, headways, and stops along the segment.



Vehicle Operations: Summarizes roadway configurations and features for each segment, as well as trends in volume data and origin-destination data along the corridor.



Safety: Collision data, provided by WSDOT, for a three-year period (January 2015 to November 2018) were evaluated for collision history, collision factors, and collision density along the segment and within the City of Leavenworth.



Corridor Data

This section summarizes data collected along the entire corridor for each planning context area.



Land Use Data

Sources reviewed for the current and proposed land uses along the corridor include the Chelan County Zoning Map and Comprehensive Plan, and the City of Leavenworth and Regional Zoning map.

Additional projects proposed along the corridor are also discussed by respective segment in the following sections.



Bicycle & Pedestrian Data

Figure 3 shows the Wenatchee Valley Bicycle map, which includes paved and unpaved trails, bike lanes, and suggested bike routes ranging from most comfortable to somewhat comfortable to use caution within the study area. While the segment within the City of Leavenworth acts like a “main street” and is the most accommodating for people walking and biking, as shown on the map, the rest of the segments accommodate pedestrians and cyclists on alternate routes. The latter sections of the report will describe conditions for walking and biking along each study segment, including parallel routes along the segment.

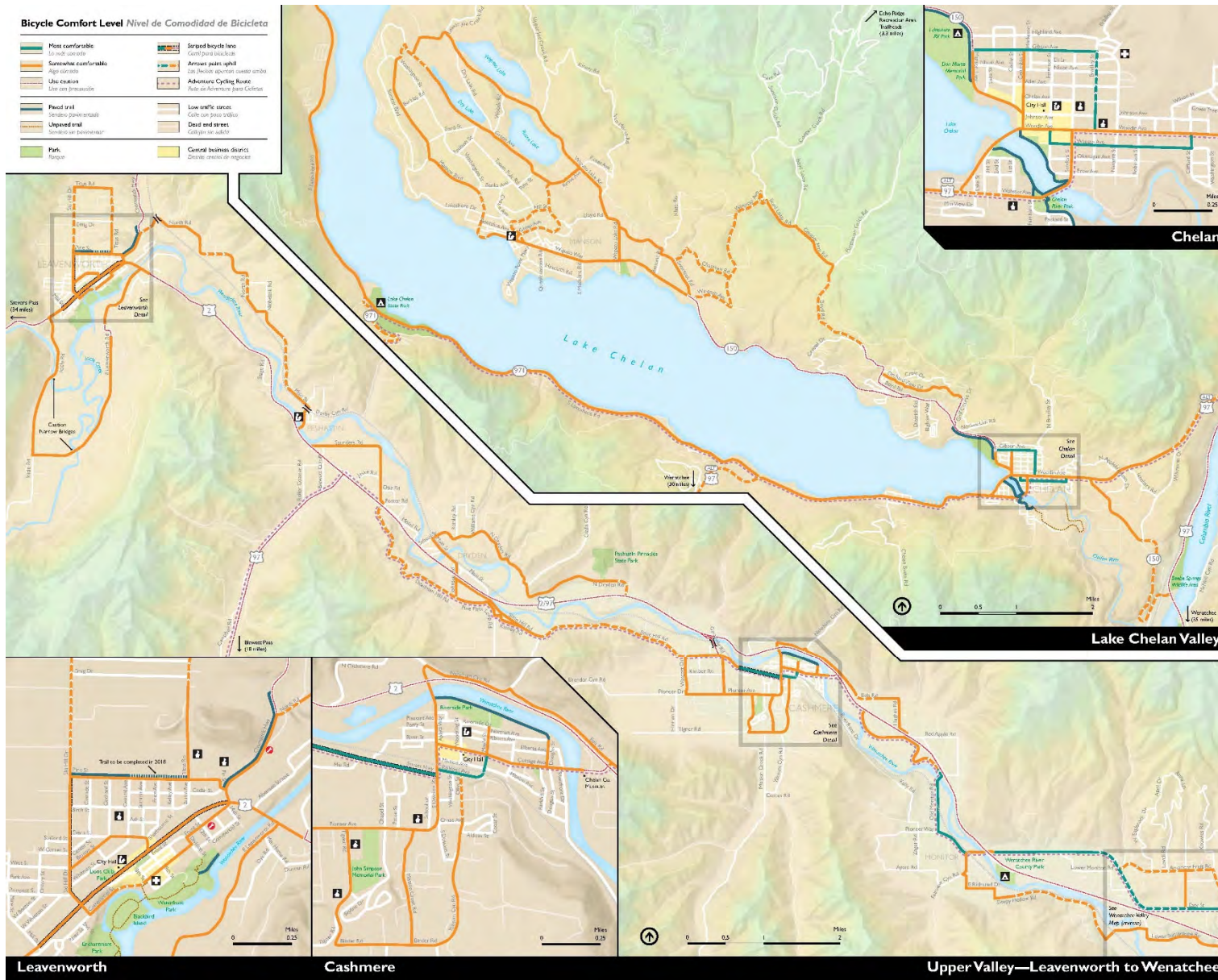


Figure 3: Wenatchee Valley Bike Map, Chelan-Douglas Transportation Council



Transit Data

Link Transit operates transit service along the corridor within the study area. Data provided by Link Transit summarizes current operations on Route 22, which begins at Columbia Station in Wenatchee and ends at the Icicle Road stop in Leavenworth.

In Wenatchee, westbound service for Route 22 begins at 4:40 AM from the Euclid Avenue and Penny Road stop, with service from Columbia Station beginning at 5:00 AM. In Leavenworth, eastbound service for Route 22 begins at 5:25 AM from Icicle Road and US 2. Headways for Route 22 in Leavenworth are as follows:

- Weekdays:
 - 30 minute headways: 5:25 AM–8:00 AM and 5:10 PM–7:10 PM
 - 60 minute headways: 8:00 AM–5:10 PM
- Weekends:
 - 120 minute headways: 8:00 AM–12:00 PM and 3:00 PM–5:00 PM
 - 180 minute headways: 12:00PM–3:00PM

Route 22 serves three of the four segments from the western Leavenworth City Limits to the east end of the study area. **Figure 4** shows a map of the service area and transit stops along the study corridor for Route 22.



Figure 4: Existing Transit Service

Source: Link Transit, Fehr & Peers, 2018.

As of 2016, Route 22 served about 610 riders per day. A slight decline in ridership occurred from 2015 to 2016 and only minimal ridership changes between 2016 and 2018 (see **Figure 5**). Three-quarters of the boardings are on weekdays, while 25 percent of boardings are on Saturdays.¹ There are bus shelters at some major stops along the corridor, including four within Leavenworth, one in Peshastin, two by the US 97 junction and two in Dryden.

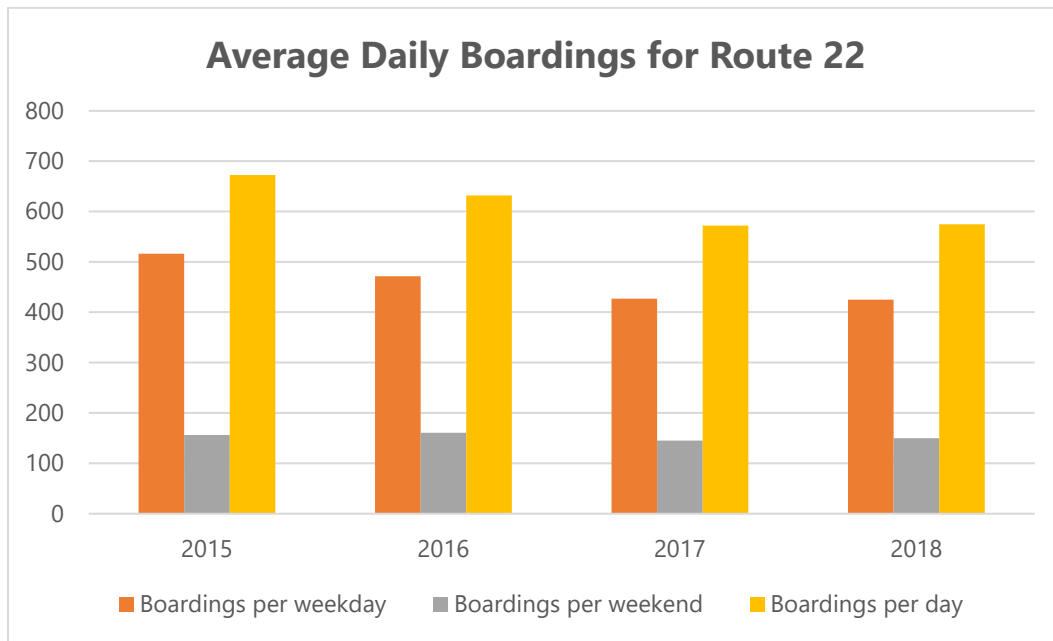


Figure 5: Average Daily Boardings for Route 22

Source: Link Transit, Fehr & Peers, 2018.

Vehicle Operations Data

Given the unique travel patterns in the region, the vehicle operations context for the corridor must be framed within the context of special events and seasonal recreational travel. The project team used a combination of traditional data counts and innovative data sources to supplement our understanding of travel behavior along the study corridor. The data collected along the US 2 corridor includes:

- Average Daily Traffic (ADT) counts per month collected by WSDOT at two locations: (1) between Leavenworth and Coles Corner and (2) east of Leavenworth, in Peshastin

¹ Based on Link Transit data from 2015 – 2018.



- Traffic volume and pedestrian counts collected at primary US 2 intersections on weekends in December 2018 and August 2019



Safety/Collision Data

Figure 6 shows collision density along for the entire study corridor, while collision factors by segment are covered in the sections below. Collision density for the corridor was calculated using collision data provided by WSDOT for a five-year period from January 2014 to December 2018.

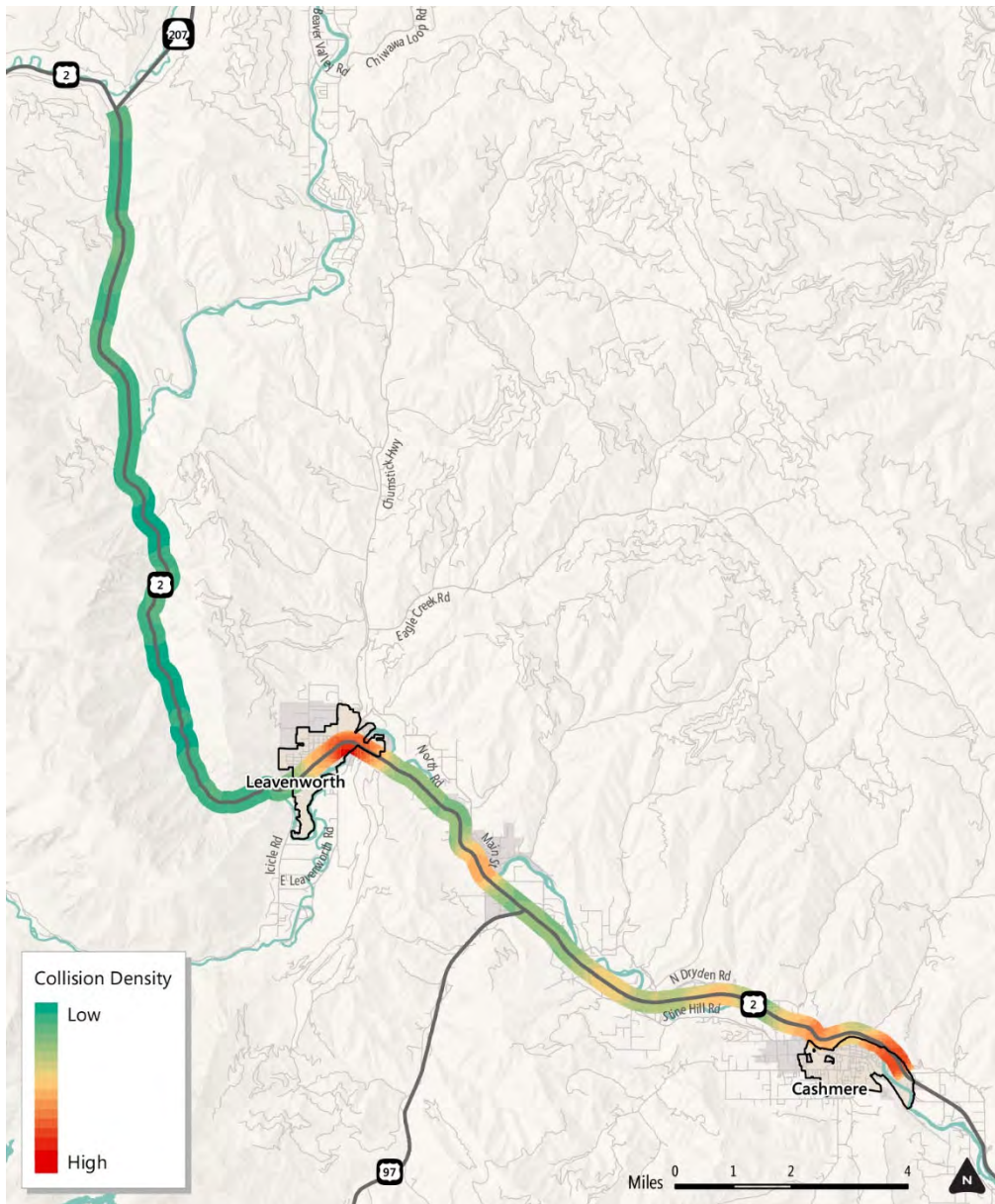


Figure 6: Collision density along the US 2 corridor

Source: WSDOT, Fehr & Peers, 2018.



Northwest Segment: Coles Corner to Icicle Road

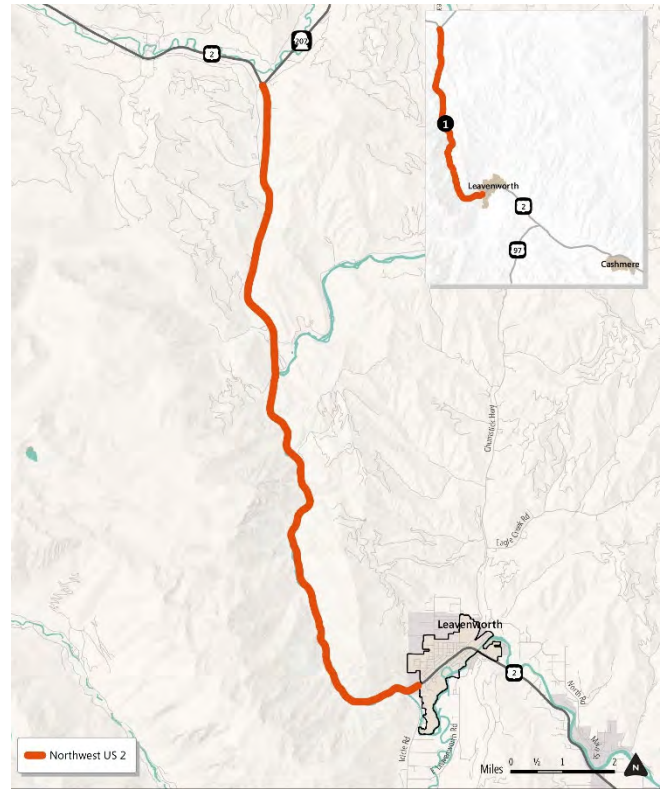


Land Use

The northwestern most segment of this corridor begins in Coles Corner at the confluence of US 2 and SR 207. This 14 - mile segment, stretching from Coles Corner to Leavenworth’s western city limits and has mostly public and commercial forest lands adjacent to the corridor as it is bounded by steep slopes on one side and the Wenatchee River on the other as it winds through the Tumwater Canyon and is zoned as Commercial Forest Lands.

A small portion of this segment at the east end falls within the UGA for the City of Leavenworth. Within the UGA, zoning allows commercial tourism uses.

Development plans for an Adventure Park on the land to the south of US 2 in this area are currently being reviewed by the City.



Pedestrian/Bike Facilities

As a result of the constrained geography along this portion of the corridor, no bicycle or pedestrian facilities exist from Coles Corner to Icicle Road. The lack of pedestrian facilities along this portion of the corridor creates concern for people who often stop along the segment to take pictures of the scenery and access trails or the river.



Transit Service

There is a seasonal transit shuttle run by the City of Leavenworth operating between the City and Stevens Pass Mountain Resort.



Vehicle Operations

From Coles Corner to Icicle Road, US 2 is a two-lane road with some three-lane sections that accommodate passing in the uphill direction.



Source: Google Earth, 2018

Due to the narrow cross-section, paved shoulders are only provided sporadically along the segment. In addition to the constrained capacity, this segment of the corridor also experiences frequent seasonal closures due to avalanche potential or threats in the Tumwater Canyon.

Figure 7 shows the ADT for this segment of US 2. As shown, this segment experienced higher traffic during the summer months, with the peak usage occurring in July, and peaking again in December. Traffic volumes on a summer Saturday (June, July and August) are 48 percent busier than those measured on a Saturday during the winter Saturday (December, January and February). Through the year, Saturday volumes are 79 percent higher than the typical weekday (Tuesday-Thursday) volumes along this segment.

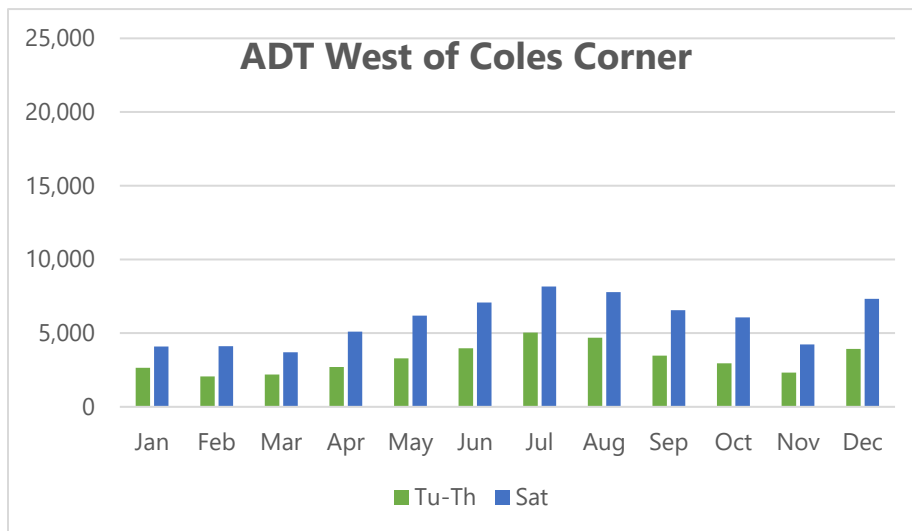


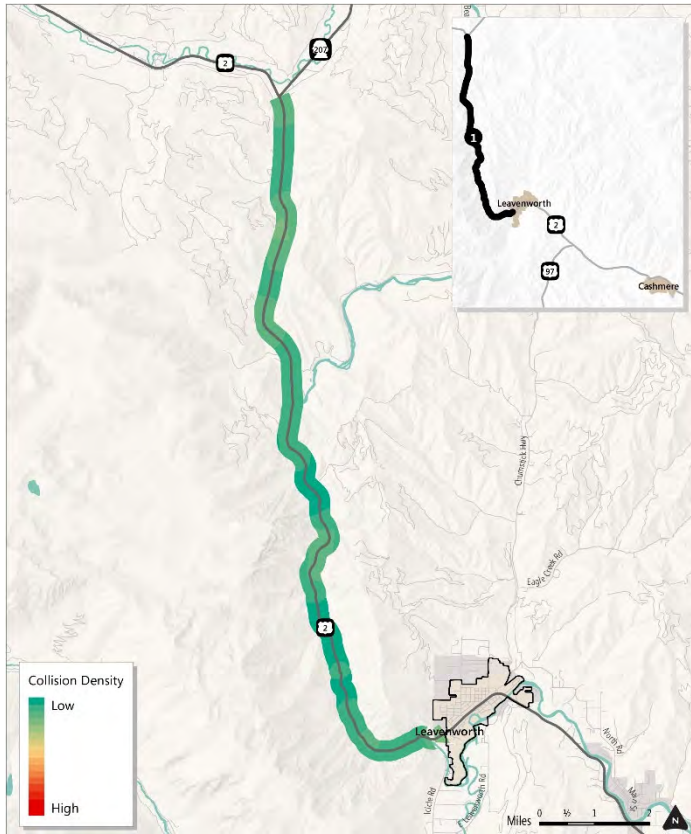
Figure 7: Collected on US 2 at milepost 80.20, west of Coles Corner

Source: WSDOT, Fehr & Peers, 2017.



Safety/Collision Data

Figure 8 summarizes the collision density along the northwest segment. As shown, collision density along the corridor is low. Key findings from the safety assessment for this segment include:



- No collisions involving a bicyclist or pedestrian occurred over the last five years. 21% of collisions were due to speeding, 9% of collisions were caused by driver inattention.
- 24% of collisions occurred during snowy or slush conditions, and 58% occurred in dry conditions.
- The majority of collisions (18%) occurred at 4:00 or 5:00 pm, with 58% occurring in daylight.
- 25% of collisions involved a vehicle striking a deer.

Source: WSDOT, Fehr & Peers, 2018.

Figure 8: Collision density along the northwest segment

Northwest Segment Key Findings

Segment Issues and Opportunities



- Land use development along this segment is confined to Coles Corner and the Leavenworth UGA due to geographic features.



- Currently no facilities for bicyclists or pedestrians exist along this segment of the corridor.
- Demand for pedestrian facilities along this segment is driven by travelers stopping to take scenic pictures along the corridor or access trails or the river.



- Currently no transit operates along this segment of the corridor.
- Given the land uses and destinations along this segment of the corridor, transit is likely not feasible or demanded along this segment of the corridor.



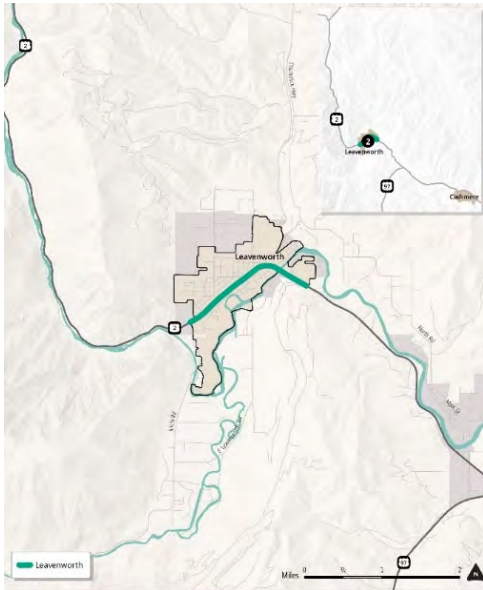
- ADT counts at Coles Corner indicate that volume on Saturdays during the summer months is almost 50% higher than Saturday volumes during the winter months.
- Throughout the year, Saturday volume on this segment is 79% higher than typical weekday traffic.
- Geographic features provide limited opportunity for capacity improvements on this segment.
- This segment also experiences frequent seasonal closures due to avalanche potential or threats in the Tumwater Canyon.



- Speeding, driver inattention and hitting a deer were the leading causes of collisions from 2014 to 2018.



Leavenworth Segment: from Icicle Road to Leavenworth City Limits



Land Use

As shown in **Figure 9**, the City of Leavenworth’s zoning map, land uses along the corridor are zoned as general commercial, central commercial, and tourist commercial. Potential developments being considered along this segment are planned to occur at the east end of the segment. The large amounts of commercial land use, specifically within the Central Commercial Zone, contributes to a high mix of transportation modes utilizing the corridor including bicyclists, pedestrians, and vehicles.

The concentration of commercial uses to the south of the corridor and residential uses to the north must be considered as solutions for how Leavenworth residents use the corridor are identified.

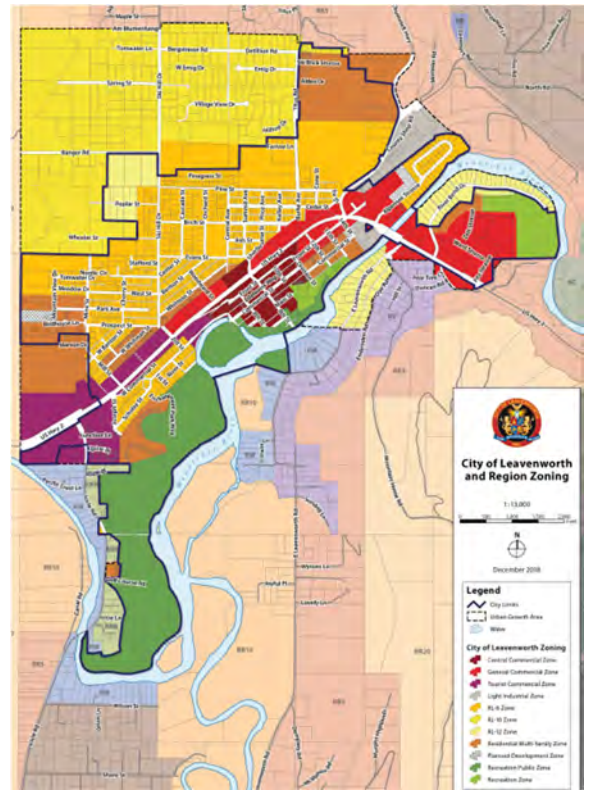


Figure 9: City of Leavenworth and Regional Zoning



Pedestrian/Bike Facilities

Beginning at the western city limits, bicycle lanes exist in both directions on US 2 until Front Street when the bicycle lane in the eastbound direction is replaced by on-street parking. From Icicle Road to Chumstick Highway, 1.25 miles of bicycle lanes are provided in both directions along the US 2 corridor. Off the corridor, paved trails and bike lanes exist on Ski Hill Drive, Pine Street and Chumstick Highway within the City. See **Figure 9** in the previous section for a map of the Wenatchee Valley Bicycle map, which includes paved and unpaved trails, bike lanes, and suggested bike routes ranging from most comfortable to somewhat comfortable to use caution.

Along this portion of the US 2 corridor, there are sidewalks on both sides of the highway, from Icicle Road to E Leavenworth Road. From E Leavenworth road to City limits, sidewalks exist only on the north side of the highway. Pedestrian facilities for crossing US 2 by location and crossing type are:

- Mill Street – signed marked crosswalk
- Ski Hill Drive – signed marked crosswalk
- Enzian Inn (west of Front Street) – signed marked crosswalk
- Front Street – signed marked crosswalk
- Leavenworth City Hall – Solar powered Rectangular Rapid Flashing Beacon (RRFB)
- Evans/9th St – signalized intersection
- Leavenworth Park & Ride – unsigned marked crosswalk
- Chumstick Highway – signalized intersection
- River Bend Drive – signalized intersection

The largest distances between intersections are 1,350 feet between Leavenworth Park & Ride and Chumstick, and 1,900 feet between Chumstick Highway and River Bend Drive. Within the center of Leavenworth, marked crossings are closer together; however, as noted above, only one crossing currently features a RRFB, which alerts vehicles that a pedestrian is crossing. All other mid-block crossings are uncontrolled.

Near term improvements planned within the City of Leavenworth include the addition two High-Intensity Activated Crosswalk (HAWK) signal and one additional RRFB for pedestrian crossings.



Transit Service

Along this segment, Route 22 has a total of six stops within Leavenworth. The stops and route within Leavenworth are shown on **Figure 10**.



Within the City of Leavenworth, Link also operates Dial A Ride Transportation (DART), which is a service offering shared ride with advanced reservations within the Leavenworth area. This service operates Monday through Friday between 7:30 AM and 5:30 PM.



Figure 10: Existing transit in Leavenworth

Source: Link Transit, Fehr & Peers, 2018.



Vehicle Operations

As shown, through the City of Leavenworth, US 2 is a three-lane facility with two travel lanes and a two-way-left-turn lane. On-street parking is also provided between Front Street and 9th Street on the eastbound side of the corridor.



Source: Google Earth, 2018

As discussed above, intersection counts collected for on peak weekends and ADT counts collected by WSDOT are being utilized for this study to understand the unique travel patterns within this region.

Traffic and pedestrian counts were collected at primary US 2 intersections on a Friday in August between 2 PM and 5 PM and between 11 AM and 2 PM on a Sunday in August. Within these time periods, traffic counts indicated that traffic volume peaked between 3:15 PM and 4:15 PM on Friday afternoon and between 12 PM and 1 PM on Sunday afternoon. Pedestrian counts at intersections and crossings on US 2 in Downtown Leavenworth ranged from 330 pedestrian crossings at the 9th Street intersection on Friday afternoon to 950 crossings at Front Street on Sunday afternoon.

Within the City of Leavenworth, the project team attempted to use StreetLight data to understand where residents travel in the area. As StreetLight data relies on aggregated data, sample size is important to be able to draw strong conclusions. We found that for unique time periods (a summer weekend and the Christmas Lighting Festival), smaller data sets and sample size limit the application of StreetLight data. This is likely due to the application of data to smaller time periods and geographic features. As this data relies on data from cell phones and other mobile routing systems, the fact that cell-phone service is lost just west of Leavenworth likely resulted in an inaccurate number of trips ending within the city limits. However, for these time periods more traditional data sets and observations (specifically at the Christmas Lighting Festival) can be used to evaluate operations along the corridor. Conditions during these events are discussed in detail in the following segment.

Safety/Collision Data

Collision density along this segment of the corridor was found to be higher than any other segment, with the highest densities occurring along the corridor in the eastern half of the 1.7 mile segment, as shown on **Figure 11**.

Collision data within the City of Leavenworth was also analyzed to understand locations and patterns of collisions occurring on facilities parallel to US 2. **Figure 12** shows the location and type of collision.

Key findings for collision data along this segment include:

- No collisions in the last five years involving bicycles occurred along the corridor or within the City of Leavenworth.

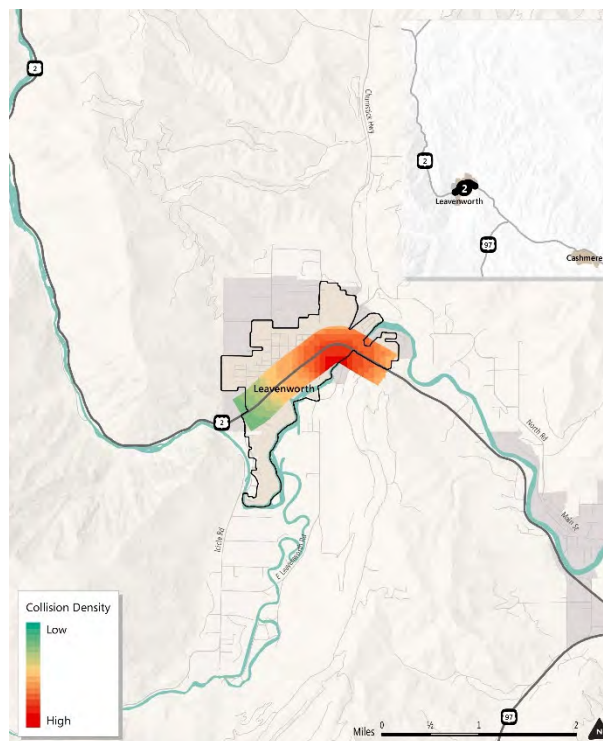


Figure 11: Collision density along the Leavenworth segment

Source: WSDOT, Fehr & Peers, 2018.



- All six pedestrian injuries in the City of Leavenworth occurred on Front Street, four of which occurred at the intersection of 9th Street and Front Street, with 33% pedestrian injuries caused by driver distraction and 33% caused by pedestrians failing to yield or failing to use a cross-walk.
- The two main contributors to collisions along the corridor were driver inattention (25%) and following too closely (18%), resulting in a large amount of rear-end collisions
- Most collisions occurred in dry roadway conditions (78%), with 12% occurring in the snow or slush.
- 56 % of collisions occurred between the hours of 11:00 am and 5:00 pm.

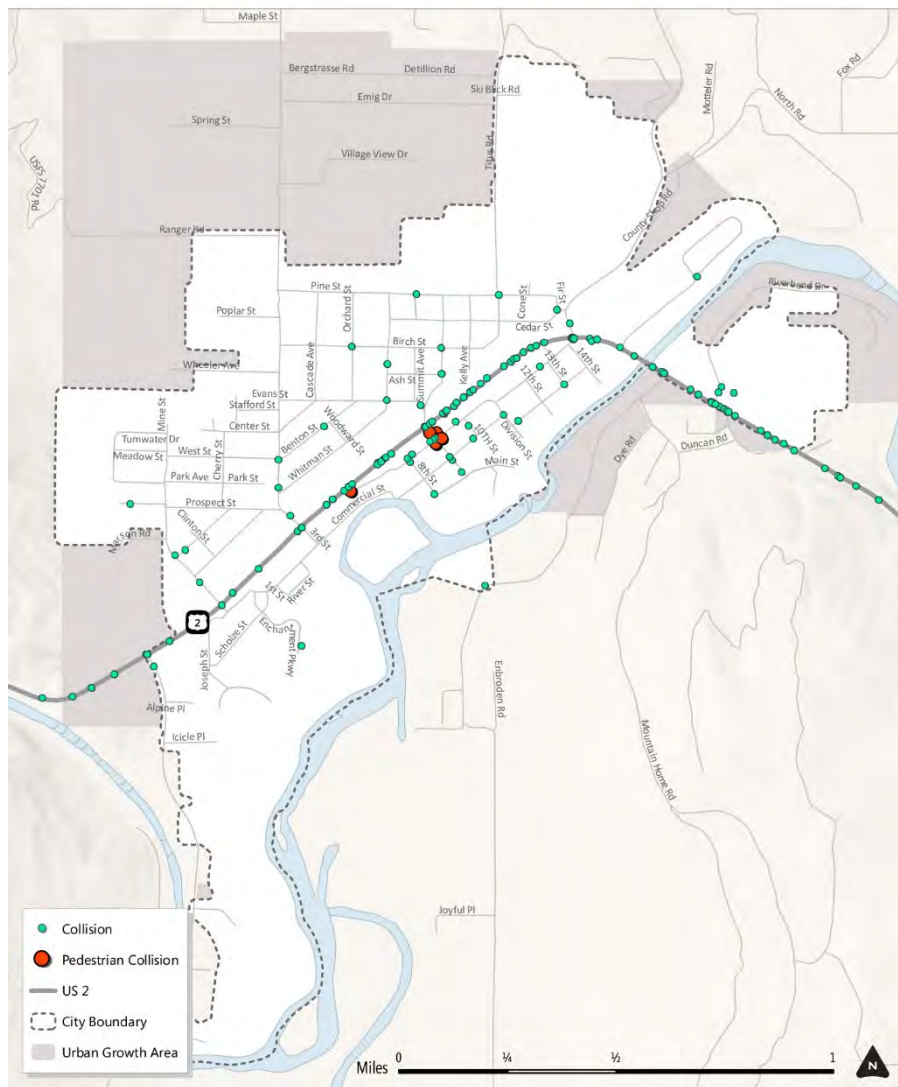


Figure 12:
Collisions in
the City of
Leavenworth

Source:
WSDOT, Fehr
& Peers,
2018.

Leavenworth Segment Key Findings

Segment Issues and Opportunities



- With the exception of a planned development at the corner of US 2 and Icicle Road and potential development at the east end of Leavenworth, land use along the corridor is built out.
- As US 2 splits land use within the center of Leavenworth (generally commercial uses on the south, residential uses on the north), this drives the need for residents to cross US 2.



- Bicycle lanes are provided on US 2 for the extent of the segment, except for a section between Front Street and Evans Street in the eastbound direction where the bicycle lane is replaced by on-street parking.
- Pedestrians can utilize sidewalks along both sides of US 2 for the entire length of the segment. However, opportunities to cross US 2, specifically on the west and east end of the City are approximately a quarter mile apart.
- Within the center of Leavenworth, crossings are provided more frequently; however only one is enhanced with an RRFB for crossing, with three at signalized intersections and five crossings are uncontrolled.
- The City of Leavenworth plans to install a HAWK signal and additional RRFBs at crossings near the center of the city.



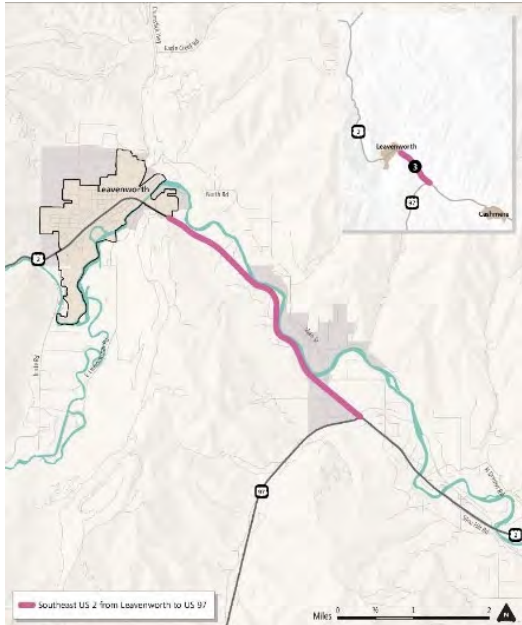
- Link Transit operates Route 22 along the corridor, with a total of six stops within Leavenworth.
- Dial-A-Ride Transportation also operates within Leavenworth on weekdays between 7:30 AM and 5:30 PM.



- Hundreds of pedestrian cross US 2 at primary downtown intersections during peak weekend hours.



- Over the last three years, no collisions with bicyclists were reported within the City of Leavenworth.
- All pedestrian collisions occurred on Front Street.
- The main contributors to collisions on US 2 were driver inattention and following too closely.



Peshastin Segment: Leavenworth City Limits to US 97



Land Use

This segment of the corridor is bordered by agricultural and commercial tourism uses. This includes fruit stands, river-rafting, and wineries, which all have direct access to US 2.

Near the SR 97/US 2 interchange, the land surrounding the corridor is zoned as part of the Peshastin UGA. On the south side of US 2, the UGA is zoned for Highway Commercial and Medium-Density Residential. To the north zoned uses include Highway Commercial and Low-Density Residential. No immediate plans for new development exist along this segment of US 2.



Pedestrian/Bike Facilities

Due to the rural nature of this segment, no bicycle and pedestrian facilities other than narrow shoulders are provided. However, bicyclists have the option to use the parallel route of North Road which is classified as a somewhat comfortable suggested bike route on the Wenatchee Valley Bike Map (see **Figure 3** in the previous section).



Transit Service

Transit service along this segment is provided by Link Transit's Route 22, operating as described in the Corridor Data section. There are five stops along this segment as shown on **Figure 13**.

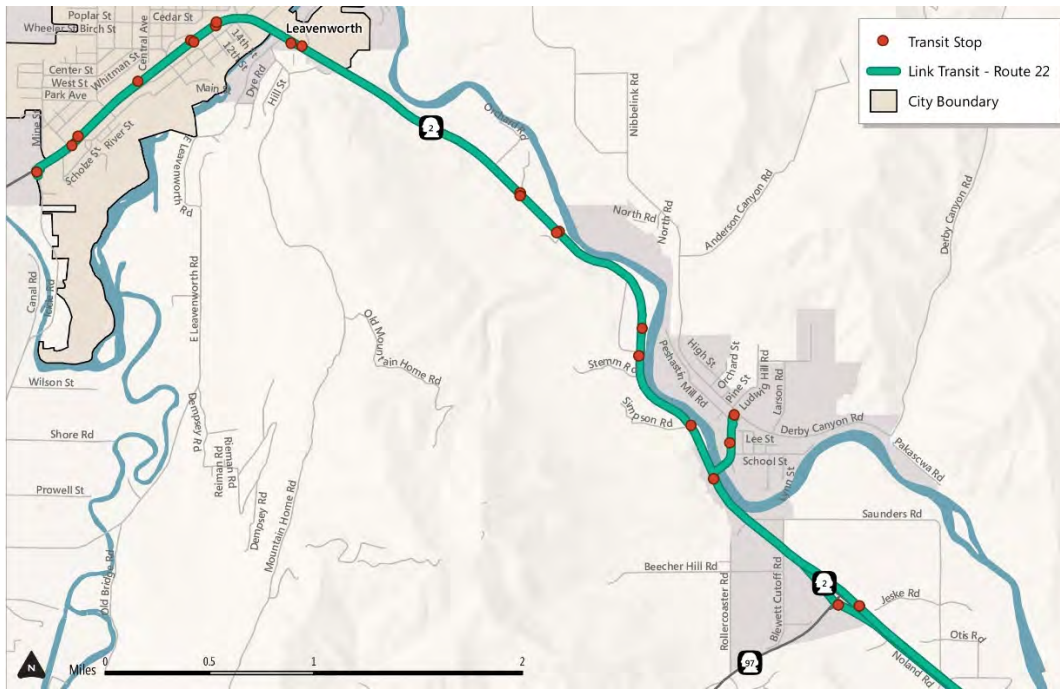


Figure 13: Existing Transit Peshastin Segment

Source: Link Transit, Fehr & Peers, 2018.

Vehicle Operations

This segment has a two-lane cross-section, with narrow shoulders from the Leavenworth City Limits to Lone Pine Road, where a two-way-left-turn lane is added providing access to retail and residential land uses in this portion of the segment. The two-way-left-turn lane is approximately half a mile long, with US 2 returning to a two-lane cross-section until Stage Road, where a short two-way-left-turn lane again provides access to local businesses and residential uses along the corridor.



Source: Google Earth, 2018

ADT volumes (shown on **Figure 14**) on this segment are 76 percent higher than the segment to the west of Leavenworth, indicating that a large number of trips year round on this segment start or end in Leavenworth. While the amount of traffic utilizing the



corridor is much higher on this segment than west of Leavenworth, general patterns are similar.

Saturday volumes on the corridor increase by 31 percent during the summer months, which is a smaller increase than observed on the west side of Leavenworth, indicating that while seasonal travel causes an increase in traffic, it makes up a smaller percent of travel on this segment than other corridor segments. This is consistent with this segment's role as a regional commuter route. As shown below, the weekday and Saturday volumes are also more consistent throughout the year, with weekday traffic being higher than or equal to Saturday travel between January and March.

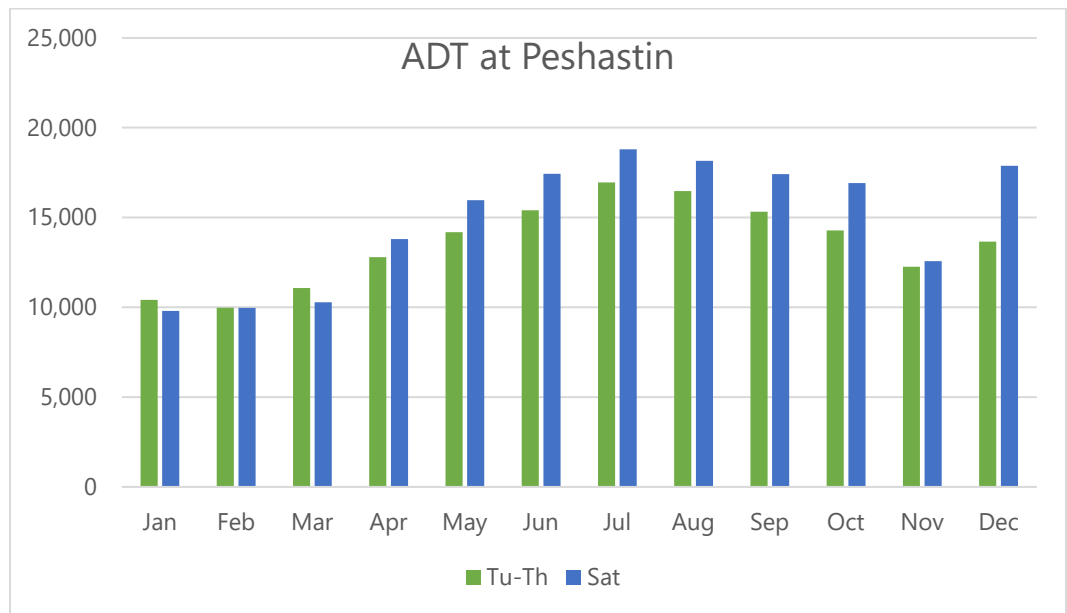


Figure 14: Collected on US 2 at milepost 103.92, Peshastin

Source: WSDOT, Fehr & Peers, 2017



Safety/Collision Data

Collision density along this segment is shown on **Figure 15**. The highest collision density occurs on the west end near Leavenworth city limits and the Main Street Bridge to Peshastin where access to local land use exists.

Key findings for collision data analyzed along this segment include:

- No collisions involving a bicyclist or pedestrian along this segment occurred in the last five years.
- The majority of collisions were caused by:
 - Driver inattention (18%)
 - Following too closely (11%)
 - Exceeding reasonable safe speed (9%)
 - Alcohol (8%)
 - Not granting right-of-way (7%)
- Most collisions occurred in dry conditions (67%), with 17% occurring in wet conditions and 10% occurring in snow or slushy conditions.
- The majority of collisions (30%) occurred in the afternoon from 3:00 pm to 6:00 pm, with 60% of collisions occurring in daylight.
- 21% of collisions involved a vehicle striking a deer.

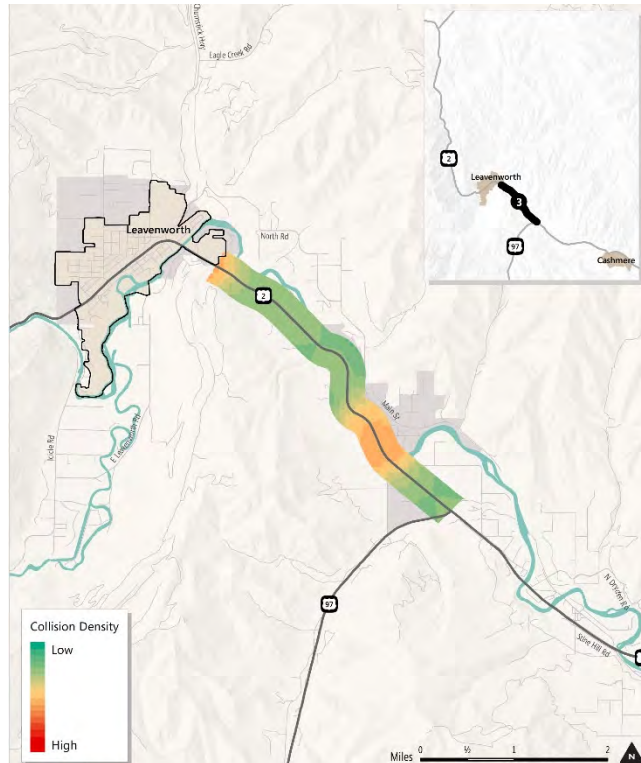


Figure 15: Collision density along the southeast segment

Source: WSDOT, Fehr & Peers, 2018.



Southeast Segment Key Findings

Segment Issues and Opportunities



- Land use along this segment is mostly rural and includes agricultural and agricultural tourism uses that have direct access to US 2.



- Bicycle and pedestrian facilities are not provided along US 2, any users wanting to be on US 2 must utilize the shoulders.
- Bicycle facilities are also not provided on the corridor, but North Road is classified as a somewhat comfortable alternative for bicycles in the area.



- Route 22 serves five stops along this segment of the corridor and connects to the community of Peshastin.



- ADT counts on this segment indicate higher weekend and summer usage; however, the peak in December is almost as high as the summer peak, confirming high usage of this segment during Christmas Tree Lighting.
- This segment sees less temporary peaking than other segments, given its role a regional commuter route.



- The highest density area for collisions along this segment are near the eastern Leavenworth City Limits and where the majority of local access driveways occur.
- Driver inattention and following too closely were the leading contributors to accidents along this segment of the corridor.

Southeast Segment: US 97 to Cashmere



Land Use

This segment of the corridor is fully within Chelan County and surrounded mostly by agricultural uses. Exceptions to agricultural uses include the community of Dryden, where residential uses are adjacent to the corridor, and near the east end of the segment in Cashmere, where residential and light industrial uses exist on the north side of the corridor.

Zoning along the corridor includes commercial agriculture and low-density residential with the goal of maintaining current densities, specifically within the

Cashmere UGA.



Pedestrian/Bike Facilities

While shoulders along this segment are at least 12 feet wide on both sides of US 2, no additional bicycle or pedestrian facilities are provided.

Similar to the Peshastin Segment, alternative routes providing somewhat comfortable facilities for bicyclists exist for the length of the segment, as shown on **Figure 3** in the Corridor Data section. Parallel routes in the area include, Deadman Hill Road, Main Street, North Dryden Road, and Stine Hill Road.



Transit Service

Transit service along this segment is provided by Link Transit’s Route 22, operating as described in the section above. There are two stops in each direction along this segment of the corridor as shown on **Figure 16**.



Figure 16: Existing Transit Southeast Segment

Source: Link Transit, Fehr & Peers, 2018.



Vehicle Operations

This segment of US 2 has four travel lanes with a barrier in the center median. With the division of traffic and guardrails, which are provided in sections along the corridor, this segment of the corridor has more safety features than observed elsewhere. Another benefit to operations along this segment of the corridor is the limited access points. Unlike other segments, access to businesses and residential areas along the corridor is limited to intersections, rather than direct driveway access to the corridor. More limited access to the corridor reduces conflicting vehicular movements crossing on-coming traffic, both entering and exiting the corridor.



Source: Google Earth, 2018

Planned improvements along this segment includes reconstruction of the West Cashmere Bridge. Reconstruction of the bridge consists of removal of one leg at the US 2 at Hay Canyon Road intersection, and will improve connections into Cashmere, specifically for freight traffic that currently are not able to use the existing bridge.



Safety/Collision Data

The heat map of the number of collisions along both the US 2 corridor from US 97 to Hay Canyon Road is shown in **Figure 17**. The collision history for the study segment, which is 5.6 miles long, is summarized below.

- There are no collisions involving a bicyclist along this segment of US 2 in the past five years.
- There was one collision involving a pedestrian along this segment of US 2, which was a serious injury where the pedestrian did not grant right-of-way to the vehicle. The location of this collision is at the intersection of Dryden Avenue.
- Majority of collisions were due to exceeding a reasonably safe speed (13%).
- Other causes include following too closely (9%) and inattention (8%).



- During peak commute hours, collisions occurring at 6:00 am made up 9% of all collisions and while 14% of collisions occurred between 3:00 pm and 5:00 pm.
- 47% of collisions occurred in daylight, while 34% of collisions occurred in the dark with no street lights on.
- 42% of collisions involved a vehicle striking a deer.

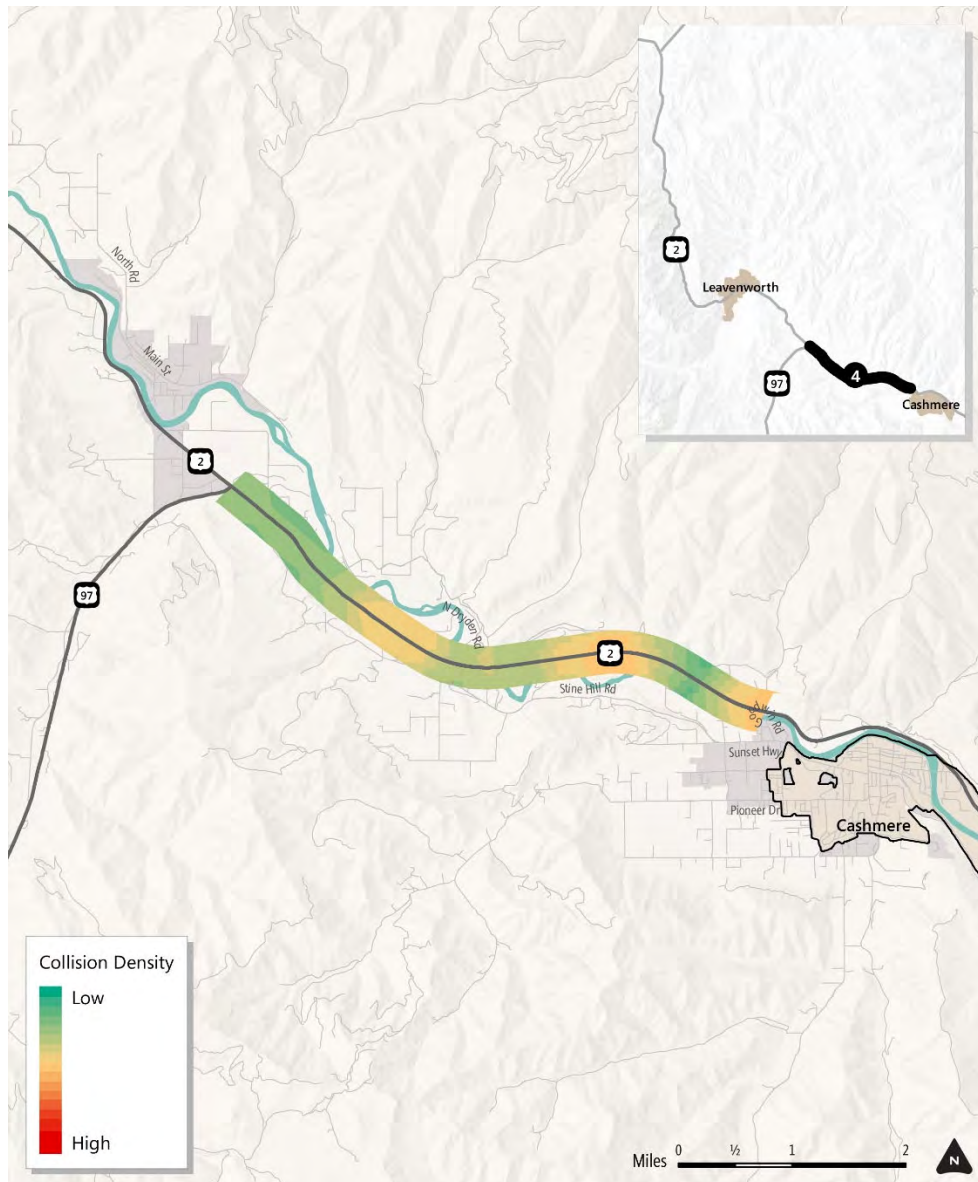


Figure 17: Collision Density- Southeast Segment

Source: WSDOT, Fehr & Peers, 2018.

Southeast Segment Key Findings

Segment Issues and Opportunities



- No major changes to the current agricultural and low-density residential uses are expected to occur along this segment of the corridor.



- Bicycle and pedestrian facilities are not provided along US 2 in this segment of the corridor so users along US 2 must utilize the shoulders.
- Alternative routes that more comfortably accommodate bicyclists include Deadman Hill Road, Main Street, North Dryden Road, and Stine Hill Road.



- Route 22 serves two stops in each direction along this segment of the corridor.
- Opportunities to reconfigure Route 22 connection to US 2 and Cashmere should be considered with upcoming reconstruction of the West Cashmere Bridge.



- Limited access, divided directional travel, and more consistent safety features improve conditions for vehicles operating on this segment of the corridor.
- Capacity along this segment is less constrained than other segments of the corridor where geography and land use limit capacity improvement options.



- Speed was the largest contributor to collisions at 13%, a result of drivers increasing speed as they transition from a two-lane undivided roadway to a four-lane divided roadway.

