



City of Medford Transportation System Plan and Urban Growth Boundary Amendment



Technical Memorandum #2A: Supplemental Literature Review

Date: June 26, 2013 Project #: 10771
To: Alex Georgevitch, City of Medford
From: Joe Bessman, Julia Kuhn, and Matt Kittelson
Project: City of Medford TSP/UGB Amendment
Subject: Supplemental review of relevant plans and policies

We reviewed federal, state, regional and local plans and policies for relevance with the Medford Transportation System Plan (TSP) in 2011. Since then, additional plans and policies have been adopted that have relevance to the TSP. To supplement the initial plan and policy review, this memo provides a review of the following:

- Oregon Pedestrian and Bicycle Design Guide
- I-5 Corridor Study Findings
- Crater Lake Highway Plans
- TPR Revisions
- OHP Revisions

Oregon Pedestrian and Bicycle Design Guide

The Oregon Pedestrian and Bicycle Design Guide (OPBDG), published in 2011 by the Oregon Department of Transportation (ODOT), presents standards and guidelines for designing safe, attractive, convenient, and easy-to-use bicycle and pedestrian facilities, such as:

- On-road bikeways, including shoulder bikeways and designated bicycle lanes
- Bicycle parking
- Walkways, including sidewalks, paths, and shoulders
- Street crossings and intersections
- Design considerations in a downtown environment
- Transit stop dimensions and considerations
- Accessibility considerations
- Design considerations on shared use paths for pedestrians and bicyclists

Relevance to the TSP Process

The OPBDG provides revised standards for facilities that will be of particular relevance to the City's cross-sections standards. In particular, the bikeway and walkway lane width suggested in the plan should be considered as part of the TSP update.

Additional details included in the OPBDG are more relevant to the City's engineering standards, rather than the TSP. Other aspects of the OPBDG can be incorporated by reference into the TSP that reflect the need for flexibility in streetscape elements and adaptations to localized conditions.

I-5 Corridor Study Findings

The I-5 Rogue Valley Corridor Plan was completed in October 2011 by David Evans & Associates. This plan assesses existing and future transportation conditions along 25 miles of the Interstate 5 (I-5) mainline, from Interchange 11, south of Ashland, to Interchange 35, north of Central Point. This plan includes strategies and improvements that would enhance transportation safety and capacity within the corridor. Four key goals are identified by the Corridor Plan:

1. Improved efficiency of traffic operations
2. Improved safety in the I-5 corridor
3. Improved mainline operations at interchanges
4. Improved freight operations

The Corridor Plan identifies the Medford area, situated around Interchanges 27 (South Medford Interchange) and 30 (Crater Lake Highway), as having the highest traffic volumes across the area of study. The plan presents a variety of alternatives for safety and capacity improvements that target the Medford Viaduct, a 3,229-foot-long, four-lane bridge that carries I-5 over Bear Creek, and the two interchanges, 27 and 30, that serve the City of Medford.

Relevance to the TSP Process

The plan identifies a proposed safety improvement to add a 12-foot right-side shoulder that could provide an area for disabled vehicles to move out of the travel way. This could be accomplished by reconstructing and widening the existing viaduct structure. This shoulder would also provide a buffer area should a motorist need to take evasive action. In assessing this concept against the project goals, some of the trade-offs of this improvement include: it does not add capacity to or improve traffic operations on the viaduct and that encroaching upon adjacent property would be costly.

The plan also identifies the possibility of expanding or replacing the existing structure to accommodate six lanes of through traffic and standard width shoulders. This could be done with a new viaduct that is essentially double the width of the existing one, or by stacking the opposing travel lanes, one above the other. Depending on the extent of the expansion, the Corridor Plan classifies it as a mid- or long-term priority, with completion timelines targeted at six to 15 years, or above 15 years, respectively. As mentioned above, this concept would also infringe upon

adjacent property; it may also have substantial impacts on 1.2 to 2.6 acres of the Bear Creek floodplain, the adjacent greenway, and 0.1 to 0.5 acres of Hawthorne Park, among other natural environments.

As mentioned above, the stretch between Interchanges 27 and 30 on I-5 in Medford is the highest volume, most congestion-prone section of I-5 in the Rogue Valley, with an average flow of 48,200 vehicles per day (vpd) and 13 percent of the traffic flow comprised of trucks. Analysis of the existing design hour volume (DHV) shows that the entire Rogue Valley corridor operates at level of service (LOS) C or better, except for the southbound direction between Interchanges 30 and 27, which operates at LOS D with a volume-capacity (v/c) ratio of 0.65. These findings also suggest that the system has limited capacity available to accommodate future growth in traffic demand before capacity is reached. Aside from expanding the freeway, the Corridor Plan proposes enhancements to the local collector and arterial streets to provide alternative routes for localized traffic movements between interchange 24 and Phoenix and interchange 30 in Medford. This is recommended as one of the seven top-priority projects of the Corridor Plan.

The plan also notes that the segment of I-5 between Interchanges 27 and 30 is among the most crash-prone areas of the Rogue Valley corridor. In the northbound direction, out of 221 crashes recorded during the study period, 29 were reported at Interchange 30, and another 25 were reported at Interchange 27. In the southbound direction, of the 175 crashes observed during the study period, the mainline between the two interchanges had 22, while Interchange 30 had 20. The majority of crashes at Interchange 30 in both directions were rear-end. The plan does not include any projects related to this issue.

The City and ODOT will continue to collaborate on any modifications to the I-5 interchanges within the UGB. Should specific plans be adopted by both, the projects can be incorporated into the TSP. In addition, the TSP will include options for arterial and collector enhancements that reduce reliance on the interstate for local or intercity-trips within the Rogue Valley.

Crater Lake Highway Plans

ODOT has proposed would be a 7.5-mile, four-lane, access-controlled expressway that would serve as a bypass of existing OR 62 (i.e., the Crater Lake Highway) within Medford and the surrounding region to the north. The proposed route would start at the OR 62 and I-5 junction in Medford, travel past White City in Jackson County, and terminate at or near the intersection of OR 62 and Dutton Road. The entire project encompasses the mainline, four interchanges, and changes to local streets to accommodate the new expressway.

The Bypass plans include the following interchange locations:

- A southern terminus interchange with either I-5 or existing OR 62
- An interchange with Vilas Road, about 3 miles north of I-5
- An interchange with existing OR 62 on the south side of White City, about 5 miles north of I-5
- A northern terminus interchange with existing OR 62 near Dutton Road

The purpose of the Bypass is to improve transportation mobility and safety in the OR 62 corridor, to simplify transportation system connections along the corridor, and to identify potential improvements for non-highway modes, while maintaining the regional economic role of the corridor. The need for the Bypass arises from several factors, including:

- Congestion: four of the nine project area signalized intersections fail to meet mobility performance targets today; by 2035, this number will rise to eight.
- Safety: in 2010, the project area had two locations with crash rates in the top five percent statewide and eight locations in the top ten percent.
- Facilities: access to the OR 62 today is not intuitive to drivers; in addition, limited transit, pedestrian and bicycle facilities are included today.

In addition to a No Build condition, the Plan includes two alternatives for the Bypass design: a Split Diamond alternative, and a Directional Interchange alternative. The alternative naming convention reflects the interchange type considered at the proposed bypass and I-5. The Final Environmental Impact Statement (FEIS) for the project identifies the Split Diamond as the preferred alternative. According to the FEIS, this preferred alternative for the Bypass would address several of the abovementioned needs by providing a number of transportation-related benefits to the corridor and the greater Medford region, such as:

- Lower traffic volume on existing OR 62: reduced traffic by about one-quarter south of Delta Waters Road, by almost two-thirds between Delta Waters Road and Corey Road, and by about one-half north of OR 140.
- Reduced congestion on existing OR 62: the number of signalized intersections forecast to fail to meet ODOT's mobility standards in 2035 will fall from ten to one.
- Fewer lane, street, and driveway blockages: the locations where traffic queues in a turn lane block an adjacent through lane, driveways, or local street intersections will be reduced from 36 to 11 in 2015, and from 43 to 25 in 2035.
- A hierarchy of roadway choices near I-5 that would aid motorists in distinguishing between the route for through travel and that for local circulation and access.
- Separation of through and local trips: through trips would take the Bypass, whereas local trips would use existing OR 62.
- Reduced travel times: end-to-end travel times reduced by up to 48% (11 minutes) in 2015, and up to 59% (19 minutes) in 2035.
- Lower crash rates: fully access-controlled highways, such as the proposed bypass, have a crash rate of 0.38 crashes per million vehicle-miles travelled, while non-access-controlled highways, such as existing OR 62, have a crash rate of 1.22 crashes per million vehicle miles travelled; diverting traffic from existing OR 62 onto the new highway would lower the crash rate of the entire corridor.

Relevance to the TSP Process

Ensuring the long-term safety and operations of OR 62 is essential to supporting economic growth and development in the region. The FEIS identifies options for alleviating future

congestion but funding is currently available only for Phase 1 (portion of the bypass beginning near Delta Waters Road and terminating near Vilas Road. This initial project phase will not include needed improvements to the I-5 interchange and is unlikely to include the Vilas Road interchange. The likelihood of the full project funding should be considered, as without these key connections congestion will continue to persist in the area.

Other considerations include the jurisdictional transfer and management of the current OR 62 alignment by the City of Medford, and how this facility will transition from a State facility to a City roadway, with higher access priorities. Additionally, the near-term construction impacts and management options will be relevant to the transportation network but beyond the scope of the TSP.

OHP and TPR Revisions

In 2011 the Land Conservation and Development Commission (LCDC) and the Oregon Transportation Commission (OTC) established a joint subcommittee to consider changes to the Transportation Planning Rule and Oregon Highway Plan mobility standards. The purpose of this committee was to assess the unintended consequences of the existing rules, namely limiting economic development and serving as a barrier to compact urban development, and emphasis on highway expansion. The subcommittee recommendations were supported by Senate Bill 795, which required that the recommendations be addressed prior to January 1, 2012.

Oregon Highway Plan (OHP) Revisions

Recommendations from the joint LCDC and OTC panel were to broaden the mobility standards to better consider and balance multimodal and community development objectives. This included expanded alternatives to the existing mobility standards, increased tolerance for congestion in urban areas, and allowing mobility measures other than volume-to-capacity ratios to be considered.

Revisions to the Oregon Highway Plan (OHP) were adopted by the Oregon Transportation Commission (OTC) on December 21, 2011. Policy 1F, the Highway Mobility Policy, identifies the measures of mobility adopted by ODOT and establishes mobility targets, as opposed to standards, for Interstate Highways, Freight Routes, and other Statewide Highways that are consistent with the direction of the OTP and OHP policies. These mobility targets are measured in terms of v/c ratio, and provide direction for identifying highway system deficiencies from a transportation and land use planning and operations perspective.

There are two sets of targets, one for the Portland metropolitan area, and another for outside this area. These are shown in Tables 6 and 7 of the OHP. These revisions allow slightly higher levels of congestion on the State system. In addition, the changes also allow development of alternative performance measures where appropriate to address competing economic or modal goals.

TPR Revisions

Amendments to the Transportation Planning Rule (TPR, found within Oregon Administrative Rule 660-12) went into effect on January 1, 2012. These changes were to section -0060 of the TPR on Transportation Plan Amendments, and are intended to support economic growth, planned growth, and high density development where automobile mobility is not the primary emphasis.

A significant addition was the allowance of a multimodal mixed-use area (MMA) designation. These areas can be applied to Transit Oriented Districts, high-density mixed-use areas, downtown centers, or other areas that generally promote modes other than single-occupant autos. Local governments may amend comprehensive plans and land use regulations to establish and designate an MMA.

Another addition to the TPR is that local governments may approve amendments to the Transportation System Plan (TSP) with partial mitigation on traffic, as long as certain economic development criteria are met. One such criterion concerns employment and states that any such amendment must create direct benefits in terms of industrial or traded-sector jobs created or retained by limiting uses to industrial or traded-sector industries. These jobs and industries involve the production, handling, and distribution of various goods and services, and the subsequent selling of these goods to markets for which national and international competition exists.

Relevance to the TSP Process

The overall policy changes better align the Oregon Highway Plan and Transportation Planning Rule with Statewide Planning Goals. The changes allow consideration and balancing of the economic growth and mobility trade-offs on the transportation system, and consider the effect of other travel modes.

The change to the Transportation Planning Rule reflects a shift away from a singular focus on automobile mobility and an increased consideration of economic benefits. The partial mitigation options indicate that trade-offs between travel modes (accepting high motorist delays for improved pedestrian and bicyclist connectivity) may provide an acceptable solution in built-out environments.

The revisions to the ODOT mobility targets allow slightly higher levels of congestion on ODOT facilities. These revised performance measures may allow borderline locations that were previously identified as “deficient” to be reclassified as “acceptable.” Just as importantly, the revisions further accommodate alternative performance measures, including metrics other than a v/c ratio.