



ADDITION OF AN INTERSTATE 5 EXIT – WHITE PAPER

Date: March 7, 2011 Project #: 10633.07
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Project: City of Ashland Transportation System Plan Update
Subject: Addition of an Interstate 5 Exit – White Paper

DIRECTION TO THE PLANNING COMMISSION AND TRANSPORTATION COMMISSION

Five sets of white papers are being produced to present information on tools, opportunities, and potential strategies that could help Ashland become a nationwide leader as a green transportation community. Each white paper will present general information regarding a topic and then provide ideas on where and how that tool, strategy, and/or policy could be used within Ashland.

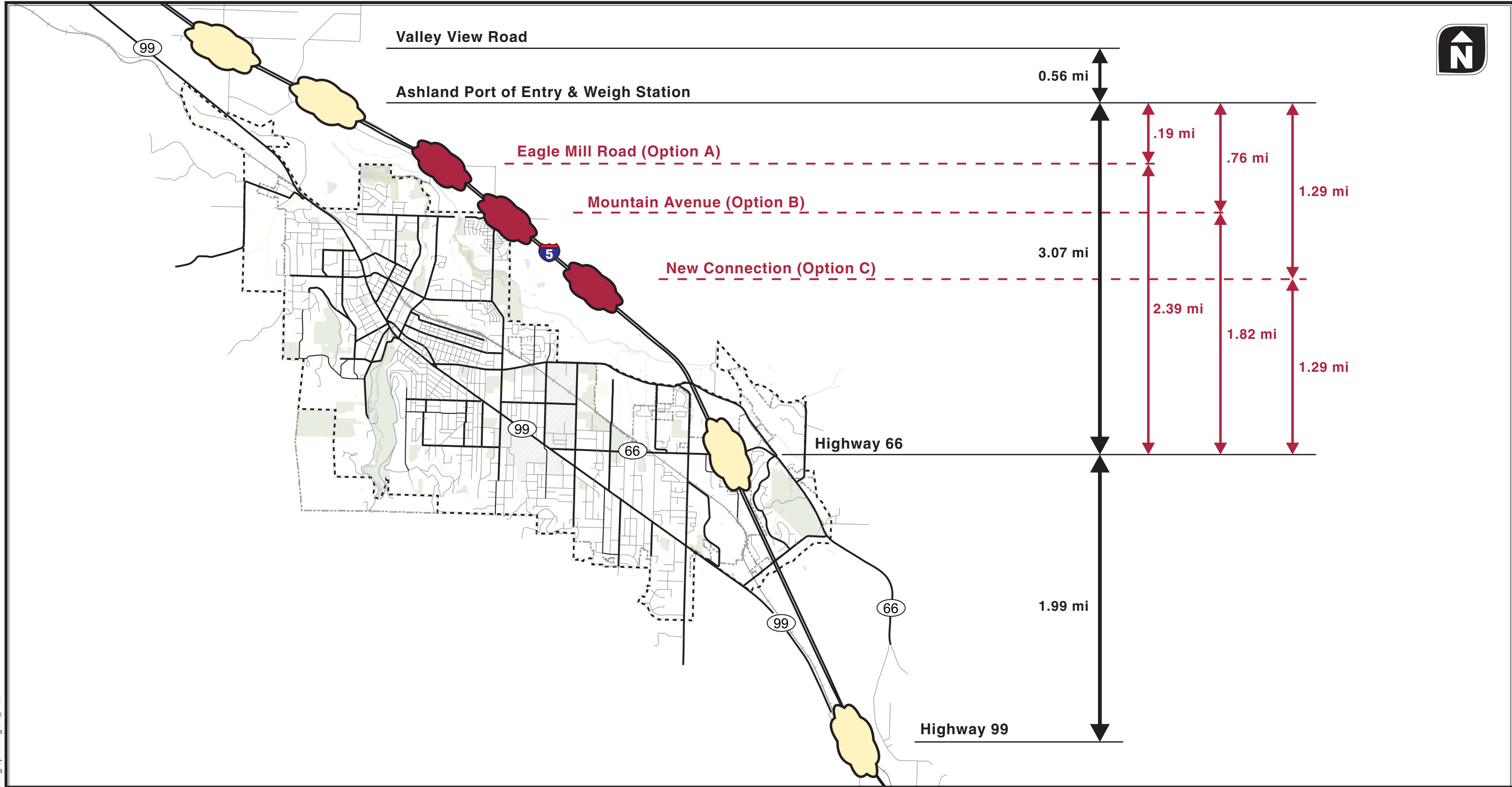
You will have the opportunity to review the content of each white paper and share your thoughts, concerns, questions, and ideas in a joint Planning Commission/Transportation Commission meeting. Based on discussions at the meeting, the material in the white paper will be: 1) Revised and incorporated into the alternatives analysis for the draft TSP; or 2) Eliminated from consideration and excluded from the alternatives analysis. The overall intent of the white paper series is to explore opportunities for Ashland and increase the opportunities to discuss the many possibilities for Ashland.

ADDITION OF AN INTERSTATE 5 EXIT WHITE PAPER INTRODUCTION

This white paper presents general information on the access spacing requirements for Interstate 5, approval process for a new interchange, and potential locations for a new interchange along Interstate 5. Currently, the following Interstate 5 interchanges are within the vicinity of the City of Ashland (from north to south):

- Valley View Road (outside the northern UGB limits)
- Ashland Port of Entry and Weigh Station (outside UGB, no access to the city)
- Highway 66 Interchange (within UGB)
- Highway 99 Interchange (outside the southern UGB limits)

Figure 1 illustrates the location of the existing interchanges.



NOTE: ALL DISTANCES ARE APPROXIMATE AND ARE MEASURED BETWEEN THE START AND END OF ADJACENT INTERCHANGES.

= Existing Interchange = Potential Future Interchange Option

Spacing of Existing Interchanges and Future Interchange Options Along Interstate 5



Figure 1

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The location and selection of a new interchange is based on many factors, including highway classification, traffic characteristics and travel patterns, design speed, access spacing requirements, cost, terrain, right-of-way, and signing needs (Reference 1). For the City of Ashland, a new interchange could be considered in one of the following two segments:

- Interstate 5 between Highway 99 and Highway 66 (current spacing between the two interchanges is approximately 1.99 miles)
- Interstate 5 between Highway 66 and Ashland Port of Entry & Weigh Station (current spacing between the two interchanges is approximately 3.07 miles)

This memorandum addresses the potential for a new interchange in these two segments of Interstate 5.

INTERCHANGE SPACING CRITERIA

The Oregon Department of Transportation (ODOT) has access management spacing standards for Interstate facilities. These access management spacing standards are included in the 1999 Oregon Highway Plan (OHP) (Reference 2). Table 1 shows the access spacing standards for Interstate 5 in Ashland.

Table 1 Access Spacing Standards for Interstate 5¹

Roadway Classification	Area	Interchange Spacing ^{2, 3}
Interstate*	Urban	3 miles
	Rural	6 miles

* Interstate interchange spacing must be in conformance with federal policy.

¹The spacing standards in Table 12 are for planning and design of new interchanges on freeways or expressways. A design exception is required to change these standards. A proposed design exception should also consider the spacing requirements in the 1990 OHP Interchange Access Management Area Tables 16-19

²Crossroad to crossroad centerline distance.

³A design exception is required to change these planning spacing standards.

As shown in Table 1, the access spacing standards are 3 miles for urban and 6 miles for rural areas of Interstate 5. A design exception is required to deviate from the standards. Table 2 shows the minimum access spacing standards for Interstate 5 in Ashland.

Table 2 Minimum Access Spacing Standards for Interstate 5

Roadway Classification	Area	Interchange Spacing ¹
Interstate	Fully Developed Urban	1 mile
	Urban	1 mile
	Rural	2 miles

¹Spacing is the distance between the start and end of adjacent interchanges.

As shown in Table 2, the minimum access spacing requirement for interchanges is 1 mile for urban areas and 2 miles for rural areas. The Highway 66 interchange is located within the City of Ashland's UGB and would therefore have a 1 mile interchange spacing standard. The Valley View Road and Port of Entry interchanges are not located within a UGB and therefore have a 2 mile interchange spacing standard.

INTERCHANGE APPROVAL PROCESS

The Federal Highway Administration (FHWA) and ODOT have established policies and guidelines for approving a new access on an Interstate facility.

FHWA is required to approve all new access or changes in access points pursuant to 23 U.S.C. 111. The FHWA's interest is to ensure all new or revised access points:

- Are considered using a decision-making process that is based on information and analysis of the planning, environmental, design, safety and operational effects of the proposed change.
- Support the intended purpose of the Interstate System.
- Do not have an adverse impact on the safety or operations of the Interstate System and connecting local roadway network or other elements of the transportation system.
- Are designed to acceptable standards (Reference 3).

FHWA requires submittal of an Interchange Justification Report (IJR) for all new access to Interstate 5.

ODOT would require an Interchange Area Management Plan (IAMP) as part of any new or modified interchange. Applicable regulations and policies associated with the IAMP include:

- 1990 ODOT State Agency Coordination Agreement (OAR 731-15)
- 1999 Oregon Highway Plan (OHP) Policy 3C
- 2004 Access Management Rule (OAR 734-051-0155)

An IAMP is a strategic transportation plan that is designed to protect the long-term function of interchanges by preserving the capacity of the interchange while providing safe and efficient operations between connecting roadways. An IAMP identifies land use management strategies, short-term and long-term transportation improvements, access management goals, and strategies to fund identified improvements. As stated in Policy 3C of the 1999 Oregon Highway Plan, "it is the policy of the State of Oregon to plan for and manage grade-separated interchange areas to ensure safe and efficient operation between connecting roadways."

The City of Ashland would need to coordinate with both the FHWA and ODOT in requesting a new interchange on Interstate 5. This coordination effort includes the development and approval of an IJR and IAMP.

POTENTIAL INTERCHANGE LOCATIONS IN ASHLAND

Ashland has two segments on Interstate 5 that could be considered for a potential interchange. These two segments are:

- Interstate 5 between Highway 99 and Highway 66 (current spacing between the two interchanges is approximately 10,500 feet or nearly 2 miles)
- Interstate 5 between Highway 66 and Ashland Port of Entry & Weigh Station (current spacing between the two interchanges is approximately 16,200 feet or just over 3 miles)

Figure 1 illustrates the location of these segments.

Interstate 5 (Highway 99 to Highway 66)

In this segment, some of Interstate 5 is located outside of the UGB. The Highway 66 interchange is located within the UGB. The travel patterns in the area are currently served by these two interchanges with limited growth planned in the area. Therefore, this area does not meet the need for a new interchange.

Regarding access spacing, the two interchanges have a spacing of slightly less than 2 miles. A new interchange within the urban area would not meet the minimum 1 access spacing requirement from Highway 66 nor would a new interchange outside of the UGB (rural) meet the minimum access spacing requirement from Highway 99. Based on future year operations at the existing interchanges, it is unlikely that an additional interchange in this segment could be justified for operational reasons (through the IJR process) and would not meet the minimum spacing required for a design exception to the spacing standard. Therefore, this segment is not recommended for further consideration for a new interchange on Interstate 5.

Interstate 5 (Highway 66 to Ashland Port of Entry and Weigh Station)

In this segment, the majority of Interstate 5 is located outside of the UGB. A small segment of Interstate 5 near Mountain Avenue and the Highway 66 interchange are located within the UGB.

In terms of addressing the need for an interchange, a new interchange could provide a more direct connection between Interstate 5 and the residential, commercial, and downtown areas of the City. Three options were identified for interchange locations in this segment and are discussed in further detail below.

Option A – Eagle Mill Road

Option A, Eagle Mill Road, is located outside the UGB. This option would locate a new interchange at the existing undercrossing of Eagle Mill Road. This location provides the following connections:

- access from Interstate 5 to some of the residential areas of the City, and

- a fairly direct route to Oak Street and downtown.

Oak Street serves a residential area and is designated by the City as an Avenue. This classification type does not typically connect directly with an interstate facility. Thus, changing the classification and character of Oak Street would need to be explored in concert with pursuing an interchange at this location.

This location has poor spacing with the existing Ashland Port of Entry and Weight Station interchange. As shown in Figure 1, the spacing is approximately 1,000 feet between the two locations and would not meet the minimum urban or rural access spacing requirements for a design exception. Therefore, Option A is not recommended for further considerations as a new interchange on Interstate 5.

Option B – Mountain Avenue

Option B, Mountain Avenue, is located inside the UGB. This option would locate a new interchange at the existing overcrossing of Mountain Avenue. This location would connect with Mountain Avenue and provide a direct north/south connection with Interstate 5 to the center of Ashland. Similar to Oak Street, Mountain Avenue near Interstate 5 travels through a residential area and is designated by the City as an Avenue. This type of classification does not typically connect directly with an interstate facility and the traffic volumes that would use this connection could be incompatible with the residential neighborhood. Thus, changing the classification and character of Oak Street would need to be explored in concert with pursuing an interchange at this location.

Similar to Option A, this location has poor spacing with the existing Ashland Port of Entry and Weigh Station interchange. As shown in Figure 1, the spacing is approximately 4,000 feet between the two locations and would not meet the minimum access spacing requirements for a design exception. Therefore, Option B is not recommended for further considerations for a new interchange on Interstate 5.

Option C – New Connection

Option C, a new connection, could be located outside the UGB. This option would locate a new interchange at the midpoint between Highway 66 and the Ashland Port of Entry and Weigh Station interchanges. This location would meet the minimum 1-mile (urban) access spacing requirements for a design exception, but not the minimum 2-mile (rural) access spacing requirements. A new roadway would be required to connect the interchange with the City which would require a goalexception to allow a new roadway facilitating urban related traffic to be constructed outside of the UGB. The new roadway could extend in the north-south direction and connect to East Main Street near Walker Avenue (this would require a creek crossing). An extension of Hersey Street to the interchange or to a north-south roadway connecting to the interchange would provide good system connectivity; however, North Mountain Park currently prohibits this connection.

Option D – Close/Combine Existing Interchanges

Another option to allow for an interchange at Eagle Mill Road or Mountain Avenue (Options 1 and B, respectively) would be to close the Valley View Road interchange and combine the relocated interchange at Eagle Mill Road or Mountain Avenue with the Port of Entry interchange. This would allow the relocated interchange to meet the minimum urban area interchange spacing standard but would still have the issues associated with increased traffic and the need to increase the roadway functional classifications of Oak Street or Mountain Avenue through residential areas.

Other Factors

In addition to the access spacing and adjacent land uses, another factor that would need to be further evaluated is the cost of a new interchange, and in some cases a new or reconstructed roadway connection with Interstate 5 (as with Option C – New Connection). Typical costs for an interchange range between \$15 and \$25 million plus the costs of new roadways or improvements to the existing roadways that would connect to the interchange. Total costs could be in the range of \$20 to \$40 million. Given the local nature of the area a new interchange in Ashland would serve, prioritizing this project for regional, state, or federal funds would be difficult.

A new interchange on Interstate 5 is also in opposition to many of the goals and objectives for the TSP Update identified in Technical Memorandum #1.

NEXT STEPS

Based on the technical review, potential options for a new interchange include Option C (New Connection), which would require a goal exception for a new roadway outside of the UGB, or Option D (Close/Combine Existing Interchanges) which would require closure of the Valley View Road interchange and the combining of the Port of Entry interchange with a new interchange at either Eagle Mill Road or Mountain Avenue.

Depending on input from the Project Management Team, Technical Advisory Committee, Planning Commission and Transportation Commission, Option C and/or Option D for a new interchange on Interstate 5 will be identified as: 1) project to evaluate further and potentially include in the formal TSP update; or 2) project to exclude from further consideration.

REFERENCES

1. American Association of State Highway and Transportation Officials. *A Policy on Geometric Design of Highways and Streets*. 2004
2. Oregon Department of Transportation. *Oregon Highway Plan*. 1999.
3. Federal Highway Administration. *Interstate System Access Informational Guide*. 2010.