

DRAFT



INTERCHANGE AREA MANAGEMENT PLAN

I-5: Fern Valley Interchange

July 2, 2008

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FOR DISCUSSION

FOR DISCUSSION

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- A Purpose and Need Sections, Draft Environmental Assessment, Fern Valley Interchange, as of June 9, 2008
- B Oregon Administrative Rule Section 734-051-0155(7)
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ABBREVIATIONS

EA	Environmental Assessment
IMA	Interchange Management Area
IAMP	Interchange Area Management Plan
I-5	Interstate 5
ODOT	Oregon Department of Transportation
OAR	Oregon Administrative Rule
OTC	Oregon Transportation Commission
RVTD	Rogue Valley Transportation District
TDM	Transportation demand management
TPAU	Transportation Planning Analysis Unit
TSM	Transportation system management
UGB	Urban growth boundary
v/c	volume-to-capacity

FOR DISCUSSION

SECTION 1. INTRODUCTION

The Oregon Department of Transportation (ODOT) is proposing to replace the existing Fern Valley Interchange with an interchange that will accommodate existing traffic volumes and projected traffic volume growth through at least 2030. The Fern Valley Interchange is located on Interstate-5 (I-5) approximately 24 miles north of the Oregon/California border, in the City of Phoenix and Jackson County. The interchange accesses the Phoenix area via Fern Valley Road, which crosses over I-5. The interchange accommodates all directional motor vehicle movements between the two roadways.

The purpose of the project to replace the Fern Valley Interchange is to “to reduce congestion and improve operational conditions at the I-5 (I-5) interchange with Fern Valley Road, on Fern Valley Road within the City of Phoenix Urban Growth Boundary, and on OR 99 near its intersection with Fern Valley Road.”¹ Appendix A contains the purpose and need text from the draft environmental assessment for the Fern Valley Interchange.

ODOT developed this Interchange Area Management Plan (IAMP) to comply with the ODOT policy to prepare such plans for significant modifications to existing interchanges.² Appendix B contains the policy. ODOT adopted the policy as a way to maximize the value the people of Oregon receive from the large expenditure of tax dollars required to construct new interchanges. This reflects ODOT’s elevated fiduciary responsibility that has resulted from the increasing scarcity of public funds for transportation investments relative to need. It also reflects a more thorough understanding of the relationships between transportation facilities and land use and between local and state transportation networks. Together, these changes have also increased the importance of collaboration between ODOT and the communities like the City of Phoenix in which its transportation network is located.

PURPOSES OF THE IAMP

In light of the purpose of the proposed new Fern Valley Interchange and the policy to prepare IAMPs referred to above, the purposes of this IAMP are to:

- Preserve the capacity of the proposed interchange for at least the first 20 years of its design life and the capacity of Fern Valley Road and OR 99 in the vicinity of the interchange.
- Ensure the safe and efficient operation of the interchange and these roadways and protect their functional integrity, operations, and safety.

¹URS Corp., Draft, Chapter 1, Environmental Assessment, Fern Valley Interchange Project, February 1, 2008.

² This policy is contained in Oregon Administrative Rule (OAR) Section 734-051-0155(7), adopted by the Oregon Transportation Commission (OTC). The OTC establishes ODOT policy.

IAMP CHALLENGES

This IAMP must meet both challenges common to interchanges and challenges specific to the Fern Valley Interchange. The fundamental challenge common to most interchanges is that they attract retail and other land uses that benefit from good motor vehicle access and visibility and those uses can generate so much traffic that it overwhelms the capacity of the interchange. This is a problem because interchanges cost tens of millions of dollars and they and the land uses they attract can impinge on the livability of areas around them. The problem is especially acute where urban growth is rapid, as is the case in the Medford-Phoenix-Talent-Ashland corridor of Jackson County.

Challenges unique to the Fern Valley Interchange area that this IAMP must balance include:

1. Access to existing businesses near the interchange needs to be preserved. These include the retail mall in the existing interchange's northwest quadrant; DSU Peterbilt & GMC Truck, Inc., Home Depot, and other retail businesses along N. Phoenix Road in the interchange's northeast quadrant; the Pear Tree Truck Stop (now owned by TravelCenters of America) and nearby businesses in the interchange's southeast quadrant; the business in the interchange's southwest quadrant; and the businesses along OR 99 near its intersection with Fern Valley Road.
2. The Phoenix Comprehensive Plan calls for additional commercial development near the interchange.
3. To pay for the services it provides, the City of Phoenix needs additional taxable real property, which is most likely to come from commercial development.³
4. Congestion at the interchange and along OR 99 impairs freight mobility, as well as mobility for other purposes in the interchange area.
5. The viability for commercial use of the land zoned commercial along OR 99 and to the north and south of Fern Valley Road needs to be supported.
6. Such commercial development must be balanced with the need to preserve the capacity of the interchange.
7. Access to and the livability of residential areas near the interchange need to be preserved. These include the Phoenix Hills subdivision in the interchange's southeast quadrant and the mobile home parks in the interchanges northwest and southwest quadrants. Residents of the Phoenix Hills subdivision would like the routing of truck stop traffic onto South Phoenix Road reversed.
8. Most existing and projected traffic on the interchange, Fern Valley Road, OR 99, and N. Phoenix Road passes through the interchange area and so is affected by growth and development outside the Interchange Management Area.
9. OR 99, Fern Valley Road, and N. Phoenix Road serve important intra-regional travel roles.
10. Policies of ODOT, the City of Phoenix, and Jackson County applicable to the interchange, OR 99, Fern Valley Road, and N. Phoenix Road need to be met.

³ The City of Phoenix's total assessed value per capita is 25 percent lower than the City of Medford's.

INTERCHANGE FUNCTION

Based on the classification of I-5 and applicable policies, the function of the Fern Valley Interchange is to serve statewide, regional, and local travel and freight mobility by providing safe and efficient connections between I-5 and Fern Valley Road that meet or exceed applicable mobility standards. Appendix C contains the classifications on which the standards are based and the standards, themselves.

GOAL AND OBJECTIVES OF THE IAMP

The goal of this IAMP is to preserve over at least the first 20 years of the design life of the proposed new Fern Valley Interchange its function to serve statewide, regional, and local travel and freight mobility by providing safe and efficient connections between I-5 and Fern Valley Road that meet or exceed applicable mobility standards. This IAMP seeks to achieve the following objectives to the greatest extent possible:

1. Provide for the safe and efficient operation of the interchange and approaches to it;
2. Protect the function of I-5 as an Interstate Highway, part of the National Highway System, a Freeway, and a Statewide Freight Route; the function of the City of Phoenix portion of OR 99 as an Arterial and Regional Freight Route; the function of Fern Valley Road and N. Phoenix Road as Arterials; and the functions of the ODOT portion of OR 99 as a District Highway and Regional Freight Route;
3. Meet the performance standards applicable to I-5, the interchange, OR 99, Fern Valley Road, and N. Phoenix Road in the Interchange Management Area (IMA) for at least the first 20 years of the design life of the interchange;
4. Meet or move in the direction of meeting ODOT access spacing standards applicable to the interchange and to Fern Valley Road, N. Phoenix Road, and OR 99;
5. Provide for the transportation needs of current and planned land uses, as contained in the City of Phoenix Comprehensive Plan;
6. Take into consideration the possibility that additional development will occur west, north and east of the existing City of Phoenix urban growth boundary (UGB), as contemplated by the Greater Bear Creek Valley Regional Problem Solving Plan;⁴
7. Take into consideration that most existing and projected traffic on the interchange, Fern Valley Road, OR 99, and N. Phoenix Road passes through the interchange area and so is affected by growth and development outside the Interchange Management Area.
8. Minimize adverse impacts on existing businesses and residences.
9. Provide adequate access to developable lands in the IMA, within the constraints required to ensure continued function of the interchange and local street network.
10. Balance the multiple challenges listed on page 2.

⁴ Rogue Valley Council of Governments, Greater Bear Creek Valley Regional Problem Solving Plan, September 2007, http://rvcog.org/MN.asp?pg=rps_draftplan. The reference is to urban reserve areas PH-1, PH-2, PH-5, and PH-10, as addressed in the plan. Urban reserve area PH-3 is already developed.

Appendix D contains the ODOT access spacing standards referred to in item 4, above, and other regulations, plans, and policies applicable to the Fern Valley Interchange and this IAMP.

DESCRIPTION OF THE INTERCHANGE MANAGEMENT AREA

Figures 1A and 1B show the boundaries of the Interchange Management Area and the alignments of the two build alternatives under consideration. The IMA boundary would be the same under both alternatives. The boundaries are intended to:

1. Include all lands within at least one-half mile of the interchange.⁵
2. Include urban reserve areas near the interchange which are identified by the Greater Bear Creek Valley Regional Problem Solving Plan.⁶
3. Include lands zoned for commercial development.
4. Include large parcels that could be redeveloped within the 20-year design life of the Fern Valley Interchange.
5. Exclude land zoned and already developed for single-family housing and other land unlikely to be developed or redeveloped with uses that could generate large amounts of motor vehicle traffic.

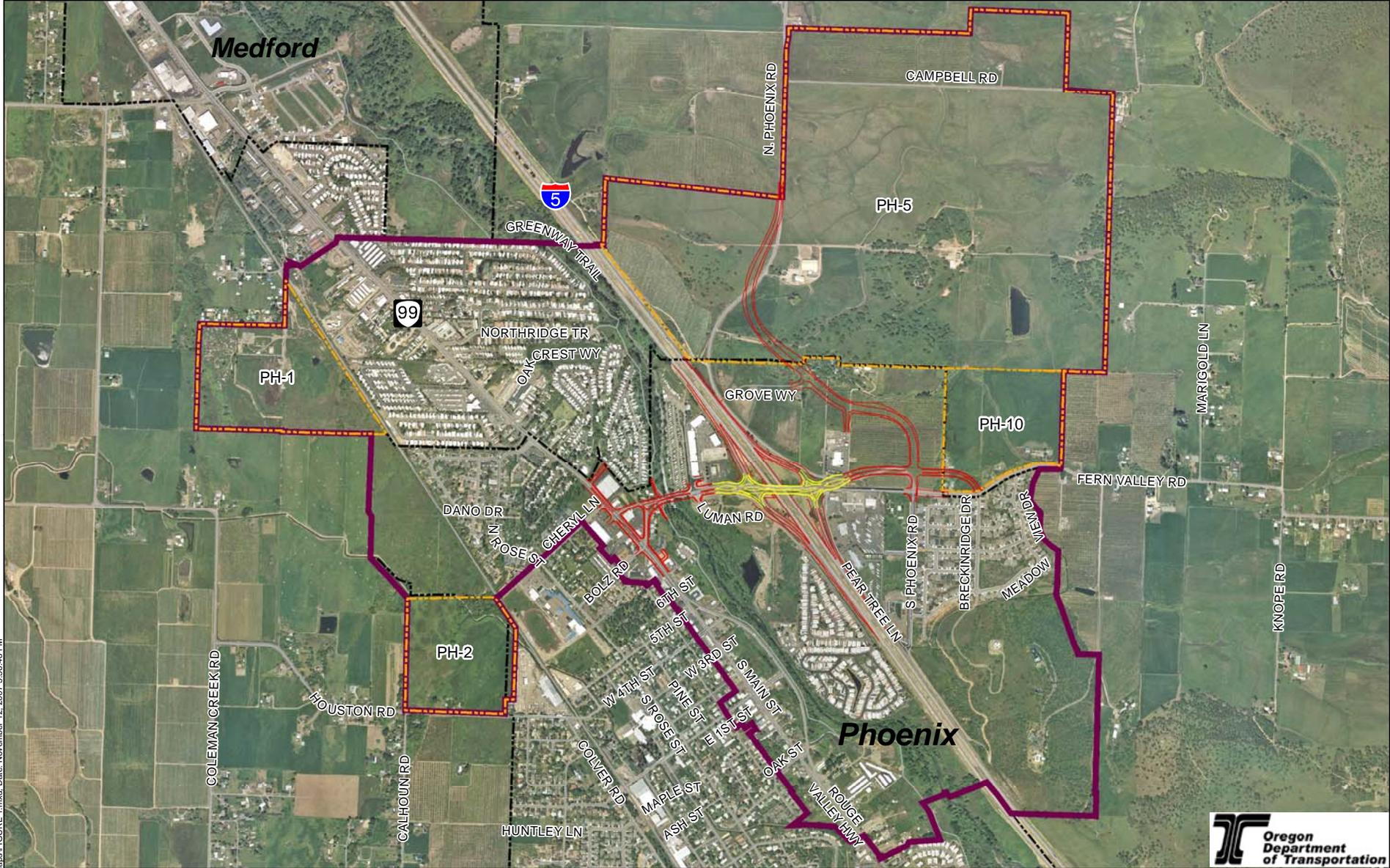
TRAFFIC ANALYSIS

As part of the development of this IAMP, ODOT's Transportation Planning Analysis Unit (TPAU) forecasted traffic volumes and peak-hour volume/capacity (v/c) ratios in the interchange area and compared them to applicable standards. See Appendix E. As used here, a v/c ratio is the volume of traffic at a roadway intersection divided by the maximum volume the intersection can handle.⁷ TPAU forecasted traffic volumes and v/c ratios for two land use "scenarios." Scenario 1 represents the build-out of the City of Phoenix Comprehensive Plan. Scenario 2 adds to Scenario 1 development of the urban reserve areas identified by the RPS, referenced on page 3. Appendix F describes the two scenarios. Because this IAMP must be consistent with the City of Phoenix Comprehensive Plan (see the discussion on page 22), the IAMP must be consistent with Scenario 1. However, the City of Phoenix Comprehensive Plan, including its UGB, is long overdue for updating. Expansion of the UGB and other amendments to the Comprehensive Plan are a certainty. TPAU forecasted traffic volumes and v/c ratios for Scenario 2 to provide an indication of the consequences of development over and above what the existing Comprehensive Plan provides for.

⁵ See ODOT, Interchange Area Management Plan Guidelines, July 12, 2006, p. 10.

⁶ Rogue Valley Council of Governments, *op. cit.*

⁷ For example, when v/c equals 0.85, traffic uses 85 percent of an intersection's capacity and 15 percent of the capacity is not used.



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- Proposed Interchange Alignment
- Proposed Roadway Alignment
- PH-5 Proposed Urban Reserve Area

- Urban Growth Boundary (UGB)
- Interchange Management Area Boundary

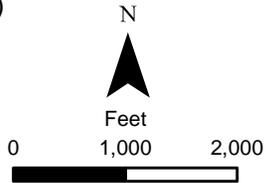


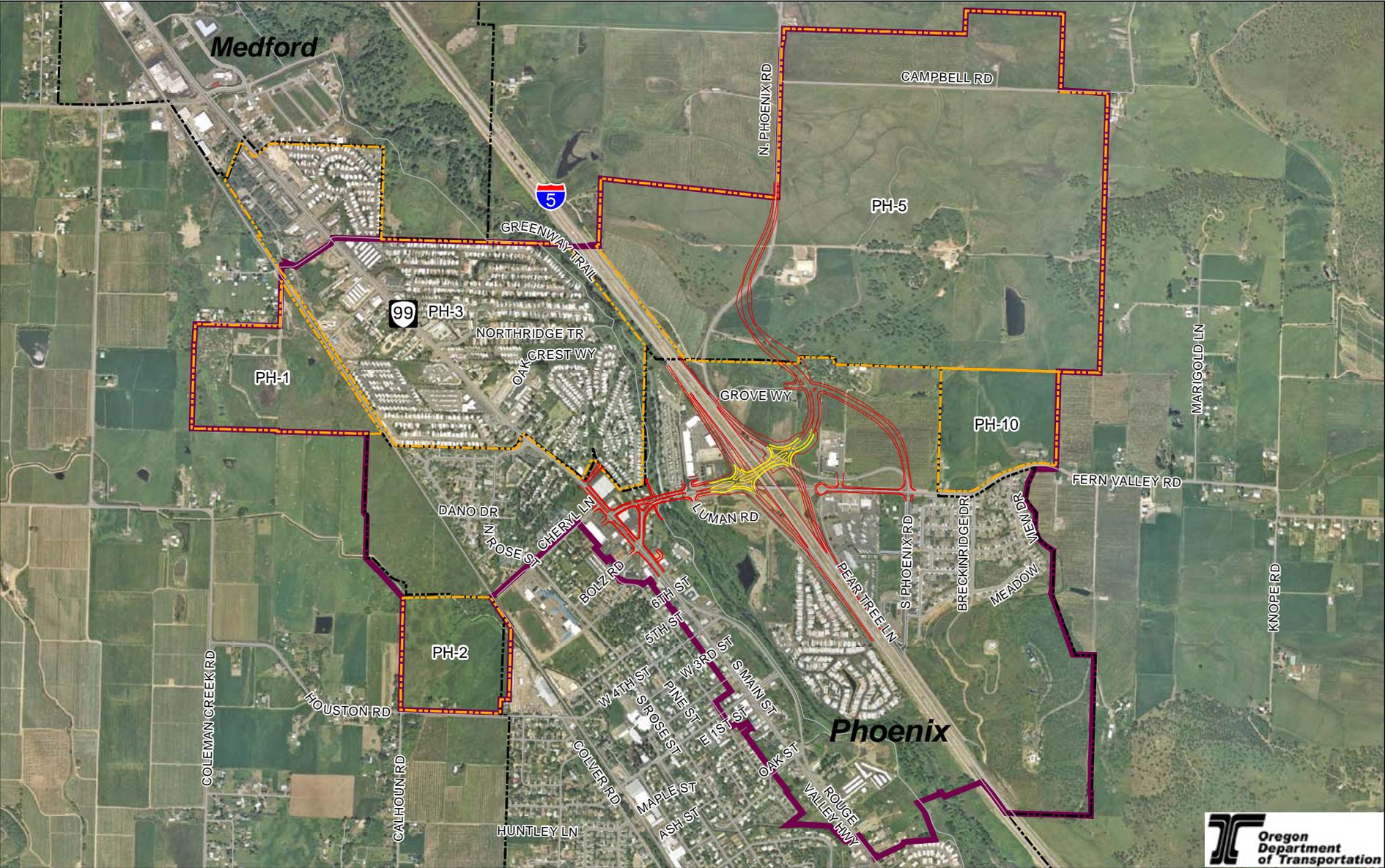
Figure 1A
Interchange Management Area

Fern Valley Thru
Alternative



November 12, 2007

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-  Proposed Interchange Alignment
-  Proposed Roadway Alignment
-  PH-5 Proposed Urban Reserve Area

-  Urban Growth Boundary (UGB)
-  Interchange Management Area Boundary

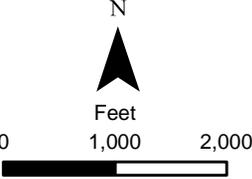


Figure 1B
Interchange Management Area
 North Phoenix Thru
 Alternative



November 12, 2007

Comparing forecasted traffic volumes and v/c ratios under Scenarios 1 and 2 to applicable standards shows that v/c ratios will exceed the standards during the 20-year planning period for the IAMP. Tables 1A and 1B show that:

1. If the Fern Valley Interchange Project is built as proposed in the EA, the v/c ratio at the interchange, itself, will comply with the applicable standard under Scenario 1, i.e., build-out of the existing Phoenix Comprehensive Plan, but the v/c ratios at the OR 99/Fern Valley Rd. intersection under both alternatives and the Fern Valley Rd./N. Phoenix Rd. intersection under the Fern Valley Thru Alternative and the N. Phoenix Rd./S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative are forecasted to exceed the applicable standards in 2030. In fact, the volumes are forecasted to exceed the total capacities of the Fern Valley Rd./N. Phoenix Rd. and N. Phoenix Rd./S. Phoenix Rd. Extension intersections.
2. If the traffic mitigation measures identified in the Fern Valley Interchange Project EA are implemented, the forecasted v/c ratio at the interchange under both alternatives, at the Fern Valley Rd./N. Phoenix Rd. intersection under the Fern Valley Thru Alternative, and at the N. Phoenix Rd./S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative will meet applicable standards in 2030 under Scenario 1. However, the OR 99/Fern Valley Rd. intersection will violate the applicable standard even with the mitigation measures. Tables 1A and 1B identify the mitigation measures at each intersection.⁸
3. Forecasted v/c ratios for Scenario 2 show that, when growth occurs beyond Scenario 1, i.e., beyond build-out of the existing Phoenix Comprehensive Plan, even with the mitigation measures, at some point in the future, forecasted v/c ratios will exceed applicable standards at the Fern Valley Rd./N. Phoenix Rd. intersection under the Fern Valley Thru Alternative and at the N. Phoenix Rd./S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative.
4. It is unknown when traffic volumes will exceed the applicable standards at the Fern Valley Rd./N. Phoenix Rd. intersection under the Fern Valley Thru Alternative and at the N. Phoenix Rd./S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative. It could be during the 20-year planning period for the IAMP or it could be after the planning period. There are three reasons for this: 1) land development under Scenario 2 is not linked to a specific year and may not fully occur until after 2030; 2) the amount of Scenario 2 development that would cause violation of the standards has not been determined; and, 3) the pace of future development is unknown.

⁸ Mitigation measures identified in the EA would keep the v/c ratio at the S. Phoenix Rd. and Old Fern Valley Rd. intersection under the N. Phoenix Thru Alternative within the applicable standard under both Scenario 1 and Scenario 2. The mitigation consists of retention of a traffic signal and eastbound and westbound left-turn lanes.

TABLE 1A. APPLICABLE STANDARDS AND FORECASTED V/C RATIOS, FERN VALLEY THRU ALTERNATIVE					
Key Intersection	Standard ¹	Scenario 1		Scenario 2	
		Proposed Project	Proposed Project With Mitigation	Proposed Project	Proposed Project With Mitigation
Northbound interchange ramp/Fern Valley Rd.	.75	.68	.68 ²	.76	.76 ²
OR 99/Fern Valley Rd.	.85	1.15	.87 ³	1.35 ³	.88 ³
Fern Valley Rd./N. Phoenix Rd.	.90	1.04	.82 ⁴	1.26 ⁴	.99 ⁴

Source of forecasted v/c ratios: ODOT Transportation Planning Analysis Unit.

Note: Forecasted v/c ratios do not assume construction of the South Stage Over Crossing.

¹Appendix C contains the sources of the standards and the roadway classifications on which they are based.

²No mitigation proposed.

³Mitigation consists of a second westbound right-turn lane and a second exclusive westbound left-turn lane. (When the second westbound exclusive left-turn lane is added, the center westbound lane would become an exclusive through-lane, i.e., left turns would not be permitted from it.)

⁴Mitigation consists of a second northbound left-turn lane and an eastbound exclusive right-turn lane.

TABLE 1B. APPLICABLE STANDARDS AND FORECASTED V/C RATIOS, N. PHOENIX THRU ALTERNATIVE					
Key Intersection	Standard ¹	Scenario 1		Scenario 2	
		Proposed Project	Proposed Project With Mitigation	Proposed Project	Proposed Project With Mitigation
Northbound interchange ramp/Fern Valley Rd.	.75	.68	.68 ²	.76	.76 ²
OR 99/Fern Valley Rd.	.85	1.15	.87 ³	1.35	.88 ³
N. Phoenix Rd./S. Phoenix Rd. Extension	.90	1.21	.77 ⁴	1.35	.93 ⁴

Source of forecasted v/c ratios: ODOT Transportation Planning Analysis Unit.

Note: Forecasted v/c ratios do not assume construction of the South Stage Over Crossing.

¹Appendix C contains the sources of the standards and the roadway classifications on which they are based. (When the second westbound exclusive left-turn lane is added, the center westbound lane would become an exclusive through-lane, i.e., left turns would not be permitted from it.)

²No mitigation proposed.

³Mitigation consists of a second westbound right-turn lane and a second exclusive westbound left-turn lane.

⁴Mitigation consists of a second westbound left-turn lane.

Based on this traffic analysis, in addition to meeting the goal and objectives on page 3, including balancing the challenges listed on page 2, the IAMP must:

1. Rely on land use, TDM, TSM, and other measures to avoid violation of the mobility standards applicable to the OR 99/Fern Valley Rd. intersection under both

alternatives, the Fern Valley Rd./N. Phoenix Rd. intersection under the Fern Valley Thru Alternative, and the N. Phoenix Rd./S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative. This is because the mitigation measures identified in the EA (as listed Tables 1A and 1B) will be insufficient to meet the standards.

2. Enable ODOT and the City of Phoenix to protect the performance of the interchange and the key intersections when decisions about future development are made. This is because land development during the 20-year planning period is certain to be different than Scenario 1, but how it will be different is unknown.

ORGANIZATION OF THIS IAMP

Following this introductory section of the IAMP is a section that contains the IAMP measures. It is followed by the findings of fact that support the adoption of this IAMP. This IAMP also includes appendices, several of which are incorporated by reference into the IAMP by IAMP measures. These appendices include the relevant sections of local plans and ordinances. Other appendices provide reference and/or background documentation for the IAMP.

FOR DISCUSSION

SECTION 2. IAMP MEASURES

Note to Reviewers: The measures below are proposed for inclusion in the IAMP. Once approved for inclusion in the IAMP, the ODOT project team (ODOT staff and consultants) will refine the details of these provisions and prepare the IAMP document for approval by the City of Phoenix and the Oregon Transportation Commission. The project team also will prepare amendments to the City of Phoenix Comprehensive Plan and Land Development Code, where needed to implement the measures. In preparing the refinements and amendments, the project team will work with the City of Phoenix, the IAMP Citizens Advisory Committee and Project Development Team, and other interested parties. Similarly, the project team will work with Jackson County on the measure calling for amendment of the Land Development Ordinance.

INTRODUCTION

This IAMP includes nine measures. These measures are intended to achieve the purposes of this IAMP, as stated on page 1, and the goal and objectives of the IAMP, as stated on page 3, including balancing the challenges on page 2. In particular, the measures attempt to protect the performance of the interchange and key intersections while allowing development that enables the City of Phoenix to pay its share of the interchange construction cost and meet its other fiscal responsibilities. The measures also seek to equitably share between the City of Phoenix and traffic generators elsewhere in the Rogue Valley the burden of protecting the capacity of the interchange against excess traffic volumes.

MEASURES

Walkable Community Transition Overlay Zone

This measure has five purposes:

1. To set the stage for Phoenix to transition from highway-oriented commercial development near the interchange to “walkable community” development, both over time and over distance from the interchange. “Walkable community” development means a mix of commercial and residential uses built so that residents have the choice to walk, bicycle, or drive from their homes to services for daily needs. Some businesses that provide those services, like restaurants and service stations, also meet highway user needs. Some highway-oriented uses, like motels, also meet occasional needs of community residents. Office buildings can enjoy good highway access and their occupants can choose to live nearby and walk or bike to work.
2. To enable the City of Phoenix to avoid development that occurs early in the 20-year planning period from foreclosing the City’s ability to approve desirable development later in the planning period.
3. To enable new development that helps the City of Phoenix meet its ongoing fiscal obligations and pay its share of the cost of the Fern Valley Interchange Project, while still protecting the interchange and nearby roads from excessive traffic volumes and

- meeting the purpose, goal, and objectives of this IAMP.
4. To provide flexibility to developers and property owners by adopting a comprehensive approach to development. This will be achieved by providing incentives to large, planned development through the increase of available land uses and first consideration for inclusion in the City's UGB and city limits. In so doing, there will be less severe of an impact of development on the transportation system and more future opportunities for development within the City of Phoenix.
 5. To avoid the need for a third southbound through lane on OR 99 north of Fern Valley Road.

The City of Phoenix will amend its zoning code to create a new Walkable Community Transition Overlay Zone. The zone regulations will allow more types of new development the larger the area included in an approved master plan. If a plan covers a large area (25 acres or larger), all uses now allowed by the Commercial Highway zone and I-5 Overlay Zone can be included. In addition, density bonuses will be granted. If a plan covers a smaller area (as small as 5 acres), some high traffic-generating uses will be allowed, but not all of them. What uses are allowed in master planned areas will depend on how much a plan transitions to walkable community development and its overall trip generation. New development outside areas covered by an approved master plan will be allowed to include a limited number of the types of uses listed in Table 2 as high traffic-generating, if they meet standards of walkable community development. High traffic-generating uses are listed in rows 12 and below of Table 2. Figures 2A and 2B show the areas to which the Walkable Community Transition Overlay Zone will apply.

Table 2 contains the information relied on in deciding which uses to allow only as part of an approved master plan. The dividing line between rows 11 and 12 strikes a balance among uses based on how much afternoon peak-hour traffic they generate, how much property tax revenue they generate to help meet demand for City services like police and fire protection, and how much they will help the City pay its share of the cost of the Fern Valley Interchange Project. All uses listed in rows 1 to 11 in Table 2 will continue to be allowed in the Highway Commercial Zone and, when rezoned commercial, land the Phoenix Comprehensive Plan Map designates Interchange Business. This is whether or not the new development is within an area with an approved master plan.⁹ Uses in rows 12 and below generate the most traffic and least property tax revenues and will be allowed only if part of an approved master plan. Allowed uses are expected to provide revenues from Transportation Interchange Development Charges sufficient to meet the City's share of the cost of the interchange project.¹⁰

Note that the use types in Table 2 come from the traffic engineering handbook used as the source of traffic generation rates. In some cases, the names of use categories are different

⁹ Clinics are included as allowed uses because, while the source of trip generation rates cited in the table does not include PM peak-hour trip generation for clinics, the average daily trip generation it lists for clinics is similar to the average daily trip generation rate of medical-dental office buildings. The similarity of the two uses and their average daily trip generation rates suggests that their PM peak-hour trip generation rates are similar.

¹⁰ The City's share is \$2.3 million, of which it has collected approximately \$1.5 million.

TABLE 2. TRIPS, ASSESSED VALUE, AND INTERCHANGE DEVELOPMENT CHARGES PER ACRE

Type of Land Use		PM	2007	2007	TIDC ⁴	TIDC ⁴	TIDC ⁴ Per Acre of Use
		Peak-Hour Trips Per Acre of Use ¹	Assessed Value Per Acre of Use (X 1,000) ²	Assessed Value Per Acre Per Trip	Peak Hour Trips Per 1,000 sq.ft. ⁵	Peak Hour Trips Per Acre of Use ⁶	
1	Nursing Home	6	\$1,200	\$200,000	NA	NA	NA
2	Mini-Warehouse	2	\$350	\$175,000	0.26	2	\$2,239
3	Continuing Care Retirement Community	12	\$1,700	\$142,000	0.17	7	\$6,822
4	Motel	20	\$2,100	\$105,000	0.47	20	\$19,341
5	Industrial Park	9	\$850	\$93,000	0.86	9	\$9,053
6	Furniture Store	9	\$650	\$72,000	0.22	4	\$4,211
7	General Office Building	20	\$1,300	\$65,000	1.49	20	\$19,250
8	General Light Industrial	12	\$550	\$46,000	0.98	12	\$11,254
9	Specialty Retail Center ³	27	\$800	\$30,000	2.66	24	\$22,911
10	Medical-Dental Office Building	9	\$250	\$28,000	3.72	33	\$32,040
11	Clinic	NA	\$1,000	NA	NA	NA	NA
	Average	12	\$868	\$75,600	1.20	15	\$14,125
12	Quick Vehicle Lubrication Shop	47	\$1,500	\$32,000	NA	NA	NA
13	Automobile Care Center	30	NA	NA	NA	NA	
14	Fast-Food Restaurant w/out Drive Through	262	NA	NA	13.08	131	\$125,176
15	Home Improvement Superstore	31	\$700	\$23,000	NA	NA	NA
16	Free-Standing Discount Superstore	58	\$1,100	\$19,000	2.63	39	\$37,754
17	Discount Club	42	\$700	\$17,000	4.2	42	\$40,194
18	Fast-Food Restaurant w/ Drive-Through Window	208	\$1,350	\$16,000	17.32	104	\$99,451
19	High-Turnover Sit-down Restaurant	55	\$800	\$15,000	6.22	31	\$29,763
20	Automobile Parts Sales	60	\$600	\$10,000	NA	NA	NA
21	Pharmacy/Drugstore w/out Drive-Through Window	126	\$1,200	\$10,000	3.96	59	\$56,846
22	Athletic Club	60	\$500	\$8,000	5.76	60	\$57,879
23	Drive-in Bank	343	\$1,600	\$5,000	24.24	182	\$173,983
24	Supermarket	105	\$550	\$5,000	6.69	67	\$64,023
25	Day Care Center	72	\$200	\$3,000	4.35	24	\$22,896
26	Gasoline/Service Station with Convenience Market	241	\$550	\$2,000	5.89	15	\$14,092
	Average	116	\$873	\$12,692	10.78	85	\$65,642

Table Notes:

N/A means not available.

¹ Based on rates per peak hour on adjacent street from Institute of Transportation Engineers, Trip Generation, 7th Edition, 2003. Adjusted to rate per acre using ratios of building square footage, dwelling units, and rooms per acre from properties in Phoenix, Medford, and Talent.

² Based Jackson County property assessment records for comparable uses in Phoenix, Medford, and Talent.

³ Based on gross leasable area, which in the study area is the same as gross floor area, assuming no enclosed shopping malls.

⁴ Transportation Interchange Development Charge. Amounts calculated from City of Phoenix Transportation Interchange Development Charge Calculation Sheet.

⁵ Per room for nursing homes, continuing care retirement communities, and motels; per fueling position for gasoline/service stations; and per servicing position for quick vehicle lubrication shops.

⁶ Calculated using ratios of square feet per acre from comparable properties in Phoenix, Medford, and Talent.

Source: URS Corporation

from the categories in the Phoenix Development Code. Page 56 of Appendix K contains the table from the Phoenix Development Code that lists uses allowed in the Highway Commercial Zone and the I-5 Overlay Zone.

Other features of this measure include:

1. Priority for inclusion in the UGB of land subject to an approved master plan will be a City of Phoenix policy.
2. West of I-5, even within an area with an approved master plan, a limited number of uses in rows 12 and below of Table 2 will be allowed on a first come, first served basis. These will be one service station with eight fueling positions and a convenience store and one fast-food restaurant without drive-through of up to 1,500 square feet. Alternatively, another combination of uses in rows 12 and below of Table 2 that generates an equivalent number of trips will be allowed. This is necessary to avoid the need to add a third southbound through lane to OR 99 during the planning period and to achieve the purpose of transitioning to a walkable community development pattern.
3. Master plans must include:
 - a. a plan showing the location and type of all land uses and approximate acreage and approximate number of units or square footage of uses
 - b. the maximum height and size of proposed structures
 - c. a plan of utilities, streets, bike ways, and pedestrian ways
 - d. off-site public improvements necessary to serve the proposed development and/or mitigate its impacts on public facilities.
4. Applicants of multiple adjacent properties may submit a joint master plan for approval.
5. The City of Phoenix will not approve a master plan unless it has received certification from ODOT that development of the plan will not contribute to the violation of applicable mobility performance standards during the planning period on the Fern Valley Interchange or on OR 99, Fern Valley Road, N. Phoenix Rd., or S. Phoenix Rd. within the Interchange Management Area.

File Path: K:\From_Valley_MXD\Alternative_Maps\Figure 2a - Walkable Community Transition Overlay Zone.mxd, Date: June 30, 2008, 4:42:37 PM

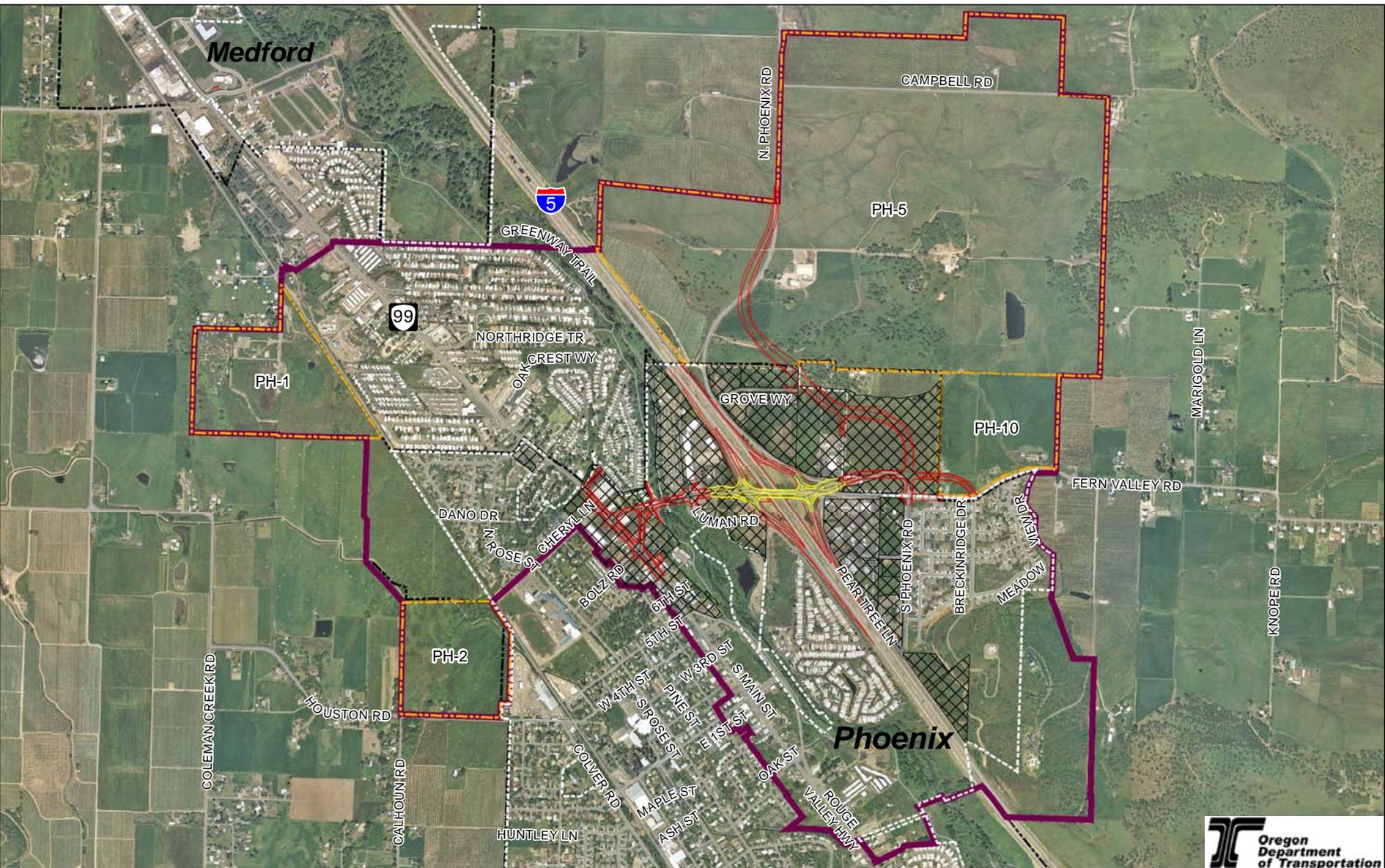


Figure 2A
Walkable Community
Transition Overlay Zone

Fern Valley Thru
 Alternative



June 30, 2008

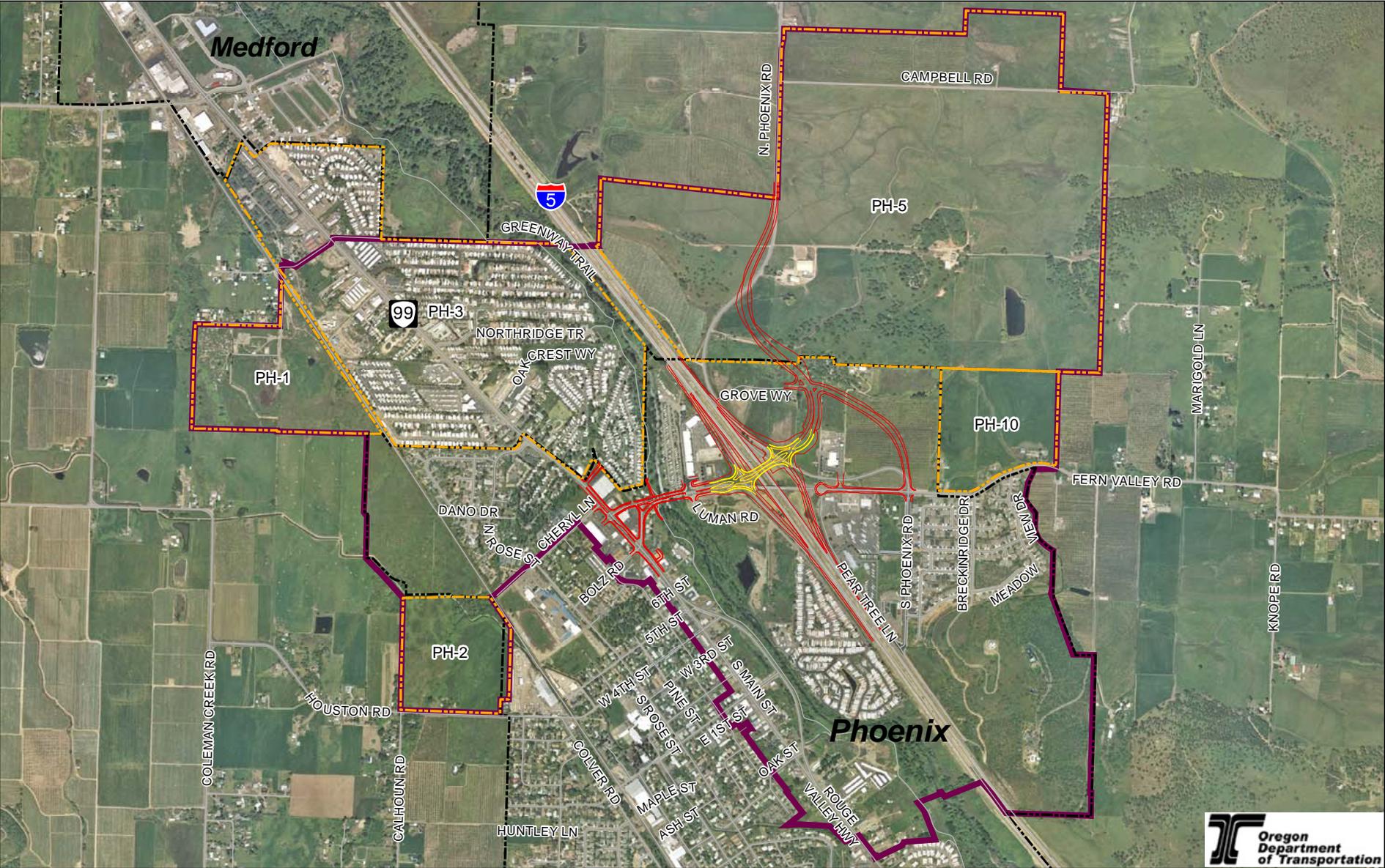
	Proposed Interchange Alignment		City Limits
	Proposed Roadway Alignment		Urban Growth Boundary (UGB)
	Proposed Urban Reserve Area		Interchange Management Area Boundary
			Walkable Community Transition Overlay Zone

N

Feet

0 1,000 2,000

File Path: K:\Fern_Valley\MXDs\Alternative_Maps\FIGURE 2.mxd. Date: November 12, 2007 4:30:41 PM



-  Proposed Interchange Alignment
-  Proposed Roadway Alignment
-  PH-5 Proposed Urban Reserve Area

-  Urban Growth Boundary (UGB)
-  Interchange Management Area Boundary

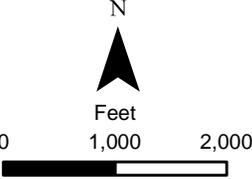


Figure 1B
Interchange Management Area
 North Phoenix Thru
 Alternative



November 12, 2007

Jackson County OR 99 Widening Avoidance Overlay Zone

The purpose of this measure is to avoid high traffic generation along OR 99 north of its intersection with Fern Valley Road to avoid the need for a third southbound through lane on OR 99 north of Fern Valley Road during the planning period. This is the same as the last of the purposes of the preceding measure. This measure is needed because the Phoenix city limits extend along OR 99 north of Fern Valley Road only a short distance. Consequently, the preceding measure will not avoid high traffic-generating uses along most of the distance between Fern Valley Road and the north boundary of the Interchange Management Area, which is shown on Figures 1A and 1B. ODOT will request that Jackson County adopt an overlay zone applying to land zoned General Commercial in this area. If adopted by Jackson County, the overlay zone will allow on a first come, first served basis one chain drug store of up to 10,000 square feet or other uses on row 12 and below of Table 2 that generate an equivalent number of trips. Otherwise, it will allow only the uses in rows 1 to 11 of Table 2.

South Valley Transportation Strategy

There are four reasons for this measure:

1. Traffic volumes on the interchange, Fern Valley Road, N. Phoenix Road, and OR 99 will result from trips generated by both land uses within the City of Phoenix and the immediate area of the interchange and land uses in Medford and other parts of the region.
2. Neither the City of Phoenix nor ODOT have the authority to control land use outside the City of Phoenix as a means of limiting traffic volumes.
3. If the City of Phoenix controls land use to limit traffic volumes on the interchange, N. Phoenix Road, and OR 99, for reasons of equity, other jurisdictions and the region as a whole should do the same.
4. This provides the City of Phoenix an opportunity to provide leadership in addressing transportation challenges common to it, Medford, and Jackson County.

Under this measure, ODOT and the City of Phoenix will work with Jackson County, Medford, Talent, and Ashland to formulate a strategy that avoids through traffic¹¹ causing the interchange, N. Phoenix Road, and Fern Valley Rd. to violate the standards in Tables 1A and 1B and to achieve other objectives for the south Rogue Valley area.

¹¹ Trips having an origin and destination outside the Phoenix limits.

Capacity Expansion

The purpose of this measure is to enable development to occur that would otherwise cause traffic volumes to exceed applicable performance standards. Under this measure, the City of Phoenix will require as a condition of planning approval that land developers pay to implement the traffic capacity expansions below when traffic impact studies indicate that they are needed to meet applicable performance standards during the planning period. As Tables 1A and 1B show, without these capacity expansions, traffic volumes are forecasted to violate applicable mobility performance standards within the planning period.¹²

Under the Fern Valley Thru Alternative, the capacity expansions are:

1. at the intersection of OR 99 and Fern Valley Road
 - a. a second westbound right-turn lane
 - b. a second exclusive westbound left-turn lane¹³
2. at the intersection of Fern Valley Road and N. Phoenix Road
 - a. an eastbound exclusive right-turn lane
 - b. a second northbound left-turn lane

Under the N. Phoenix Thru Alternative, the capacity expansions are:

1. at the intersection of OR 99 and Fern Valley Road
 - a. a second westbound right-turn lane
 - b. a second exclusive westbound left-turn lane¹⁴
2. at the intersection of N. Phoenix Road and S. Phoenix Road Extension, a second westbound left-turn lane
3. at the intersection of S. Phoenix Road and Old Fern Valley Road
 - a. an eastbound left-turn lane
 - b. a westbound left-turn lane

¹² Tables 1A and 1B show that forecasted traffic violations will exceed the 0.85 v/c standard at the OR 99/Fern Valley Rd. intersection even with a second westbound right-turn lane. A third southbound through lane on OR 99 would be needed to increase capacity enough to meet the standard under Scenario 1. However, a third southbound through lane is not included in this IAMP.

¹³ When the second westbound exclusive left-turn lane is added, the center westbound lane would become an exclusive through-lane, i.e., left turns would not be permitted from it.

¹⁴ When the second westbound exclusive left-turn lane is added, the center westbound lane would become an exclusive through-lane, i.e., left turns would not be permitted from it.

Bus Stop and Transfer Site Coordination

The purpose of this measure is to facilitate improved transit service in the future. It has three components:

1. When ODOT designs the Fern Valley Interchange project, it will identify possible sites for future bus transfer points near the of OR 99/Fern Valley Road intersection, near the N. Phoenix Road/Fern Valley Road intersection under the Fern Valley Thru Alternative, and near the N. Phoenix Road/S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative. These will be for transfers between the Rogue Valley Transportation District's (RVTD's) existing bus line on OR 99 and two planned future lines. One of the planned future lines is a circulator bus routed through the Phoenix neighborhoods west of I-5 and extending across I-5 to the Fern Valley Road/N. Phoenix Road intersection, if the present roadway system were in place.¹⁵ RVTD would also like to add a bus line on N. Phoenix Road.¹⁶ The transfer points will be where the circulator bus connects to the existing line on OR 99 and the future line on N. Phoenix Road. Each transfer point is envisioned to include a staging area large enough to accommodate two busses, either off-street or as a bus pull-out. If a site were on right-of-way acquired for the Fern Valley Interchange project, ODOT will consider allowing RVTD to use the site for a transfer point.
2. The City of Phoenix will adopt as part of its Comprehensive Plan language under which the City will seek to provide locations for bus transfer points where the circulator bus would connect to the existing bus line on OR 99 and to a future line on N. Phoenix Road. The policy will apply when the City makes roadway improvements itself or when an applicant for development approval proposes providing a transfer site under the Motor Vehicle Trip Reduction Designs and Programs measure on p. 21, below.
3. The City of Phoenix and ODOT will coordinate with RVTD to identify the best location of bus stops on OR 99, Fern Valley Road, and N. Phoenix Road. RVTD generally prefers bus stops (where the bus stops in the right travel lane) over bus pull-outs, and so is unlikely to seek pull-outs on the sections of these roads that the project would alter.

¹⁵ RVTD's 10-year plan includes this bus line in its second highest category of priority. See Rogue Valley Transportation District, Ten-Year Long Range Plan, 2007-2017, December 2007, p. 49 (http://www.rvtd.org/images/subpages/File/LRP_Full%20Text_Chapters%20I-XII.pdf). The transfer site would be at the N. Phoenix Road/Fern Valley Road intersection under the Fern Valley Thru Alternative and the N. Phoenix Road/S. Phoenix Rd. Extension intersection under the N. Phoenix Thru Alternative.

¹⁶ This is not in RVTD's 10-year plan, but is desired in the future, according to a telephone conversation with Paige Townsend, Senior Planner, RVTD, March 27, 2008.

Shared Park-and-Ride Lot Help

The purpose of this measure is to facilitate improved transit service by increasing ridership on the existing bus line on OR 99 and planned future bus lines. The measure will also help reduce traffic volumes on the South Medford Interchange. ODOT and the City of Phoenix will work with RVTD to help it identify and secure shared park-and-ride lots near the intersection of OR 99 with Fern Valley Road and the intersection of N. Phoenix Road with Fern Valley Road. At shared park-and-ride lots, a property owner allows bus riders to park.¹⁷ ODOT will consider allowing RVTD to use residual land acquired for right-of-way, but not needed for highway improvements and which ODOT is unable to resell. ODOT will also consider attaching to excess right-of-way ODOT is able to resell a covenant requiring shared use of parking by transit riders. The City of Phoenix will consider making the provision of shared parking for transit riders a condition of development approval under the TDM measure described on page 21, below.

OR 99 Setback

The purpose of this measure is to reduce the cost of and disruption from widening OR 99, if it becomes necessary to do so in the future. The land use measures described above will delay the need to widen OR 99, if implemented rigorously. However, forecasted growth in motor vehicle trips compared to the existing capacity of OR 99 indicates that widening OR 99 is likely to be needed after the 20-year planning period for the IAMP.

The City of Phoenix will add to its zoning code an overlay zone covering the properties on both sides of OR 99 from the north end of the couplet to the north city limits. Within the overlay zone, there will be a 15-foot building setback requirement. All properties fronting OR 99 on this segment are zoned Commercial Highway. There is no front setback requirement in the Commercial Highway zone regulations in the City of Phoenix Land Development Code.¹⁸ The setback requirement will apply to new development or redevelopment of affected land parcels. Fifteen feet is enough to allow the addition of a 12-foot lane, plus additional buffering of bicycle and pedestrian traffic from motor vehicle traffic. There is no need for amendment of the Jackson County Land Development Ordinance because the regulations for the three zones along OR 99 in the Interchange Management Area already have a 20-foot setback requirement.¹⁹

Note to Reviewers: The 15-foot depth of the setback requirement may be modified when ODOT roadway designers have advised the project team on the amount of additional right-of-way that adding a travel lane in each direction would require.

¹⁷ Such properties are often churches or shopping centers that have excess parking capacity during commute hours.

¹⁸ City of Phoenix, Development Code, Section 2.4.3, page 57.

¹⁹ Jackson County, Land Development Ordinance, Table 8.2-1, Chapter 8, page 2. The three zones are General Commercial, Urban Residential-10, and Urban Residential-30.

Motor Vehicle Trip Reduction Designs and Programs

The purpose of this measure is to encourage developers to commit to designs and programs that reduce motor vehicle trip generation. It takes advantage of the incentive to reduce motor vehicle trips developers have when they apply for planning approvals. For some planning approvals, the incentive comes from the need for both City of Phoenix and ODOT approval. For others, the incentive comes from the need for City of Phoenix approval and the City's incentive to preserve interchange and roadway capacity for other development. The measure avoids dictating required measures because, to be effective, measures need to be tailored to the uses proposed at a site and the site's location.

The City of Phoenix will amend its Comprehensive Plan and Development Code to require applications for planning approvals to propose specific commitments to take actions to reduce motor vehicle trips by employees and visitors. Planning approvals are defined as including comprehensive plan amendments (including UGB expansions), comprehensive plan map amendments, land use district map amendments, partitions, subdivisions, master plan approval under the Walkable Community Transition Overlay Zone measure on page 11, above, and conditional use permits for commercial and office developments of 30,000 square feet of gross leasable area or more not subject to master plans. The City will consider making such commitments conditions of approval. Examples of possible designs and programs include:

- Making site improvements to encourage access by foot and bicycle over and above meeting the existing requirements of the Development Code.
- Providing or subsidizing public transit passes for employees or subsidizing fares.
- Reimbursing customers for the cost of taking public transit, with a minimum purchase.
- Providing preferred parking locations to employee carpools or vanpools.
- Supporting telecommuting by employees (telecommuting means working at home one or more days a week instead of commuting to a workplace).
- At appropriate locations, providing shared parking for use by bus riders.

Cross-Approval

The purpose of this measure is to enable ODOT to work with the City of Phoenix to protect the performance of the new Fern Valley Interchange and nearby roads when the City amends the UGB and its Comprehensive Plan and issues land use approvals. The UGB is overdue for amendment and may be expanded before construction of the interchange is completed.²⁰ The traffic analysis on page 4 shows that development allowed by a UGB expansion could cause violations of the mobility performance standards within the 20-year planning period. This measure provides ODOT the ability to work with the City of Phoenix to avoid, place restrictions on, or qualify approval of expansions of the UGB or other amendments to the Comprehensive Plan or Phoenix

²⁰ There is insufficient time to amend the UGB and its Comprehensive Plan before adoption of this IAMP without delaying construction of the new Fern Valley Interchange project.

Development Code that otherwise would threaten the performance of the interchange. The measure does this by giving ODOT grounds to appeal amendments that would threaten the performance of the interchange. Similarly, by adopting the IAMP into its Comprehensive Plan, the City of Phoenix will give itself grounds to appeal amendments to the IAMP adopted by ODOT. In both cases, the grounds to appeal come from the reciprocal consistency requirements that are part of the Oregon Statewide Planning Program. In simple terms, state agency plans must be consistent with local plans and vice versa.²¹ The underlying concept is that the state and a local government need to agree on plans to meet their mutual and respective needs and obligations.

ODOT includes in the IAMP the following parts of the City of Phoenix Comprehensive Plan and Land Development Code:

1. All Comprehensive Plan map designations east of Interstate 5 I-5 (except Development Scenario Analysis Area 24, as shown on Figure F-1 in Appendix F), and the Comprehensive Plan designations of Analysis Areas 16, 31-35, 37, and 39-41 on the west side of I-5.²² The adopted designations are as shown on the City of Phoenix Comprehensive Plan map, a copy of which is in Appendix G.
2. The zoning of the same areas, as shown on the City of Phoenix Land Use Districts map, a copy of which is in Appendix H.
3. The UGB as shown on the City of Phoenix Comprehensive Plan map in Appendix G.
4. The language in the City of Phoenix Comprehensive Plan regarding the Interchange Business, Commercial, and Industrial designations, a copy of which is in Appendix I, with amendments adopted pursuant to other measures in this IAMP.
5. The City Center Element of the City of Phoenix Comprehensive Plan, a copy of which is in Appendix J.
6. The chapters of the Phoenix Development Code on the Commercial Highway, City Center, General Industrial, and Light Industrial districts and selected Design Standards chapters, with amendments adopted pursuant to other measures in this IAMP. A copy of these chapters is in Appendix K.

²¹ ORS 197.180 requires that “. . . state agencies shall carry out their planning duties, powers and responsibilities and take actions that are authorized by law with respect to programs affecting land use. . . (b) In a manner compatible with: (A) Comprehensive plans and land use regulations. . .” OAR 660-012-0015(1)(b), part of the Transportation Planning Rule, states “State transportation project plans shall be compatible with acknowledged comprehensive plans as provided for in OAR 731, Division 15. . .” OAR 734-051-0155, an ODOT administrative rule, states that “. . . the Department will work with local governments on any amendments to local comprehensive plans and transportation system plans and local land use and subdivision codes to ensure the proposed Access Management Plan and Interchange Area Management Plan is consistent with the local plan and codes.” At the same time, OAR 660-12-0015(3)(a), also part of the Transportation Planning Rule, states that “Local TSPs [transportation system plans] . . . shall be consistent with regional TSPs and adopted elements of the state TSP.” ODOT adoption of the IAMP would make it part of the Oregon Highway Plan, which would make it part of the state TSP.

²² These are areas where traffic generated by land uses could have a material effect on the performance of the Fern Valley Interchange and key intersections.

In addition, the City of Phoenix will adopt the IAMP as part of its Transportation System Plan, making it part of the Phoenix Comprehensive Plan.

Additional provisions of this measure are:

1. If ODOT concludes that a proposed amendment to one of the provisions adopted into the IAMP would not be consistent with the IAMP, ODOT will work with the City of Phoenix to reach agreement on how to resolve the issues involved.
2. ODOT will only determine that a proposed plan or code amendment is not consistent with the IAMP when the amendment would change the function or diminish the performance of the interchange. If neither is the case, ODOT will not have grounds to appeal an amendment.
3. ODOT will not amend the IAMP every time the City of Phoenix amends the provisions adopted into the IAMP. ODOT acknowledges that the City of Phoenix will enact amendments which ODOT will not find inconsistent with the IAMP.
4. If ODOT does not notify the City of Phoenix that a proposed plan or code amendment is inconsistent with the IAMP within 60 days after receipt of notice of the amendment from the City, ODOT will not assert that the amendment is inconsistent.
5. Should ODOT wish to amend the IAMP, ODOT will ensure that the IAMP remains consistent with the City of Phoenix Comprehensive Land Use Plan.

SECTION 3. ACCESS MANAGEMENT STRATEGY

Note to Reviewers: The access management strategy will be added here for reference, once approved. However, the strategy will not be part of the IAMP, as submitted to the City of Phoenix and the OTC for adoption. This is because the strategy will be solely for ODOT's use in building and managing the Fern Valley Interchange Project and will not require action by the City of Phoenix.

FOR DISCUSSION

SECTION 4. FINDINGS

Note to Reviewers: This section to be added later. It will not add measures to the IAMP. Instead, it will document the IAMP's consistency with applicable regulations, policies, and plans.

FOR DISCUSSION

APPENDICES

FOR DISCUSSION

DRAFT

FOR DISCUSSION

Appendix A
Purpose and Need Sections
Draft Environmental Assessment as of June 9, 2008
Fern Valley Interchange

The following Purpose and Need statement was developed by the Project Development Team¹ to provide an explanation of the specific reasons for the Fern Valley Interchange project. Any build alternative forwarded into the environmental assessment (EA) must meet the project's Purpose and Need.

1.3.1 Purpose of the Proposed Action

The purpose of the proposed action is to reduce congestion and improve operational conditions at the Interstate 5 (I-5) interchange with Fern Valley Road, on Fern Valley Road within the City of Phoenix Urban Growth Boundary, and on OR 99 near its intersection with Fern Valley Road. In addition, the Fern Valley Road Bridge over Bear Creek is proposed for replacement.

1.3.2 Need for the Proposed Action

The I-5/Fern Valley Road interchange is experiencing increasing congestion due to continued growth in Phoenix and southeast Medford, the status of the Medford-Ashland area as a regional business destination, and a greater amount of through traffic on I-5. Increased use of the interchange by local residents, commuters, heavy trucks and regional traffic causes vehicles at the off-ramps to queue all the way to the freeway during times of heavy peak hour volumes. The capacity of the interchange is degrading rapidly, and traffic safety remains an ongoing concern.

By 2010, the northbound ramp terminal intersection is projected to be over standard. Most of the Fern Valley Road corridor would be heavily congested. The I-5 on-ramp queues would spill back into the I-5 mainline, creating a serious safety issue with the potential of high-speed, rear-end crashes. Many turn bays at the ramp terminals would be blocked for substantial portions of the peak hour. Substantial queues would exist at the Fern Valley Road/N. Phoenix Road intersection. OR 99 queuing would be limited from Fern Valley Road to Cheryl Lane, with some slowing northbound just south of E. Bolz Road.

In 2030, the mainline segments north and south of the interchange are projected to approach the volume-to-capacity (v/c)² standard; the southbound on- and off-ramps would be just below the standard, and the northbound off-ramp would be slightly over the 0.80 standard. By 2030, half of the intersections within the project area would be over

¹ A description of this team and its role in the project is provided in Chapter 2.

² The volume-to-capacity (v/c) ratio is the ratio between the volume (v) of vehicles that use a facility, such as a roadway or controlled intersection, and the capacity (c) of the facility. Capacity for traffic movements is a function mainly of lane geometry, signal timing allocations (where traffic signals exist), and vehicle speed. When the v/c is below 1.0, the capacity is greater than the volume and, in most cases, the demand can be served by the facility. If the v/c is 1.0 or greater, the capacity is insufficient to handle the volume, so excessive delay or failure (i.e., traffic congestion) is likely to be experienced.

standard, and many would be over capacity. The intersections of Fern Valley Road at OR 99, N. Phoenix Road, and the two ramp terminal intersections, as well as the southbound OR 99/1st Street intersection would all have a v/c over 1.0. Both ramp terminals would exceed capacity. The N. Phoenix Road intersection with Fern Valley Road would be just below the v/c standard in 2030, but would start having significant problems after 2030. Fern Valley Road would be completely congested, and queuing would spill onto the connecting roadways. The northbound and southbound off-ramp queues would extend back onto the I-5 mainline. Since Fern Valley Road would be over capacity, lengthy northbound queues on OR 99 would be seen extending south beyond 1st Street.

The Fern Valley Road interchange does not meet current interchange design standards. The steepness of the approaches to the Fern Valley Road overcrossing limits the visibility of interchange traffic. This limited “sight distance” forces drivers to make unsafe turns onto Fern Valley Road. In addition, the length of the I-5 ramp tapers and acceleration lanes are substandard (425 feet vs. the ODOT standard of 525 feet), which results in short stopping and acceleration distances.

Fern Valley Road has substandard shoulders (4-foot shoulders on the overcrossing and 6-foot shoulders on the approaches vs. the ODOT standard of 8 feet) and does not have dedicated bicycle lanes. Sidewalks are discontinuous along Fern Valley Road, creating safety concerns for pedestrians. This poses particular problems on the I-5 overcrossing and from Bear Creek Bridge to OR 99, where there are no sidewalks, but where pedestrians need to be accommodated.

Fern Valley Road crosses Bear Creek between the I-5 interchange and OR 99. This narrow bridge is already becoming a bottleneck on Fern Valley Road. In addition, the bridge is 57 years old (built in 1951) and is structurally deficient and functionally



obsolete.³ Due to cracks and spalling,⁴ the bridge is now limited to loads less than 80,000 pounds. Even if the interchange were to be completely rebuilt, the two-lane bridge would still cause long queues to occur on Fern Valley Road, eventually impacting the ramp terminals and the function of the interchange.

The western terminus of Fern Valley Road, at its intersection with OR 99, is a substandard design with one leg serving a retail business parking lot. There are numerous accesses creating safety issues near the OR 99/Fern Valley Road intersection. The crash rate on

OR 99 through the study area is double the published crash rates for primary non-freeway

³ Bridge inspection (in July 2007) resulted in a bridge sufficiency rating of 6 out of 100, with 100 being the best rating possible. A bridge sufficiency rating is the relative rating of the condition of the bridge, based on its structural adequacy and safety, how essential it is for public use, its serviceability and how well it functions to handle traffic.

⁴ Spalling is corrosion of the reinforcing steel, which can cause concrete to fall off.

urban facilities. Most of the crashes are because of the closely-spaced driveways and intersections. In addition, OR 99 has no dedicated bike lanes or shoulders; it has 14-foot outside lanes where bikes share the roadway. The center-turn median is 14 feet (vs. the ODOT standard of 16 feet); it was reduced from standard in order to allow room for 14-foot outside lanes. There are no sidewalks on OR 99 north of Fern Valley Road except intermittently on business frontages.

FOR DISCUSSION

FOR DISCUSSION

Appendix B
Oregon Administrative Rule Section 734-051-0155(7)

An Interchange Area Management Plan is required for new interchanges and should be developed for significant modifications to existing interchanges. An Interchange Area Management Plan must comply with the following criteria, unless the Plan documents why compliance with a criterion is not applicable:

- (a) Be developed no later than the time an interchange is designed or is being redesigned.
- (b) Identify opportunities to improve operations and safety in conjunction with roadway projects and property development or redevelopment and adopt policies, provisions, and development standards to capture those opportunities.
- © Include short, medium, and long-range actions to improve operations and safety within the designated study area.
- (d) Consider current and future traffic volumes and flows, roadway geometry, traffic control devices, current and planned land uses and zoning, and the location of all current and planned approaches.
- (e) Provide adequate assurance of the safe operation of the facility through the design traffic forecast period, typically 20 years.
- (f) Consider existing and proposed uses of all the property within the designated study area consistent with its comprehensive plan designations and zoning.
- (g) Be consistent with any applicable Access Management Plan, corridor plan or other facility plan adopted by the Oregon Transportation Commission.
- (h) Include polices, provisions and standards from local comprehensive plans, transportation system plans, and land use and subdivision codes that are relied upon for consistency and that are relied upon to implement the Interchange Area Management Plan.

FOR DISCUSSION

Appendix C
Applicable Standards and Classifications

Classifications

Table C-1 shows ODOT, City of Phoenix, and Jackson County jurisdiction over the principal roadways in the interchange area and the classification of each roadway segment.

Table C-1 ROADWAY JURISDICTION AND CLASSIFICATION		
Facility	Jurisdiction	Classification
I-5	ODOT	Interstate Highway, National Highway System, ¹ Freeway, ² Statewide Freight Route ³
OR 99, City Center Special Transportation Area ⁴	Phoenix	Arterial, ⁶ Regional Freight Route ⁷
OR 99, outside City Center Special Transportation Area	ODOT	District Highway, ⁸ Regional Freight Route ⁷
Fern Valley Rd. within Urban Growth Boundary	Phoenix	Arterial from OR 99 to North Phoenix Rd.; collector east to UGB ⁶
Fern Valley Rd. outside Urban Growth Boundary	Jackson County	Minor Collector ⁹
North Phoenix Rd. within Urban Growth Boundary	Phoenix	Collector ⁶
North Phoenix Rd. outside Urban Growth Boundary	Jackson County	Arterial ⁹
<p>Notes</p> <p>¹ODOT, <i>Oregon Highway Plan (OHP)</i>, Updated in June 2006, Highway Classification Maps.</p> <p>²Ibid., p. 120.</p> <p>³Ibid., p. 68.</p> <p>⁴The City of Phoenix owns the couplet segment of OR 99 (the Rogue Valley Highway) in downtown Phoenix, i.e., Main Street and Bear Creek Road from 6th Street on the south to just north of the north end of the couplet, including 4th Street and 1st Street between Main Street and Bear Creek Road. See Jurisdictional Transfer Agreement, Rogue Valley Highway, State Highway No. 63 – OR 99 (MP 11.37-12.00), Jackson County, City of Phoenix, January 3, 2006. The Phoenix Transportation System Plan designates an area with similar boundaries the City Center Special Transportation Area. See Figure 3-1, p. 24 of the TSP.</p> <p>⁶City of Phoenix Transportation System Plan, p. 87.</p> <p>⁷Rogue Valley Metropolitan Planning Organization, <i>Regional Transportation Plan</i>, p. 175.</p> <p>⁸ODOT, OHP, <i>State Highway Classification System map</i>, PDF p. 307.</p> <p>⁹Jackson County Transportation System Plan, p. 52.</p>		

Configuration Standards

Regarding Interstate Highways, the OHP states:

Interstate Highways (NHS) provide connections to major cities, regions of the state, and other states. A secondary function in urban areas is to provide connections for regional trips within the metropolitan area. The Interstate Highways are major freight routes and their objective is to provide mobility. The management objective is to provide for safe and efficient high-speed

continuous-flow operation in urban and rural areas.¹

Regarding Freeways, the OHP states:

- Freeways are multi-lane highways that provide for the most efficient and safe high speed and high volume traffic movement.
- Interstate Freeways are subject to federal interstate standards as established by the Federal Highway Administration.”
* * *
- ODOT owns the access rights and direct access is not allowed. Users may enter or exit the roadway only at interchanges.
 - Preference is given to through traffic.
 - Driveways are not allowed.
- Traffic signals are not allowed.
- Parking is prohibited.
- Opposing travel lanes are separated by a wide median or a physical barrier.
- Grade separated crossings that do not connect to the freeway are encouraged to meet local transportation needs and to enhance bicycle and pedestrian travel.
- The primary function is to provide connections and links to major cities, regions of the state, and other states.”²

Mobility Performance Standards

ODOT, the City of Phoenix, and Jackson County prescribe mobility performance standards in volume to capacity (v/c) ratios. For freeways, the v/c ratio is the ratio of peak-hour volumes traveling on a roadway segment compared to the estimated one-hour roadway capacity. There are two separate sets of ODOT v/c standards. One is in the OHP and the other is in the 2003 Highway Design Manual (English) (HDM). If no major improvements are planned for a highway, ODOT applies OHP standards to it. When ODOT plans for and designs major improvements to a highway, it applies HDM standards. Table 2 contains the mobility performance standards applicable to I-5, the Fern Valley Interchange, OR 99, Fern Valley Road, and N. Phoenix Road.

¹ ODOT, *Oregon Highway Plan (OHP)*, updated in June 2006, p. 41.
<http://www.oregon.gov/ODOT/TD/TP/orhwyplan.shtml>.

² *Ibid.*, Action 3A.1, p. 120.

Table C-2 ROADWAY JURISDICTION AND MOBILITY PERFORMANCE STANDARDS		
Facility	Jurisdiction	Mobility Performance Standard
I-5 Mainline	ODOT	0.80 ¹
Interchange ramp terminals	ODOT	0.75 ²
OR 99, City Center Special Transportation Area	Phoenix	0.95 to > 0.95 ³
OR 99, outside City Center Special Transportation Area, portion modified by Fern Valley Interchange Project	ODOT	0.85 ²
OR 99, outside City Center Special Transportation Area, portion not modified by Fern Valley Interchange Project	ODOT	0.90 ⁴
Fern Valley Rd. within Urban Growth Boundary	Phoenix	0.90 ³
Fern Valley Rd. outside Urban Growth Boundary	Jackson County	0.95 ⁶
North Phoenix Rd. within Urban Growth Boundary	Phoenix	0.90 ³
North Phoenix Rd. outside Urban Growth Boundary	Jackson County	0.95 ⁶
Notes		
¹ ODOT, <i>Oregon Highway Plan (OHP)</i> , Updated in June 2006, p. 83.		
² 2003 Highway Design Manual, p. 10-38, http://www.oregon.gov/ODOT/HWY/ENGSERVICES/hwy_manuals.shtml .		
³ City of Phoenix Transportation System Plan, p. 29.		
⁴ OHP, op. cit., Action 1F.1, p. 79 (. . . the maximum volume to capacity ratio for the ramp terminals of interchange ramps shall be the smaller of the values of the volume to capacity ratio for the crossroad, or 0.85.”		
⁵ OHP, op. cit., Table 6, p. 83.		
⁶ Jackson County Transportation System Plan, p. 34.		

Access Spacing Standards

As applied to Fern Valley Road, ODOT access spacing standards require that:

- the distance between a ramp intersection and the first approach on the right; right in/right out only, be no less than 1,320 feet;
- the distance between a ramp intersection and the first intersection where left turns are allowed be no less than 1,320 feet;
- the distance between the start of the taper for the on-ramp and the last right in/right out approach road be no less than 990 feet;

unless ODOT approves a “deviation.”³ The listed standards are based on categorization of the interchange management area as “urban.” Appendix A contains OAR 734-051-0135, which specifies the requirements for deviations from these standards.

As applied to the portion of OR 99 under ODOT jurisdiction (i.e., north of the couplet), ODOT access spacing standards require that unsignalized public and private approaches be spaced at least 350 feet apart to Cheryl Lane (because the posted speed is 30 miles per hour (mph). North of Cheryl Lane, the standard 500 feet (because the posed speed is 45 mph).⁴ As applied to the OR 99 couplet, the City of Phoenix access spacing standard is

³ ODOT, *Oregon Highway Plan*, Appendix C, Table 16, Minimum Spacing Standards Applicable to Freeway Interchanges with Two-Lane Crossroads.

⁴ *Ibid.*, Table 15, Access Management Spacing Standards for District Highways. This is the standard for District Highways in urban areas with a posted speed of 30 or 35 mph.

400 feet both between driveways and between driveways and public street intersections.⁵ The Jackson County TSP recommends a 150-foot minimum spacing between accesses for roadways classified as Arterial, which includes N. Phoenix Road outside the Phoenix UGB.⁶

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⁵ City of Phoenix Land Development Code, Section 3.3.3(F), page 93, <http://www.phoenixoregon.net/DevelCode.pdf>.

⁶ Jackson County TSP, Table 5-2, p. 58.

Appendix D
Relevant Regulations, Plans, and Policies

Note to Reviewers: This appendix will contain a compilation of regulations, plans, and policies from Technical Memorandum 2, including its appendices. Technical Memorandum 2 is available at

http://www.oregon.gov/ODOT/HWY/REGION3/docs/fvi/IAMP_Tech_Memo_2_9-21-07.pdf.

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Appendix E
Traffic Analysis

Note to Reviewers: This appendix will be added when a technical memorandum on the IAMP traffic analysis is completed. The contents will be similar to what Christina Fera-Thomas presented at the May 2008 CAC/PDT meeting on Scenario 1 and some Scenario 2 results.

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Appendix F
Land Use Scenarios

Note to Reviewers: This appendix will contain the sections of Technical Memorandum 3, Development Scenario, entitled “Methodology for Development Scenario Formulation” and “Development Scenarios” and the technical memorandum’s appendices. Technical Memorandum 3 is available at

[http://www.oregon.gov/ODOT/HWY/REGION3/docs/fvi/IAMP Tech Memo 3 12-17-07.pdf](http://www.oregon.gov/ODOT/HWY/REGION3/docs/fvi/IAMP_Tech_Memo_3_12-17-07.pdf).

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Insert Figure F-1

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Appendix G
City of Phoenix Comprehensive Plan Map

Insert Appendix G Phoenix Comp Plan map.pdf in place of this page.

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Appendix H
City of Phoenix Land Use Districts Map

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Appendix I
City of Phoenix Comprehensive Plan Policies on the
Interchange Business, Commercial, and Industrial Designations and
General Land Use Policies

Replace with Appendix I Land Use Designation Policies.pdf.

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Appendix J
City of Phoenix City Center Comprehensive Plan Element

Replace with Appendix J City Center Element.pdf.

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Appendix K
Phoenix Development Code Chapters on City Center, Commercial Highway, General
Industrial, and Light Industrial Districts and Selected Design Standards

Replace with Appendix K Development Code Chapters.pdf

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