Chapter 4 includes a discussion of how the initial recommendations were formulated by WSDOT as well as the process of visioning and prioritization undertaken by the Corridor Working Group.

Chapter 4: Proposed Improvement Projects

1 What were the goals of the CWG?

Before beginning the process of evaluating alternatives, the Corridor Working Group (CWG) established three over-riding goals for project evaluation. Those goals were:

- Safety is the number one priority;
- Keep the vision for the corridor in focus when selecting projects; and
- There should be no throw away projects unless the short-term safety benefit is critical.

2 What is the vision for the corridor?

The vision of the CWG is to establish US 2 as a safe and efficient transportation corridor, while recognizing its role as a scenic byway, a gateway to corridor communities, and a year-round cross-Cascades connector.

3 Has WSDOT made investments in US 2?

Since 1993, WSDOT has invested nearly $36 million in the portion of the US 2 corridor under study. Projects have included safety improvements such as adding a two-way left-turn lane, with channelization from Fern Bluff Road to Gold Bar, and major capital investments, such as replacing the bridge over Barclay Creek. For a list of corridor investments, see Appendix One.

4 How were proposed improvements identified?

In order to maximize community input, WSDOT adopted a streamlined process for initial project formulation as follows:

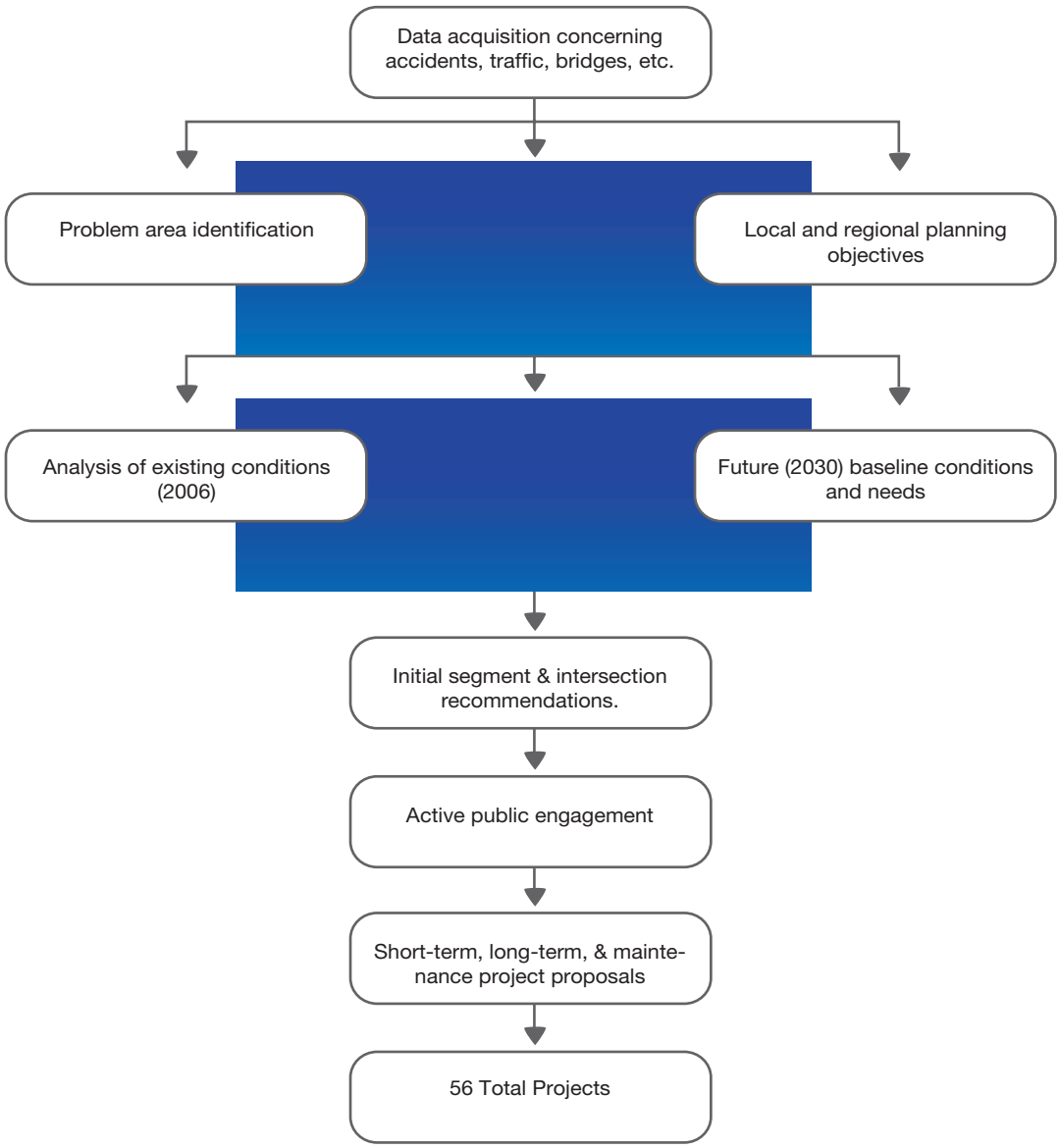
- Begin an early and continuous process of collecting ideas from corridor users by attending local gatherings and fairs, as well as making presentations to community based organizations;[1]
- Conduct an intensive one-day internal "brainstorming" session by WSDOT representatives to generate ideas for potential design solutions;
- Agree upon a draft list of recommendations and concepts to present to the CWG;
- Conduct a two-day CWG Design Charrette to further identify a target list of projects;
- Refine the target list of projects as potential solutions to the issues along US 2;
- Send the list to each CWG member for individual prioritization, then bring the group together to develop a consensus priority array of projects; and
- Present the draft array of prioritized projects to the various community groups and local agencies along the corridor for feedback and finalization.

Exhibit 4-1 provides an overview of the project identification process. At first, WSDOT obtained data concerning the study area through various sources at the state, regional and local levels. This data was used to identify problems along the corridor, corroborating this with local and regional plans. To further verify and understand the degree to which problems exist, WSDOT analyzed existing conditions along the corridor. This provided a deeper understanding of the problems, and served as a stepping stone from which to propose short-term and long-term recommendations to address the problems along US 2. The existing and future baseline conditions provided the hard data necessary to unearth the deficiencies along the study area.

[1] Examples included the Monroe Chamber of Commerce, the Sky Valley Chamber of Commerce, the PSRC Bicycle Committee, the US 2 Safety Coalition, the US Greenway Committee, and city and county councils.

WSDOT then matched these deficiencies with recommendations grouped according to segment and intersection. After active engagement of the public and officials who directly commented on specific projects through open houses and other venues, WSDOT and the Corridor Working Group were better able to refine potential options.

Exhibit 4-1. **Conceptual Process of Project Identification for US 2**



Source: LOCHNER

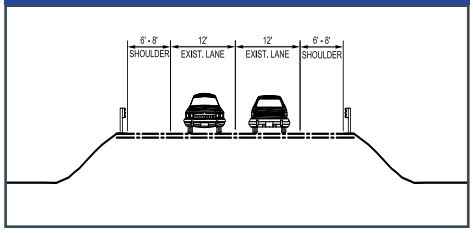
5 What are the proposed improvements?

The Corridor Working Group began the evaluation of projects by first agreeing upon an overall "vision" for each of the four segments, as discussed below.

Segment 1 – Overall Vision

Segment 1 of the study area is about nine miles in length, and is characterized primarily by high speed limits (almost entirely 60 mph) and long stretches of roadway having only two lanes, without separation. Rear-end collisions account for 30 percent of all collisions in this segment. Traffic is worst on the weekdays, with ADT increasing from approximately 28,000 in 2006 to approximately 49,000 in 2030. Without implementing road improvements, the overall LOS will deteriorate to E and F by 2030 for this segment. A diagram of a typical roadway section in Segment 1 is shown in Exhibit 4-2.

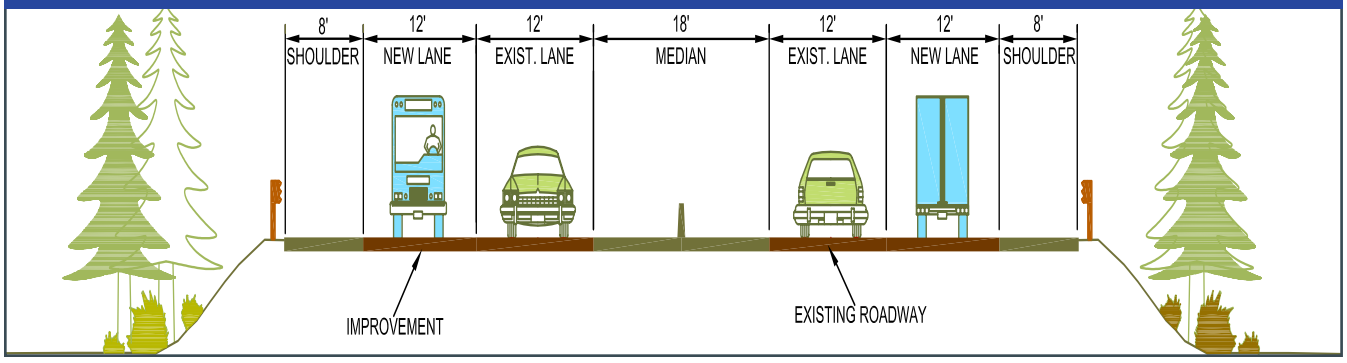
Exhibit 4-2. **Segment 1 - Existing Typical Section**



Source: LOCHNER

The "vision" for Segment 1 (Exhibit 4-3) is to create a grade separated, four-lane section with median barrier. Shoulders will be expanded to eight feet, with edge-line rumble strips. The following figure illustrates the long-term cross-sectional design of the roadway in Segment 1.

Exhibit 4-3. **Proposed Future Typical Section - Segment 1**



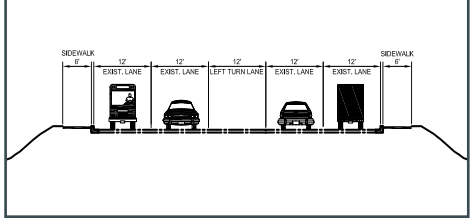
Source: LOCHNER

Segment 2 – Overall Vision

Segment 2 of the study area is about three miles in length, and is characterized by urban roadways and frequent traffic signals with speed limits ranging from 35 – 45 mph. Traffic is worst on weekdays, and ADT is expected to increase from approximately 32,000 in 2006 to 47,000 by the year 2030. Under the baseline scenario all stretches of roadway within this segment will deteriorate to an LOS of 'F' by 2030. Segment 2 contains the largest number of collisions, of which 54 percent are rear-end. A diagram of a typical roadway section in Segment 2 is shown in Exhibit 4-4.

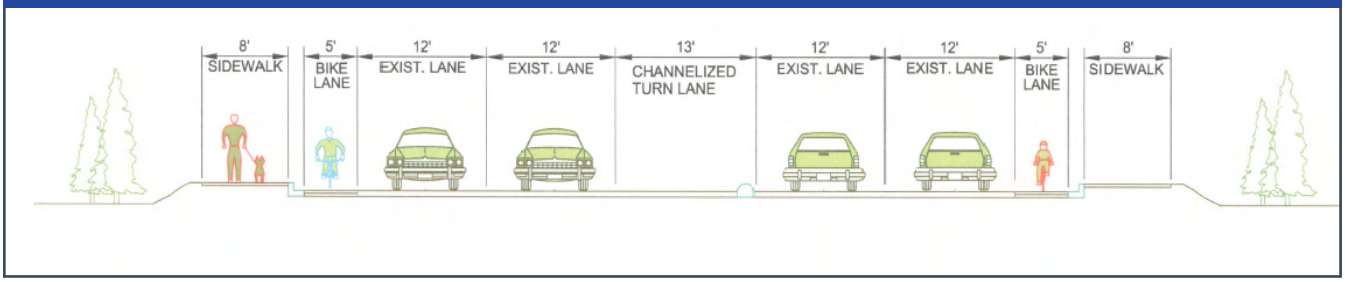
Because of the congestion associated with US 2 in Monroe, the CWG developed a "double" vision for this segment. There was unanimous agreement that a bypass should be constructed around the built up area of Monroe, using the same typical section as Segment 1 (see Exhibit 4-3). In addition, because of the intensity of commercial development through this part of the US 2 corridor, non-motorized improvements should be added including sidewalks on both sides and potentially bike lanes as well. The long-term section for the existing alignment is shown in Exhibit 4-5.

Exhibit 4-4. **Segment 2 - Existing Typical Section**



Source: LOCHNER

Exhibit 4-5. **Proposed Future Typical Section - Segment 2**



Source: LOCHNER

Segment 3 – Overall Vision

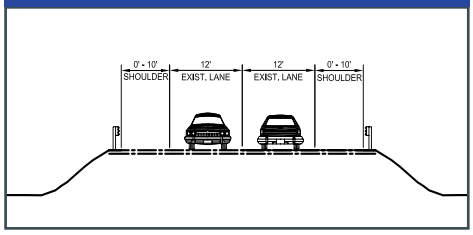
Segment 3 spans about a 15-mile stretch in which the speed limit ranges from 35 to 55 mph as the road traverses urban and rural areas. Traffic is worst on weekends, and is expected to increase from 24,000 in 2006 to 44,000 by the year 2030. A typical cross-section (see Exhibit 4-6) of the roadway has two lanes with no median and narrow shoulders. As with Segments 1 and 2, Segment 3 has a high percentage of rear-end collisions (41 percent) and its LOS will deteriorate to 'E' and 'F' for the year 2030.

In the rural section of US 2 through Segment 3, the vision includes widening the roadway from two lanes to four, with eight-foot shoulders. A four-foot center-line rumble strip will be added, as will shoulder rumble-strips.

Within cities, the vision for improvements on US 2 must provide both safe and efficient traffic movement for state and regional travel, as well as provide appropriate access to the communities and busineses along US 2. Through Sultan and Gold Bar the four-lane section will be maintained, but with a more urban design including curbs, gutters, a center median, and sidewalks. If bicycle lanes cannot be incorporated to the linear parks along US 2 through this section, bike lanes will be added as well.

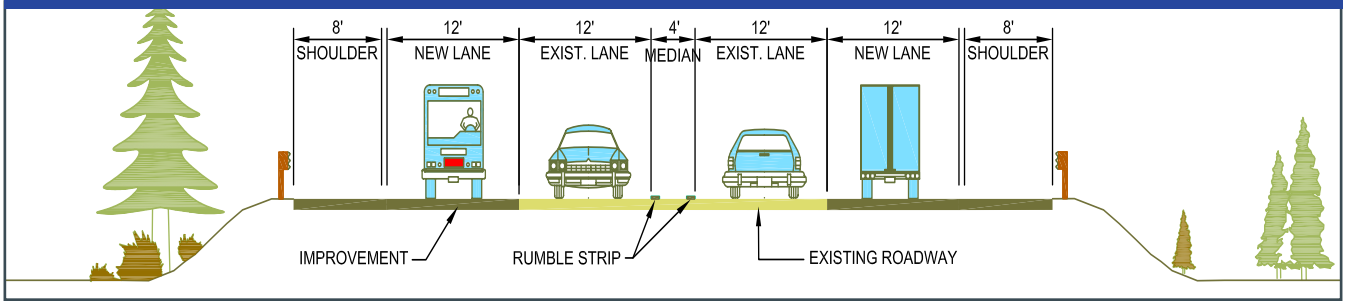
The vision for this section also includes adding roundabouts at select locations to calm traffic, improve flows, and provide a transition (gateway) to the reduced speeds and different function of the highway within the small towns. The vision for this section will include providing u-turn opportunities for adjacent businesses. In the final design, other concepts will be explored to maintain access to businesses that the small towns depend on for economic viability. It should be noted, however, that at present Sultan is not supportive of roundabouts and further discussion with the city is necessary.

Exhibit 4-6. **Segment 3 - Existing Typical Section**



Source: LOCHNER

Exhibit 4-7. **Proposed Future Typical Section - Segment 3**

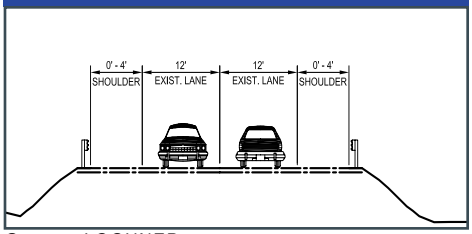


Source: LOCHNER

Segment 4 – Overall Vision

Segment 4 is a 20-mile stretch of roadway with a posted speed limit of 60 mph. A typical cross-section of Segment 4 (see Exhibit 4-8) is a two-lane roadway with no median and narrow shoulders. Unlike the other segments, collisions involving fixed objects are most common. Like Segment 3, traffic is worst on weekends, with ADT expected to increase from 15,000 in 2006 to 22,000 by the year 2030. In the same year, LOS for this segment is at 'C' on weekdays ('E' on weekends).

Exhibit 4-8. **Segment 4 - Existing Typical Section**



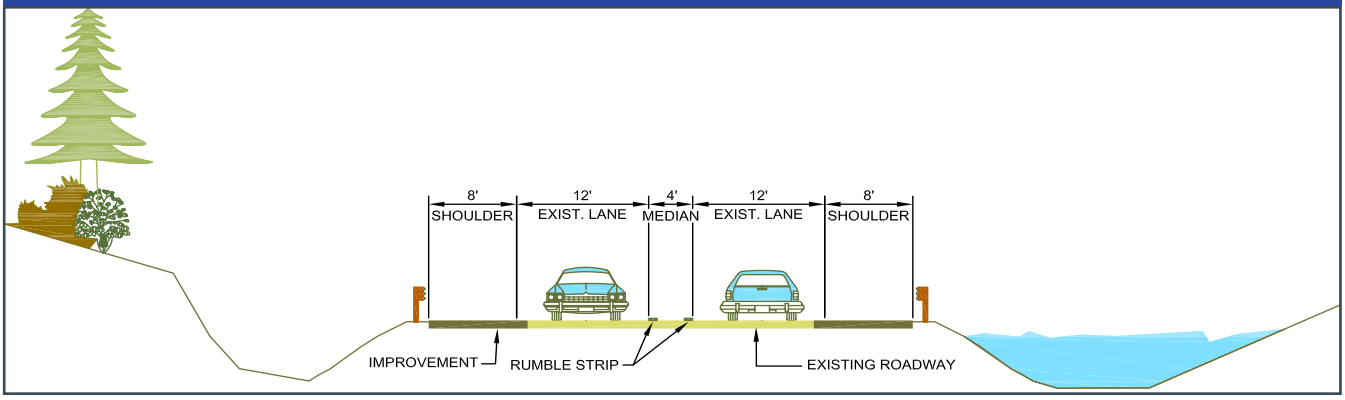
Source: LOCHNER

Overall, traffic volumes on Segment 4 have remained essentially stable for the past 15-years and congestion, except on weekends, is not an issue. The Corridor Working Group vision for Segment 4 focused on safety concerns, including installing a four-foot centerline rumble strip, widening shoulders to eight feet (with rumble strips), constructing standard 12-foot lanes the entire length of the segment, improving lighting, and widening bridges (see Exhibit 4-9).

6 How were individual projects formulated?

Once overall visions for each segment in the study area were agreed upon, the Corridor Working Group (CWG) developed a broad strategy for vision implementation (see Exhibit 4-10).

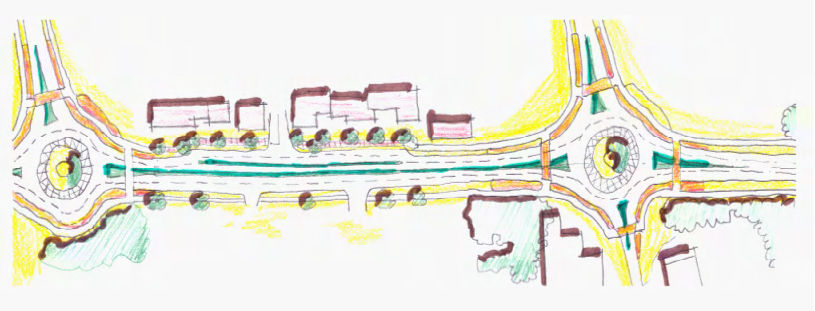
Exhibit 4-9. **Proposed Future Typical Section - Segment 4**



Source: LOCHNER

The CWG, with WSDOT assistance, then went on to develop a "tool box" of options that could be applied to individual areas within the study area. "Tool box" items are shown in Exhibits 4-10 and 4-11.

Exhibit 4-10. **Corridor Working Group Options Toolbox (A)**

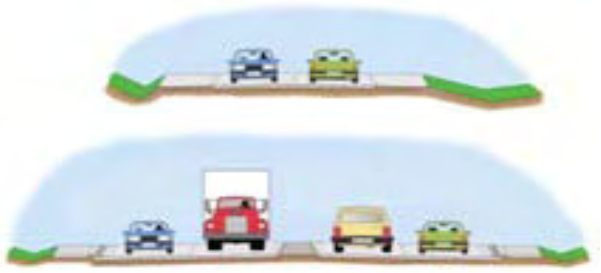


Roundabouts & Coupled Roundabouts

- Separates traffic flow
- Traffic calming
- Continuous flow
- Business U-turns

BEFORE:

AFTER:

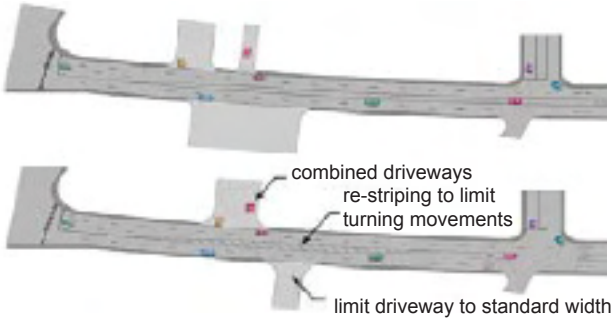


Roadway & Shoulder Improvements

- Rumble strips
- Landscaping
- Medians
- Additional lanes, shoulders

BEFORE:

AFTER:

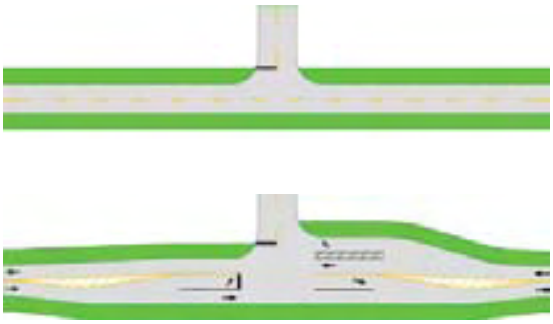


Access Management

- Limit driveway widths
- consolidate driveways
- Control turning movements

BEFORE:

AFTER:

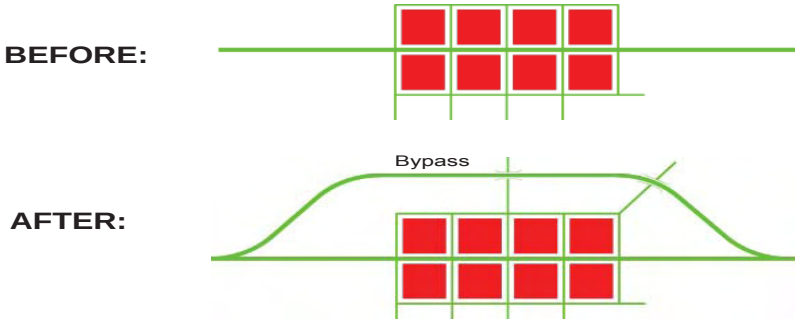


Channelization

- Left-turn pockets
- Right-turn pockets
- Passing lane

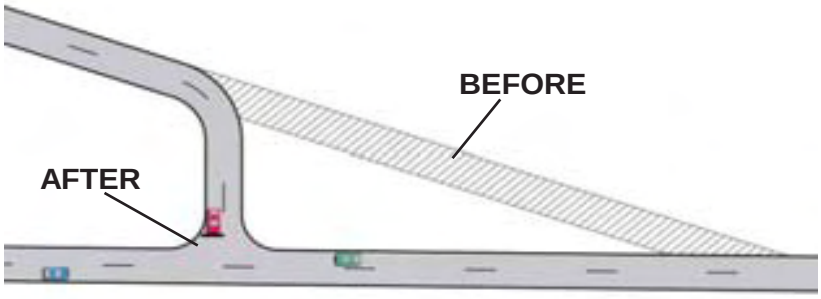
Source: LOCHNER

Exhibit 4-11. **Corridor Working Group Options Toolbox (B)**



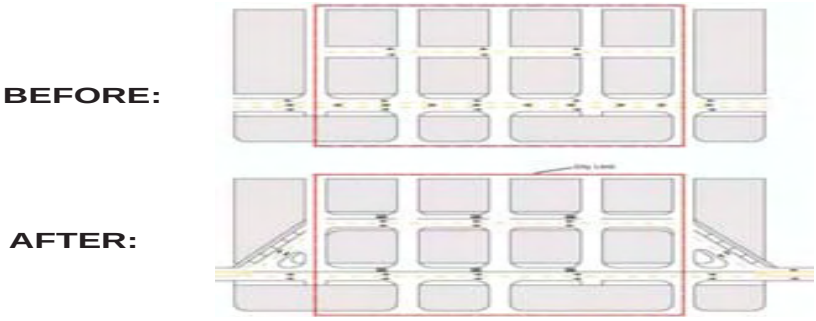
Bypass Route

- Reduce city center traffic
- Improve traffic flow



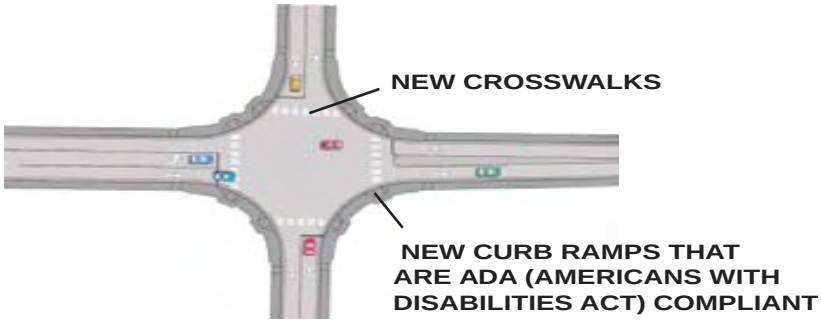
Intersection Alignment Improvements

- Safer turning movements
- remove awkward angles



One-Way Couplets

- Improve flow
- Increase capacity
- Coordinate signals



Non-Motorized Improvements

- Crosswalks
- Bicycle lanes
- Wider Shoulders
- Sidewalks

Source: LOCHNER

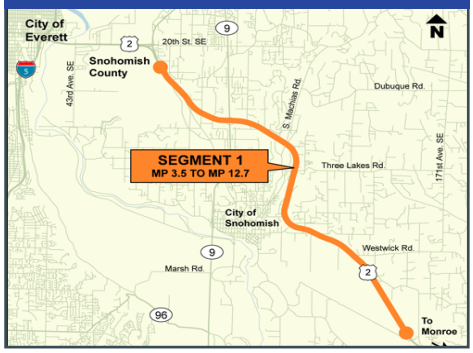
With an agreed upon vision for each segment, and an implementation strategy and "tool box" of options to be applied to corridor problems, the CWG developed a list of 58 projects for further evaluation. This list was later reduced to 56 projects by combining four projects into two sets of related projects (see Technical Memorandum No. 5). Projects are briefly described by segment below.

Segment 1: Snohomish to West Monroe

Overview

This relatively flat segment of US 2 begins near Snohomish and continues through mostly undeveloped wetlands and farmland. The original US 2 passed through Snohomish on what is now Second Avenue.

Exhibit 4-12. **Segment 1**



Source: WSDOT

What are some of the problems facing communities within this segment?

Population growth and congestion:

In the last 15 years, the population of Snohomish increased by over 34 percent from 6,499 residents in 1990 to over 8,700 in 2005.

This population growth has transformed US 2 through Snohomish from a largely rural farm-to-market road to an urban highway. In 1990, an average of 11,000 vehicles traveled on US 2 through Snohomish each day. Today, that number has grown by 172 percent to over 30,000 vehicles per day (2006).

The increased congestion in this segment is the result of population growth in Snohomish, the communities to the east such as Monroe and Sultan, as well as surrounding rural communities. Many residents of these communities rely on US 2 as their primary commute route.

Collision rates:

- Between January 1999 and October 2006, 430 collisions occurred in this segment of US 2.
- 30 percent of these collisions were rear-end collisions,

which are often caused by congestion.

- 38 collisions involved alcohol use.
- Eight collision-related fatalities occurred on this segment.

What did we hear from the public?

A number of people had safety concerns due to the lack of a physical barrier to separate traffic and dangerous intersections, including Bickford Avenue.

- "Make US 2 the same as I-90. We need four lanes, period."
- "We need center barriers on US 2."
- "It is dangerous and difficult to turn onto US 2 at Bickford Avenue."

Exhibit 4-13. **Bickford Ave Project**

What are the safety and congestion projects identified for US 2 between Snohomish and Monroe?

Safety Projects

- **East of Snohomish to Monroe, MP 3.5 - 12.7**: Install median rumble strips to reduce the number of cross-over collisions, widen shoulders and install shoulder rumble strips, and add guardrails.
- **East of Snohomish to Monroe, MP 3.5 - 12.7**: Install traffic cameras and electronic information signs to deliver real-time traffic information to drivers.
- **Snohomish, Bickford Avenue, MP 3.85:** Build a westbound overcrossing on-ramp, providing improved access from the south side of US 2 at Bickford Avenue, and accommodating future access from the north side of US 2 at this location.
- **Snohomish, State Route 9, MP 5.04:** Add a new lane to eastbound US 2, upgrade on-ramps to the SR 9 / US 2 interchange and upgrade lighting and traffic signals.
- **West of Monroe, MP 12.46:** Widen US 2 to include both eastbound and westbound left-turn lanes at the dairy farm intersection.

Capacity Projects

- **East of Snohomish to Monroe, MP 3.5 - 12.7:** Widen US 2 to four lanes, upgrade bridges, and install median barriers. The final alignment of the improved US 2 roadway should be resolved in an EIS or related document. The roadway may remain on the current route, be relocated to right-of-way purchased for a bypass in the 1960's, or along some other as yet to be proposed alignment.
- **Snohomish, 88th Street, MP 8.51:** Add one lane to eastbound US 2, upgrade on-ramps and lighting.
- **Snohomish, Westwick Road, MP 10.08:** Realign skewed intersection at Westwick Road, add lanes and consolidate driveways.
- **Snohomish, Roosevelt Road, MP 10.55:** Add turn lanes in both directions and add traffic signals.

  (The last two capacity projects are contingent upon the timing and route of the final alignment of US 2 between Monroe and Snohomish.)

Segment 2: City of Monroe

Overview

As US 2 enters the city of Monroe, it changes from a rural roadway to an urban corridor. The two-lane highway turns into a four-lane roadway with u-turn pockets through the heart of the city's retail area. The speed limit changes to 45 mph just inside the westerly city limits and then drops to 35 mph through the retail core. Many drivers use city streets, SR 203, SR 522, and even parking lots between retail establishments to avoid congestion on US 2.

Exhibit 4-14. **Segment 2**

Source: WSDOT

What are some of the problems facing the community within this segment?

Population growth and congestion:

The city of Monroe is one of the fastest growing cities along US 2. Over the past 15 years its population almost quadrupled from just over 4,200 people in 1990 to almost 16,000 in 2005.

As a result of this population surge, average daily traffic through the city has almost doubled. In 1990, 21,400 vehicles traveled on this stretch of US 2 each day. This number rose to approximately 40,000 by 2006.

High collision rates:

- Between January 1999 and October 2006, 1,245 collisions occurred on US 2 within the Monroe city limits.
- 55 percent of these collisions were rear-end collisions, which are often a result of congestion.
- 61 collisions involved alcohol use.
- Five collision-related fatalities occurred on this segment.

What did we hear from the public?
Community members along the US 2 corridor requested that a bypass be built around Monroe to relieve congestion. They also blame the congestion in Monroe on through traffic.

"There is no other solution but to build a bypass. It should have been done 20 years ago."

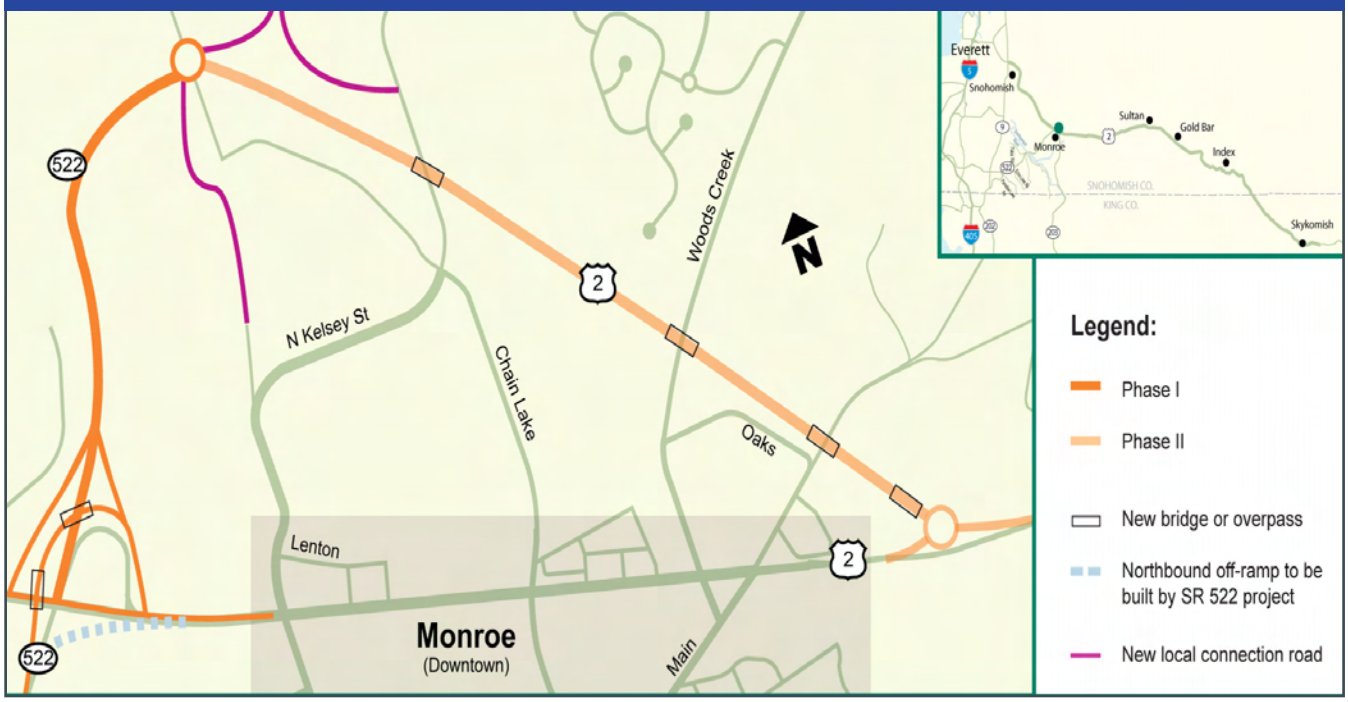
As WSDOT received an enormous number of comments concerning the perceived increase in through traffic along US 2 in Monroe, they completed an origin and destination study in August of 2006 (see Technical Memorandum No. 4). While US 2 in Monroe is highly congested and a bypass will improve operating conditions, traffic from local development has had a greater influence on congestion than increases in through traffic.

What are the safety and congestion projects identified for US 2 through the city of Monroe?

Safety Projects

- **Monroe, MP 12.7 - 15.6:** Upgrade sidewalks and install bicycle lanes in both directions of US 2 through the city of Monroe.
- **Monroe, MP 12.7 - 15.6**: Install traffic cameras and

Exhibit 4-15. **Monroe Bypass**



Source: WSDOT

electronic information signs to deliver real-time traffic information to drivers.

- **Monroe, US 2 at SR 203, MP 14.92**: Improve the intersection of US 2 and SR 203 by installing a northbound left-turn lane, rebuild sidewalks.
- **Monroe, US 2 from Ann Street to the Woods Creek Bridge, MP 15.15 - 15.37**: Consolidate driveways from Ann Street to the Woods Creek Bridge.

Capacity Projects

- **Monroe Bypass:** The bypass will be built in three stages.
  - **Phase I**
    Build a two-lane limited access highway that extends north from the existing SR 522, to the future east/west alignment of US 2. Construct a southbound on-ramp, southbound off-ramp and northbound on-ramp at the SR 522/US 2 interchange.

    Build a roundabout at the north end of the SR

522 extension and connect to Kelsey Street and Chain Lake Road.

- **Phase II**
  Extend the bypass and connect to US 2 with a roundabout east of Woods Creek.
  Widen the SR 522 extension to 4 lanes.

- **Phase III**
  Add capacity to westbound US 2 on historical bypass route or existing US 2. Determination of the final alignment should be resolved in a project level environmental analysis.

- **Monroe, 179th Avenue to Kelsey Street, MP 13.86 - 14.57:** Add one lane to westbound US 2 between Kelsey and 179th Avenue.
- **Monroe, MP 12.95 - 13.87:** Add one lane to each direction of US 2.
- **Monroe, Woods Creek Bridge Widening, MP 15.37:** Widen and upgrade the Woods Creek Bridge.

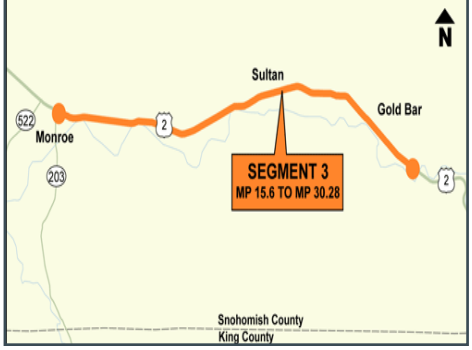
Segment 3: East Monroe to East Gold Bar

Overview

US 2 between East Monroe and Gold Bar becomes much more rural and forested as it begins the climb into the Cascade Mountain Range. It includes the cities of Sultan and Gold Bar. Homes and businesses within this segment are often built directly adjacent to US 2.

The speed limit along this two-lane stretch of highway varies from 55 mph in the more rural sections, to 35 mph within the city limits of Sultan and 40 mph within the city limits of Gold Bar. As drivers enter the city of Sultan, they encounter traffic lights at Old Owen Road, 5th Street, and most recently at Sultan Basin Road. These traffic lights have become choke points on US 2. Drivers often face significant backups during the weekends and holidays.

Exhibit 4-16. **Segment 3**



Source: WSDOT

What are some of the problems facing the communities within this segment?

Population growth and congestion:
The populations of Sultan and Gold Bar have almost doubled in the last 15 years. While the populations of these two cities are still much smaller than those of Snohomish and Monroe, both cities are seeing an increase in average daily traffic volumes.

The population of Sultan increased from 2,236 in 1990 to 4,225 in 2005. Gold Bar experienced the same trend, with its population increasing from 1,078 in 1990 to 2,085 in 2005.

As a result of these population increases, average daily traffic through Sultan has increased from about 12,500 vehicles per day in 1990 to nearly 24,000 vehicles per day in 2006.

The number of vehicles traveling through Gold Bar increased by almost 50 percent from just under 8,000 vehicles per day in 1990, to nearly 12,000 vehicles per day in 2006.

Traffic through the cities of Sultan and Gold Bar is also largely affected by weekend through traffic to Stevens Pass. During the weekend, traffic volumes increase by more than 10,000 vehicles per day in Sultan, and almost double through Gold Bar, to approximately 27100 and 21200, respectively.

Collision Rates (January 1999 - October 2006):

- 774 collisions occurred between Monroe and Gold Bar.
- 42 percent of these collisions were rear-end collisions.
- 83 collisions involved alcohol use.
- Twelve collision-related fatalities occurred on this segment.

What did we hear from the public?
Local communities have expressed concerns about increasing congestion levels and the amount of traffic on weekends. A number of people noted that the traffic lights in Sultan have contributed to this congestion. Safety was a concern for pedestrians, motorists and bicyclists alike. Narrow shoulders,

Exhibit 4-17. **Segment 3 Roundabout**

Source: WSDOT

especially at bridges, leave little room to avoid vehicles crossing the centerline. At the same time, local citizens are very concerned about maintaining the economic viability of their communities, and want to make sure that the improvements to US 2 continue to provide access to the local businesses fronting the highway.

What are the safety and congestion projects identified listed for US 2 between Monroe and Gold Bar?

Safety Projects

- **Rural stretches of US 2, MP 15.6 - MP 27**: Widen shoulders, install guardrail and rumble strips.
- **East Monroe to West Gold Bar, MP 15.6 - 30.3**: Install traffic cameras and electronic message signs to provide real-time traffic information to drivers.
- **Monroe to Gold Bar, MP 15.6 - 30.3**: Install median rumble strip.
- **Two miles east of Monroe, Sofie Road, MP 17.9**: Build a westbound left turn lane and an eastbound right

turn lane.

- **Two and a half miles east of Monroe, 153rd Pl SE, MP 18.3**: Build eastbound left turn lane.
- **Three and a half miles east of Monroe, nursery driveway, MP 18.98**: Build westbound left turn lane and eastbound right turn lane.
- **One mile west of Sultan - Fern Bluff Road, MP 20.1**: Add right and left turn lanes.
- **One mile west of Sultan - MP 20.45**: Eliminate wide eastbound turn-out to address sight distance problem.
- **One mile west of Sultan - MP 20.7 - 21.4**: Add westbound passing lane.
- **Through Sultan, MP 21.42 - MP 24.44:** Add westbound lane, median, driveway consolidation, u-turn and right turn restriction at Main Street.
- **Sultan, between 3rd and 4th Streets, MP 22.24**: MP 22.93 - Add westbound lane and restrict left turn access.
- **Sultan, Sultan-Startup Road, MP 24.73**: Install eastbound left-turn lane, widen eastbound shoulder.
- **Startup, Fish Hatchery Road, MP 27.0**: Add eastbound left-turn lane.
- **Startup, Nugget Road, MP 27.45**: Install left turn lane.
- **Gold Bar, MP 27.51 - MP 28.72:** Add westbound lane, median, and two roundabouts at 399th Avenue and 6th Street.
- **Gold Bar, MP 27.51 - MP 28.72**: Add an additional eastbound lane.
- **Gold Bar, 17th Street, MP 28.59 to 28.9**: Extend two-way left turn lane to existing left turn lane at 17th Street.
- **Gold Bar, Pickle Farm Road, MP 29.48**: Build a roundabout.
- **East of Gold Bar, Reiter Road, MP 30.0**: Add

westbound right turn lane.

Capacity Projects

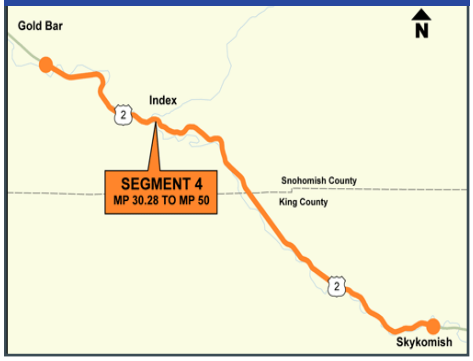
- **Monroe to Gold Bar, MP 15.6 - MP 30.1**: Widen to four lanes.
- **Sultan, MP 21.42 - MP 24.44:** Add eastbound lane, build four roundabouts at Old Owen/ Fern Bluff Road, 3rd Street, near 8th Street, and new Sultan-Basin Road.

Segment 4: East Gold Bar to East Skykomish

Overview

US 2 between Gold Bar and Skykomish is a rural two-lane highway with a speed limit of 60 mph, which is characterized by sharp curves and narrow shoulders. Unlike other segments, the communities here (Index and Skykomish) are not built directly adjacent to the highway.

Exhibit 4-18. **Segment 4**



Source: WSDOT

What are some of the problems facing the communities within this segment?

Heavy Weekend Through Traffic:
Traffic on Segment 4 is largely affected by weekend through traffic to Steven's Pass. For example, in 2006 approximately 6,500 vehicles traveled US 2 passing through the US 2/5th Street intersection near Skykomish each day during the week. That number increased during the weekend to 17,500 vehicles per day.

Collision Rates January 1999 - October 2006:

- 403 collisions occurred between East Gold Bar and Skykomish.
- 13 percent of these collisions involved vehicles crossing over into oncoming traffic.
- 11 percent of these collisions were congestion related rear-end collisions.
- 43 percent of these collisions involved vehicles colliding with fixed objects on the side of the roadway.

- Eight collision-related fatalities occurred on this segment.

What did we hear from the public?
Members of the public have expressed concern about the number of head-on collisions and poor visibility along this stretch of highway. Many asked for increased enforcement to reduce reckless driving and intersection improvements to enhance safety when merging onto US 2.

"The highway is too dangerous and should be improved, but too little emphasis is put on enforcement."

"We see too many head-on collisions. We need barriers in the short-term and a wider highway in the long-term."

What are the safety and congestion improvements listed for US 2 between Gold Bar and Skykomish?

- **Gold Bar to Skykomish, MP 30.3 - MP 50.0:** Add median rumble strip.
- **Gold Bar to Skykomish, MP 30.3 - MP 50.0:** Widen shoulders, install shoulder rumble strips, and implement other roadside safety improvements (such as guardrails).
- **Gold Bar to Skykomish, MP 30.3 - MP 50.0:** Widen, replace, or upgrade 26 bridges.
- **Gold Bar to Skykomish, MP 30.3 - MP 50.0:** Add traffic cameras and electronic message signs to provide real-time traffic information to drivers.
- **Gold Bar, Green Water Meadow Road MP 30.6:** Add eastbound left-turn lane.
- **Gold Bar, MP 31.26 - 31.73:** Add two-way left-turn lane.
- **East Gold Bar, MP 32.23 - MP 32.96:** Re-stripe passing lanes.
- **East Gold Bar/West Index, MP 35.1 - MP 35.62:** Realign and widen eastbound and westbound bridge approaches.

- **Index, MP 35.35 - MP 35.62:** Channelize and consolidate driveway access, install edge line rumble strips.
- **Index, MP 35.45 - MP 35.55:** Install warning signs alongside westbound lanes for an upcoming sharp turn.
- **Index, Index-Galena Road, MP 35.62:** Add a right-turn lane to westbound US 2.
- **Index, MP 35.95 - MP 36.4:** Construct eastbound truck climbing lane.
- **East of Index, MP 38.5:** Improve shoulder slope and drainage to prevent storm water runoff from freezing on US 2.
- **Index Area, MP 41.0 - 43.0:** Widen the highway to four lanes to allow for passing vehicles.
- **West of Skykomish, Money Creek, MP 45.9:** Add westbound left-turn lanes.
- **West of Skykomish, MP 48.7 - 49.5:** Widen and pave shoulders, install raised walkway, and relocate guardrail.
- **Skykomish, Beckler Road, MP 49.51:** Add eastbound left-turn lane.
- **Skykomish, MP 49.8 - MP 50.2:** Add a two-way left-turn lane.
- **Skykomish, Old Cascade Highway, MP 49.98:** Add left-turn lane for westbound traffic.
- **Skykomish, 5th Street, MP 48.71:** Install a roundabout.

7 How were the projects ranked?

CWG members scored the projects against three criteria: safety, mobility, and community support. Projects were scored from 1 to 5, with 5 being the best score and 1 the worst. Projects were then ranked according to their point totals. For safety, consideration was given to whether or not

the location was a HAL or HAC as well as the total number of collisions, injuries and fatalities. For mobility, consideration was given to level-of-service in 2006 and 2030, as well as a project's potential to improve mobility for all modes of travel. Community support was subjective, with consideration given to the level of support projects would generate in local communities along US 2.

A complete list of the 56 projects, their locations, descriptions and other notable information follows.

US 2 ROUTE DEVELOPMENT PLAN - PROPOSED IMPROVEMENT PROJECTS
PROJECT SCORING

Highest Score (best) ← → Lowest Score

5 4 3 2 1

Corridor Working Group Consensus Priority Projects

Exhibit 4-19. **Proposed Project List by Type**

Project No	Segment	Milepost		Description	Project Cost** (Low and High)		HAL/ HAC	Rank
SAFETY PROJECTS, $5 MILLION OR LESS								
2	1-4	3.5	50.0	Install ITS traveler variable message signs (CCTV, VMS) to increase motorist awareness of roadway conditions.	$4,000,000	$6,000,000	Both	**43**
3	1	12.46	12.46	Install EB & WB left-turn lanes, widen shoulders to accommodate right turns in the vicinity of the Dairy Farm driveway and local access roadway to the NE to reduce potential rear end collisions.	$1,500,000	$2,300,000	No	**16**
36	2	12.7	15.6	Reconstruct sidewalks along US 2 to enhance mobility.	$4,000,000	$6,000,000	Un-related	**50**
4	2	14.92	14.92	Add a second SB left turn land on Chain Lake Road at US 2 and both EB and WB right turn only lanes on US 2 at Chain Lake RD/Lewis St./SR 203.	$1,500,000	$2,300,000	HAL	**29**
5	2	15.15	15.37	US 2 - Ann Street to the Woods Creek Bridge, consolidate driveways that access US 2.	$2,500,000	$3,800,000	HAL	**33**
6	3	15.6	30.3	Install median rumble strip on existing centerline to reduce potential head on collisions. (From east of Monroe to Reiter Rd east of Gold Bar)	$1,500,000	$2,300,000	HAC	**7**
7	3	17.91	17.91	Add WB left-turn and EB right-turn lanes at Sofie Rd to reduce collision potential.	$1,700,000	$2,600,000	HAC	**25**
8	3	18.3	18.3	Add EB left-turn lane and widen EB shoulder at 153rd Place SE to reduce collision potential.	$2,000,000	$3,000,000	HAC	**16**
9	3	18.98	18.98	Construct WB left-turn and EB right-turn lanes at the Nursery Driveway to reduce collision potential.	$1,900,000	$2,600,000	No	**41**
10	3	20.10	20.15	Add EB & WB left-turn and right-turn lanes to Fern Bluff Rd to reduce collision potential.	$3,300,000	$5,000,000	HAC	**9**
12	3	20.45	20.45	Eliminate wide EB turn-out area to reduce collision potential by eliminating turning maneuvers (WB left turns and EB and WB U-turns).	$300,000	$500,000	HAC	**55**

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Source: WSDOT

Corridor Working Group Consensus Priority Projects

Exhibit 4-19. **Proposed Project List by Type (cont'd)**

Project No	Segment	Milepost		Description	Project Cost** (Low and High)		HAL/ HAC	Rank
SAFETY PROJECTS, $5 MILLION OR LESS (cont'd)								
11	3	20.7	21.39	Install WB passing lane west of Sultan to reduce potential head-on collisions.	$3,400,000	$4,400,000	HAC	**33**
13	3	22.24	22.93	Add WB lane and manage left-turn access to adjacent business between 3rd St and 10th St in Sultan to improve safety and reduce congestion and delays.	$3,300,000	$4,400,000	No	**20**
14	3	24.73	24.73	Add EB left-turn lane and widen EB shoulder at Sultan-Startup Rd to reduce collision potential associated with left turning vehicles.	$1,400,000	$2,100,000	No	**33**
15	3	27	27	Add EB left-turn lane to Fish Hatchery Rd. to reduce collision potential associated with left turning vehicles.	$1,400,000	$2,100,000	No	**39**
16	3	27.45	27.45	Install left-turn lane at Nugget Rd. to reduce collision potential associated with left turning vehicles.	$1,200,000	$1,700,000	No	**32**
17	3	28.59	28.9	Extend two way left-turn lane to existing left-turn lane from west of 13th Street to east of 17th Street west of Gold Bar to reduce collision potential associated with left turning vehicles.	$3,000,000	$4,500,000	No	**5**
18	3	29.48	29.48	Install a roundabout at Pickle Farm Road to improve intersection operation and reduce potential collisions and congestion.	$2,400,000	$5,000,000	HAC	**37**
19	3	30.04	30.04	Extend WB right-turn lane fro US 2 to Reiter Road.	$1,200,000	$1,800,000	HAC	**25**
20*	4	30.3	50.0	Install median rumble strip on existing centerline to reduce potential head of collisions (from east of Gold Bar to east of Skykomish).	$2,900,000	$4,400,000	HAC	**9**
21	4	30.6	30.6	Add EB left-turn lane from US 2 to Green Water Meadow Rd to reduce collision potential associated with left turning vehicles.	$1,000,000	$1,400,000	HAC	**48**
22	4	31.26	31.73	Add two WB left-turn lanes to adjacent access roadways to reduce collision potential associated with left turning vehicles.	$2,200,000	$2,900,000	No	**29**

The median rumble strip in Segment 4, project 20 is an interim safety improvement to address the immediate concerns over cross-over crashes. This one-foot rumble strip is narrow due to limited shoulders in this segment. When the future road and shoulder widening project is completed, the rumble strip will be expanded to four-feet.** ****Preliminary project costs are for planning purposes only and should be viewed as a starting point when determining a final cost estimate for a proposed project. The preliminary project costs were created to help the US 2 Corridor Working Group prioritize projects for the US 2 Route Development Plan study. The preliminary project costs are in 2006 dollars, are planning level and not based on engineering analysis. They do not account for potential environmental mitigation (including right of way), rising material costs or other unforeseen expenditures that may occur during design or construction. These factors may increase the final costs of individual projects.

Source: WSDOT

Corridor Working Group Consensus Priority Projects

Exhibit 4-19. **Proposed Project List by Type (cont'd)**

Project No	Segment	Milepost		Description	Project Cost** (Low and High)		HAL/ HAC	Rank
SAFETY PROJECTS, $5 MILLION OR LESS (cont'd)								
23	4	32.23	32.96	Re-mark passing lanes by restriping the existing 3-lane roadway to create a WB uphill passing lane (eliminating the downhill portion of the existing EB passing lane). This will create an additional opportunity for WB vehicles to pass slower vehicles by reducing the potential of head-on collisions.	$250,000	$400,000	HAC	**6**
26	4	35.35	35.62	Eliminate driveway access, install shoulder rumble strip to reduce collision potential associated with turning vehicles and run of the road incidents.	$1,200,000	$1,800,000	HAC	**48**
25	4	35.45	35.55	Install additional warning signs for an upcoming WB curve between Index-Galena Road and the bridge.	$50,000	$75,000	HAC	**25**
43	4	35.62	35.62	Add WB right-turn lane approaching the Index Galena Road to reduce collision potential associated with right turning vehicle slowing to turn right on a super elevated reverse curve.	$2,200,000	$3,300,000	No	**20**
27	4	35.95	36.4	Construct EB truck climbing lane to create an opportunity for eastbound vehicles to pass slower vehicles approaching the EB grade and reduce potential of head-on collisions.	$2,800,000	$4,200,000	No	**44**
28	4	38.5	38.5	Re-slope and improve drainage on WB shoulder to reduce the potential that water runoff will freeze on the roadway.	$1,200,000	$1,700,000	HAC	**51**
29	4	45.9	45.9	Add WB left-turn lane to the Money Creek camp ground (Old Cascade Highway) to reduce the collision potential associated with left turning vehicles.	$1,700,000	$2,300,000	No	**33**
30	4	48.7	49.5	Implement pedestrian improvements to school bus stop in conjunction with the school district.	$3,800,000	$5,000,000	No	**29**
45	4	48.71	48.71	Add a roundabout at the US 2/5th Street intersection to reduce speeds and improve intersection operations and safety.	$3,100,000	$5,000,000	No	**44**
31	4	49.51	49.51	Add EB left-turn lane to Beckler Road to reduce collision potential associated with left turning vehicles.	$1,300,000	$2,000,000	No	**44**

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Source: WSDOT

Corridor Working Group Consensus Priority Projects

Exhibit 4-19. **Proposed Project List by Type (cont'd)**

Project No	Segment	Milepost		Description	Project Cost** (Low and High)		HAL/ HAC	Rank
SAFETY PROJECTS, $5 MILLION OR LESS (cont'd)								
33	4	49.8	50.2	Add two-way left-turn lane to reduce collision potential associated with vehicles turning into and out of the US Forest Service Ranger Station.	$1,800,000	$2,700,000	No	**25**
32	4	49.98	49.98	Add WB left-turn lane to Old Cascade Hwy to reduce collision potential associated with left turning vehicles.	$1,500,000	$2,300,000	No	**40**
		Total		**Safety Projects, $5 Million or Less**	**$68,500,000**	**$101,875,000**		
SAFETY PROJECTS, OVER $5 MILLION								
1	1	3.5	12.7	Install four-foot median rumble strip, widen shoulder, install shoulder rumble strip (includes miscellaneous safety improvements)	$10,800,000	$16,200,000	Both	**9**
34	1	3.85	3.85	Construct a modified interchange at US 2 and Bickford Avenue. Add WB on-ramp overcrossing and modify EB on ramp by extending the merge/acceleration lane.	$35,000,000	$52,500,000	No	**12**
35	1	5.04	5.04	SR 9/ US 2 interchange modification. Add an EB lane, reconstruct EB on-ramp and off-ramp and install traffic signals & illumination at off ramp intersection with SR 9.	$40,900,000	$61,400,000	HAL	**54**
54	2	12.7	13.87	Add EB & WB through lanes to reduce potential of head-on collisions and improve capacity. (E. Roosevelt Rd/163rd St to 179th Ave SE)	$22,100,000	$33,200,000		**20**
37	3	15.64	30.28	In the rural area of Segment 3, widen EB & WB shoulders, install EB & WB shoulder rumble strips, and implement various roadside safety improvements to reduce potential collisions.	$15,800,000	$19,700,000	HAC	**41**
38	3	21.42	24.44	Add WB lane and median barrier, consolidate driveways, and restrict u-turn and right-turn access at Main Street (west and east of Sultan in areas not previously widened) to improve safety and reduce collision potential. associated with left turning vehicles and passing.	$8,300,000	$12,500,000	No	**12**
40	3	27.51	28.72	Add EB lane through the City of Gold Bar to reduce congestion.	$11,000,000	$16,500,000	HAC	**37**

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Source: WSDOT

Corridor Working Group Consensus Priority Projects

Exhibit 4-19. **Proposed Project List by Type (cont'd)**

Project No	Segment	Milepost		Description	Project Cost** (Low and High)		HAL/ HAC	Rank
SAFETY PROJECTS, OVER $5 MILLION (cont'd)								
39	3	27.51	28.72	Add WB lane, median barrier, and 2 roundabouts through the City of Gold Bar to reduce congestion and collision potential and improve business access.	$19,500,000	$29,300,000	HAC	**7**
42	4	30.3	50.0	Widen or replace 26 bridges.	$36,500,000	$54,800,000	HAC	**12**
41	4	30.3	50.0	Widen EB & WB shoulders, install EB & WB shoulder rumble strips, implement various roadside safety improvements.	$324,400,000	$486,600,000	HAC	**16**
24	4	35.1	35.62	Realign and widen EB & WB bridge approaches to improve possible recovery area during freezing conditions.	$5,500,000	$8,300,000	HAC	**16**
44	4	41.0	43.0	Widen to four-lanes to allow passing and reduce head-on collision potential.	$28,500,000	$42,800,000	No	**20**
		Total		**Safety Projects, Over $5 Million**	**$558,300,000**	**$833,800,000**		
CAPACITY PROJECTS								
46	1	3.5	12.7	Ultimately widen to a four lane, limited access facility with median barrier & bridge modifications (final alignment to be resolved in a project level EIS).	$216,500,000	$324,800,000		**4**
47	1	8.51	8.51	Add second EB lane and rebuild 88th Street interchange on and off-ramps to provide improved merge/acceleration lane to match widening.	$38,200,000	$57,300,000		**53**
48	1	10.08	10.08	Modify skewed entry from Westwick Road to US 2, add EB lane, consolidate Westwick Road driveways near US 2, to improve safety by reducing potential collisions.	$2,900,000	$4,350,000		**51**
49	1	10.55	10.55	Modify skewed entry from Roosevelt Road to US 2, add EB & WB lanes, add left turn lane and install interim traffic signal to improve safety and access.	$1,800,000	$2,700,000		**44**

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Source: WSDOT

Corridor Working Group Consensus Priority Projects

Exhibit 4-19. Proposed Project List by Type (cont'd)

Project No	Segment	Milepost		Description	Project Cost** (Low and High)		HAL/ HAC	Rank
CAPACITY PROJECTS (cont'd)								
53	2	12.7	14.57	Add additional WB lane, Kelsey through 179th Avenue to reduce congestion and delay and improve safety (additional improvements to Kelsey are being made by the City of Monroe).	$2,100,000	$3,200,000		**20**
50	2	12.7	15.6	Monroe Bypass, Stage 1 - construct a limited access, two-lane extension of SR 522, approximately 3,000 feet north of US 2 to a roundabout terminus. Improvements at SR 522 & US 2 will include a new bridge for westbound SR 522 traffic over US 2 and the BNSF RR tracks, as well as other ramp improvements.	$44,000,000	$66,000,000		**1**
51	2	12.7	15.6	Monroe Bypass, Stage 2 - extend the two-lane, limited access bypass from the roundabout constructed in Phase 1 to a roundabout on existing US 2 east of Woods Creek at the east Monroe city limits, including three bridges to grade separate Chain Lake Road, Woods Creek Road and Old Owen Road, as well as a bridge over Woods Creek.	$96,100,000	$144,200,000		**1**
52	2	15.37	15.37	Repair and widen Woods Creek Bridge to four lane with standard shoulders or sidewalks. This is on WSDOT's 07-09 bridge list.	$2,400,000	$3,600,000		**55**
55	3	15.64	30.1	Widen to four lanes in areas not previously widened from west of Monroe to east of Gold Bar to reduce congestion and improve safety.	$131,300,000	$197,000,000		**3**
56	3	21.42	24.44	Add EB lane and 4 roundabouts through Sultan to reduce congestion and collision potential and improve business access.	$66,600,000	$99,900,000		**15**
		Total		**Capacity Projects**	**$601,900,000**	**$903,050,000**		
		TOTAL		**ALL PROJECTS**	**$1,228,700,000**	**$1,838,725,000**		

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Source: WSDOT