

# Vilas Interchange Area Management Plan

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## Technical Advisory Committee (TAC) Meeting

July 17, 2018 at 10:00 am – 12:00 pm

*ODOT, District 8 Offices*

### Attendees

Thomas Guevara Jr. - ODOT, Virginia Elandt - ODOT, Peter Schuytema – ODOT, Katie Brown - ODOT, Art Anderson - ODOT, Jayne Randleman - ODOT, Michael Morris – ODOT, Dan Dorrell – ODOT, Jennifer Boardman – ODOT, Doug Sharp – ODOT, Jerry Brienza - Jackson County, Brian Gebhard - Jackson County, Charles Bennett – Jackson County, Craig Anderson – Jackson County, Mike Kuntz – Jackson County, Karl Welzenbach – RVMPO, Karl McNair – City of Medford, Carla Palodino – City of Medford, Jerry Brienza - Medford Airport, Jay Harland – Craig Stone and Associates.

### Meeting Objectives and Purpose

The purpose of the TAC meeting is to review ODOT Transportation Planning Analysis Unit (TPAU) alternatives analysis of 19 scenarios for the proposed tight diamond interchange on the OR 62 Expressway at Vilas Road, as identified in the OR 62: I-5 to Dutton Road Final Environmental Impact Statement (FEIS). TPAU's traffic analysis requires a comprehensive review and discussion by the TAC in order to move toward selecting a preferred alternative for the Vilas Interchange Area Management Plan (IAMP).

### Overview

Katie Brown presented TPAU's analysis of scenarios which focuses exclusively on the feasibility and potential implications of the proposed Vilas interchange with traffic signals or roundabouts at the ramp terminals and 2 or 4 lanes on East Vilas Road.

In 2009, HB 2001 appropriated the Jobs and Transportation Act (JTA) funds to build the OR 62 Expressway. There were only enough funds to build the OR 62 Expressway from the Poplar Drive/Crater Lake Highway/Bullock Road intersection in the City of Medford to the Corey Road/Crater Lake Highway intersection in Jackson County. This project is referred to as the JTA project of the OR 62 Expressway.

### Scenario Definitions

The following scenarios include a No-Build/No-Mitigation (NBNM) scenario, which includes the OR 62 Expressway JTA project that is expected to be complete in December 2018.

**NBNM:** JTA project (no interchange) with 2 lanes on East Vilas Road and construction of the Medford TSP Tier 1 (funded) projects.

**S0T1:** NBNM with construction of additional mitigations.

**S0T2:** NBNM with construction of the Medford TSP Tier 2 (unfunded) projects and additional mitigations.

### **Additional Mitigations**

**1. Realignment of Peace Lane to intersect with East Vilas Road at Airway Drive**

Signalization of either Peace Lane or Airway Drive is not feasible. TPAU prepared a functional area analysis and determined signalization does not meet the geometric adequacy calculation performed according to the APM v2 4.8. The current 400 feet between these intersections is not sufficient to accommodate necessary deceleration, reaction and storage distance. Additional mitigation measures suggested include:

- Median channelization or RI/RO at Airway Drive

(**Note:** This project may become a condition of the Vilas IAMP to comply with the TPR)

**2. Realign Crater Lake Avenue 1,000 feet to the east**

This is a Medford TSP Tier 2 (unfunded) project (I39) that is necessary to allow the intersections of Crater Lake Avenue and Crater Lake Highway to function. These intersections are currently 140 feet apart and cease to function under the all the NBNM (without interchange) scenarios and Build (with interchange) scenarios at this close proximity.

**3. Lane Geometry and Bike/Pedestrian facility modifications**

Modifications were made to attempt to meet v/c, LOS and MMLoS standards. Signals were added where preliminary signal warrants were met.

### **Rogue Valley Airport**

A portion of East Vilas Road is located within the Medford Airport Runway Protection Zone (RPZ). Right-of-Way (R/W) for East Vilas Road is available for up to four travel lanes within the RPZ. The existing pavement width on East Vilas Road is adequate to accommodate all of the NBNM and Build scenarios. East Vilas Road cannot be widened within the RPZ without FAA approval, but it can be restriped to accommodate four travel lanes. There likely is no additional room for a separated bike path or sidewalks within existing R/W without having to widen and acquire more R/W within the RPZ. FFA approval for additional work on East Vilas Road will require a "Notice of Proposed Construction" permit. The RPZ roughly includes East Vilas Road from Rainbow Drive to the Upton Slough. The slope is 50:1 and 1,000 feet out.

## **JTA and Full Build Scenarios**

2 of the 4 lanes on East Vilas Road would become turn lanes. The proposed Vilas interchange would require 7 lanes on East Vilas Road near the ramp terminals and a wider cross section than the tight diamond design to alleviate queuing and storage issues on East Vilas Road beyond the ramp terminals. There is no additional room for driveways under the OR 62 Expressway's overpass bridge at East Vilas Road.

### Roundabout Analysis

A roundabout at the interchange ramp terminals will require a 165 foot diameter and travel lanes up to 215 feet. The roundabout footprint is bigger than the tight diamond interchange footprint. All of the roundabout scenarios are over capacity of the HDM performance standards. The roundabouts will meet their carrying capacity sooner than the interchange ramps.

### Travel Demand Model

Both Year 2015 and Year 2040 Design Hour Volumes (DHV) are high at Hamrick Road/Biddle Road and Table Rock Road/East Vilas Road intersections. Plans to improve the Hamrick Road/Biddle Road intersection are listed in IAMP 33. The City of Central Point would like to keep Hamrick Road to a two lane roadway. Traffic volumes will remain high on Hamrick Road even after construction to widen Table Rock Road is complete.

There are approximately 800 Average Daily Trips (ADT) traveling northbound on Hamrick Road. Current traffic volumes are thought to have increased to approximately 6,000 ADT with the addition of Costco. Jackson County is taking new tube counts at the Hamrick Road/Biddle Road intersection to verify current traffic volumes, which will be available by the end of summer.

Traffic analysis shows that the Biddle Road/Table Rock Road intersection will need grade separation with the proposed Vilas interchange. Property located at the intersection was recently rezoned from aggregate to commercial. The Central Point TSP identifies extending Gebhard Road from Beebe Road to East Pine Street. Additional developments along East Pine Street will generate more traffic at the Biddle Road/Table Rock Road intersection.

## Alternatives Analysis Results

### Standard/Targets for v/c by Intersection

Intersection	Standard/Target			
	ODOT (V/C Ratio)		Local	
	OHP	HDM	V/C Ratio	LOS
<b>OR62</b>	0.85	0.75	NA	NA
<b>Vilas Rd &amp; Table Rock Rd</b>	NA	NA	0.90/0.95	D
<b>Vilas Rd &amp; Airway Dr/Peace Ln</b>	NA	NA	0.95	D
<b>Vilas Rd &amp; Lear Wy</b>	NA	NA	0.95	D
<b>Vilas Rd &amp; Crater Lake Hwy</b>	0.85	0.75	NA	D
<b>Vilas Rd &amp; Crater Lake Ave</b>	NA	NA	0.95	D
<b>Table Rock Rd &amp; Biddle Rd</b>	NA	NA	0.90/0.95	D
<b>Biddle Rd &amp; Hamrick Rd</b>	NA	NA	0.90	D

It was noted that the City of Central Point does not use v/c performance standard for non-state facilities within its City Limits and Urban Growth Boundaries. The City uses LOS D as the performance standard for non-state facilities. LOS D applies to the Biddle Road /Hamrick Road and the west leg of the Biddle Road/Table Rock Road intersections. Jackson County's 0.95 v/c performance standard applies to the other three legs of the intersection located outside of Central Point's Urban Growth Boundary.

### Capacity Analysis

All mainline segments on the OR 62 Expressway meet the OHP performance target, except for the JTA project (no interchange) with 2 and 4 lanes on East Vilas Road and construction of the Medford TSP Tier 1 (funded) projects.

The Hamrick Road/Biddle Road and Table Rock Road/Biddle Road intersections meet the performance standards in all scenarios except: NBNM, No-Build (no interchange) with Tier 2 projects, JTA Build (with interchange) with 4 lanes on Vilas and both Tier 1 and Tier 2 projects. Also, Table Rock Road/Biddle Road intersection does not meet the performance standard in the Full Build (with interchange) with 4 lanes on Vilas and Tier 1 projects.

The Vilas interchange attracts increased traffic volumes to East Vilas Road. The FEIS identified that construction of the OR 62 Expressway will redistribute 40% of the existing traffic volumes on Crater Lake Highway to the OR 62 Expressway.

A number of new intersection and models were used in the OR 62 Expressway's JTA and Full Build scenario outside of the FEIS analysis. Any increased change or new development will require additional traffic analysis.

The proposed Vilas interchange doubles the traffic volumes on East Vilas Road. It diverts approximately 20% of existing traffic volumes from Crater Lake Highway to the OR 62 Expressway's Vilas interchange. All intersections within the study area have performance problems with or without construction of the Vilas interchange. Construction of the Vilas interchange will worsen the study intersections performance.

### Queuing Analysis

All interchange build scenarios show significant traffic queuing issues at various intersections. Intersections are completely blocked under all scenarios, except for the No-build, with construction of mitigation, 2 lanes on East Vilas Road and both Medford TSP Tier 1 (funded) and Tier 2 (unfunded) projects.

### Crash Frequency Analysis

The no-mitigation scenario has the highest crash frequency of all the no-build scenarios. The Full Build scenario with construction of 2-lanes on East Vilas Road, Medford TSP Tier 2 (unfunded) projects, and a roundabout at interchange ramp terminals has the lowest crash frequency of all interchange build scenarios.

### Multimodal Level of Service (MMLoS) Analysis

Sidewalks improve pedestrian LOS to C or better everywhere, EXCEPT at:

- Pine Street/Biddle Road
- Table Rock Road
- Crater Lake Highway
- East Vilas Road (in Build scenarios)

(**Note:** Separated Multi-Use Paths are recommended).

### Summary of Results

Without traffic mitigation, there is extensive traffic queuing and congestion throughout the study area. Upon completion of the OR 62 Expressway, the local transportation network improvements would have to be built first to support traffic demand at the Vilas interchange. The top four performing scenarios are identified below:

1. JTA project (no interchange) with 2 lanes on East Vilas Road and construction of the Medford TSP Tier 1 (funded) and Tier 2 (unfunded) projects.
2. Full Build project (Vilas interchange) with 4 lanes on East Vilas and construction of the Medford TSP Tier 1 (funded) and Tier 2 (unfunded) projects.

3. JTA project (no interchange) with 2 lanes on East Vilas Road and construction of the Medford TSP Tier 1 (funded) projects.
4. Full Build project (Vilas Interchange) with 4 lanes on East Vilas Road and construction of the Medford TSP Tier 1 (funded) projects.

### **Final Comments, Next Steps**

It is necessary to understand the redistribution of traffic volumes that the Vilas interchange would create on the local transportation network. Additional analysis is needed to compare the percent increase at study intersections with and without the Vilas interchange. Additionally, a summary of funding and jurisdictional requirements are needed for the top performing scenarios to inform future decision makers.

The Vilas IAMP is legally required to identify traffic impacts within ½ mile of the proposed interchange ramp terminals, and access management strategies within ¼ mile of the proposed interchange ramp terminals. A scenario that meets these basic requirements will need to be performed.

All proposed solutions need to be consistent with the FEIS and comply with the TPR. The Medford TSP Update is expected to be adopted in fall 2018. Additional scenarios will be run at that time with identified Medford TSP Tier 1 and Tier 2 projects. The TAC will reconvene to review the results of this analysis.

### **Adjourn**