

9th Street Improvement Plan

APPENDICES

APPENDIX II-A

City of Corvallis and Oregon Department of Transportation Spacing Standards

ODOT Suggested Non-Freeway Access Management Classification System

Category	State Highway Functional Class*	Level of Importance	Multilane or Two-Lane	Area	Typical Operating Speed	Typical Median Control
3	Major Arterial	Statewide/regional	Multilane	Rural	55 mph	full/partial
				Urban	45 mph	full/partial
			Two-lane	Fully developed**	35 mph	n/a
				Rural	55 mph	none
4	Minor Arterial	Regional/district	Multilane	Urban	45 mph	partial
				Fully developed**	35 mph	none/partial
			Two-lane	Rural	55 mph	partial
				Urban	45 mph	none/partial
5	Major Collector	District	Multilane	Fully developed**	35 mph	none/partial
				Rural	45 mph	none
			Two-lane	Urban	40 mph	n/a
				Fully developed**	35 mph	none
					40 mph	none/partial
					35 mph	none/partial

* The functional class stated is for the state highway system. Some facilities may qualify for a higher functional class for the local jurisdiction. The highest functional class, state or local, should be used to assign the access management category.

** Fully developed refers to urban areas that have historically and traditionally been served by the main streets for urban areas, typically in and near the central business district.

Source: Access Management Classification and Safety Standards, ODOT

Corvallis Land Development Code, Section 4.1.40

STANDARDS FOR OFF-STREET PARKING AND ACCESS

All off-street parking facilities, vehicle maneuvering areas, driveways, loading facilities, accessways, and private streets shall be designed, paved, curbed, drained, striped, and constructed to the standards set forth in this Section and the City's Off-street Parking and Access Standards, established by the City Engineer and as amended over time. A permit from the Development Services Division shall be required to construct parking, loading, and access facilities, except for Single Detached, Duplex, Single Attached, and Attached Building Types; and Manufactured Dwellings.

a. Access to Arterial, Collector, and Neighborhood Collector Streets

1. Off-street facilities shall be designed and constructed with turnaround areas to prevent back-up movement onto Arterial Streets.
2. Location and design of all accesses to and/or from Arterial, Collector, and Neighborhood Collector Streets, as designated in the Corvallis Transportation Plan, are subject to review and approval by the City Engineer. Accesses shall be located a minimum of 150 ft. from any other access or street intersection. Exceptions to this requirements may be granted by the City Engineer. Evaluations of exceptions shall consider the posted speed for the street on which access is proposed, constraints due to lot patterns, and effects on the safety and capacity of the adjacent public street, bicycle, and pedestrian facilities.
3. When developed property will be expanded or altered in a manner that significantly affects on-site parking or circulation, both existing and proposed accesses shall be reviewed under the standards in "2," above. As a part of an expansion or alteration approval, the City may require relocation and/or reconstruction of existing accesses not meeting those standards.

b. Access to Unimproved Streets

1. Development may occur without access to a street built to City standards when that development constitutes infill on an existing substandard public street. A condition of development shall be to prepay the City for future street improvements according to current policies and procedures. This shall be required with approval of any of the following applications:
 - a) Land Divisions;
 - b) Conditional Developments;

- c) Building Permits for new nonresidential construction or structural additions to nonresidential structures, except Accessory Development; and/or
 - d) Building Permits for new residential units.
2. The City Engineer may allow the developer to sign an irrevocable petition for public street improvements in lieu of prepayment if it is determined that:
- a) Existing development along a particular street corridor is so extensive that the ability to fund a future street improvement project through the collection of additional prepayment fees is limited; or
 - b) Future improvement scenarios are uncertain to the extent that an estimate for street improvements cannot be generated with any degree of confidence.

c. Vision Clearance –

- 1. Except within the Central Business (CB) Zone, Vision Clearance Areas shall be provided at the intersections of all streets and at the intersections of driveways and alleys with streets to promote pedestrian, bicycle, and vehicular safety. The extent of Vision Clearance Areas shall be determined from standards adopted by the City Engineer that consider functional classification of the streets involved, type of traffic control present at the intersection, and designated speed for the streets.
- 2. Traffic control devices, street lights, and utility installations approved by the City Engineer are permitted within Vision Clearance Areas.

d. Backing or Maneuvering of Vehicles - For developments requiring four or more parking spaces, vehicular backing or maneuvering movements shall not occur across public sidewalks or within any public street other than an alley, except as approved by the City Engineer. An exception to this provision may be granted for up to two parking spaces per dwelling unit for Duplexes and Triplexes, for a total of six spaces, provided that these spaces are within driveway areas designed to serve individual units within the Duplexes and Triplexes, as shown in Figure 4.10-15 - Driveway Exception for Duplexes and Triplexes. Evaluations of other requests for exceptions shall consider constraints due to lot patterns and effects on the safety and capacity of the adjacent public street and on bicycle and pedestrian facilities. See also Section 4.10.60.01 a.3 and Section 4.10.60.02.

e. Screening - All parking areas containing four or more spaces and all parking areas in conjunction with an off-street loading facility shall require screening in accordance with the zoning requirements and Chapter 4.2 - Landscaping, Buffering, Screening, Natural Resource Protection, and Lighting. Where not otherwise specified by zoning

requirements, screening along a public right-of way shall include a minimum five-ft.-wide plant buffer adjacent to the right-of-way.

- f. **Lighting** - Lighting shall be consistent with the provisions outlined in Chapter 4.2 - Landscaping, Buffering, Screening, and Lighting.
- g. **Setbacks** - Where vehicles will be backing out from a driveway to the public right-of-way, all off-street parking shall have a minimum 19 ft. setback from the sidewalk or future sidewalk to a garage or carport. Where no sidewalk location has been established, a 19-ft. setback from the right-of-way edge to the parking structure shall be used.

Nothing in this Section shall imply or permit a lesser setback than that required by any other section of this Code.

- h. **Sidewalks** - Sidewalks shall be required in accordance with the provisions of Section 4.0.40 of Chapter 4.0 - Improvements Required with Development.
- i. **Driveways** –
 - 1. Driveways shall be surfaced as required by standards established by the City Engineer. No point along the driveway length shall traverse a slope in excess of 15 percent. The location and design of the driveway within the lot frontage shall provide for unobstructed sight per the Vision Clearance requirements in Section 4.1.40.c. Requests for exceptions to these requirements will be evaluated by the City Engineer, who will consider the physical limitations of the lot and the safety impacts to vehicular, bicycle, and pedestrian traffic.
 - 2. Single-family (Attached or Detached) and Duplex development shall be limited to a maximum 20 ft.-wide curb cut. An exception to this provision may be granted in situations where steep terrain in excess of a 15 percent grade prevents compliance. Additional exceptions to this requirement may be obtained through the procedures outlined in Chapter 2.12 - Lot Development Option and Chapter 2.5 - Planned Development.
- j. **Access between Sites via Parking Lots and/or Drives** - Where vehicular circulation between sites is appropriate to reduce off-site traffic impacts and/or to provide convenience for customers and/or delivery vehicles, vehicular connections between commercial developments shall be provided via parking lots and/or drives.

Appendix II-B

City of Corvallis Lane Width Standards (Recommended)

Corvallis Street Functional Classification System¹						
	Arterial Highway	Arterial	Collector	Neighborhood Collector	Local Connector	Local
Auto amenities (lane widths) ²	2-5 Lanes (11 - 14 ft.)	2-5 Lanes (12 ft.)	2-3 Lanes (11 ft.)	2 Lanes (10 ft.)	2 Lanes (10 ft.)	Shared Surface
Bike amenities ³	2 Lanes (6 ft.)	2 Lanes (6 ft.)	2 Lanes (6 ft.)	2 Lanes (6 ft.)	Shared Surface	Shared Surface
Pedestrian amenities	2 Sidewalks (6 ft.) Ped. Islands	2 Sidewalks (5 ft.) Ped. Islands	2 Sidewalks (5 ft.)	2 Sidewalks (5 ft.)	2 Sidewalks (5 ft.)	2 Sidewalks (5 ft.)
Transit	Typical	Typical	Typical	Typical	Permissible/not typical	Permissible/not typical
Managed speed ⁴	20 mph - 55 mph	25 mph - 45 mph	25 mph - 35 mph	25 mph	25 mph	15-20 mph
Curb-to-curb width ⁵ (two way)						
No on-street parking	34 ft - 84 ft.*	34 ft.-72 ft.	34 ft.-45 ft.	32 ft.	20 ft.*	20 ft.*
Parking one side	42 ft. - 84 ft.	NA	NA	40 ft.	28 ft.	25 ft.*
Parking both sides	50 ft. - 84 ft.	NA	NA	48 ft.	28-34 ft.	28 ft.
Traffic calming ⁶		No	Permissible/not typical	Typical	Permissible	Permissible
Preferred adjacent land use	High Intensity	High Intensity	Med. to High Intensity	Medium Intensity	Med. to Low Intensity	Low Intensity
Access control	Yes	Yes	Some	No	No	No
Turn lanes		Continuous and/or medians with ped. islands	Typical at intersections with Arterials or Collectors	Not typical	Not typical	Not typical
Planting strips ^{7&8}	Two - 12 ft. Except across areas of Natural Features	Two - 12 ft. Except across areas of Natural Features	Two - 12 ft. Except across areas of Natural Features	Two - 12 ft. Except across areas of Natural Features	Two - 6 ft. Except across areas of Natural Features	Two - 6 ft. ⁷ Except across areas of Natural Features ^{7&8}
Through-traffic connectivity		Primary function	Typical function	Typical function	Permissible function	Permissible function

Source: Corvallis Land Development Code, Table 4.0 – 1, pg 4.0 - 14

1. These standards do not preclude the flexibility currently allowed through the Planned Development process in Chapter 2.5 - Planned Development.
2. Lane widths shown are the preferred construction standards that apply to existing routes adjacent to areas of new development, and to newly constructed routes. On Arterial and Collector roadways, an absolute minimum for safety concerns is 10 ft. Such minimums are expected to occur only in locations where existing development along an established sub-standard route or other severe physical constraints preclude construction of the preferred facility width.
3. An absolute minimum width for safety concerns is five ft., which is expected to occur only in locations where existing development along an established sub-standard route or other severe physical constraints preclude construction of the preferred facility width. Parallel multi-use paths in lieu of bike lanes are not appropriate along the Arterial-Collector system due to the multiple conflicts created for bicycles at driveway and sidewalk intersections. In rare instances, separated (but not adjacent) facilities may provide a proper function.
4. Arterial Highway speeds in the Central Business or other Commercial zones in urban areas may be 20-25 mph. Traffic calming techniques, signal timing, and other efforts will be used to keep traffic within the desired managed speed ranges. Design of a corridor's vertical and horizontal alignment will focus on providing an enhanced degree of safety for the managed speed.
5. Street design for each development shall provide for emergency and fire vehicle access. Street widths of less than 28 ft. shall be applied as a development condition through the Subdivision process in Chapter 2.4 - Subdivisions and Major Replats and/or the Planned Development process in Chapter 2.5 - Planned Development. The condition may require the developer to choose between improving the street to the 28-ft. standard or constructing the narrower streets with parking bays placed intermittently along the street length. The condition may require fire-suppressive sprinkler systems for any dwelling unit more than 150 ft. from a secondary access point. * To be applied in RS-9 and lesser zones.
6. Traffic calming includes such measures as bulbed intersections, speed humps, raised planted medians, mid-block curb extensions, traffic circles, signage, and varied paving materials and is addressed in the Transportation Plan.
7. Through the Planned Development Review Process, the planting strip along Local Streets and around the bulbs of Cul-de-sacs may be reduced or eliminated.
8. Where streets must cross protected Natural Features, street widths shall be minimized by providing no on-street parking and no planting strips between the curb and the sidewalk on either side of the street.

Appendix II-C

City of Corvallis and ODOT's Sidewalk and Bike Lane Standards

Sidewalk and Bike Lane Standards		
Bikeways		
	ODOT	Corvallis
Bike lane	6 ft	6 ft
Shoulder bikeway	6 ft	6 ft
Wide lane	14-15 ft	n/a
Multi-use path	10 ft	8-10 ft
(high use)	12 ft	12 ft
Walkways		
	ODOT	Corvallis
Sidewalk*	6 ft	5 ft
(on bridge)	7 ft	
(high use)	8 ft	12 ft
Shy distance	2 ft	6-12 ft

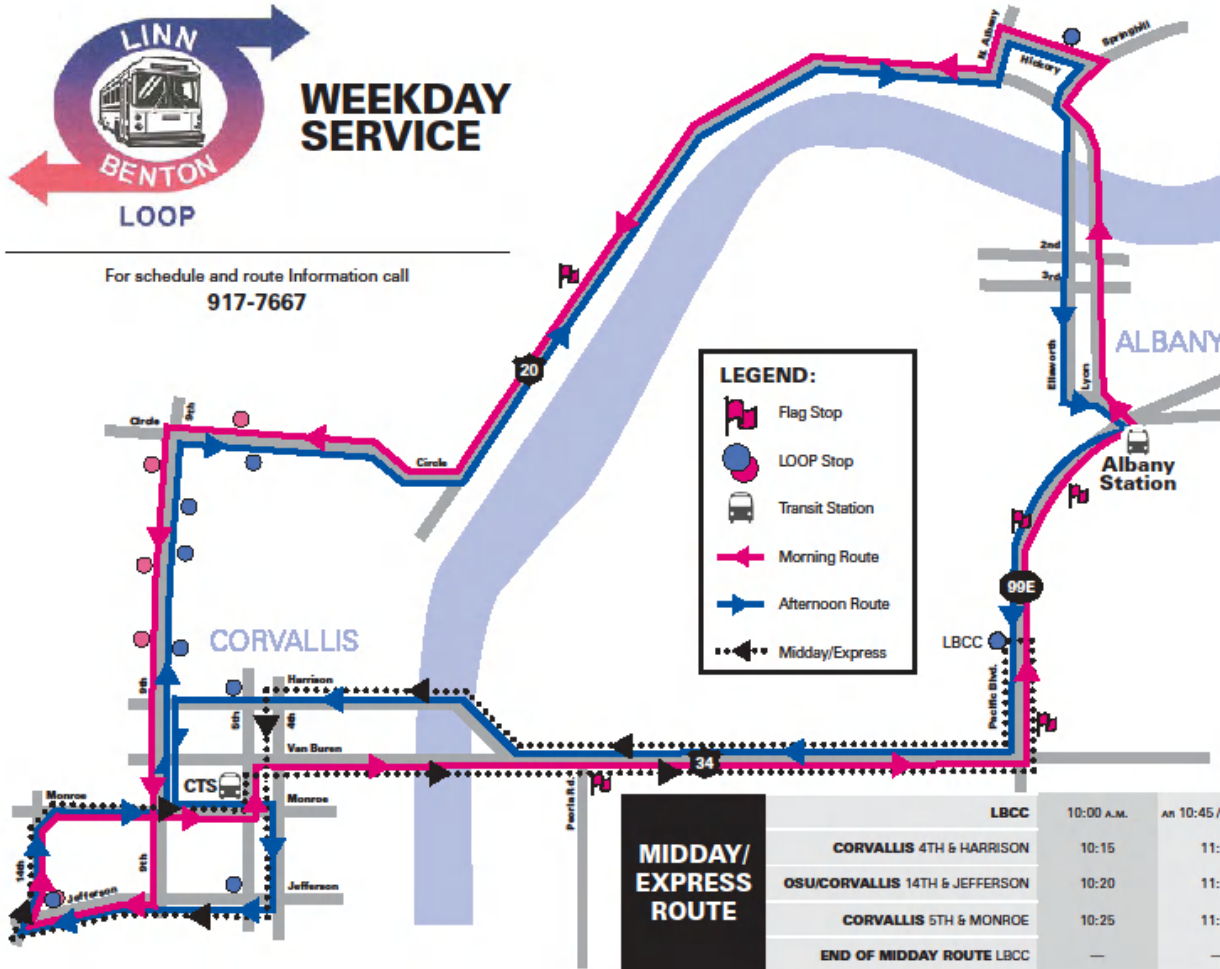
** Clear dimensions, exclusive of curb and obstructions*

APPENDIX II-D

Linn-Benton Loop Map and Schedule



For schedule and route information call
917-7667



MORNING ROUTE			
ALBANY STATION	6:25	7:35	8:45
NORTH ALBANY PARK & RIDE	6:35	7:45	9:10
HEWLETT PACKARD	6:50	8:00	9:25
AVERY SQUARE	6:56	8:06	9:31
OSU/CORVALLIS 14TH & JEFFERSON	7:00	8:10	9:35
CORVALLIS 5TH & MONROE	7:05	8:15	9:40
LBCC	7:25	8:35	10:00

AFTERNOON ROUTE			
ALBANY STATION	2:45	4:05	5:20-5:40
LBCC	3:05	4:15	5:50
CORVALLIS 7TH & HARRISON	3:20	4:30	6:05
CORVALLIS 5TH & MONROE	3:25	4:35	6:10
OSU/CORVALLIS 14TH & JEFFERSON	3:30	4:40	6:15
AVERY SQUARE	3:35	4:45	6:20
HEWLETT PACKARD	3:45	4:55	6:30
NORTH ALBANY PARK & RIDE	4:00	5:10	6:50
END OF SERVICE ALBANY STATION	—	—	7:00




MIDDAY/ EXPRESS ROUTE	LBCC	10:00 A.M.	AN 10:45 / LV 11:00	AN 11:45 / LV 12:00	AN 12:45 / LV 1:00	1:45
	CORVALLIS 4TH & HARRISON	10:15	11:15	12:15	1:15	2:00
	OSU/CORVALLIS 14TH & JEFFERSON	10:20	11:20	12:20	1:20	2:05
	CORVALLIS 5TH & MONROE	10:25	11:25	12:25	1:25	2:15
	END OF MIDDAY ROUTE LBCC	—	—	—	—	2:30 P.M.

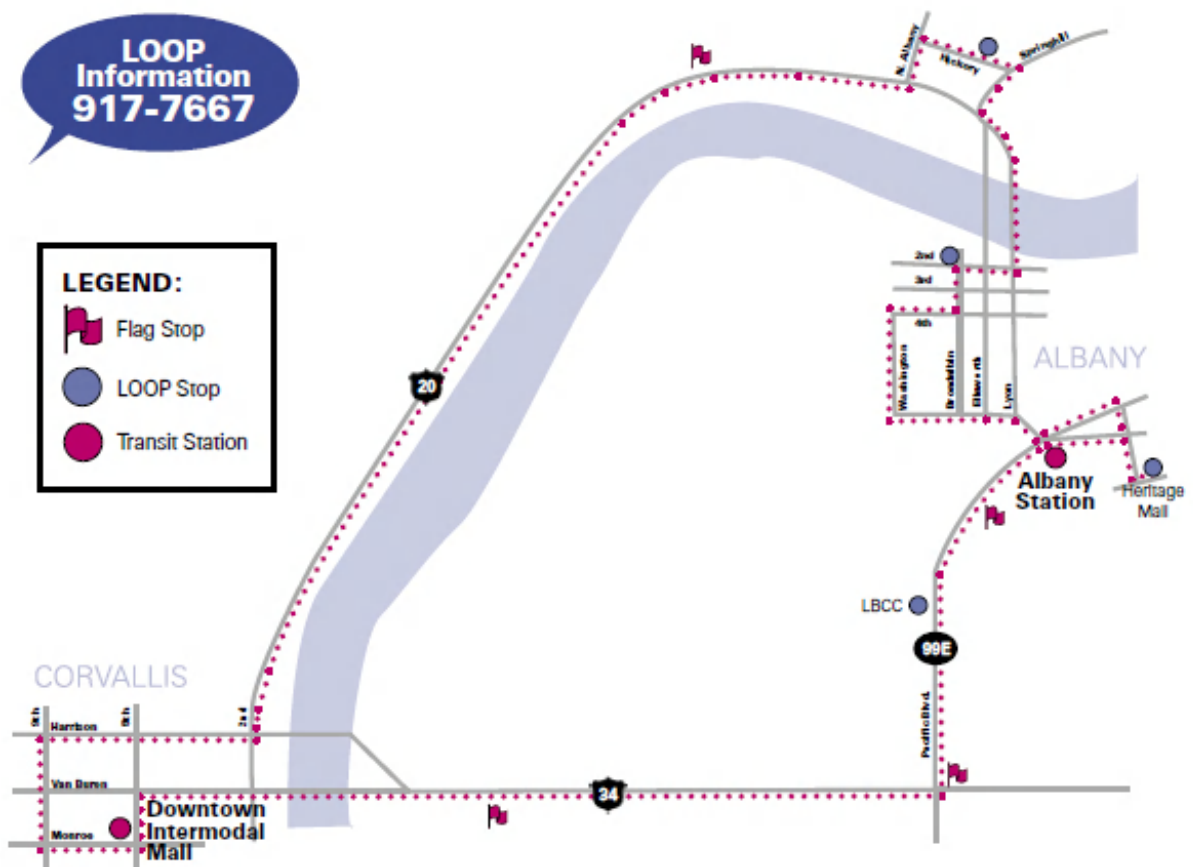
LINN-BENTON LOOP SYSTEM SATURDAY & HOLIDAY SERVICE

between downtown Corvallis, Albany, and Heritage Mall

**LOOP
Information
917-7667**

LEGEND:

-  Flag Stop
-  LOOP Stop
-  Transit Station



ALBANY STATION	ALBANY 2ND & BROADALBIN	N. ALBANY PARK & RIDE	CORVALLIS 5TH & MONROE	LBCC	ALBANY STATION	HERITAGE MALL
8:00	8:05	8:10	8:30	8:50	9:05	9:10
—	9:20	9:25	9:45	10:05	10:20	10:25
—	10:50	10:55	11:15	11:35	11:50	11:55
—	No service 12:00 to 1:00 (lunch break)			xxx	xxx	xxx
—	1:00	1:05	1:25	1:45	2:00	2:05
—	2:15	2:20	2:40	3:00	3:15	3:20
—	3:45	3:50	4:10	4:30	4:45	4:50
—	5:00	5:05	5:25	5:45	6:00	(service ends)

Appendix III – A: Intersection Alternative Analysis

To:	From:	Date:
Ali Bonakdar, Director, CAMPO John DeTar, David Helton, ODOT	Steve Perone, Jongsun Won PTV America	01/14/2010
<input type="checkbox"/> For attention	<input type="checkbox"/> Confidential	
<input type="checkbox"/> Consultation	<input type="checkbox"/> To do by:	

Subject: CAMPO - 9th Street Improvement Project – Alternative Analysis Results

The purpose of this memorandum is to evaluate three alternatives as a part of “Task 2: Develop Transportation Improvements and Assess Alternatives”. The three alternatives analyzed were developed with input from CAMPO and ODOT and described in the “CAMPO – 9th Street Improvement Project – Alternatives” memorandum. Table 1 lists the eleven (11) study intersections.

Table 1. Study Intersection List

#	Primary Road Name	Secondary Road Name	#	Primary Road Name	Secondary Road Name
1*	9th Street	Elks Drive	7	9th Street	Buchanan Avenue
2	9th Street	Conifer Boulevard	8*	OR-99W	Elks Drive
3	9th Street	Walnut Boulevard	9	OR-99W	Conifer Blvd.
4	9th Street	Circle Boulevard	10	OR-99W	Walnut Boulevard
5	9th Street	Garfield Avenue	11	OR-99W	Circle Boulevard
6	9th Street	Grant Avenue			

* Intersection is excluded from alternative analysis.

During the alternative development process it was decided to exclude the Elks Drive intersections of 9th Street and OR-99W from evaluation with the future alternatives analysis. These intersections were included in the existing and future baseline analysis; however, improvements at these intersections will be

considered by ODOT and the City of Corvallis as a part of Good Samaritan Regional Medical Center (GSRMC) expansion plan.

Alternative Descriptions

The alternatives have been classified into three layers. Details on each layer as well as applicable projects established in the Destination 2030 transportation plan are described below.

Destination 2030 Projects

Each of the alternatives outlined below include projects defined as part of the financially constrained “Corvallis Area Metropolitan Transportation Plan: Destination 2030” scenario. Projects from the plan included in this analysis are summarized in Table 2.

Table 2. Recommended System Improvements on Destination 2030

#	Primary Road Name	Secondary Road Name	Improvement
4	9th St.	Circle Blvd.	Circle Blvd. - Add eastbound right-turn lane (2010)
6	9th St.	Grant Ave.	Grant Ave. - Widen to add bike lanes sidewalks, improve alignment
7	9th St.	Buchanan Ave.	Buchanan Ave. - Construct eastbound left-turn lane.
9	OR-99W	Conifer Blvd.	OR-99W - Widen to four lanes to Lewisburg Road
11	OR-99W	Circle Blvd.	OR-99W - Widen to four lanes with left turn refuges (railroad overcrossing to Circle Blvd.) - construct northbound right-turn lane

Layer 1

Layer 1 includes local intersection level improvements recommended by PTV America. These improvements include intersection treatments (such as adding a turn lane, optimizing signal timing plan, etc.) based on forecast deficiency analysis. Improvements considered in Layer 1 analysis are summarized in Table 3.

Table 3. Layer 1 Improvements

#	Primary Road Name	Secondary Road Name	Improvement
4	9th St.	Circle Blvd.	<p>Circle Blvd.</p> <ul style="list-style-type: none"> - Add westbound right-turn lane <p>9th St.</p> <ul style="list-style-type: none"> - Add southbound and northbound right-turn lane - Add right-turn overlap phase to southbound and northbound approach - Lengthen northbound left-turn lane to 260 ft.
10	OR-99W	Walnut Blvd.	<p>OR-99W</p> <ul style="list-style-type: none"> - Add southbound right-turn lane.
11	OR-99W	Circle Blvd.	<p>Circle Blvd.</p> <ul style="list-style-type: none"> - Add right-turn overlap phase to eastbound approach - Lengthen westbound left-turn lane to 270 ft <p>OR-99W</p> <ul style="list-style-type: none"> - Add southbound / northbound right-turn lane

Layer 2

Layer 2 builds on the improvements from Layer 1 while considering the closure of westbound Conifer Boulevard between 9th Street and OR-99W as illustrated below in Figure 1. This closure will divert more traffic to OR-99W at Walnut Boulevard intersection. Improvements considered in the Layer 2 analysis are summarized in Table 4.

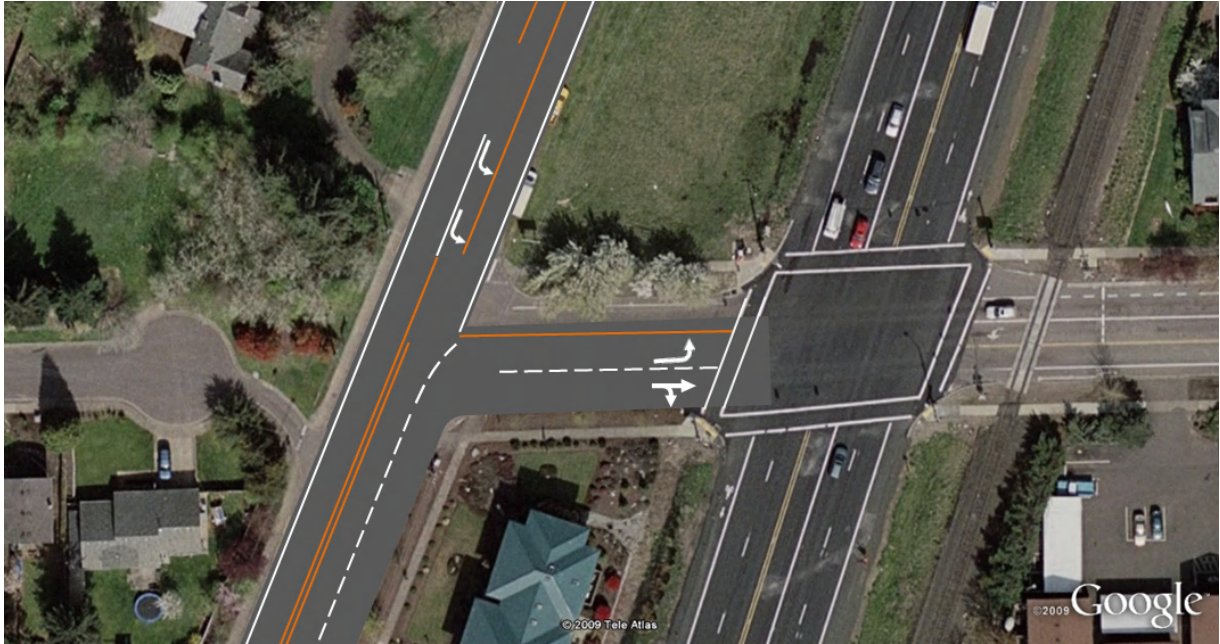


Figure 1. Conifer Boulevard Westbound Closure

Table 4. Layer 2 Improvements

#	Primary Road Name	Secondary Road Name	Improvement
2	9th St.	Conifer Blvd.	Conifer Blvd. - Close westbound approach toward 9th Street.
3	9th St.	Walnut Blvd.	Walnut Avenue - Add one left turn lane on westbound (Dual left turn).
9	OR-99W	Conifer Blvd.	Conifer Blvd. - Close westbound approach toward 9th Street.
10	OR-99W	Walnut Blvd.	OR-99W - Lengthen southbound left turn lane.
11	OR-99W	Circle Blvd.	Circle Blvd. - Add one lane to westbound left-turn lane (Dual left turn)

Layer 3

Layer 3 considers several additional improvements based on the analysis results from Layer 2. These improvements still based on built environment constraints such as railroad crossings at Walnut Boulevard and Circle Boulevard. Layer 3 improvements are summarized in Table 5.

Table 5. Layer 3 Improvements

#	Primary Road Name	Secondary Road Name	Improvement
9	OR-99W	Conifer Blvd.	Conifer Blvd. - Add eastbound second left-turn lane.
10	OR-99W	Walnut Blvd.	Walnut Blvd. - Add westbound right-turn lane - Add right-turn overlap phase to westbound approach OR-99W - Add right-turn overlap phase to westbound approach
11	OR-99W	Circle Blvd.	Circle Blvd. - Add westbound right-turn lane

Volume/Capacity (V/C) Analysis Result

A V/C analysis was conducted for the three alternative layers defined above. PTV America recommendations are listed in situations where a future year (2030) deficiency is identified to exist with the presence of a project in the baseline financially constrained scenario as defined in the “Corvallis Area Metropolitan Transportation Plan: Destination 2030”. The results of this analysis are presented in Table 6. For comparison purposes, results for the existing conditions and future baseline (no-build) scenarios have been included along with the mobility standard which is applicable to each intersection. The level of service (LOS) presented in Table 6 are based on the corresponding V/C ratio not intersection delay.

Table 6. Volume / Capacity Analysis Result

Intersection			Mobility Standard	2008		2030							
#	Primary Road	Secondary Road		V/C	LOS	Base		Layer 1		Layer 2		Layer 3	
						V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
1	9th St.	Elks Dr.	LOS D	0.23 (SBL)	A	0.21 (SBL)	A	Not analyzed					
2	9th St.	Conifer Blvd.	LOS D	0.37 (NBT)	A	0.29 (NBT)	A	0.29 (NBT)	A	0.16 (NBT)	A	0.16 (NBT)	A
3	9th St.	Walnut Blvd.	LOS D	0.55	A	0.65	B	0.65	B	0.71	C	0.71	C
4	9th St.	Circle Blvd.	LOS D	0.89	D	1.08	F	0.92	E	0.92	E	0.92	E
5	9th St.	Garfield Ave.	LOS D	0.43	A	0.51	A	0.51	A	0.51	A	0.51	A
6	9th St.	Grant Ave.	LOS D	0.51	A	0.59	A	0.59	A	0.59	A	0.59	A
7	9th St.	Buchanan Ave.	LOS D	0.66	B	0.68	B	0.68	B	0.68	B	0.68	B
8	OR-99W	Elks Dr.	0.85	1.01 (WBL)	F	2.50 (WBL)	F	Not analyzed					
9	OR-99W	Conifer Blvd.	0.85	0.81	D	0.88	E	0.88	E	0.77	C	0.77	C
10	OR-99W	Walnut Blvd.	0.85	0.51	A	0.94	E	0.88	E	1.05	F	0.89	D
11	OR-99W	Circle Blvd.	0.85	0.86	D	1.18	F	1.07	F	0.92	E	0.90	E

Queue Length Analysis Result

A 95th percentile and average queue length analysis was conducted for each of the alternatives. The results for each scenario as well as storage length to be compared are presented in Tables 7 through 9.

Table 7. Queue Analysis Result (1 of 3)

Primary Road	Secondary Road	Movement	Storage Length (ft)	Queue Length (ft)					
				Layer 1		Layer 2		Layer 3	
				95%	AVG	95%	AVG	95%	AVG

9th St.	Elk Dr.	EB	TH+R T	-	-	-	-	-	-	-
		WB	TH	250	-	-	-	-	-	-
		NB	LT	-	93	14	338	59	271	43
			RT	-	93	14	338	59	271	43
9th St.	Conifer Blvd.	WB	LT+R T	135	-	-	-	-	-	-
		SB	LT	100	-	-	-	-	-	-
			TH	-	43	7	-	-	-	-
		NB	TH	-	1,162	761	1,162	709	1,122	370
RT	-		1,158	863	1,159	785	1,117	466		
9th St.	Walnut Blvd.	EB	LT	150	95	30	94	27	86	23
			TH+R T	-	218	76	196	71	188	68
		WB	LT	160	239	82	245	103	215	80
			TH+R T	160	241	83	248	105	219	81
		SB	LT	170	71	20	21	-	21	-
			TH+R T	-	158	45	50	12	50	13
		NB	LT	150	1,647	318	1,403	214	687	102
			TH+R T	-	1,646	388	1,404	314	688	132
9th St.	Circle Blvd.	EB	LT	240	1,656	1,154	1,444	327	1,653	665
			TH	-	1,657	1,378	1,471	437	1,654	895
			RT	150	19	-	21	-	20	-
		WB	LT	175	295	79	227	59	237	65
			TH	300	191	56	137	42	136	43
			RT	150	50	12	22	-	20	-
		SB	LT	135	427	131	283	79	304	86
			TH	-	426	132	333	108	340	118
			RT	150	22	6	21	-	22	-
		NB	LT	150 / 260	330	103	284	95	262	90
TH	-		627	155	339	107	286	84		
RT	150		566	118	163	43	139	26		
9th St.	Garfield Ave.	EB	LT+T H	-	74	20	73	20	73	20
			RT	110	17	-	17	-	18	-
		WB	LT	-	43	8	43	8	43	8
			TH+R T	60	-	-	-	-	-	-

Table 8. Queue Analysis Result (2 of 3)

Primary Road	Secondary Road	Movement		Storage Length (ft)	Queue Length (ft)					
					Layer 1		Layer 2		Layer 3	
					95%	AVG	95%	AVG	95%	AVG
9th St.	Garfield Ave.	SB	LT+T H	160	23	-	23	-	24	-
			RT	-	200	34	207	34	224	37
		NB	LT	200	108	33	101	34	98	32
			TH+R T	-	147	22	140	21	139	21
9th St.	Grant Ave.	EB	LT	160	97	29	97	29	97	29
			RT	-	18	-	18	-	19	-
		SB	TH+R T	250	140	19	155	22	167	23
		NB	LT	120	20	-	19	-	20	-
			TH+R T	-	66	9	50	9	50	8
9th St.	Buchanan Ave.	EB	LT	150	114	32	116	31	117	32
			TH+R T	-	91	21	92	22	92	20
		WB	LT+T H	-	112	29	116	32	115	31
			RT	165	51	10	46	9	57	11
		SB	LT	350	92	24	94	25	94	26
			TH+R T	-	170	38	183	39	176	38
		NB	LT	240	102	32	96	31	109	31
			TH+R T	-	242	67	236	65	238	66
99W	Elks Dr.	EB	LT	110	82	11	85	15	84	13
			RT	110	126	28	178	47	140	32
		SB	TH+R T	-	-	-	-	-	-	-
		NB	LT	300	-	-	-	-	-	-
			TH	-	-	-	-	-	-	-
99W	Conifer Blvd.	EB	LT	110	184	104	182	59	178	39
			TH+R T	110	181	89	182	107	183	113
		WB	LT	265	167	56	1,054	395	687	265
			TH+R T	-	531	190	19	-	20	-
		SB	LT	300	110	32	94	27	109	30

			TH+R T	-	196	50	1,286	190	184	46
		NB	LT	300	43	8	-	-	-	-
			TH+R T	-	157	35	171	46	172	54

Table 9. Queue Analysis Result (3 of 3)

Primary Road	Secondary Road	Movement	Storage Length (ft)	Queue Length (ft)						
				Layer 1		Layer 2		Layer 3		
				95%	AVG	95%	AVG	95%	AVG	
99W	Walnut Blvd.	EB	LT	160	238	104	240	103	235	99
			TH+R T	160	238	104	240	103	235	99
		WB	LT	125	23	7	25	9	24	7
			TH	-	419	147	372	156	240	113
			RT	150					79	14
		SB	LT	300	47	11	48	10	48	12
			TH	-	317	85	1,243	501	548	163
			RT	150	274	32	1,241	494	435	91
		NB	LT	350	73	20	75	18	106	30
			TH+R T	-	46	9	45	8	88	20
99W	Circle Blvd.	EB	LT	150	48	11	93	26	63	12
			TH	300	391	198	174	62	264	74
			RT	110	112	24	53	9	48	8
		WB	LT	150	1,654	1,085	998	190	262	125
			TH	-	1,655	1,300	1,652	975	1,167	353
			RT	150					22	-
		SB	LT	390	445	154	116	30	168	45
			TH	-	190	53	93	22	148	36
			RT	150	79	18	44	8	44	7
		NB	LT	330	92	36	94	36	92	36
TH	-		166	57	160	50	157	49		
RT	160		-	-	-	-	-	-		

Figures 2 through 6 graphically present the combined results of the operational V/C and 95th percentile queue length analysis. On the maps, gray circles indicate an intersection where the V/C ratio exceeds the mobility standard and a gray rectangle indicates an approach where the 95th percentile queue length exceeds the storage lane length while white colored rectangles indicate acceptable operations.

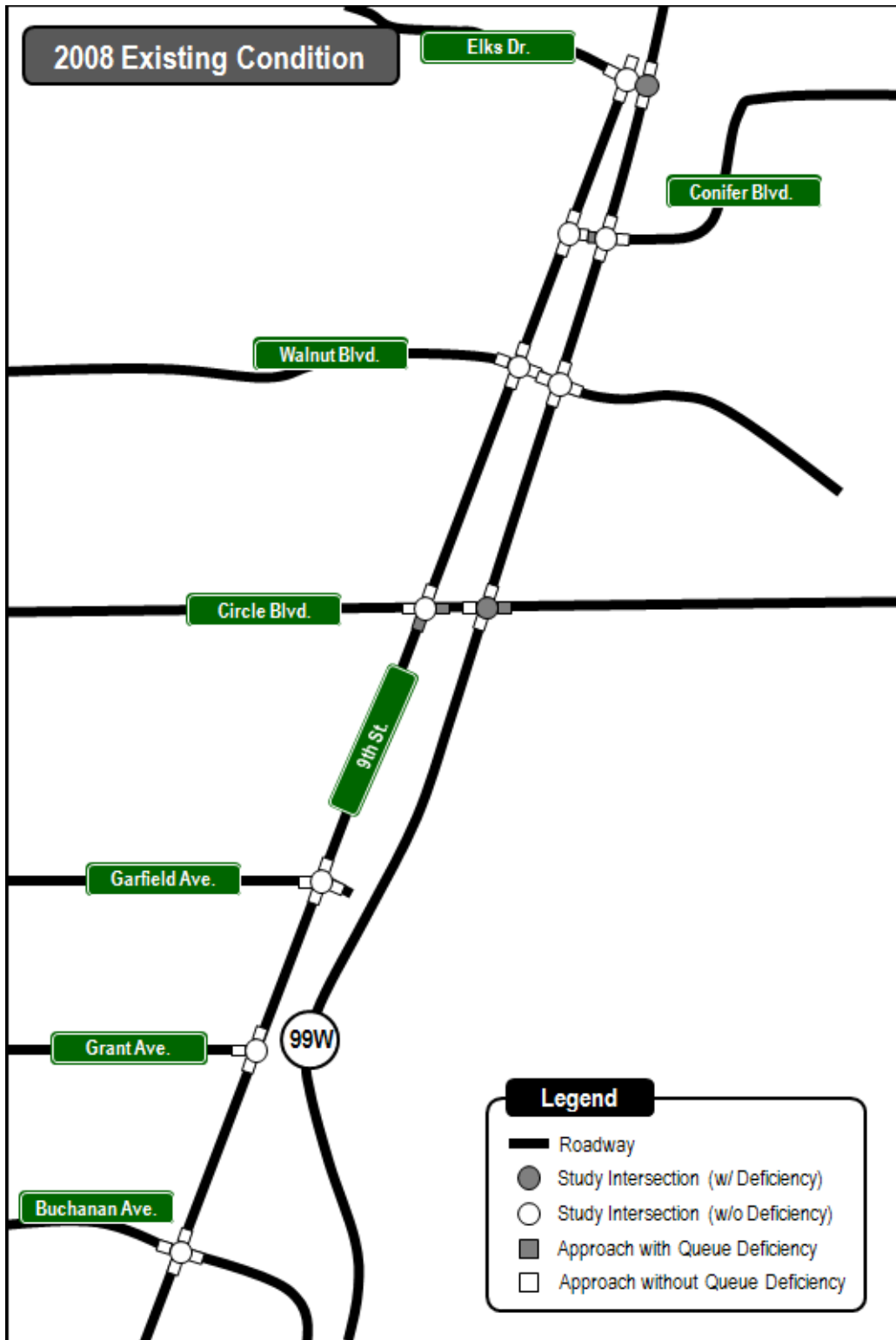


Figure 2. Operational Analysis Result (2008)

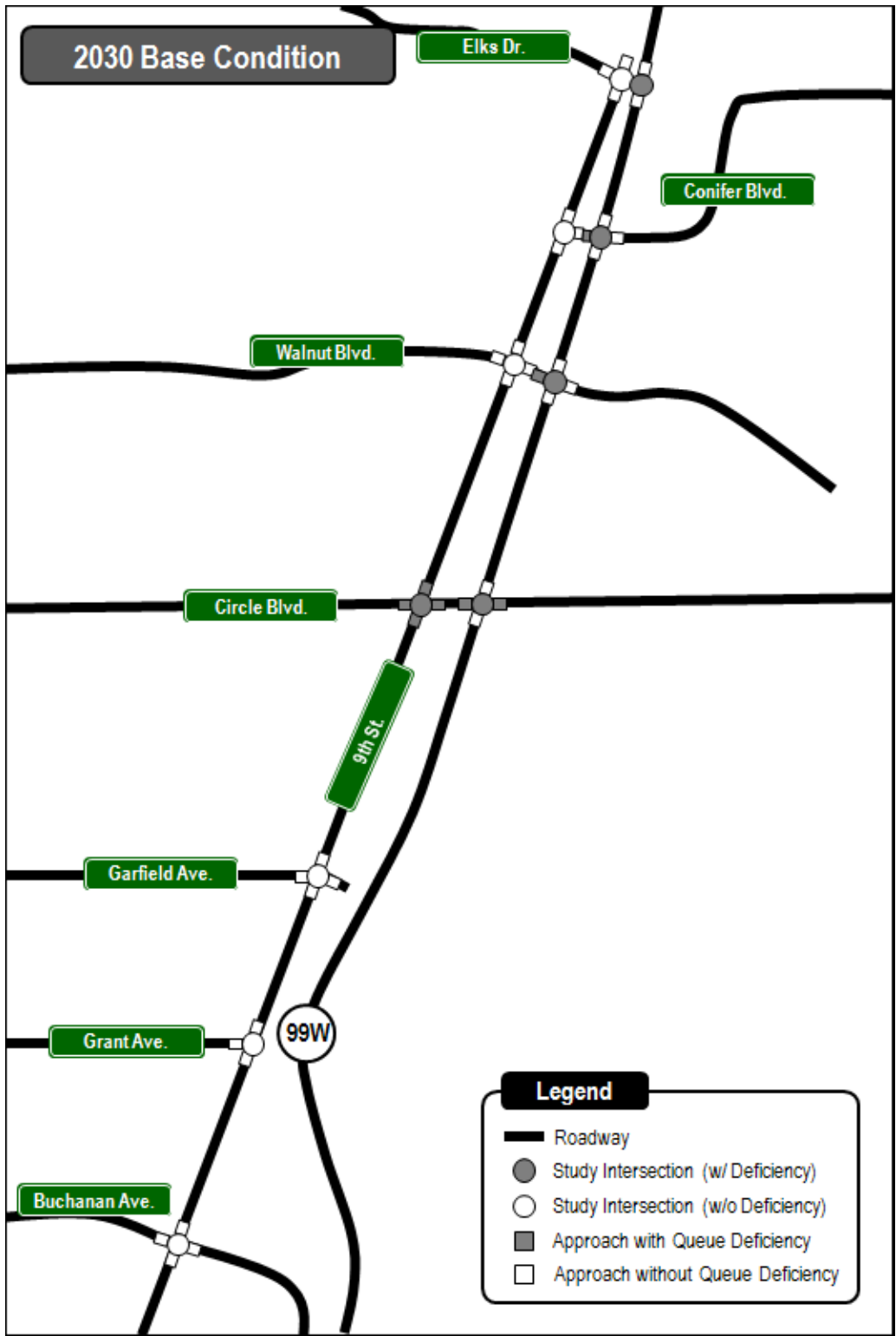


Figure 3. Operational Analysis Result (2030 Base Condition)

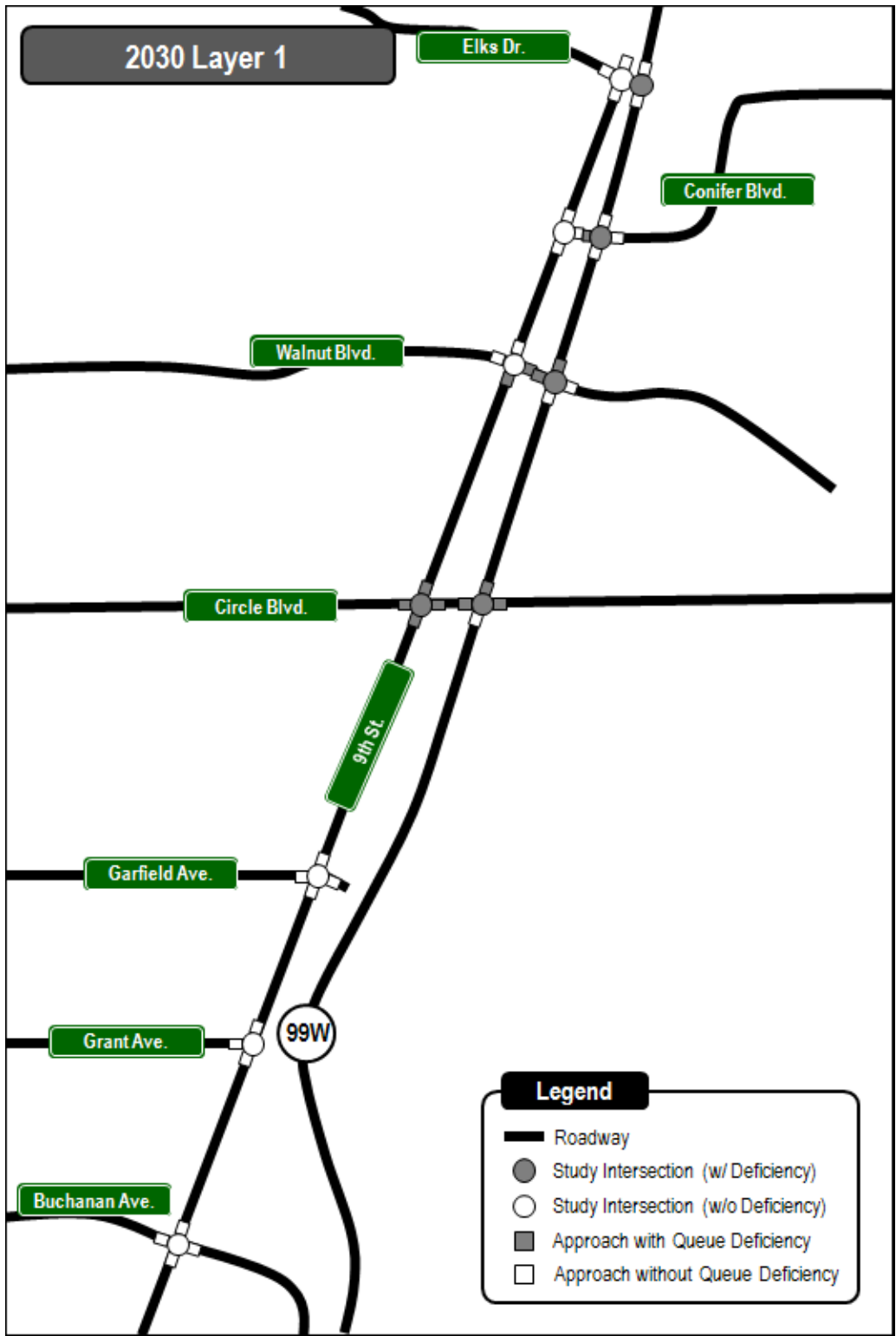


Figure 4. Operational Analysis Result (2030 Layer 1)

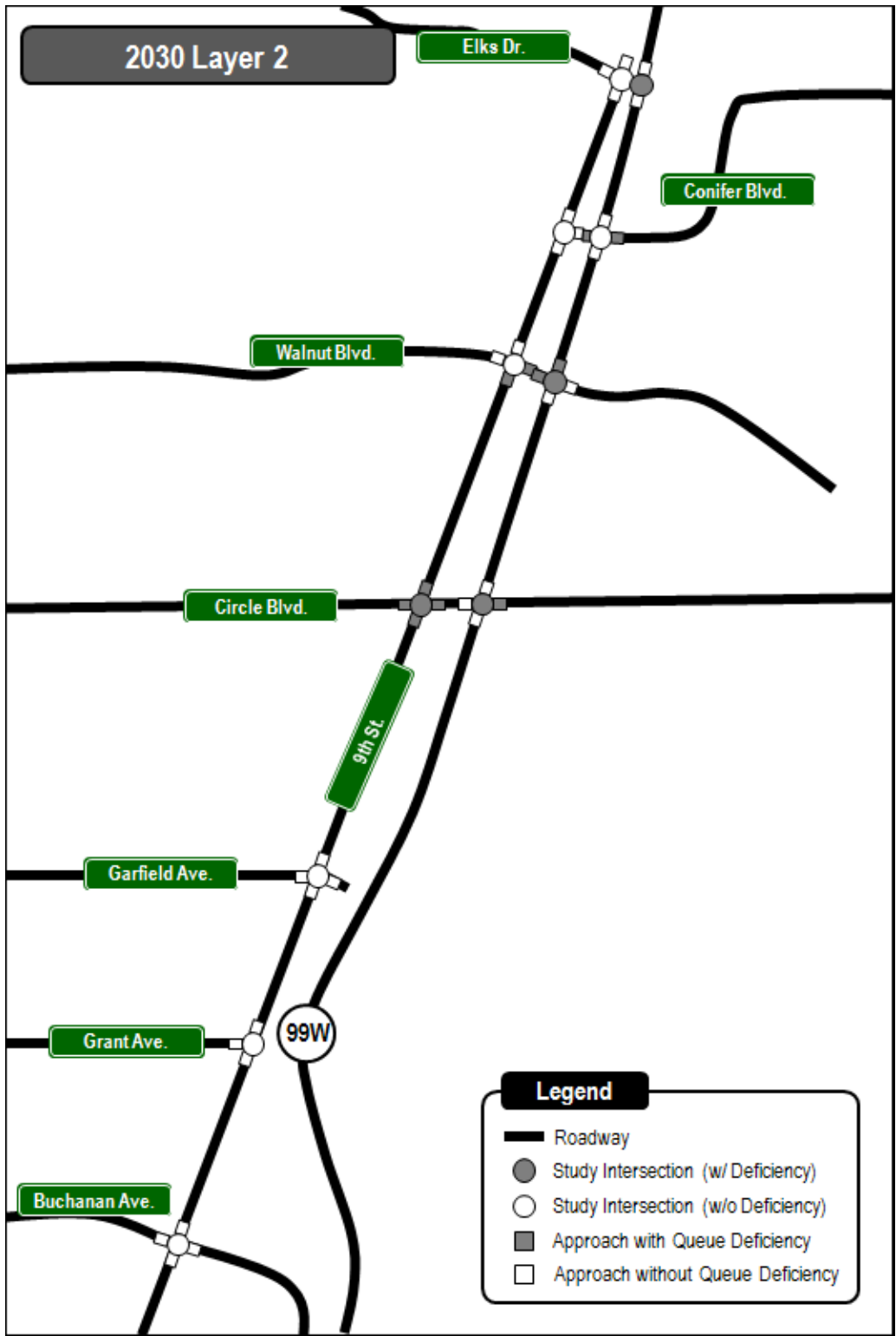


Figure 5. Operational Analysis Result (2030 Layer 2)

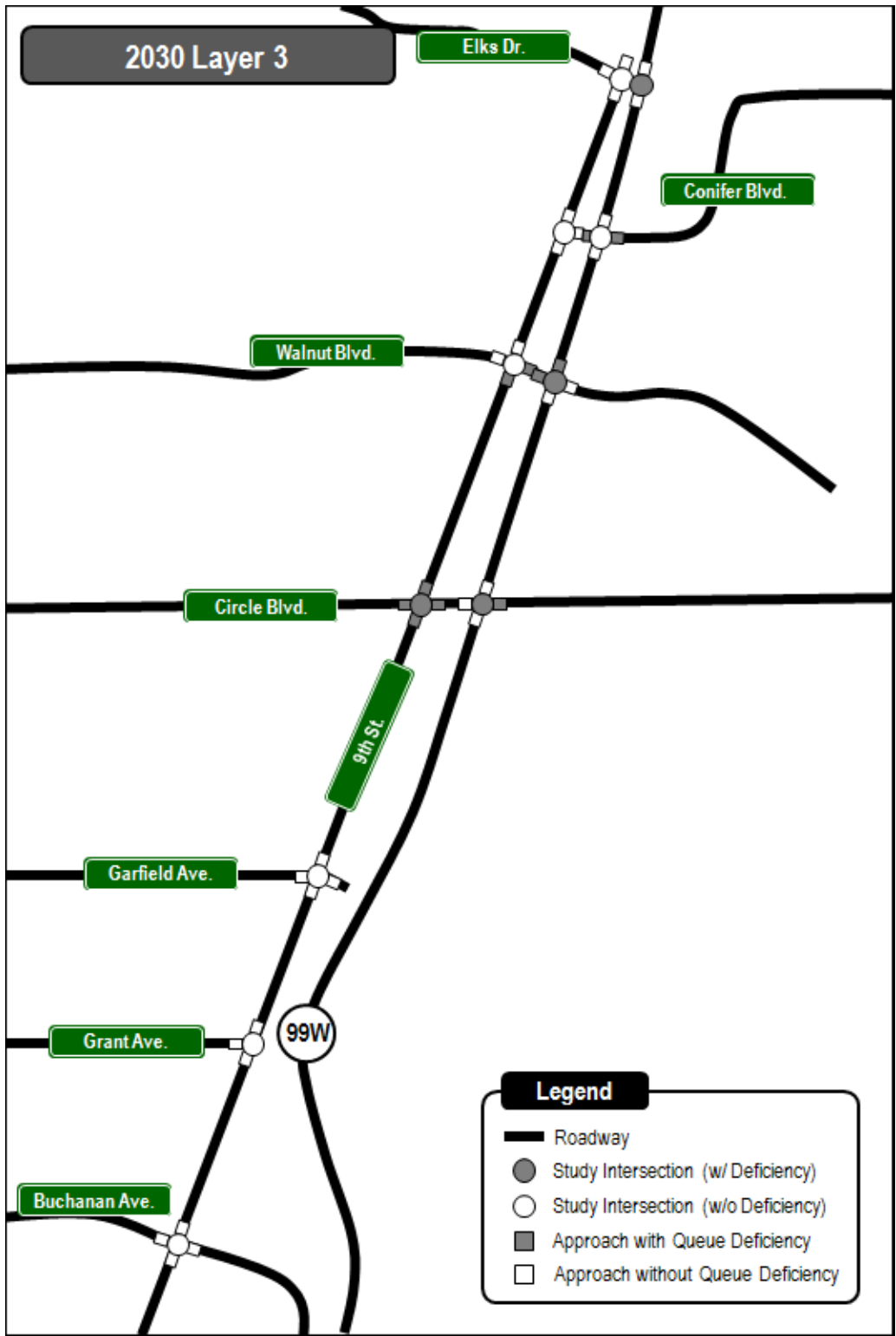


Figure 6. Operational Analysis Result (2030 Layer 3)

Alternatives Analysis Summary

The future baseline analysis showed one of the six study intersections on 9th Street failing to meet operational mobility standards – 9th Street and Circle Boulevard. All three adjacent OR-99W study intersections (Circle, Walnut and Conifer Boulevard) were also identified as failing to meet mobility standards. Among the four intersections with deficiencies, 9th Street at Circle Boulevard and OR-99W at Circle Boulevard not only failed to meet mobility standards but are also shown to have V/C ratio exceeding 1.0. The associated queuing analysis confirms deficiencies in these locations.

Layer 1 – Improvements were made at three intersections (9th Street at Circle Boulevard, OR-99W at Walnut Boulevard, and OR-99W at Circle Boulevard) that enhanced the traffic operations at each location. However, all four intersections, including the three intersections with improvements still showed V/C ratios greater than the mobility standard ranging between 0.88 and 1.07. High V/C ratios at these intersections are due to heavy traffic volume on OR-99W, 9th Street, and Circle Boulevard. Also, intersections on Circle Boulevard have heavy turn volume which causes significant conflict with through movements.

Layer 2 – Due to Conifer Boulevard westbound closure between 9th Street and OR-99W, intersections on Conifer Boulevard showed improved V/C ratios under the mobility standard. However, these change made operations on Walnut Boulevard intersections worse. In the case of 9th Street and Walnut Boulevard operations are still within acceptable standards however, the OR-99W at Walnut Boulevard intersections is forecast to perform at V/C ratio of 1.05 which is considerably worse than forecast baseline conditions with a V/C ratio of .94 and a mobility standard of .85. Along with the V/C ratio increases, queue lengths on southbound approach at OR-99W and Walnut Boulevard intersection are shown to have significantly longer queues compared with Layer 1. In addition, Westbound left turn at OR-99W at Circle Boulevard was change to dual left and it improved operations at the intersection from 1.07 to 0.92.

Layer 3 - Operations at the four critical intersections all improve under this scenario. While three of the four intersections (Circle Boulevard at 9th Street and

Circle Boulevard at OR-99W and Walnut Boulevard at OR-99W) still fail to meet mobility standards each operates with a much improved V/C ratio of around 0.90. The fourth intersection, OR-99W and Conifer Boulevard is forecast to operate better than existing conditions. Performance at the OR-99W and Walnut Boulevard intersection benefited considerably from the additional right turn lane on westbound Walnut approach and a right turn overlap phase for the westbound and southbound approaches that adds capacity for right turn vehicles as well as through movements.

The most problematic location in the corridor is Circle Boulevard at both 9th Street and OR-99W where room for capacity improvements is severely limited. In this case, it might be worthy to try interconnecting signal systems on Circle Boulevard as well as Walnut Boulevard so that the traffic flow on each corridor can be synchronized.

Appendix III – B: Intersection Analysis

To:	From:	Date:
Ali Bonakdar, Director, CAMPO John DeTar, David Helton, ODOT	Steve Perone, Jongsun Won PTV America	01/14/2010
<input type="checkbox"/> For attention	<input type="checkbox"/> Confidential	
<input type="checkbox"/> Consultation	<input type="checkbox"/> To do by:	

Subject: CAMPO - 9th Street Improvement Project – Alternatives (Revised)

The purpose of this memorandum is to conceptually describe a series of alternatives to be analyzed as a part of “Task 2: Develop Transportation Improvements and Assess Alternatives”. This document is intended to serve as a baseline to define a final set of alternatives to support project analysis. The alternatives have been classified into three layers as described below:

Layer 1

Layer 1 includes local improvements recommended by PTV America. These improvements include intersection treatments based on forecast deficiency analysis. Intersection treatments mostly include local intersection level improvements such as adding a turn lane, optimizing signal timing plan, etc.

Layer 2

In addition to all improvements in Layer1, Layer 2 includes, as requested by CAMPO, closure of westbound Conifer Blvd. between 9th St. and OR-99W. As a part of this closure, the eastbound left turn can become a dual left turn and all other movements will be allowed. Figure 1 illustrates the lane configuration after the closure. This closure will divert a large amount of traffic onto Walnut Blvd. and additional improvements to Walnut Blvd. intersections will need to be considered such as:

- Construct a second westbound left turn lane on Walnut Blvd. between 9th St. and OR-99W

Figure 2 illustrates new lane configurations after applying improvements to Walnut Blvd.



Figure 7. Conifer Blvd. Closure



Figure 8. Improvements on Walnut Blvd.

Layer 3

Based on analysis results considering Layer 2 improvements, Layer 3 analysis will consider additional improvements or alternative configurations that maybe necessary to improve operations.

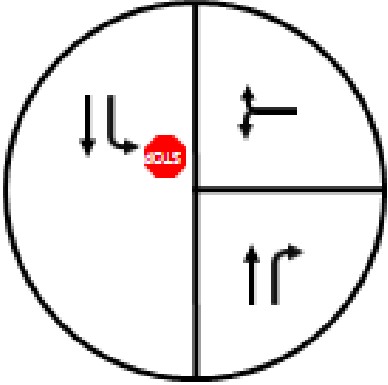
The following section of this memorandum contains the operational summary details on each intersection that was identified to have a deficiency in the future forecast deficiency analysis. In addition, likely mitigation by alternative is noted.

1. 9th Street @ Elks Drive

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
<p>The diagram shows a circular intersection. A horizontal line divides the circle into two halves. The top half contains a single left-pointing arrow. The bottom half is divided by a vertical line. On the left side of this vertical line, there are two right-pointing arrows, with a downward-pointing arrow below them. On the right side, there is a T-junction with a right-pointing arrow and a downward-pointing arrow. A red stop sign is located at the center of the intersection, overlapping the vertical line.</p>	LOS D	0.23	A	0.21	A
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
	EB	TH+RT	-	95%	Average
	WB	TH	250	-	-
	NB	LT+RT	-	-	-


Layer	Improvement Details
1	None
2	None
3	None

2. 9th Street @ Conifer Boulevard

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	LOS D	0.37	A	0.29	B
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
				95%	Average
	WB	LT+RT	135	-	-
	SB	LT	100	-	-
		TH	-	56	13
NB	LT	-	164	59	
	TH+RT	-	1,090	486	

Layer	Improvement Details
1	None
2	Conifer Blvd. - Close westbound approach toward 9th Street.
3	None

3. 9th Street @ Walnut Boulevard

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	LOS D	0.55	A	0.65	B
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
	EB	LT	150	84	21
		TH+RT	-	97	28
	WB	LT	160	95	32
		TH+RT	160	97	29
	SB	LT	170	24	5
		TH+RT	-	129	37
	NB	LT	150	109	30
		TH+RT	-	119	29

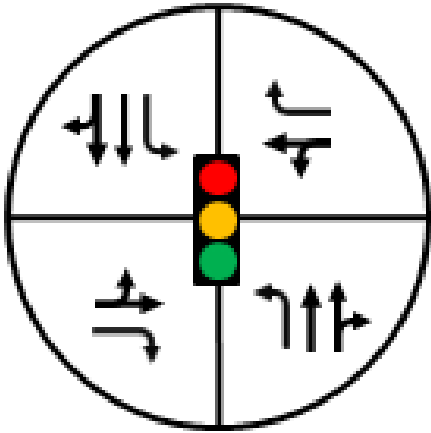
Layer	Improvement Details
1	None
2	Walnut Avenue - Add one left turn lane on westbound (Dual left turn).
3	None

4. 9th Street @ Circle Boulevard

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	LOS D	0.89	D	1.08	F
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
				95%	Average
	EB	LT	240	1,961	1,252
		TH	-	1,947	1,405
		RT	150	22	-
	WB	LT	175	274	73
		TH+RT	300	275	80
	SB	LT	135	304	102
		TH+RT	-	317	109
NB	LT	150	2,237	1,694	
	TH+RT	-	2,243	1,726	

Layer	Improvement Details
1	<p>Circle Blvd.</p> <ul style="list-style-type: none"> - Add westbound right-turn lane <p>9th St.</p> <ul style="list-style-type: none"> - Add southbound and northbound right-turn lane - Add right-turn overlap phase to southbound and northbound approach - Lengthen northbound left-turn lane to 260 ft.
2	None
3	None

5. 9th Street @ Garfield Avenue

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	LOS D	0.43	A	0.51	A
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
	EB	LT+TH	-	46	10
		RT	110	-	-
	WB	LT+TH	-	22	4
		RT	60	-	-
	SB	LT	160	21	3
		TH+RT	-	79	13
	NB	LT	200	65	14
		TH+RT	-	68	9

Layer	Improvement Details
1	None
2	None
3	None

6. 9th Street @ Grant Avenue

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	LOS D	0.51	A	0.59	A
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
	EB	LT	160	66	14
		RT	-	16	-
	SB	TH+RT	250	56	9
	NB	LT	120	18	-
TH		-	48	7	

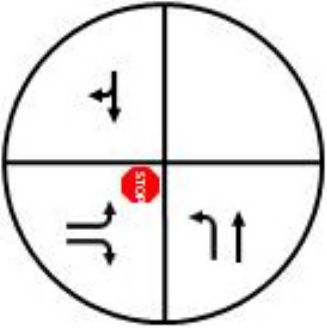
Layer	Improvement Details
1	None
2	None
3	None

7. 9th Street @ Buchanan Avenue

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	LOS D	0.66	B	0.68	B
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
				95%	Average
	EB	All	-	133	35
	WB	LT+TH	-	88	20
		RT	165	47	8
	SB	LT	350	118	35
		TH+RT	-	116	23
NB	LT	240	66	15	
	TH+RT	-	149	40	


Layer	Improvement Details
1	None
2	None
3	None

8. OR-99W @ Elks Drive

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	0.85	1.01	F	2.50	F
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
	EB	LT	110	84	14
		RT	110	133	34
	SB	TH+RT	-	-	-
	NB	LT	300	-	-
		TH+RT	-	-	-


Layer	Improvement Details
1	None
2	None
3	None

9. OR-99W @ Conifer Boulevard

2030 Base Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	0.85	0.81	D	0.90	E
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
				95%	Average
	EB	LT	110	183	81
		TH+RT	110	170	66
	WB	LT	265	171	72
		TH+RT	-	540	201
	SB	LT	300	99	30
		TH+RT	-	209	55
	NB	LT	300	44	8
TH+RT		-	264	95	

Layer	Improvement
1	None
2	Conifer Blvd. - Close westbound approach toward 9th Street.
3	Conifer Blvd. - Add eastbound second left-turn lane.

10. OR-99W @ Walnut Boulevard

2030 Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	0.85	0.51	A	0.94	E
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
				95%	Average
	EB	LT	160	205	83
		TH+RT	160	210	85
	WB	LT	125	45	-
		TH+RT	-	218	97
	SB	LT	300	47	12
		TH+RT	-	324	95
	NB	LT	325	133	33
TH+RT		-	143	25	

Layer	Improvement Details
1	OR-99W - Add southbound right-turn lane.
2	OR-99W - Lengthen southbound left turn lane.
3	Walnut Blvd. - Add westbound right-turn lane

11. OR-99W @ Circle Boulevard

2030 Geometry	Mobility Standard	2008		2030	
		V/C	LOS	V/C	LOS
	0.85	0.86	D	1.18	F
	Approach	Lane Group	Storage Length (ft)	2030 Queue Length (ft)	
				95%	Average
	EB	LT	150	66	15
		TH	300	361	155
		RT	110	165	40
	WB	LT	150	3,766	3,429
		TH+RT	-	3,759	3,422
	SB	LT	390	242	84
		TH+RT	-	343	119
NB	LT	330	88	32	
	TH	-	163	54	
		RT	160	-	-

Layer	Improvement Details
1	<p>Circle Blvd.</p> <ul style="list-style-type: none"> - Add right-turn overlap phase to eastbound approach - Lengthen westbound left-turn lane to 270 ft <p>OR-99W</p> <ul style="list-style-type: none"> - Add southbound / northbound right-turn lane
2	<p>Circle Blvd.</p> <ul style="list-style-type: none"> - Add one lane to westbound left-turn lane (Dual left turn)
3	<p>Circle Blvd.</p> <ul style="list-style-type: none"> - Add westbound right-turn lane

Appendix III-C Oregon Highway Plan Mobility Standard Guidelines

ODOT Maximum Volume to Capacity Ratios for Peak Hour Operating Conditions¹

Maximum Volume to Capacity Ratios Outside Metro ^{2,3,4}							
Highway Category	Inside Urban Growth Boundary					Outside Urban Growth Boundary	
	STA ⁵	MPO	Non-MPO Outside of STAs where non-freeway posted speed <= 35 mph, or a Designated UBA	Non-MPO outside of STAs where non-freeway speed >35mph	Non-MPO where non- freeway speed limit >=45 mph	Unincorporated Communities	Rural Lands
Interstate Highways ⁶	N/A	0.80	N/A	0.70	0.70	0.70	0.70
Statewide Expressways	N/A	0.80	0.70	0.70	0.70	0.70	0.70
Freight Route on a Statewide Highway	0.85	0.80	0.80	0.75	0.70	0.70	0.70
Statewide (not a Freight Route)	0.90	0.85	0.85	0.80	0.75	0.75	0.70
Freight Route on a Regional or District Highway	0.90	0.85	0.85	0.80	0.75	0.75	0.70
Expressway on a Regional or District Highway	N/A	0.85	N/A	0.80	0.75	0.75	0.70
Regional Highway	0.95	0.85	0.85	0.80	0.75	0.75	0.70
District/Local Interest Roads	0.95	0.90	0.90	0.85	0.80	0.80	0.75

¹ Table 6 was replaced in August 2005, part of OHP Amendment 05-16.

² OHP Amendment 00-04 established alternative mobility standards for Portland Metro and the Rogue Valley MPO (RVMPO). For Metro, see Table 7, below. For RVMPO see note B, below and the OHP amendment establishing the RVMPO alternative standards located on the web at: <http://www.oregon.gov/ODOT/TD/TP/docs/orhwyplan/registry/0004.pdf>. Where there is a conflict between the Table 6 standards and the established alternative mobility standards, the more tolerant standard (higher v/c ratio) applies.

³ The maximum volume to capacity ratio at the Northbound and Southbound off-ramps of the South Medford Interchange is >1.0 for four hours daily until the new South Medford Interchange is constructed. The maximum v/c ratio at Highway 99 at Stewart Avenue is >1.0 for two hours daily. When the new interchange is completed, the mobility standards for the ramps will be those in Table 6.

⁴ For the purposes of this policy, the peak hour shall be the 30 highest annual hour. This approximates weekday peak hour traffic in larger urban areas.

⁵ Interstates and Expressways shall not be identified as Special Transportation Areas.

⁶ National Highway System (NHS) highway design requirements are addressed in the Highway Design Manual (HDM).

ODOT 20-year Design-Mobility Standards - Volume/Capacity (V/C) Ratio

Highway Category	Land Use Type/ Speed Limits					
	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
	STAs	MPO	Non-MPO outside of STAs where non-freeway speed limit <45 mph	Non-MPO where non-freeway speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate Highways and Statewide (NHS) Expressways	N/A	0.75	0.70	0.65	0.60	0.60
Statewide (NHS) Freight Routes	0.85	0.75	0.70	0.70	0.60	0.60
Statewide (NHS) Non-Freight Routes and Regional or District Expressways	0.90	0.80	0.75	0.70	0.60	0.60
Regional Highways	0.95	0.85	0.75	0.75	0.70	0.65
District/Local Roads	0.95	0.85	0.80	0.75	0.75	0.70

Notes:

- Interstates and Expressways shall not be identified as Special Transportation Areas (STAs).
- The peak hour is the 30th highest annual hour. This approximates weekday peak hour traffic in larger urban areas.
- MPO category includes areas within the planning boundaries of the Portland, Eugene/Springfield, Medford and Salem/Keizer Metropolitan Planning Organizations, and any other MPO areas that are designated after the adoption of this plan.

Appendix IV-A

Details of Public Open House Meeting on March 4, 2009

Public Outreach

The development of the 9th Street Improvement Plan included extensive public outreach efforts for the following purposes:

1. To communicate the purpose and objectives of the project
2. To recruit public's assistance with identification of 9th Street's issues and deficiencies
3. To gain public input into the development of improvement strategies for the Plan

An open house meeting was held on March 4, 2009 at the Cheldelin Middle School, off of 9th Street. The purpose of the open house meeting was to ask the public to identify transportation and land use issues of 9th Street and to provide input into the 9th Street Improvement Plan. The meeting was set up to function as a two-way conduit for the exchange of information between the public and the project sponsors. In addition to the staff, members of the PAC were participating in receiving comments from the public and responding to their questions. The Open House meeting included:

- Display of the project area.
- The purpose of the project.
- Maps, tables, posters and photos that displayed the highlights of the Inventory of the Existing Conditions.
- Handouts and other material on the Inventory of Existing Conditions.
- Several means of providing public comments. These included:
 - Comment sheets that were handed in to the public upon arrival
 - Sticker notes that could be placed on the maps, tables and posters
 - CAMPO's website URL for the review of the projects and its related material and sending emails (the MPO's website and the webpage on 9th Street Improvement Plan have been open to the public for providing comments throughout the year.)
 - Telephone calls and the 'snail mail'. (the office address, phone numbers and webpage was displayed and business cards were made available)
 - Verbal delivery of input to the staff and members of PAC.

- Adequate public notices were given to the public about the Open House Meeting. These were:
 - Newspaper Advertisements. The event was advertised in the Corvallis Gazette Times on Sunday, March 1st and on Monday, March 2nd, 2009
 - Direct Mail. All business owners and property owners along 9th Street were identified and more than 800 postcards were directly mailed to them on the Open House meeting.
 - Internet. The MPO Website and the 9th Street Webpage included a marquee announcement of the Open House.
 - The Garfield Park Neighborhood Association distributed the notice to all its members.

Complete List of Comments Received

The following is a complete list of comments received through the various means of communication made available to the public. Efforts have been made to reflect the comments as provided by the public.

Response Card Comments

What do you think is working well in how 9th Street is operating?

- Center turn lanes are essential
- Travels smoothly except at Circle and 9th – Traffic
- Traffic flows, lights are mostly timed, access on & off is easy
- Fewer accidents at 9th & Conifer
- No turning from 99W to 9th on Conifer or a stop before turning
- Fewer accidents at 9th & Conifer since no limited turns from 99W
- Generally works as expected, congestion ok except 9th & Circle
- Pavement could stand repair
- Seem to be enough bus stops
- There are bike lanes which are adequate – better than no lanes at all
- For drivers, I think 9th Street works very well
- Generally, traffic moves well
- I like access I have to many parts of town
- Once you get used to using the street, it is easy to get around
- 9th Street works well as an unfriendly car centric linear commercial zone that discourages bikes and pedestrians
- Some civic beautification would help, but increasing the residential component in a few roads would begin to change the use pattern
- Works well as a highway – thoroughfare

What do you think isn't working well in how 9th Street is operating?

- At 9th & Buchanan, NW side of intersection, traveling east, large power volts above ground – obstructs view of traffic coming south bound
- Needs visual improvements
- I am so saddened to see 9th converted to be a haven for chain stores
- The Carl's Jr. downtown is beautiful, flower baskets, stores with attractive signs
- 9th Street is just ugly and unpleasant to drive, walk or cycle down
- Visually unappealing
- Too few trees
- Unattractive signage
- Center lane
- We have no street parking at a private residence, bicycle lanes on both sides of the street took away our resident parking
- Taking away pov parking in residential areas
- Too much congestion at 9th & Circle
- The left hand turn lane is very dangerous, cars going in opposite directions turning left have to really be careful
- If medians are installed, there must be turn lanes to get to the businesses
- It seems that everything about 9th was built to accommodate cars, for pedestrians and bicyclists it is dangerous to traverse and to cross. So dangerous and unwelcoming that, even though I live a block away, I feel like I have to drive to any 9th Street destination. There may not be a solution or perhaps it just has to be designed to benefit vehicular traffic and forget about the rest; but, there should at least be a way to cross 9th (and 99W)
- Pedestrians need to be wary at intersections (esp. at turns by cars)
- Some driveways could be consolidated which neglect businesses (off street)
- Conifer/9th/99 @ certain times of day (e.g. 3:30 pm) is a big hang-up, esp. for left turns
- 61% of accidents caused by drivers not yielding right of way or following too closely. Could drivers pay more attention? (Perhaps not if they are watching for signs – stores, streets, etc.)
- Even the current intense traffic access is failing. Eliminating some access points would help, but adding trees and other amenities would help make the street more appealing
- Not pedestrian friendly – not bicycle friendly
- Too many signs – can't see them with speed of traffic. When I first moved to Corvallis I could not find businesses along 9th street because I could not drive & watch traffic and at the same time look for an address or a sign.
- It is turning into the "Lancaster Drive" (see Salem) of Corvallis
- It is not pedestrian or bicycle friendly
- Bike lane has a lot of debris
- There are few street trees
- Take out traffic circle & Grant / 10th

Please feel free to share any specific suggestions –

- Raised landscaped median
- No traffic circles
- No median plantings
- Need pedestrian lighting, cross walks (like on 3rd street)
- Do not close/restrict any more entrances/exits from/to 9th street
- Use some of the state median property between Conifer & Elk to return vehicle parking on side of 9th street
- No traffic circles
- Talk with Albany planners – they solve problems & make them beautiful
- Pedestrian lights/as south 3rd street
- We can't forget this is a commercial section of town
- It isn't going to look like downtown, some beautification though, would be nice
- Why are the new buildings being built with the back of the store facing 9th? Not very attractive
- Get rid of many access points / drive ways?
- No right turns on red @ Circle and other interchanges?
- Close 9th and Conifer to vehicles? Make this a pedestrian only access? (I love the idea of no left turns from Conifer to 99W)
- Promote greenery of street
- Paint bike lanes orange, especially at busy intersections like Circle & 9th
- Bridge crossing?
- Please factor in trees planted all along 9th street
- Encourage mixed use residential to bring pedestrians
- Have landscape / planter strips in center lane w/ trees – the scale of 9th street is too vast and not of a pedestrian scale. More trees would help & help to slow traffic
- Cobblestone like pavers at crosswalks also help the scale
- Encourage density of buildings on a site w/ parking in back. The vast openness of parking lots is not pretty
- Design standards for buildings & signage crafted to limit the look of chain restaurants & big box stores etc...smaller scale
- Consolidate access onto 9th street

Comments Posted at Stations

9th Street from a Pedestrian's View:

What challenges do pedestrians face on 9th Street? What is working well?

- Pedestrian overpass? (esp. @ Circle)
- More cross walks, like S 3rd street
- Death from crossing – safe or legal, no crossing option available between Garfield and Circle
- “Hollywood” sidewalks that place peds. Next to traffic
- More pedestrian activated lights further north

- Most of 9th is visually unpleasant
- Trees are good
- Not much is working well on crossing 9th street
- 9th should be geared towards shopping, Pedestrians.....there is not much sightseeing to do on 9th street
- Need islands to make crossing safer
- Need more trees
- Not pleasant place to walk
- I walk quite a bit for exercise and transportation
- I always do my best to avoid walking down 9th because it has become a visual nightmare – chain stores, parking lots etc
- Nothing visually appealing

9th Street from a Bicyclist's View:

What challenges do bicyclists face on 9th Street? What is working well?

- The bike path (along 99W) that terminates at Buchanan needs to continue on the abandoned rail line to The Cannery (now Borders & Avery Square).
- I am terrified to ride my bike along 9th street
- I'd like to see protected designated bicycle lanes to accommodate increasing number of cyclists that includes my children
- The bike path parallels 9th on 99 - improve & move cyclists to the path
- Lane going south needs to be widened – Lanes need to be cleaned more often
- How do you connect to bike path along riverfront?
- Enhance traffic laws
- Being visible to traffic
- Dodging driveways
- Traffic that is concentrating on car traffic & not looking for bikes
- Negotiating from east side to west side of street
- Enforce traffic laws
- Follow direction of traffic
- Lighting on bicycles

9th Street from a Driver's View:

What challenges do drivers face on 9th Street? What is working well?

- Investigate ways to move more traffic on to Hwy 99 where it parallels 9th street (Conifer to Cornell)
- No left turns out of driveways
- No left turn onto Spruce for N bound traffic
- Consolidate multiple drives or re-locate existing drives
- Add traffic light between Garfield and circle to open 'traffic gaps' for driveway traffic
- Not enough ped crossing
- Special crossing to new mall

- Slow speed to 30 mph
- Ped crossing – cars making right hand turn onto circle don't look and see pedestrians crossing
- Oftentimes see handicapped people having difficult time
- Bushes by Taco Bell cause blind spots
- 9th Street needs a center landscaped median
- Left turn lane an issue (cars entering from opposite directions is a concern)...put medians in? How will business owners feel about that?
- Don't allow landscaping that blocks view
- Safety issue – people crossing from Bed Bath & Beyond to TJ Maxx – ped & cars
- People run across the street
- Maintaining access for property owners is critical but should accommodate traffic safety also
- Turning out of driveways & crossing both lanes & center turn lane to turn left (against the flow of closest traffic lane) - watching for ped, bike & traffic while doing this
- Amount of traffic creates very little 'gap' between cars (a traffic light timing issue)
- Traffic wasteland for crossing pedestrians between the lights of Garfield and Circle
- Maintaining access for property owners is critical but should accommodate traffic safety also
- There's a nasty traffic jam in the north bound lane at Circle & 9th
- I believe that planting trees would calm drivers on an otherwise unpleasant street
- Please plant trees
- Center landscape islands with trees to bring down the scale to a pedestrian scale & beautify 9th street

**9th Street from a Land Use and Development View:
How do parking lots and driveways affect traffic flow?**

- Too many properties with multiple driveways
- Need to consolidate, share, reduce, rearrange
- There is a nasty traffic jam at the intersection of 9th & Circle, traveling north at Bi-Mart
- Way too many driveways, need to consolidate
- Establish a few areas of residential along the length of 9th so that it becomes less of a linear commercial gut
- Make 9th all commercial with better access for businesses, fewer drive access means less business, we are losing quite a few businesses now

**9th Street from a Land Use and Development View:
How do development patterns impact 9th Street?**

- Work harder to convince prop. owners to bring landscaping up to current standards req'd by new development
- Reduce strip mall look/mentality
- The development pattern – linear comm. produces a street that is entirely car centric
- Pedestrians and bikes are not encouraged by the traffic and aesthetic (bad) conditions
- I would like to see an effort made to beautify 9th street. That could be in the form of a sign ordinance, limiting or establishing guidelines. Also, please plant trees and perennials as much as possible. This would improve air quality and aesthetics.
- Please make 9th street pedestrian, bicycle & human friendly – more trees provide shade (Global Warming) and help with traffic calming, thanks!

9th Street from a Mass Transit View:

Does Transit Meet Needs Along 9th Street? Why and/or why not?

- Adequate service but Spartan facilities
- Hey guys, it rains 5 months of the year here, needs adequate bus schedule
- Bicyclists must be included in any plan/solution, they will increase not decrease
- 9th is a main route through Corvallis & where most commerce takes place (and should)
- All forms of transportation should be accommodated
- I've been in business on 9th street for 15 years and can't ever remember a customer coming by bus
- Smaller signs to reduce the visual pollution & keep in mind the lighting to reduce light pollution (lights pointing down – no big neon lights like auto zone)

Concerns Expressed through Phone Calls and Email

- A raised median would cause vehicles to travel longer and use intersecting streets to turn around.
- Improve the hazardously misaligned intersection of Polk Avenues and 9th Street
- Enhance the substandard bikeway on 9th Street by widening to 6 feet width and regular upkeep
- Cross walking is difficult
- Precarious situation for bicycles at intersections of Conifer with 9th Street and Hwy 99W
- Extend the Buchanan Pathway across Hwy 99W and 9th Street to NW neighborhoods
- Unsafe biking conditions on 9th Street

Other Comments, Insights, Concerns

- Purpose of Study should include a fourth objective: To work with current property owners to enhance their business/property & not lose patronage or access while creating a safer, more effective 9th street traffic pattern.