

DRAFT

Technical Memorandum 5

EXISTING AND FUTURE
DEFICIENCIES

IAMP 21

Interchange Area Management Plan for the
Interstate-5 Exit 21 Interchange

November 20, 2014

Oregon Department of Transportation
Region 3

INTRODUCTION

This memorandum summarizes existing and future transportation system deficiencies and needs within the Area of Primary Impact (API) of Interstate 5 (I-5) Interchange 21 in Talent, Oregon. Figure 1 shows the API. This memorandum covers deficiencies for both vehicular and non-vehicular traffic, areas with specific safety concerns, deficiencies related to the populations specified in Task 4.5, and deficiencies related to freight. The memorandum was prepared as part of the development of an interchange area management plan (IAMP) for Interchange 21.

SUMMARY OF NEEDS AND DEFICIENCIES

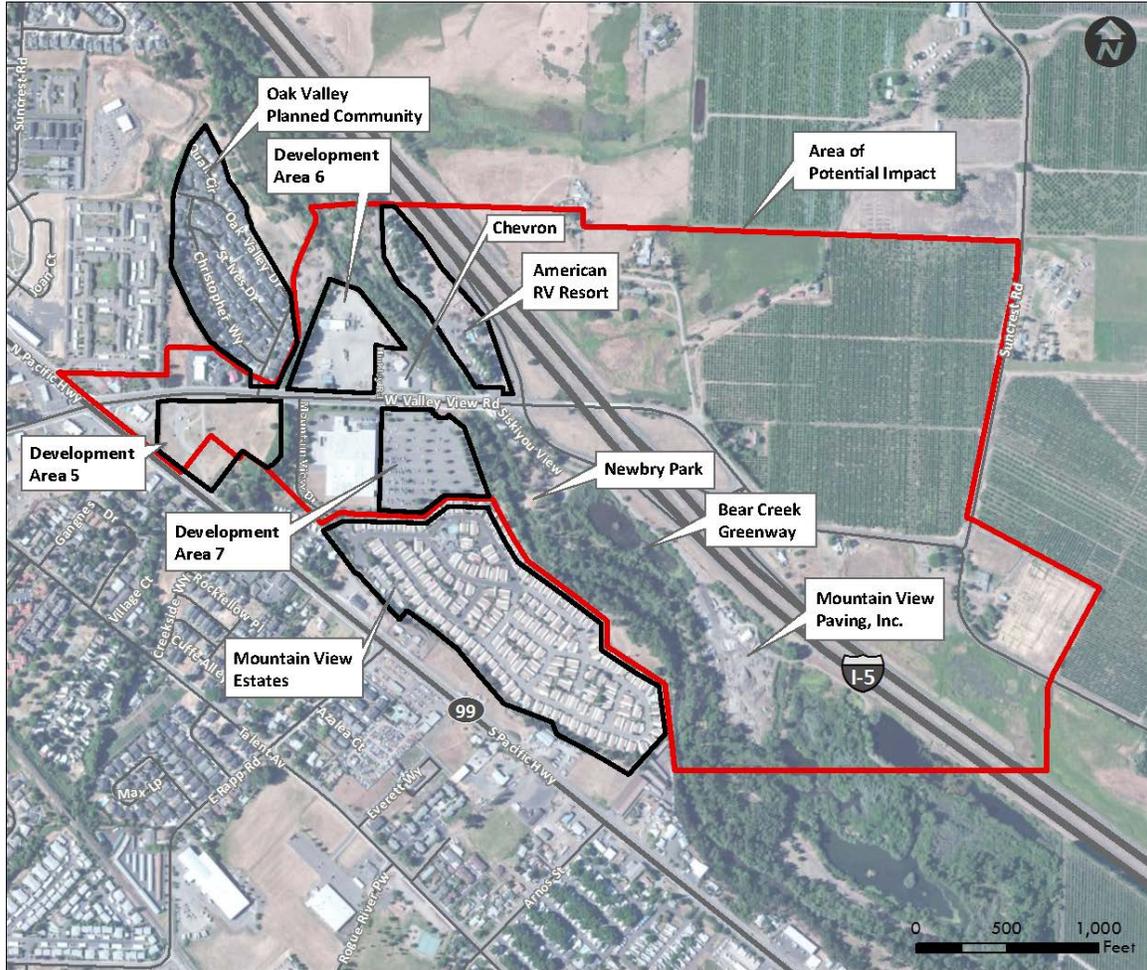
This section presents needs and deficiencies identified in Technical Memorandum #3 (Existing Conditions) and Technical Memorandum #4 (Future Conditions). Deficiencies are organized in the following subsections:

- **Vehicular Traffic** – Summarizes intersection operational deficiencies at API intersections under existing (2014) and future (2038) conditions.
- **Non-Vehicular Modes of Travel** – Summarizes deficiencies related to pedestrian, bicycle, and transit networks.
- **Freight Traffic** – Summarizes deficiencies related to freight within the API under existing and future conditions.
- **Safety Areas** – Summarizes safety deficiencies identified at intersections and roadway segments within the API under existing year 2014 and future year 2038 conditions.
- **Roadway Standards** – Summarizes roadway deficiencies along West Valley View Road within the API.
- **Access Spacing** – Summarizes access spacing deficiencies along West Valley View Road within the API.
- **Bridge Standards** – Summarizes bridge deficiencies along West Valley View Road within the API.
- **Populations** – Summarizes deficiencies related to Title VI of the Civil Rights Act of 1964 , Environmental Justice, the Americans with Disabilities Act, and elderly populations

VEHICULAR TRAFFIC

Intersections along West Valley View Road within the API were evaluated operationally under existing and future conditions and shown to operate within performance standards. I-5 and merge/diverge points associated with Interchange 21 ramps operate well below the mobility standard under existing conditions and continue to have available capacity under future conditions.

Figure 1. Area of Primary Impact

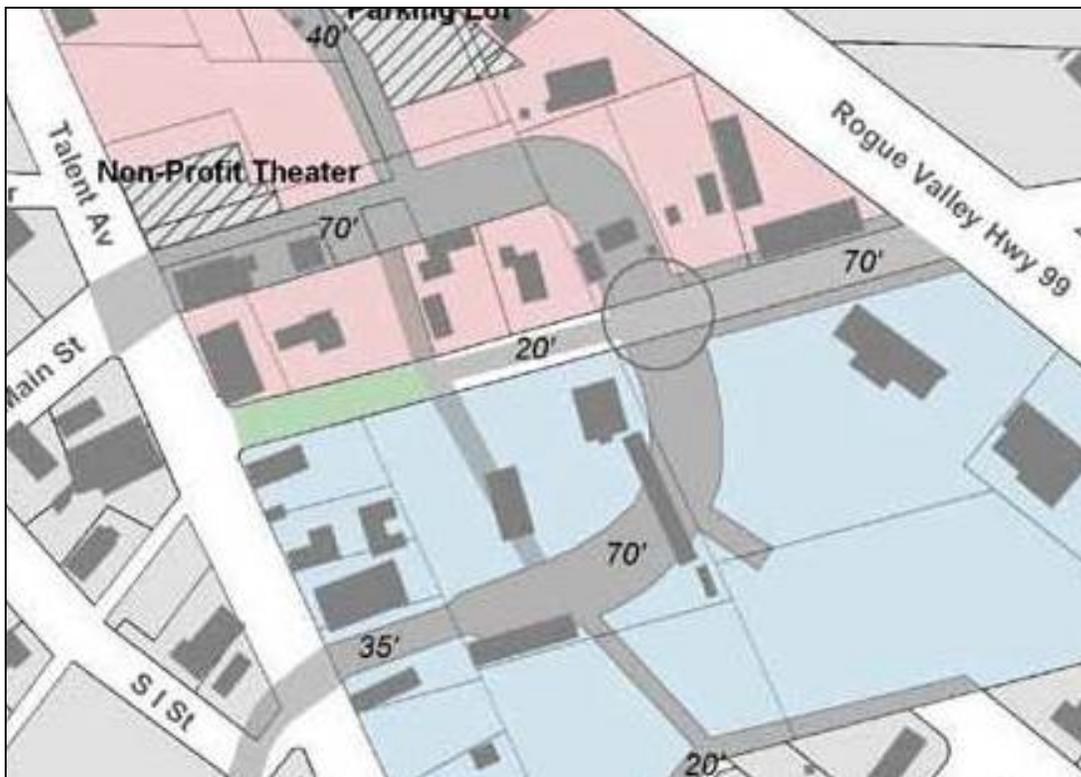


95th percentile queue lengths were evaluated under existing and future conditions and not shown to exceed link distances or block upstream/downstream intersections. The west approach of the signalized intersection of OR 99/West Valley View Road was the only link identified to potentially exceed its available storage length in the future and this resulted solely from a roundabout that was constructed approximately 250 feet west of OR 99 on West Valley View as part of the West Valley View Vision Master Plan. Prior to the roundabout, the west approach to the signalized intersection had 250 feet of storage for the eastbound left-turn movement and 700 feet of storage for the eastbound through/shared right-turn movement. See Figure 2. After construction of the roundabout, the west approach has 150 feet of storage for the left-turn movement and 250 feet of storage for the through/shared right-turn movement, which are considerably less. See Figure 3. The 95th percentile queue lengths are not projected to reach the roundabout under future conditions, but could be reached if higher growth occurs than expected and/or traffic patterns change by 2038.

Figure 2. Before Roundabout



Figure 3. After Roundabout



NON-VEHICULAR MODES OF TRAVEL

Pedestrian and bicycle facilities on West Valley View Road are complete from OR 99 to Siskiyou View Road, which connects to Newbry Park and the Bear Creek Greenway. Both facilities end at Siskiyou View Road. From Siskiyou View Road to Suncrest Road, West Valley View Road becomes rural and changes jurisdiction from City of Talent to Jackson County. Along this rural section, the road has neither sidewalks nor bike lanes and is difficult to traverse because of meandering shoulders of various widths and conditions.

Within the API, West Valley View Road is designated as a major arterial under City of Talent jurisdiction from OR 99 to the east city limits (which are at Siskiyou View Drive). The street standards for a major arterial include a 6-foot bike lane in each direction and 8-foot sidewalks. In commercial areas, sidewalks are to be 8 feet wide, if adjacent to the curb, and 7 feet wide, if separated from the curb by an 11-foot “parkrow.” From the east city limits to the I-5 northbound off-ramp, West Valley View Road is under the jurisdiction of the Oregon Department of Transportation (ODOT), which classifies it an urban minor arterial because it is within the City’s urban growth boundary. The ODOT standard for urban minor arterials requires 12-foot travel lanes, an 8-foot bike lane, and a 6-foot sidewalk with a 6-foot buffer area. From the I-5 northbound off-ramp to Suncrest Road, West Valley View Road is under Jackson County jurisdiction and is classified as a rural minor collector. The Jackson County standard for a rural minor collector requires a minimum 4-foot paved shoulder, but has no requirement for curb, gutter, bike lanes or sidewalks. Table 1 lists pedestrian and bicycle facility deficiencies, i.e., instances where existing West Valley View Road improvements fall short of the applicable City, ODOT, and County standards.

Table 1. Pedestrian and Bicycle Deficiencies on West Valley View Road Within the API

Segment	Bicycle Facilities		Pedestrian Facilities	
	Standard	Actual	Standard	Actual
I-5 NB ramps to I-5 SB ramps	8 ft. lane*	None*	6 ft. sidewalk with 6 ft. buffer*	None*
I-5 SB ramps to Siskiyou View Dr.	8 ft. lane*	7 ft. shoulder*	6 ft. sidewalk with 6 ft. buffer*	None*
Siskiyou View to Hinkley Road	6 ft. lane	6 ft.	8 ft. sidewalk	5-10 ft.
Hinkley Road to Mountain View Drive	6 ft. lane	4 ft.	8 ft. sidewalk	5 ft.
Mountain View Drive to Oak Valley Drive	6 ft. lane	4 ft.	8 ft. sidewalk	5 ft.
Oak Valley Drive to OR 99	6 ft. lane	4 ft.	8 ft. sidewalk	5 ft.

* The ODOT standard for urban minor arterials requires sidewalks and striped bike lanes.

FREIGHT TRAFFIC

I-5 is a designated freight route and freight from I-5 accesses City of Talent businesses via West Valley View Road. Freight traffic accounts for about 13 percent of traffic to/from the City of Talent and Jackson County in the project vicinity using West Valley View Road as the connecting route. Roughly 5 percent of traffic at the I-5 northbound and southbound off-ramps, 6 percent at the southbound on-ramp, and 15 percent at the northbound on-ramp are trucks.

No issues were identified with freight traffic in terms of congestion, roadway geometrics, weight/height restrictions, or overall safety under existing or future conditions. More than a decade ago, a truck stop occupied Development Area 6, as shown in Figure 1, and attracted higher truck percentages to/from I-5. It has seen little to no development since closing and remains vacant. A truck stop is not anticipated on Development Area 6 in the future because of competing truck stops at I-5 exits 24, 30, and 33.

Freight traffic is expected to increase as commercial development occurs within the API over the next 20-plus years, but this is not expected to create any issues. Land east of I-5 is expected to remain rural residential and agricultural. Most land west of I-5 is either developed with commercial uses or zoned for commercial uses and expected to develop accordingly.

City of Talent staff has expressed concern about the potential for an expansion of operations at the site of Mountain View Paving, Inc., as shown in Figure 1. Access to the site is via Siskiyou View Drive, which intersects West Valley View Road near the southbound on-ramp to I-5. The likelihood of such an expansion and whether it would be allowable under the Jackson County Land Development Ordinance are undetermined. However, such an expansion would affect the volume of freight traffic to/from I-5 and on West Valley View Road.

SAFETY AREAS

Crash rates were calculated as part of the existing conditions analysis and reported for intersections and roadway segments within the API. All intersections and roadway segments were shown to have crash rates less than ODOT-published 90th percentile and statewide crash rates. Similarly, I-5 segment crash rates were reported to be less than the statewide crash rate. No segments of I-5 or West Valley View Road were identified in the top 10 percent of the most recent (2013) Safety Priority Index System rankings.

ROADWAY STANDARDS

City of Talent standards for major arterial streets include two 12-foot travel lanes and a 14-foot center left-turn lane, for a 74-foot wide roadway, curb to curb, within a 100-foot right-of-way. ODOT's design standard for a rural collector street with an average daily volume over 2,000 trips includes 11-foot travel lanes and 8-foot shoulders (plus 2 feet for barrier clearance, if a guardrail exists). ODOT's urban design standard for a district level highway requires 12-foot travel lanes, 6 to 8-foot

bike lanes in both directions (depending upon roadway speed), and 6-foot sidewalks with 6 to 8-foot buffer areas. Jackson County’s rural minor collector roadway standard includes minimum 11-foot travel lanes and minimum 4-foot paved shoulders for a 30-foot wide roadway within a 60-foot wide right-of-way. Roadway deficiencies are summarized in Table 2.

Table 2. Roadway Deficiencies within the API

Roadway	Segment	R.O.W.		Shoulder		Travel Lanes	
		Standard	Actual	Standard	Actual	Standard	Actual
West Valley View Road	Suncrest Road to I-5 NB ramp	ND	ND	4 ft. paved	None	ND	ND
	I-5 NB ramps to I-5 SB ramps	-	-	6-8 ft.	2-4 ft. paved	ND	ND
	I-5 SB ramps to Siskiyou View Drive	-	60 ft.	6 ft.	7 ft.	12 ft. plus 14 ft. LTL	11 ft.
	Siskiyou View Drive to Hinkley Road	100 ft.	60-66 ft.	ND	ND	12 ft. plus 14 ft. LTL	11 ft.
	Hinkley Road to Mountain View Drive	100 ft.	80 ft.	ND	ND	12 ft. plus 14 ft. LTL	11 ft.
	Mountain View Drive to Oak Valley Drive	100 ft.	72-80 ft.	ND	ND	12 ft. plus 14 ft. LTL	11 ft.
	Oak Valley Drive to OR 99	100 ft.	66 ft.	ND	ND	12 ft. plus 14 ft. LTL	11 ft.
Suncrest Road	Within API	60 ft.	40 ft.	4 ft. paved	None	ND	ND

LTL – Left-Turn Lane

ND – Not Deficient

ACCESS SPACING

The City of Talent access spacing standard for a major arterial within a 35-50 mile per hour zone is 500 feet. ODOT’s access spacing standard is 0.25 mile from interchange ramp terminals. The Jackson County access spacing standard for a rural roadway is 150 feet. Many access points within the API do not meet these standards. Accesses with deficient spacing are summarized in Table 3.

Table 3. Access Spacing Deficiencies Within the API

Section of West Valley View	Distance to Nearest Access (ft)		No. of Accesses
	Standard	Actual	
West of I-5 SB Ramps			
I-5 SB to Mountain View	1,320 ft. from I-5 SB Ramps/ 750 ft. if RIRO	1,235 ft./ 535 ft. to RIRO	7/2
Mountain View to OR 99	500 ft.	<500 ft.	15
I-5 SB Ramp to I-5 NB Ramp			
In Between I-5 Ramps	1,320 ft. from I-5 Ramps	<1,320 ft.	2
East of I-5 NB Ramps			
I-5 NB to Suncrest Road	1,320 f.t from I-5 NB Off-Ramp	<1,320 ft.	8

RIRO – Right In Right Out

BRIDGE STANDARDS

The West Valley View Road Bridge over 1-5 at the Exit 21 interchange was given a sufficiency rating of 71.1 in ODOT's Trans GIS website or 2014 Bridge Log, where 100 would represent an entirely sufficient bridge and zero an entirely insufficient or deficient bridge. Its deck condition was rated satisfactory, with a fair superstructure and good substructure. It was rated functionally obsolete based on the appraisal rating of the bridge deck geometry, under-clearances, and/or approach roadway alignments. The existing bridge width is 33-34 feet, which is considered deficient because it does not meet the minimum design standards, which, for a rural minor collector, include minimum 11-foot travel lanes and 10-foot shoulders, or a minimum width of 42 feet.

POPULATIONS

There are no existing or projected future deficiencies regarding the racial and ethnic minorities, low-income persons, the physically and mentally disabled, and the elderly. As described in Technical Memorandum 2, Existing Conditions, within the API, these populations consist of low-income persons in the American RV Resort and elderly residents of the Oak Valley Planned Community and Mountain View Estates subdivisions. See Figure 1 for the location of the American RV Resort and the two subdivisions. As stated above, there are no existing or projected deficiencies in operations for motor vehicle travel, and no deficiencies in bicycle or pedestrian facilities in the API. In addition to sidewalks and bicycle lanes along West Valley View Road between I-5 and OR 99, there are traffic signals and marked crosswalks on West Valley View Road at both the Chevron service station and the intersection with OR 99.