

# US 97 ‘Four Phase Strategy’

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## Why a ‘four phase’ strategy?

A ‘four phase’ strategy serves as a guideline and vision for improving major state highways, particularly US 97. As traffic volumes and speeds increase, access and turn movements at traditional, at-grade intersections become increasingly hazardous. In addition, serious head-on collisions occur due to lack of non-traversable center median. A system of passing lanes, continuous four-lane highway, grade-separated interchanges, frontage roads and a center median are an effective solution.

By taking this phased approach to improvements and upgrades, US 97 can support:

- Increased capacity
- Faster travel time
- Improved freight mobility
- Increased safety
- Enhanced seismic resiliency

## Importance of US 97

### *Interstate alternative*

US 97, located along the east side of the Cascade Mountains from the Oregon/California border to the Columbia River, is an increasingly important route. As a north-south highway parallel to Interstate 5, US 97 is absorbing an increasing amount of freight traffic and serves as a backup route in case I-5 is closed. As I-5 becomes busier and more congested, its likely freight traffic will continue to migrate to US 97 in search of a quicker and safer route.

### *Regional lifeline route*

In the case of a seismic event, US 97 is a regional lifeline route. It is anticipated that most bridges in western Oregon will suffer serious damage or destruction after an earthquake because they were built before the existence of modern seismic codes. The main help for affected areas is expected to come from the eastern part of the state and from neighboring states. US 97 and the Redmond Airport will be used as the main hubs for providing goods and medical supplies for those in need. US 97 is therefore critical in creating a resilient north-south highway corridor to support emergency response and recovery efforts to the most populated areas in the Willamette Valley.

### *Connecting freight corridor*

The function of the US 97 corridor also ensures the safe, efficient and reliable movement of freight. With freight volumes expected to increase 45 percent by 2045, US 97 will be increasing important to help eliminate current freight bottlenecks, accommodate future growth and aid the effective and safe travel for motorists and the freight industry. Implementing a ‘four phase’ strategy also meets FAST Act requirements by:

- Investing in state-level multimodal freight planning and infrastructure that address conditions and performance of the freight system
- Identifying strategies and best practices to improve connectivity and performance
- Mitigating the impacts of freight movement on communities

## Phase 1: Addition of passing lanes to existing two lane highways

Adding passing lanes every 3-5 miles provides an opportunity for faster freight and passenger vehicles to pass slower moving traffic. Addition of passing lanes will:

- Increase travel time reliability
- Decrease unsafe passing moves
- Improve freight mobility
- Meet FAST Act requirements (see pg. 1)

### Examples

#### *US 97 South Central Passing Lanes*

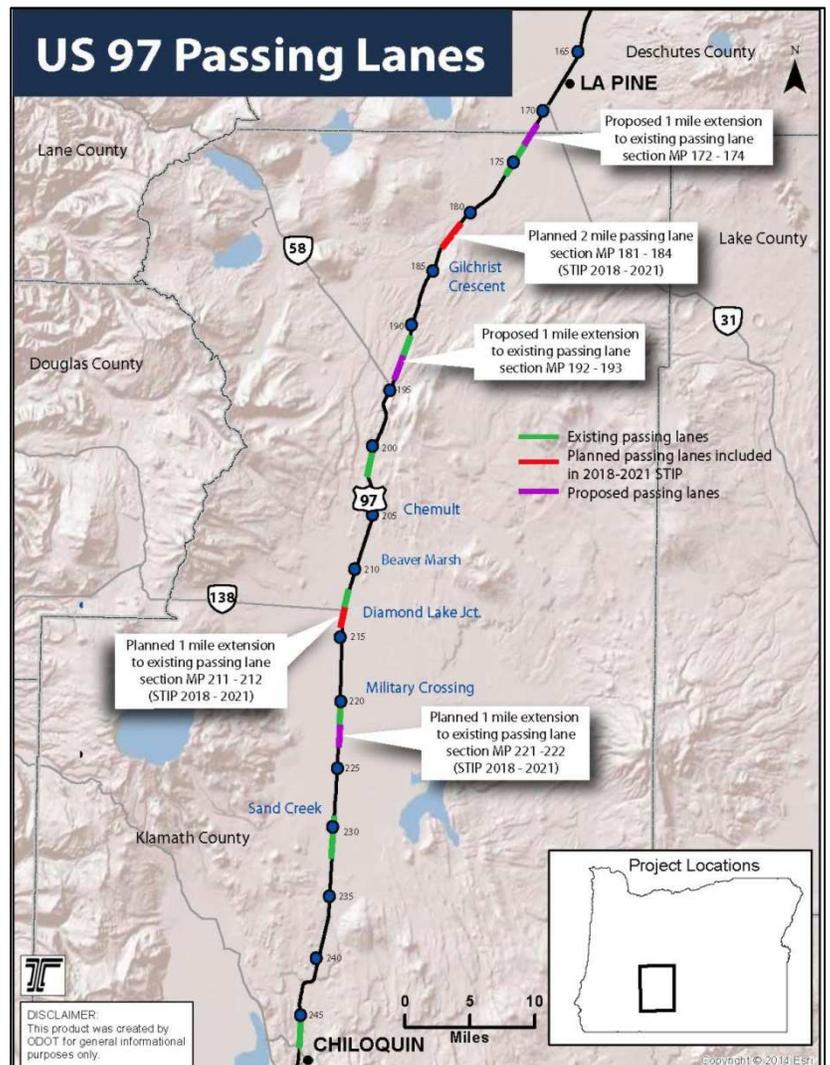
In Klamath County, passing lanes are needed because the highway general has one lane in each direction. ODOT envisions eventually linking passing lanes into a continuous four-lane highway to allow for increased capacity and improved safety.

#### *US 97: Moro to Madras*

ODOT recently finished constructing approximately three miles of passing lanes on US 97 south of Grass Valley. These passing lanes will help alleviate high vehicle and truck volumes and allow for safe passing maneuvers.

#### *US 97 Spanish Hollow Climbing Lanes*

In 2018, ODOT will extend the southbound climbing lane from the Biggs Junction Interchange by approximately one-half mile. This addition will increase capacity in the Spanish Hollow Grade and improve freight mobility within the interchange area.



Existing, planned and proposed passing lanes for US 97 in Klamath

## Phase 2: Provide continuous four-lane sections by ‘filling in’ gaps between passing lanes.

As traffic volumes continue to increase in Central Oregon, a continuous four-lane highway is needed to provide adequate capacity. Constructing four-lane highway will:

- Create a more cohesive transportation system along this corridor
- Accommodate for regional growth and increased travel volumes on US 97
- Increase travel time reliability
- Improve corridor safety by providing continuous passing opportunities
- Improve freight mobility
- Meet FAST Act requirements (see pg. 1)

### Examples

#### *US 97 Bend to Redmond*

Completed in 1991, ODOT expanded US 97 between Bend and Redmond to include continuous four-lane highway. This project reduced travel/commute times and increased the capacity of this stretch of US 97 helping to facilitate continued growth in both communities.

#### *US 97: Lava Butte to South Century Drive*

Expansion of US 97 from Lava Butte to S. Century Drive was completed in 2012. This project increased highway capacity for existing and forecasted travel demands and improved safety by separating north and southbound traffic with a forested median.

#### *US 97: South Century Drive to US Forest Service Boundary*

To create a more cohesive transportation corridor, ODOT proposes expanding the four-lane divided highway south of the S. Century Drive interchange by approximately six miles. This project will tie into approximately 15 miles of other recently constructed highway improvement projects, helping to maintain US 97 as a critical part of the State’s transportation system.



Four-lane divided highway from Lava Butte south to S. Century Drive on US 97 near Sunriver.

### Phase 3: Provide grade-separated interchanges

Providing grade-separated interchanges at key intersections will help to safely accommodate crossing and accessing the highway, as well as turn movements. Grade separated interchanges will:

- Improved connectivity and mobility
- Improve safety by reducing dangerous turning behavior
- Reduce congestion and improve traffic flow by separating opposing traffic flows

#### Examples

##### *US 97: Yew Avenue and Deschutes Market Interchanges*

The Yew Avenue Interchange was constructed in 1992 followed by the Deschutes Market Interchange in 1997 and were some of the first grade-separated interchanges on the US 97 corridor and have aided the continuous growth of Central Oregon.

##### *US 97/Baker Road Interchange*

The Baker Rd. Interchange located south of Bend was constructed in 1994 as part of the US 97: Murphy Road – Lava Butte (Middle Unit) project. This interchange separated Baker Road and Knott Road from the highway, increasing the safety of this intersection.

##### *US 97 at South Century Road*

ODOT completed a grade-separated interchange at the intersection of US 97 and S. Century Drive in 2012 because the existing highway and accesses did not meet design and operational standards to accommodate traffic volumes. The new full diamond interchange eliminates dangerous turning movements and provides alternative access to key destinations off of US 97.

##### *US 97/Murphy Road: Brookwood Road to Parrell Road*

A new bridge that crosses over US 97 was constructed in 2015 separating Murphy Rd., a main arterial, from the Bend Parkway. This project enhanced the safety and mobility of the transportation system in Bend and alleviated congestion at this intersection.

##### *OR 66 Greensprings IAMP*

An Interchange Access Management Plan (IAMP) for the proposed Greensprings Highway project identifies the location and design of a future interchange to improve the operations of US 97, OR 66 and OR 140 at the southwest edge of Klamath Falls. The interchange will improve highway-to-highway connectivity, safety, mobility and provide bicyclists and pedestrians a better way to navigate through a rural, high-speed area.



Grade separated interchange at OR 66/Greensprings

## Phase 4: Provide center median and a frontage road system

Providing a non-traversable center median and a frontage road system will eliminate head on collisions as well as the most dangerous types of turn movements. Other benefits include:

- Movement of higher traffic volumes
- Improved connectivity and mobility

### Examples

#### *US 97: Romaine Village Way to Lava Butte*

This summer, ODOT is widening US 97 from Romaine Village Way to Lava Butte to install a concrete median barrier on this approximate five mile stretch of highway. These improvements will improve the safety of travel corridor which serves as a key travel route between the growing communities of La Pine, Sunriver and Bend.

#### *US 97: Bend to Redmond Safety Corridor*

The Bend to Redmond Safety Corridor builds upon all four phases of the strategy to construct a complete and coordinated system of improvements and upgrades between Bend and Redmond. Since 1988, ODOT has worked to install passing lanes sequentially in each direction, eventually linking passing lanes into a continuous four-lane highway. Additional improvements installed concrete median barrier on section of this stretch of highway and upgraded key intersections to grade separated interchanges such as the US 97/Deschutes Market Road interchange. As traffic continues to increase between Bend and Redmond, additional safety measures including continuous median barrier, frontage road improvements and safe U-turn treatments are needed to complete the four-phase strategy on this corridor.

#### *Improvement Timeline*

- 1973: US 97 Terrebonne to Bend – Grading, paving & structures
- 1988: US 97 Redmond to Bend South Unit – Grading, paving, passing lanes, structures & signing
- 1991: US 97 Redmond to Bend North Unit – Roadwork, passing lanes, structures & signing
- 1997: Deschutes Market Rd. interchange and Median Barrier



Photos showing US 97 near Redmond in 1965 and recently completed North Redmond IAMP which incorporates all four phases of the strategy.