

US 199 EXPRESSWAY UPGRADE PROJECT

**TRAFFIC ANALYSIS
REDWOOD HIGHWAY #25 (US 199)
MP 0.50 to MP 4.70**

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EXECUTIVE SUMMARY

The purpose of this project is to address vehicular and pedestrian safety along US 199 between Tussey Lane and Midway Avenue as well as current and future congestion and operational deficiencies. The need for this project is based on crash history, congestion, growth of the surrounding area and the system efficiency of US 199.

This four mile long section of National Highway System Statewide Expressway has been divided into two sections for analysis. The west section is rural in nature with numerous crashes having severe injuries and fatalities. The stop-controlled intersections west of Hubbard Lane meet v/c ratio standards now and in the future. The intersections of Hubbard Lane and Dowell Road do not meet the 20 year volume to capacity (v/c) ratios.

The east section is suburban in nature with congestion problems and many minor crashes. Congestion is experienced from the “South Y” intersection to Allen Creek Road. There are numerous driveway accesses along the north side of the highway all restricted to right-in/right-out with a raised curb median with breaks only at Ringuette Street, Fairgrounds Road and Redwood Avenue. All intersections now and in the future, exceed the mobility standards set forth for the expressway.

The Project Development Team (PDT) along with input from a Citizens Advisory Committee (CAC) agreed to advance two alternatives (Alternatives A and C) into the environmental document. Both alternatives install median the entire length of the project and better define private accesses, removes traffic signals at Redwood Avenue and Fairgrounds Road, and constructs an additional through lane in each direction on US 199. Both alternatives would also be constructed in at least two phases, with the second phase to be more detailed with input from the South Y study.

Alternative A includes improvements from Midway Avenue to Tussey Lane and a realignment of the Allen Creek Road intersection with Redwood Avenue. The change along US 199 from Midway Avenue to Allen Creek Road will be the median installation, which restricts all private accesses and the Arbor Ridge/Dawn Drive intersection to right-in/right-out. The changes from Allen Creek Road to Tussey Lane are the access management planned for the private accesses on the north side of US 199. The re-aligned Redwood Avenue/Allen Creek Road intersection affects numerous businesses and residences in the immediate vicinity. This alternative keeps most existing movements in generally the same configuration.

Alternative C includes the same improvements from Midway Avenue to Tussey Lane as Alternative A, but reconfigures the US 199 at the Allen Creek Road intersection. The reconfigured Allen Creek Road/Redwood Avenue and its intersection with US 199 allows for the heavy traffic flows to be treated as the main flow with different impacts to the residences and business in the immediate vicinity.

Both alternatives will improve safety along US 199 because of the median barrier and the reduction of conflict points. With the proposed improvements, the intersections still have some capacity to move traffic, even though the intersections do not meet mobility standards. The proposed cross sections are a compromise to improve safety and help reduce congestion while realizing that major traffic flow changes may occur with a reconfigured South Y or the construction of an additional bridge.

The recommended solution is Alternative A. This recommendation is based on the geometry and future coordination more with other projects than the traffic analysis, which shows that the two alternatives discussed here are comparable for moving traffic through the project.

Based on the required cross-sections, which minimize right-of-way impacts, the safety impacts and coordination with future projects it is recommended that Alternative A be adopted. Although the v/c ratios are comparable, the traffic will flow smoother through the congested section. With no north-side private accesses and only three public road accesses in this section this alternative will likely be the safest. To slow people a little more (congestion) and not have to make a decision (conflict point) is a good compromise. This alignment also is more standard and can more easily be adapted for future alignments, such as for the fourth bridge. This should be considered when analyzing alternatives for the South Y configurations. It also requires less re-work for the current proposal for the fourth bridge.

Although Alternative C is comparable for required cross-sections, safety and the v/c ratios, it has also created a new alignment that may be more difficult to connect alternatives for the South Y and the fourth bridge.

Either alternative works from a transportation analysis viewpoint, considering the project is limited to not fully addressing the congestion concerns in the east section at this time. Those will be dealt with in the upcoming South Y project. These alternatives are the best possible with available funding and constraints.

BACKGROUND INFORMATION

The purpose of the US 199 Expressway Upgrade project is to address vehicular and pedestrian safety as well as congestion and operational deficiencies on the Redwood Highway in and near Grants Pass. The need is based on the crash history as well as the existing and future congestion in the area. The project will also look at impacts to local streets resulting from any proposed changes to the road.

The US 199 Expressway Upgrade project is located in Josephine County, mostly inside the urban growth boundary of Grants Pass, a city with a population over 24,450. This project covers almost four miles of the Redwood Highway No. 25 from Tussey Lane (the South Y), (M.P. 0.78), westerly to Midway Avenue (M.P. 4.44). US 199 is the primary route from I-5 to the southern Oregon coast. See Figure 1.

US 199 is classified as a Statewide, NHS, Non-Freight Expressway route. The roadway is generally a tangent, five-lane controlled access roadway with wide shoulders and a few vertical curves. Access is generally at-grade public road accesses with separate roadbeds from the beginning of the project to west of Redwood Avenue. No left turns are allowed except at Ringuette Street and Fairgrounds Road. A median treatment has been installed at the Willow Lane intersection that restricts the highway traffic to right-in and right-out with a westbound-to-south left turn in allowed. The intersections of Dowell Road, Allen Creek Road, Redwood Avenue, Ringuette Street and Fairgrounds Road are currently signalized, while the other minor streets are stop-controlled. The speed zoning through this area was changed in 2004 so that the speed is 45 MPH from MP 0.81 (Henderson Lane) to MP 2.59 (Willow Lane) and 50 MPH from MP 2.59 (Willow Lane) to MP 4.54 (Midway Avenue).

The state highway has no effective parallel routes to move traffic through the area without entering the corridor. Parallel roads include Redwood Avenue to the north, and in the western section, Demeray Drive to the south. See Figure 2. The project area was broken into two sections based on land uses, existing volumes and traffic control.

Although the City of Grants Pass has a fourth bridge across the Rogue River in their Transportation System Plan (TSP), it is an unfunded, un-designed project. The new route will change the vehicle trip patterns in the project area. Since the new bridge is generally oriented north/south, and can introduce as much traffic into the study area as it takes off the highway, the PDT decided to not consider the fourth bridge in any of the alternatives. Consideration will be given to alternatives that do not preclude any designs for the fourth bridge concepts.

There is a large planning study identified for the South Y interchange, which is the intersection of OR 99, US 199 and OR 238, just east of this project. This configuration, built in the 1960's cannot adequately handle today's traffic volumes, much less the future projections. However, this study is just beginning to take shape, and will not solve the

problems westerly along the US 199 corridor. This is another issue that will need to be considered with alternative selection so as not to preclude any future designs for a reconfigured interchange.

Capacity Standards

US 199 is classified as a Statewide Expressway route located both inside and outside of the Grants Pass Urban Growth Boundary (UGB). When evaluating maximum acceptable v/c ratios for existing and no-build conditions, the amended Oregon Highway Plan (OHP) mobility standards for a non-Metropolitan Planning Organization (MPO) area were used. To accommodate the existing and future projected traffic volumes, there is an expectation to meet a specific level of mobility (movement) on the roadways involved.

The maximum acceptable v/c ratio for US 199 (Redwood Highway No. 25) as a Statewide Expressway is a 0.70. The acceptable standard for OR 99 and OR 238 in the study area is 0.85 for district, non-freight highway since both are speed zoned under 35 MPH. The City of Grants Pass has a maximum acceptable v/c ratio of 0.90 or a Level of Service (LOS) of D. A v/c ratio of 1.0 represents an intersection at capacity.

Once the need is determined, a project is proposed that meets the Oregon Highway Design Manual (HDM) standards. The maximum acceptable v/c ratio for Redwood Highway No. 25 as a Statewide Expressway for inside the UGB is a 0.70 with speeds less than 45 MPH, 0.65 when speeds are ≥ 45 MPH while outside the UGB the v/c ratio is 0.60. The acceptable standard for OR 99 and for OR 238 as a district level highway with speeds less than 45 MPH is 0.80. The local roads have a maximum acceptable v/c ratio of 0.90 or a LOS of D. A v/c ratio of 1.0 represents an intersection that is at capacity. A location that does not meet the HDM design v/c must apply for a design exception.

Figure 1: Vicinity Map

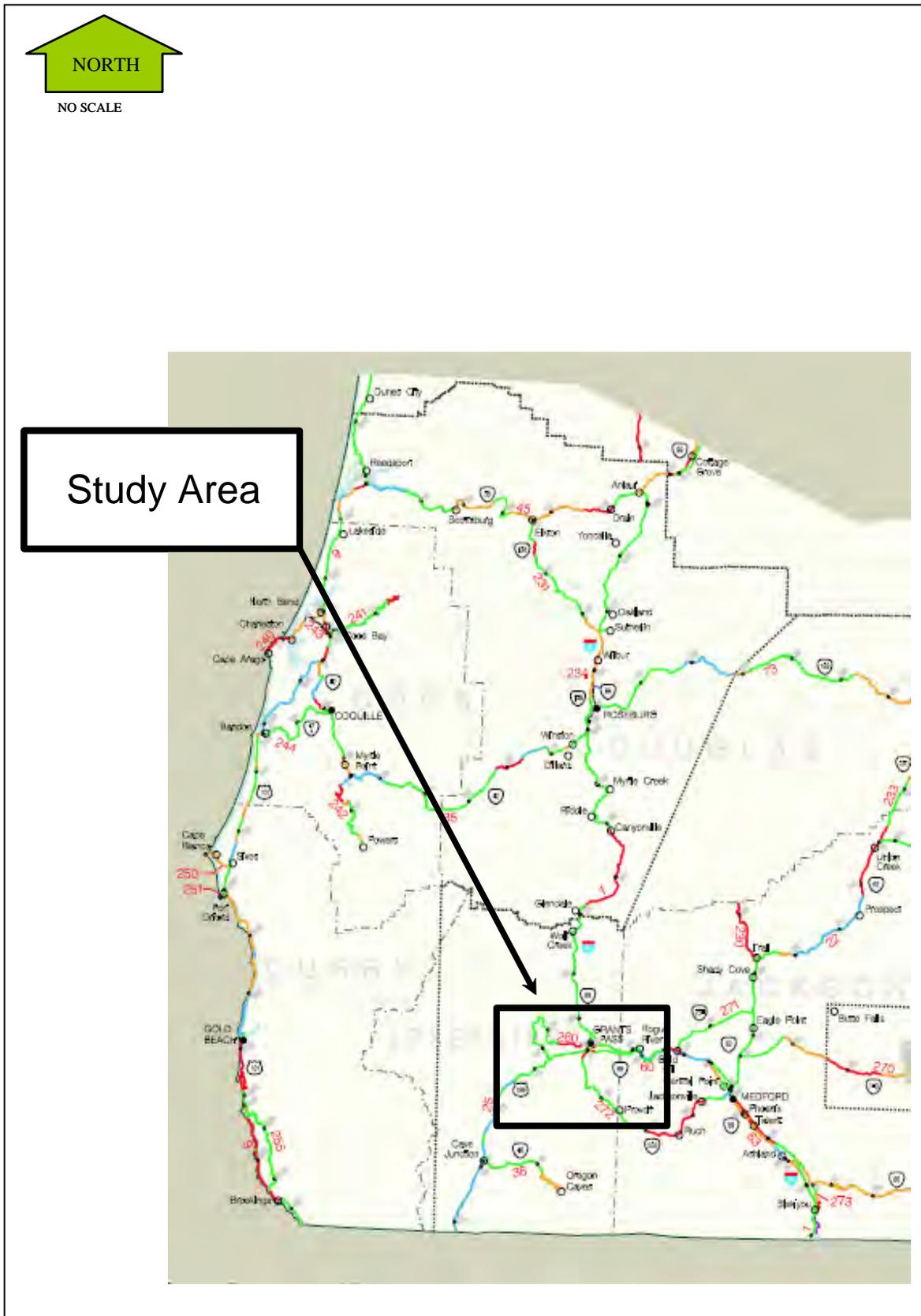


Figure 2: Site Map

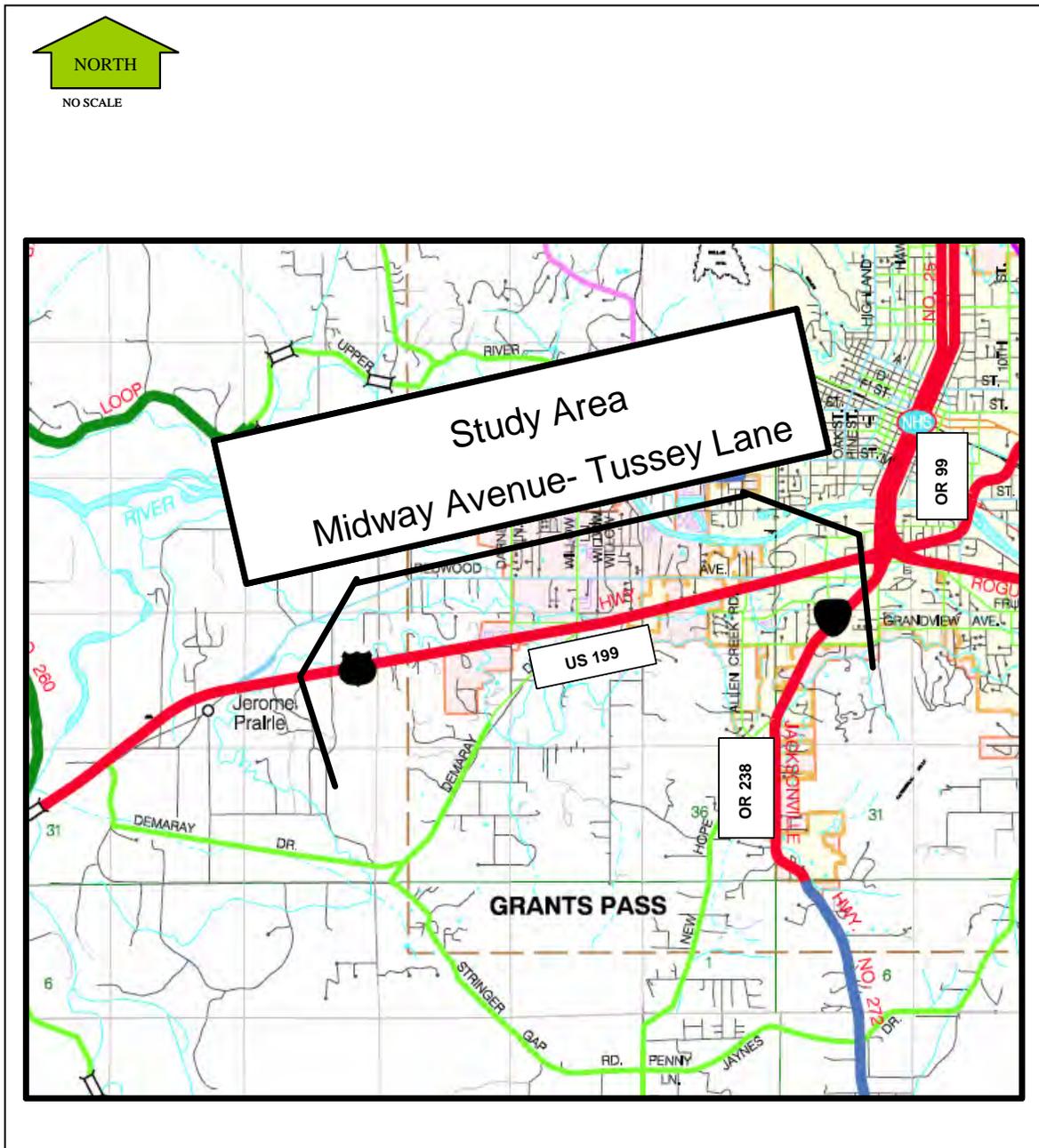


Figure 3: Alternative A and C West Section

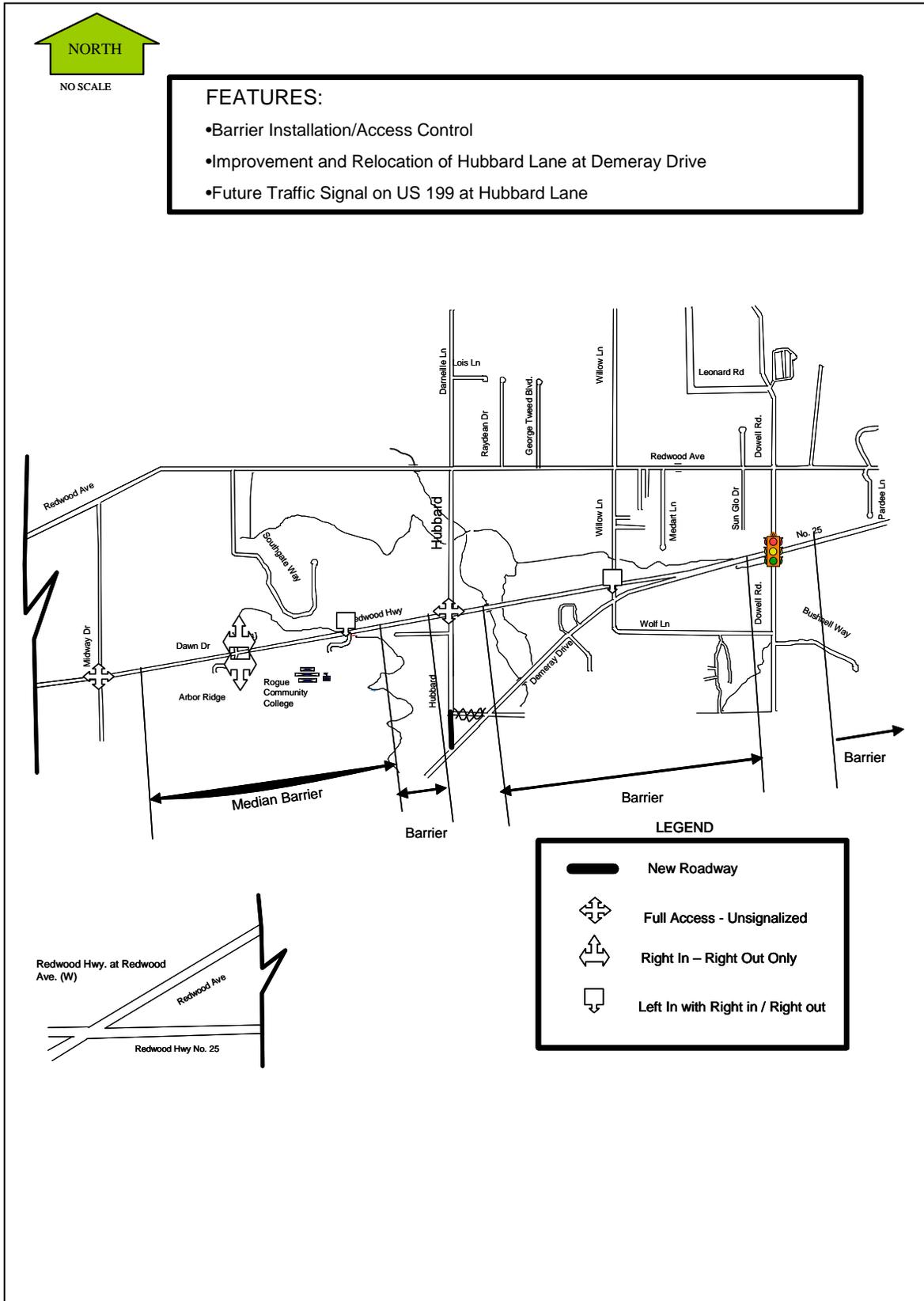


Figure 4: Alternative A – East Section

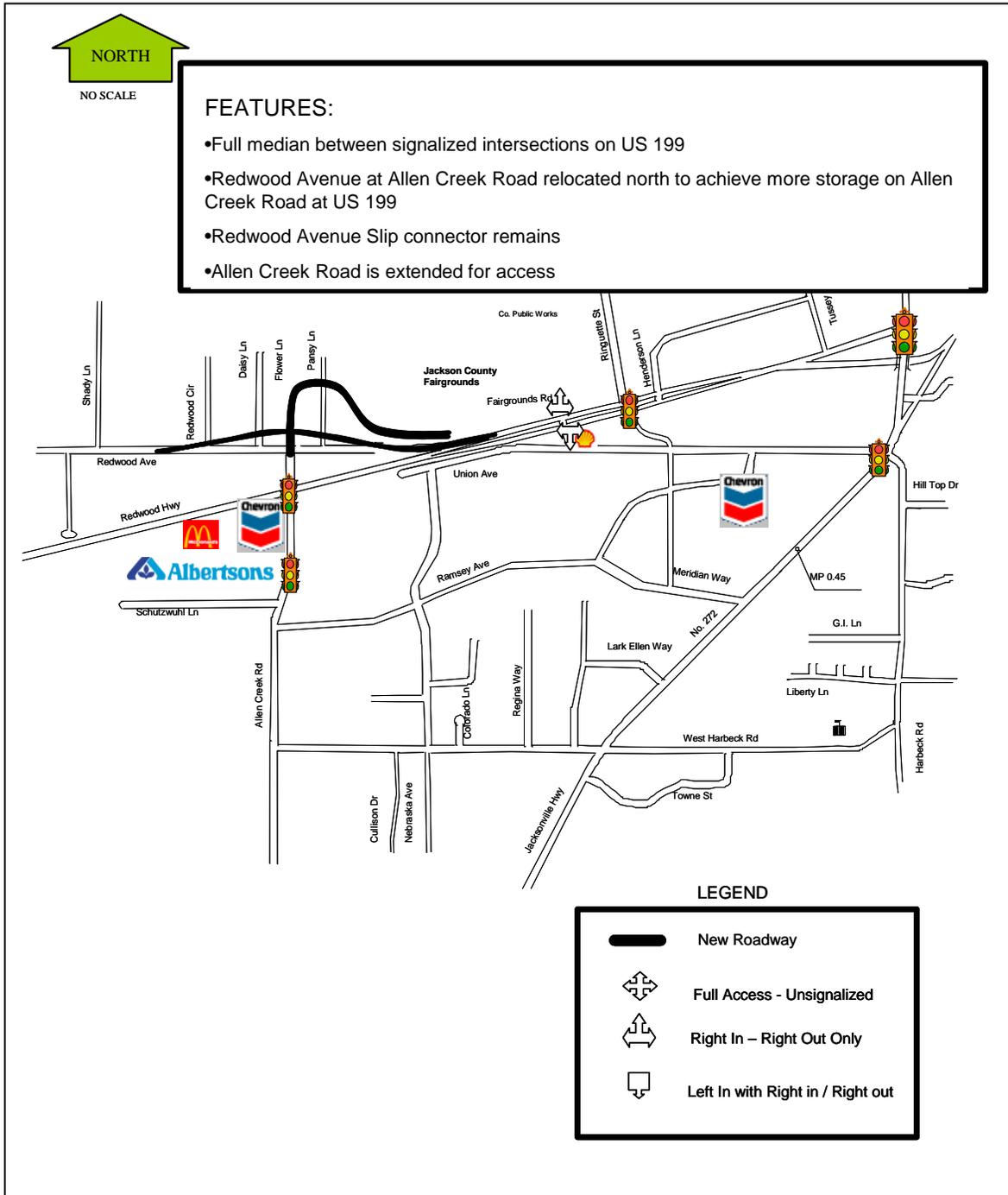
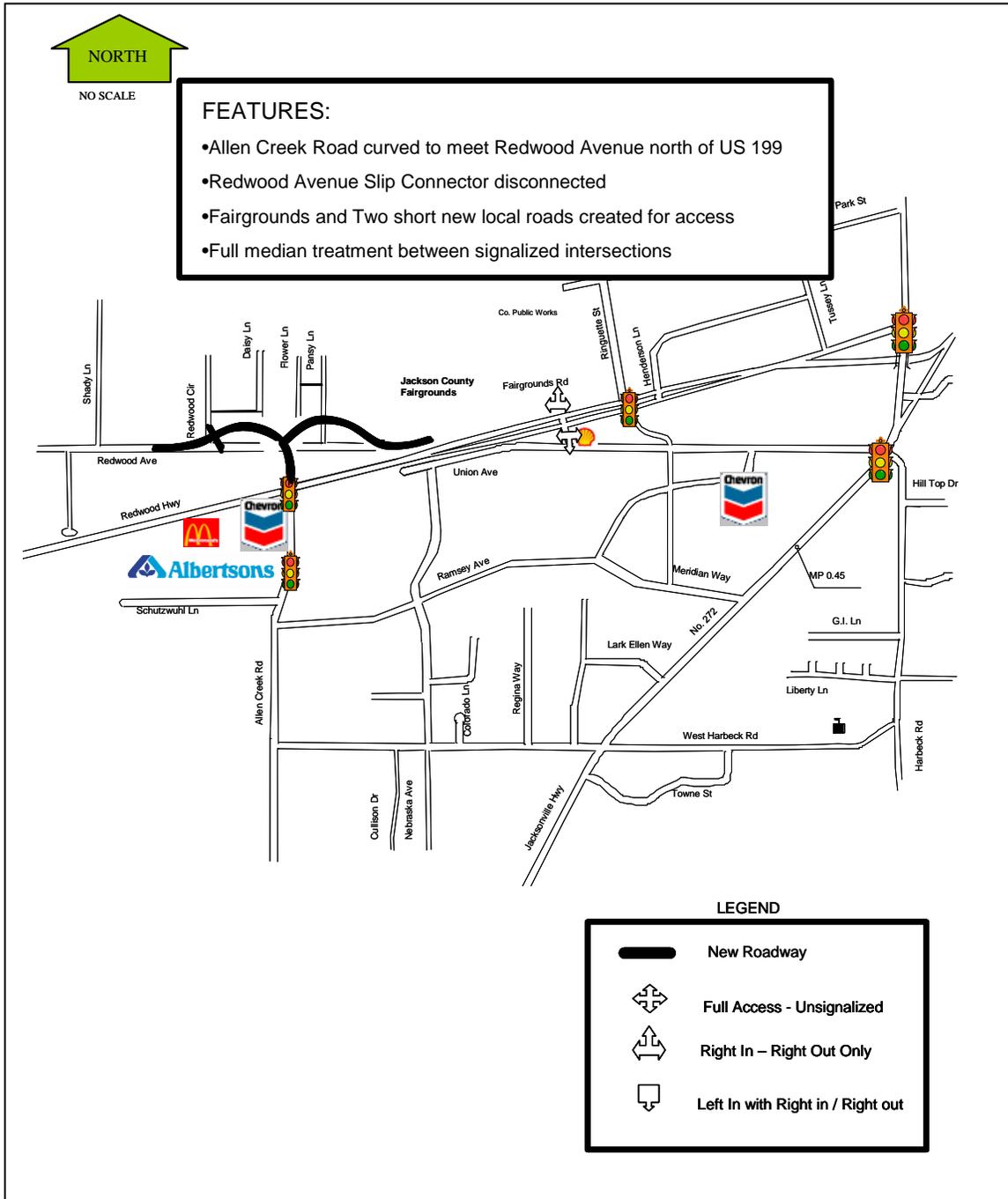


Figure 5: Alternative C – East Section



2004 EXISTING CONDITIONS

This project covers 3.75 miles of the Redwood Highway from Tussey Lane in Grants Pass west to Midway Avenue. As shown on Figures 3-5, the no-build alternative is broken into two segments. The no-build alternative has Redwood Highway with two through lanes in each direction with exclusive right and left turn lanes at all public intersections as appropriate except at Arbor Ridge/Dawn Drive. For figures with the volumes and lane configurations, see Appendix E.

The west section goes from Midway Avenue to just before Dowell Road. This 2.39 mile section has an average Annual Daily Traffic (ADT) range between 12,000 and 22,000, and a crash history that has a higher than average crash severity. There are about a dozen private driveways that have direct highway access, otherwise access is via stop-controlled roads.

The east section goes from Dowell Road to Tussey Lane. This 1.27 mile section has an average ADT range between 22,000 and 38,000 and a crash history that has a higher occurrence than comparable state highways. This section of road has left turns allowed only at signalized intersections, because of installed medians and is access-controlled on the south side except for a driveway at Les Schwab. The north side is access-controlled from Dowell Road to Fairgrounds Road, and then has unlimited access to Tussey Lane. There currently are five signalized intersections within this section and two stop-controlled intersections (Tussey Lane and Henderson Lane).

Table 1: Description of Existing Segments of US 199 (Redwood Highway No. 25)

Section ID	From	To	Lanes	Speed	ADT
West	Dowell Rd	Midway Ave	4	45/50	11,700
Middle	Redwood Ave (East)	Dowell Rd	4	45	22,100
East 1	6 th Ave	Redwood Ave (East)	4	45	37,700

Crash Analysis Summary

A comprehensive seven-year crash history can be found in Appendix A, with the detailed crash listing for the last three complete years in Appendix B.

West Section

A generalized crash summary for the project area was obtained for the data from January 1, 1999 through December 31, 2005. The project is divided into two sections, based on the roadway characteristics. The west section covers from a point just west of Dowell

Road about 2.65 miles to Midway Avenue. The 2005 crash rate for the west section is 0.42 crashes per million vehicle miles (MVM). This is lower than other comparable Rural, Non-Freeway Oregon highways (1.01).

The Oregon Department of Transportation (ODOT) has a program to help track the various sections of highways on a comparative basis of safety. The Safety Priority Indexing System (SPIS) is a program method developed by ODOT to identify potentially hazardous locations on state highways. The 2006 SPIS score is based on three years of crash data (2003-2005), considering crash frequency, severity and rate using a 0.10 mile segment length. ODOT considers locations in the top ten percent as of a concern. There are two SPIS locations in the top ten percent in this section; Hubbard Lane (MP 54.85) and Arbor Ridge Road (MP 60.67).

Although the overall number of crashes has generally continued to increase, the west section's share of crashes has reduced. The crash data summarizes as follows:

Table 2: US 199 Crash Summary West Section between MP 2.10-4.75 (1999-2005)

From	1999	2000	2001	2002	2003	2004	2005
West Section	14	4	7	15	7	9	8
Total	51	32	52	63	49	61	70
% In Section	27.4	12.5	13.5	23.8	14.2	14.7	11.4

Eight of the nine fatal crashes in the past seven years have occurred west of Dowell Road. The types included multiple angle and turn crashes, and one each of fixed object, rear end, head-on and sideswipe meeting. The 43 percent of crashes involving only property damage, and almost 84 percent of crashes overall in the eastern portion of the project confirm the safety concern in the highly congested area between 6th Avenue and Dowell Road.

East Section

The generalized summary has the east section from just west of 6th Street near Tussey Lane to just west of Dowell Road, which is the last signalized intersection. The 2005 crash rate for the east section is 2.79 crashes per MVM, higher than other comparable Suburban Non-Freeway Oregon highways (1.39). There are four SPIS locations in the top ten percent in this section: Ringuette Street (M.P. 75.97), Fairgrounds Road (M. P. 79.92), Redwood Avenue (MP 52.23) and Dowell Road (MP 46.68).

Crash specifics for the east section show only one fatal crash in the past seven years (1999). It was an angle type crash at Allen Creek Road when a southbound vehicle did not yield right-of-way to a westbound vehicle.

The overall crash numbers generally increased in the east section based on the continuing raising trend of more non-fatal crashes. The large portion of crashes, over 85 percent in the last three years, and the low number of fatalities confirms the safety concern in the highly congested area between 6th Avenue and Dowell Road. The east section crash data summarizes as follows:

Table 3: US 199 Crash Summary East Section between MP 0.50-2.10 (1999-2005)

From	1999	2000	2001	2002	2003	2004	2005
East Section	37	28	45	48	42	52	62
Total	51	32	52	63	49	61	70
% In Section	72.6	87.5	86.5	76.2	85.7	85.3	88.6

30th Highest Hour Volumes

Volume Development

The 2004 30th Highest Hour Volumes (30HV) used in this analysis were developed using 16-hour manual counts taken mainly in 2003 and 2004. All count locations and details are included in Appendix C. The numerous counts were seasonally adjusted using data from the Timber Ridge Automatic Traffic Recorder (ATR #17-015), which is located just west of the project limits. The volumes were also historically adjusted to 30HV. The study area's peak hour was found to be 5:00 pm to 6:00 pm, and the 30th Highest Hour Volume occurs in July. Full details of volume development are found in Appendix C.

Existing Year 2004 Analysis Results

West Section

This section of US 199 is a relatively flat, four lane section with left and right turn pockets at Rogue Community College and all public streets, except the Arbor Ridge/Dawn Drive intersections. The lanes are 12-foot wide and the center median varies from 3-14 feet wide. The mainline segment analysis used the HCM multi-lane procedure. Using the 2004 base volumes the analysis shows a LOS of A with a v/c ratio of 0.17 eastbound and 0.25 westbound, which is well below the rural expressway standard of 0.70. Because the merge section from Demeray Drive is an add-lane section all the way to Dowell Road, and the mainline v/c ratio is so low, there are no weave or merge issues.

Current year (2004) analysis shows that the intersections west of Hubbard Lane meet the mobility standards for current volumes, even though they are stop-sign controlled. See Table 4. Typically the minor street left turn onto the major street is the failing movement at stop-controlled intersections. This is why Hubbard Lane currently fails. Willow Lane meets the v/c standard because the minor street lefts were eliminated and the intersection

can handle the volumes in the current configuration even with increased traffic. There are no signalized intersections in the west section.

Table 4: 2004 Unsignalized Intersection Volume/Capacity Ratios

Major Street	Minor Road	v/c Ratio	LOS	Critical Move
US 199	Redwood Ave (West)	0.23	-	NB
	Midway Ave	0.23	-	WB
	Arbor Ridge/Dawn Dr	0.05	-	WB
	RCC Entrance	0.28	-	NB
	Hubbard Ln	0.49	-	SB
	Willow Ln	0.34	-	WB
Redwood Ave	Midway Ave		A	EB
	Hubbard Ln	-	C	NB
	Willow Ln	-	D	SB
	Dowell Rd	-	F ¹	NB/SB ¹
Demeray Dr	Hubbard Ln	-	A	SB
	Willow Ln	-	B	NB

¹ Gray cells mean that the mobility standard for local streets has been exceeded (LOS D).

The existing conditions were reviewed to determine if any additional unsignalized state highway intersections meet Preliminary (Traffic) Signal Warrants (PSW). See Table 5. Meeting PSW does not guarantee that a traffic signal will be installed by ODOT. If a PSW is met, then ODOT Region Traffic determines if a full warrant analysis is needed. The preliminary signal warrant is just a check to see if the volumes are in the range for considering a signal. If Region Traffic performs a full analysis, and determines that they support a signal installation, they will submit the full analysis recommending approval to the ODOT Traffic Roadway Section (TRS), which makes the final decision. The preliminary signal warrant data is summarized on Table 5. The local jurisdiction needs to determine if traffic signals are warranted on their system. The ODOT input to those installations is that the local signal needs to work with the ODOT system, and not hinder the state system.

Table 5: Preliminary Signal Warrants - 2004 Volumes

Major Street	Minor Road	Warrants Met?
US 199	Willow Ln	No – Restricted – WB Ingress Only
	Hubbard Ln	No
	RCC Entrance	No

The local street impacts follow about the same pattern as the project sections. The west end meets standards or fails because of the minor left at a stop-controlled intersection.

Without high congestion the queues are not substantial with the existing configurations as shown in Table 6, except along Dowell Road.

Table 6: 2004 Queuing Distances

Major Street	Minor Road	Queue Distance (Feet)
US 199	Midway Ave	50
	Arbor Ridge/Dawn Dr	25
	RCC Entrance	100
	Hubbard Ln	75
	Willow Ln	100
	Dowell Rd	400 ¹
Redwood Ave	Hubbard Ln	75
	Willow Ln	100
	Dowell Rd	1600 ²

¹ Gray Shading shows any queue length between 200 and 600 feet

² Black Shading shows any queue over 600 feet long.

Intersection Spacing and Access Management

The 1999 *Oregon Highway Plan* (OHP), as directed by *Oregon Administrative Rule* (OAR) Chapter 734, Division 51, has set spacing standards for signalized intersections and interchanges on expressways, which are referred to as Access Management Standards. For statewide highways, the expressway spacing standard for at-grade intersections is 2640 feet. The spacing standard between an at-grade intersection and an interchange ramp in a rural setting is two miles, and in an urban setting is one mile. Table 7 summarizes the current intersection spacing. Currently, the only intersections within the study area that meet OHP spacing standards for intersections are from Allen Creek Road west toward Midway Avenue.

Table 7: Intersection Spacing Along US 199 (Redwood Highway No. 25)

From	To	Distance (Feet)	Within Standard
Dowell Rd	Willow Ln	2690	Yes
Willow Ln	Hubbard Ln	2690	Yes
Hubbard Ln	RCC Entrance	1690	No ¹
RCC Entrance	Arbor Ridge/Dawn Dr	2590	Yes
Arbor Ridge/Dawn Dr	Midway Ave	2960	Yes

¹ Black Shading means intersections do not meet spacing standards.

East Section

The east section of Redwood highway is a relatively flat, four lane section with left and right turn pockets at the signalized intersections of Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road and Ringuette Street. There are two stop-controlled intersections of public streets (Tussey Lane and Henderson Street) along with numerous driveways on the north side of the highway, which are limited to right in-right-out because of median. The lanes are 12-foot wide and the center median is generally at least 6-foot width and is raised-curb. The segments between the intersections are so closely spaced that the intersections control this section.

Current year (2004) analysis shows that the intersections east of Dowell Road fail to meet the mobility standards for current volumes even though they are stop-sign controlled. See Table 8. Typically the minor street left turn onto the major street is the failing movement at stop-controlled intersections. This is why Hubbard Lane currently fails. Willow Lane meets the v/c standard because the minor street lefts were eliminated and the intersection can handle the volumes in the current configuration even with increased traffic.

Table 8: 2004 Unsignalized Intersection v/c Ratios

Major Street	Minor Road	v/c Ratio	LOS	Critical Move
US 199	Henderson Ln	0.92 WB	-	WB²
	Tussey Ln	0.91 WB	-	WB²
Redwood Ave	Dowell Rd	-	F	NB/SB ¹
	Allen Creek Rd	-	F	NB ¹
Union Ave	Ringuette St	-	D	EB

¹ Gray cells mean that the mobility standard for local streets has been exceeded (LOS D)

² Black cells mean that the OHP mobility standard for statewide expressways has been exceeded (all non-MPO = 0.70).

Existing conditions were reviewed to determine if any additional highway intersections met PSW. Meeting PSW does not guarantee that a traffic signal will be installed by ODOT. If a PSW is met, then ODOT Region Traffic determines if a full warrant analysis is needed. The preliminary signal warrant data is summarized on Table 9. Because these intersections are restricted to right-in/right-out access, it is highly unlikely that they will ever meet signal warrants.

Table 9: Preliminary Signal Warrants - 2004 Volumes

Major Street	Minor Road	Warrants Met?
US 199	Henderson Ln	No RI-RO
	Tussey Ln	No RI-RO

RI-RO means Right In-Right Out only access.

All of the east section intersections fail to meet the mobility standards even under current volumes, much less the higher future volumes. See Table 10. With the removal of the

US 199 at Fairgrounds Road and Redwood Avenue (East) signals as scheduled to happen, the v/c ratios improve, but not enough to meet the mobility standards.

Table 10: 2004 Signalized Intersection v/c Ratios

Major Street	Minor Road	v/c Ratio
US 199	Dowell Rd	0.78 ¹
	Allen Creek Rd	0.72 ¹
	Redwood Ave (East)	0.75 ¹
	Fairgrounds Rd	1.04²
	Ringuette Ave	0.99 ¹
	OR 99 (6 th St)	1.64²
OR 238	Union Ave	1.47²

¹ Gray cells mean that the OHP mobility standard for statewide expressways has been exceeded (all non-MPO = 0.70).

² Black cells mean the intersection is over capacity.

Because of the high congestion, the queues are substantial with the existing configurations as shown in Table 11.

Table 11: 2004 Queuing Distances

Major Street	Minor Road	Queue Distance (feet)
US 199	Dowell Rd	425 ¹
	Allen Creek Rd	525 ¹
	Redwood Ave (East)	450 ¹
	Fairgrounds Rd	1000²
	Ringuette Ave	950²
US 199	Henderson Ln	550 ¹
	Tussey Ln	75
	OR 99 (6 th St)	825²
OR238	Union Ave	1550²
Union Ave	Ringuette St	150
Redwood Ave	Dowell Rd	1590¹
	Allen Creek Rd	150

¹ Gray Shading any queue between 200 and 600 feet in length.

² Black Shading any queue over 600 feet long.

Table 12 summarizes the current intersection spacing for the east section. Only the section between Allen Creek Road and Dowell Road meets this standard.

Table 12: Intersection Spacing Along US 199 (Redwood Highway No. 25)

From	To	Distance (feet)	Within Standard
6 th St	Tussey Ln	1690	No
Tussey Ln	Henderson Ln	800	No
Henderson Ln	Ringuette St	800	No
Ringuette St	Fairgrounds Rd	900	No
Fairgrounds Rd	Redwood Ave East (signal)	1320	No
Redwood East Ave (signal)	Allen Creek Rd	1050	No
Allen Creek Rd	Dowell Rd	4280	Yes

Shaded cell shows intersection spacing not within standards.

2030 FUTURE YEAR NO-BUILD

Future year 2030 volumes were created using the Grants Pass transportation demand model and the model volumes were post-processed using the National Cooperative Highway Research Council (NCHRP) Report 255. Model base and future year volumes are compared to develop a relative difference between scenarios. This difference was applied to the existing 2004 volumes to arrive at the 2030 volumes used in the analysis. The 2030 Future No-Build Volumes are shown in Appendix F.

West Section

In the west section the analysis shows that the intersections east of Hubbard Lane meet the mobility standards for current (2004) and future (2025) volumes, even though they are stop-sign controlled. See Table 13. Typically the minor street left turn onto the major street is the failing movement at stop-controlled intersections. This is why Hubbard Lane fails, as well as the college entrance failing in the future. Willow Lane meets the v/c standard because the minor street lefts were eliminated and the intersection can handle the volumes in the current configuration even with increased traffic.

Table 13: 2025 Unsignalized Intersections v/c Ratios-West Section

Major Street	Minor Road	2025 v/c Ratio	LOS	Critical Move
US 199	Redwood Ave (West)	0.27	-	NB
	Midway Ave	0.23	-	WB
	Arbor Ridge Rd/Dawn Dr	0.33	-	WB
	RCC Entrance	0.39	-	NB
	Hubbard Ln	0.83	-	SB²
	Willow Ln	0.38	-	WB
Redwood Ave	Midway Ave	-	A	EB
	Hubbard Ln	-	C	NB/SB
	Willow Ln	-	F	SB ¹
	Dowell Rd	-	C	-
Demeray Dr	Hubbard Ln	-	B	SB
	Willow Ln	-	C	ND

¹ Gray cells mean that the mobility standard for local streets has been exceeded (LOS D).

² Black cells mean that the OHP mobility standard for statewide expressways has been exceeded (all non-MPO = 0.70).

There are no signalized intersections included in the west section. Table 14 shows that only the US 199 at Hubbard Lane intersection meets PSW in the future. Most of the other accesses will not meet warrants with the turn restrictions in place.

Table 14: Preliminary Signal Warrants – 2025 Volumes

Major Street	Minor Road	Warrants Met?
US 199	Midway Ave	No
	Arbor Ridge/Dawn Dr	No RI-RO
	RCC Entrance	No – Restricted Ingress
	Hubbard Ln	Y
	Willow Ln	No – Restricted Ingress

RI-RO means Right in-Right Out only access.

Table 15 shows the queuing distances for intersections within this section. Queues over 200 feet in length can cause difficulties for a vehicle to access from a side street.

Table 15: 2025 Queuing Distances – 2025 Volumes

Major Street	Minor Road	Queue Distance (Feet)
US 199	Midway Ave	50
	Arbor Ridge/Dawn Dr	50
	RCC Entrance	100
	Hubbard Ln	75
	Willow Ln	125
Redwood Ave	Hubbard Ln	100
	Willow Ln	250 ¹
	Dowell Rd	350 ¹
	Allen Creek Rd	775 ²
Demeray Dr	Hubbard Ln	25
	Willow Ln	75

¹ Gray Shading any queue between 200 and 600 feet in length

² Black Shading any queue over 600 feet long.

East Section

The segments between the intersections are so closely spaced that the intersections control this section. The analysis shows that the unsignalized intersections along US 199 east of 6th Street do not meet the OHP mobility standards for future (2025) volumes since they are stop-sign controlled. See Table 16. Typically the minor street left turn onto the major street is the failing movement at stop-controlled intersections. The major local street intersections are also over the Grants Pass standard of LOS D.

Table 16: 2025 v/c Ratios for Unsignalized Intersections

Major Street	Minor Road	2025 v/c Ratio
US 199	Henderson Ln	1.04 WB ²
	Tussey Ln	1.04 WB ²
Redwood Ave	Dowell Rd	F ¹
	Allen Creek Rd	F ¹
Union Ave	Ringuette St	F ¹

1 Gray cells mean that the mobility standard for local streets has been exceeded (LOS D).

2 Black cells mean that the OHP mobility standard for statewide expressways has been exceeded (all non-MPO = 0.70).

To meet expressway standards and prior local commitments, all project alternatives include the Fairgrounds Road and Redwood Avenue signal removals. The future conditions were reviewed to determine if any additional unsignalized state highway intersections meet PSW. Meeting PSW does not guarantee that a traffic signal will be installed by ODOT. If a PSW is met, then ODOT Region Traffic determines if a full warrant analysis is needed. The results in Table 17 show that with the turn restrictions in place, PSW's are not met. The local jurisdiction needs to determine if traffic signals are warranted on their system. The ODOT input to those installations is that the local signal needs to work with the ODOT system, and not hinder the state system.

Table 17: Preliminary Signal Warrants – 2025 Volumes

Major Street	Minor Road	Warrants Met?
US 199	Tussey Ln	No RI-RO
	Henderson Ln	No RI-RO

RI-RO means Right in-Right Out only access.

All east section intersections fail to meet the mobility standards under current volumes, much less with the higher future volumes. See Table 18. With the scheduled removal of the US 199 signals at Fairgrounds Road and Redwood Avenue (East), the v/c ratios improve, but not enough to meet the mobility standards.

Table 18: 2025 v/c Ratios for Signalized Intersections

Major Street	Minor Road	2025 v/c Ratio
US 199	Dowell Rd	0.86 ¹
	Allen Creek Rd	0.89 ¹
	Ringuette Ave	1.24 ²
	OR 99 (6 th St)	1.72 ²
OR 238	Union Ave	1.32 ²

1 Grey shaded cells mean OHP mobility standard for statewide expressways has been exceeded (all non-MPO = 0.70).

2 Black cells mean that the intersection is over capacity.

The local street impacts follow about the same pattern as the project sections. The west end meets standards or fails because of the minor left at a stop-controlled intersection. However, on the east end the queues are excessively long since US 199 is over capacity.

Table 19: 2025 Queuing Distances – 2025 Volumes

Major Street	Minor Road	Queue Distance (feet)
US 199	Dowell Rd	1800 ²
	Allen Creek Rd	3650 ²
	Redwood Ave (East)	1500 ²
	Fairgrounds Rd	1050 ²
	Ringuette Ave	1050 ²
	OR 99 (6 th St)	725 ²
OR 238	Union Ave	1450 ²
Union Ave	Ringuette St	725 ²
	Tussey Ln	800 ²
Redwood Ave	Dowell Rd	350 ¹
	Allen Creek Rd	775 ²

1 Gray Shading any queue between 200 and 600 feet in length.

2 Black Shading any queue over 600 feet long.

PRELIMINARY ALTERNATIVE SCREENING

West Section

The Project Management Team (PMT) developed initial alternatives for discussion and took them to the CAC, PDT and technical staff at the May 2005 meetings. Upon discussion, the CAC and PDT added alternatives to make a total of nine alternatives for the west section of the project.

In June 2006, the PDT decided to forward one (west section) build alternative into the Environmental Assessment (EA). The alternative includes: a full median from just east of Midway Avenue easterly to Dowell Road with three median breaks, one full movement access at Hubbard Lane, and westbound to southbound left only accesses at Rogue Community College and Willow Lane. The alternative also improves Hubbard Lane at Demeray Drive as well as along Hubbard Lane in preparation for a future traffic signal. The alternatives considered but discarded are summarized in Appendix I.

These concepts were grouped and discussed based on the features, such as, full median versus no median and residential access and connections to public roads. The CAC recommended not forwarding alternatives that had huge expenses building long sections of roads or that did not reduce the crash potential.

The PDT at the June 2006 meeting selected the West 6 alternative; the full length median barrier with full turn movements allowed at Hubbard Lane (proposed signal) and Midway Avenue; in-place turn restrictions at Willow Lane; turn restriction at Rogue Community College access and improvements to Hubbard Lane south of US 199 to Demeray Drive. U-turns would be permitted at Dowell Road and Hubbard Lane.

East Section

The PMT developed initial alternatives for discussion and took them to the CAC, PDT and technical staff at the May 2005 meetings. Upon discussion, the CAC and PDT added alternatives to make a total of eleven named alternatives for the east section of the project. All alternatives remove the existing signals at Fairgrounds Road and Redwood Avenue. The alternatives considered but discarded are summarized in Appendix I.

As part of the preliminary screening, the alternatives were grouped into categories to consider specific features:

- Frontage Road/Driveway Collectors
- West Park Street Connector
- Union Avenue Slip Ramp

- Added Lanes on US 199
- Fourth Bridge Connection

Features Discussion and Screening

Based on fatal flaw analysis, the following features were dropped or carried forward at the August 2005 CAC and PDT meetings. The frontage roads and driveway collectors were kept as a way of improving congestion and safety by minimizing the number of conflict points. It is recommended that alternatives that include frontage roads and driveway collectors be used in conjunction with any alternatives forwarded. Additional through lanes were looked at and determined to be needed for the overall project life, so any alternative considered should have three through lanes in each direction.

Removing the existing Redwood Avenue connector from US 199 causes nearly 90 percent of the traffic to use the Allen Creek Road intersection, almost 10 percent to use the Dowell Road intersection, and the small remainder of the traffic to go on to the Hubbard Road intersection to access Redwood Avenue.

The additional connector streets West Park and Union Avenue were both dropped for different reasons. West Park was to be a local street that would not attract (remove) enough through traffic from Redwood Highway without major neighborhood impacts. Union Avenue, while it does not help westbound traffic congestion, does help reduce eastbound traffic. However, the impacts are major with additional lanes needed at multiple intersections.

A quick fourth bridge analysis shows that with the road as a local collector (City's TSP classification), it does not attract enough Redwood Highway through traffic. The model application shows that a new bridge takes about 25 percent of the north/south bound traffic in the area and draws about 15 percent of the overall east/west volume off of US 199 (Redwood Highway). Although the 15 percent is significant, it is partially offset by the increased volumes of trips attracted by trip options that were not available before. For this analysis, Redwood Highway volumes are the relevant figures. The analysis shows that the changes to the east/west traffic are minimal with the bridge, so this alternative is relatively neutral as a solution for the problems on US 199.

Preliminary Analysis

Six alternatives based on the features listed were analyzed for this preliminary analysis.

- Frontage Roads/Driveway Collectors
- Added through lanes
- Redwood Avenue (westbound) connector
- Removal of signals on US 199 at Fairgrounds Road and Redwood Avenues
- Structures to separate heavy traffic movements

The analysis was to be based on four critical intersections: US 199 at Ringuette Street; US 199 at Allen Creek Road; Redwood Avenue at Allen Creek Road; and Redwood Avenue at Dowell Road. In some concepts an additional intersection is discussed, such as OR 238 at Union Avenue for the concepts that move traffic onto Union Avenue. The No-Build Refined uses the current alignment, but with no additional lanes for capacity, and adds dual left turn lanes for southbound to eastbound traffic at US 199 and Allen Creek Road.

The alternatives took the features and identified five scenarios with varying combinations of frontage roads and driveway collectors as well as the grade separation ideas related to the heavy Redwood Avenue moves. All alternatives included an added through lane and minimal driveway access.

Summary of Preliminary Analysis

All of the alternatives show that the local streets are either in compliance with the standard or can easily be expanded (improved).

All the alternatives improve safety by reducing the number of conflict points. The v/c ratios are higher with alternatives that use driveway collectors since turns are being re-located. Many of the driveway collectors created difficulties for freight delivery. Business impacts and the local atmosphere from adding structures was a major concern for the team. Only the structure of Redwood Avenue over Allen Creek Road (East 5) seemed to make sense with its minimal impacts to existing businesses. The Redwood Avenue to Union Avenue connector, as alternative, had major impacts to local roads south of US 199 and to businesses near the structure. It could not be phased and did not help westbound congestion so the CAC and PDT determined to drop it. The alternative for the re-worked Redwood Avenue at Allen Creek Road intersection had the following difficulties: providing access to businesses along Allen Creek Road; substantial out-of-direction travel; introduced safety concerns of confused drivers inadvertently making wrong turns; and no clear pedestrian and bicycle moves.

Table 20: East Alternatives v/c Ratio Comparison – 2025 Build Volumes

Major Street	Minor Road	East 1	East 2	East 5	PDT2	CAC2
US 199	Ringuette Ave	0.96	0.91	0.79	0.72	0.87
	Allen Creek Rd	0.80	0.82	0.80	0.72	0.83
Redwood Ave	Allen Creek Rd	LOS C	LOS B	LOS C	LOS D	LOS D
	Dowell Ln	LOS D	LOS C	LOS D	LOS C	LOS C
OR 238	Union Ave	N/A	N/A	N/A	0.72	N/A

Black cells show intersections that are over HDM design standard.

Based on the through volumes on US 199 and the 20-year future projections, the proposed cross-section seems a reasonable compromise between building wide enough

(probably be close to 150-feet wide) to bring the v/c ratio into compliance, and building enough to be below full capacity (traffic moving), while keeping the width reasonable for pedestrian and bicycles. A design exception will have to be applied for and obtained. Further details of the preliminary screening can be found in Appendix J.

Based on the above discussions and concerns, the following alternatives were not dropped, and TPAU has recommended further investigation for the given reasons:

- East 1– Although this has the higher v/c ratios, the traffic will flow smoother through the congested section. With no north-side private accesses and only three public road accesses in this section, this alternative will likely be the safest. To slow people a little more (congestion) and not have to make a decision (conflict point) is a good compromise.
- East 5 – This alternative uses a large share of existing roadways while furnishing a manner of complete off highway movements in the study.

This leaves East 1 (Full frontage road) and East 5B (Allen Creek Road grade separation) as the viable alternatives for the EA.

East 1 is a full frontage road system from Tussey Lane to Allen Creek Road, with full access at the signalized intersection of US 199 and Ringuette Street. The Redwood Avenue westbound connector is included along with a traffic signal at the Redwood Avenue/Allen Creek Road intersection.

East 5 is a full frontage road from Tussey Lane to Allen Creek Road, without the Redwood Avenue westbound connection. A major difference between this and East 1 is grade separated crossings over Ringuette Street and Allen Creek Road. Also, the frontage road is configured using a loop ramp, making the heavy Redwood Avenue traffic a right turn at the Allen Creek Road intersection, instead of a left.

FINAL ALTERNATIVE ANALYSIS

Alternative Descriptions

For the CAC and PDT meetings the alternatives were combined, detailed into two alternatives (A and B detailed below), and distributed for public comments in the Fall of 2005. After presenting the proposed alternatives above to the public, huge concerns were expressed for the impacts at Allen Creek Road and Redwood Avenue, including business, residential and environmental impacts. The Project Team worked to try to address the public's comments and created Alternative C as a result. As the analysis was progressing, the CAC and PDT discussed and determined that Alternative B should be dropped from the analysis as it cannot be phased, cost efficient, and due to the cost of the structure to grade separate the roadways.

Alternative A is a refined combination of the west concept with East 1. See Figures 3 and 4.

The section from Midway Avenue to Dowell Road includes: full length median barrier with full turn movements allowed at Hubbard Lane (proposed signal) and Midway; in-place turn restriction at Willow Lane; turn restriction at Rogue Community College access; and improvements to Hubbard Lane south of US 199 to Demeray Drive. U-turns would be permitted at Dowell Road and Hubbard Lane.

In the section from Dowell Road to Redwood Avenue, the roadway transitions from four travel lanes to six travel lanes separated with full median barrier. The intersection of US 199 at Allen Creek Road remains signalized and is expanded to include three through lanes with exclusive left and right turn lanes for eastbound traffic, three through lanes westbound with the right lane allowing for right turns and having dual exclusive left turn lanes. Allen Creek Road northbound has dual left turn lanes, exclusive through and exclusive right turn lanes, while southbound has a combined through right and dual left turn lanes. Allen Creek Road is extended north about 250-feet and has an access road now attached to serve properties north of Redwood Avenue. The new Allen Creek Road at Redwood Avenue slip-ramp intersection would be signalized to handle the four-legged intersection. Bike lane improvements are included along US 199, and sidewalks are included on the new alignment sections. The existing signal at US 199 at Redwood Avenue is removed.

From Redwood Avenue to Tussey Lane the roadway maintains six travel lanes with raised curb median continuing between travel directions. Where permitted, direct access to US 199 would be reduce and only allowed as right-in/right-out movements. The existing signal at Fairgrounds Road will be removed and the movement converted into an unsignalized right-in/right-out. The intersection of Ringuette Street with US 199 would be improved to have three travel lanes westbound with an exclusive left turn and a free-flowing right turn lane. Eastbound would have three travel lanes with dual left and

exclusive right turn lanes, while northbound and southbound would have single through lanes, exclusive right turn lanes and single (southbound) or dual (northbound) left lanes turns.

Alternative C is a refined combination of the west Concept with modifications of East 1 to minimize impacts to Redwood Avenue/Allen Creek Road properties and accesses. See Figures 3 and 5.

The sections from Midway Avenue to Dowell Road and from Redwood Avenue to Tussey Lane are the same as in Alternative A.

The section from Dowell Road to Redwood Avenue, the roadway transitions from 4 travel lanes to six travel lanes separated with full median barrier. The intersection of US 199 at Allen Creek Road remains signalized, and is expanded to include three through lanes with exclusive left and right turn lanes for eastbound traffic, three through lanes westbound with exclusive dual left and right turn lanes. Allen Creek Road northbound has exclusive left and right turn lanes and two through lanes, while southbound has a combined through right and dual left turn lanes. Allen Creek Road is realigned, curving slightly to the west to connect with a new three-legged intersection with a realigned Redwood Avenue and a new access road. The City of Grants Pass may choose signalizing this intersection. The realigned Redwood Avenue would now have a four-way intersection allowing the old alignment to be used for accessing properties between Redwood Avenue and the highway. Bike lane improvements are included along US 199, and sidewalks are included on the new alignment sections. The existing signal at US 199 at Redwood Avenue is removed.

Alternative Analysis

Alternative A

The mainline segment of the west section of this alternative has the same traffic characteristics as the no-build as far as v/c ratios. Since the future no-build had v/c ratios under 0.60, the two lanes in each direction, along with the exclusive turn lanes at public roadways, will meet the v/c standard for the 20-year design. In the east section the restricted stop controlled intersections meet the v/c standard of 0.70.

Table 21: Alternative A 2025 v/c Ratios at Critical Unsignalized Intersections

Major Street	Minor Road	v/c Ratio	LOS	Critical Move
US 199	Midway Ave	0.23	-	WB
	Arbor Ridge/Dawn Dr	0.33	-	WB
	RCC Entrance	0.25	-	WB
	Hubbard Ln	0.52	-	SB
	Willow Ln	0.38	-	WB

Major Street	Minor Road	v/c Ratio	LOS	Critical Move
US 199	Fairgrounds Rd	0.48 ²	-	WB
	Henderson Ln	0.64	-	WB
	Tussey Ln	0.63	-	WB
Redwood Ave	Hubbard Ln	-	C	NB/SB
	Willow Ln	-	F ¹	SB
Demeray Dr	Hubbard Ln	-	B	SB
	Willow Ln	-	C	NB
Union Ave	Ringuette St	-	F ¹	EB

¹ Black cells show intersections which are over capacity.

² This intersection was signalized in the No-Build, but is unsignalized in either alternative.

A review of the traffic volumes for the unsignalized intersections in Alternative A shows that only the intersection of Hubbard Lane will meet signal warrants in the future. The remaining intersections, including the college entrance, will not meet warrants because of the reduction in conflicts with the removal of traffic movements.

Table 22: Preliminary Signal Warrants – Alternative A 2025 Volumes

Major Street	Minor Road	Warrants Met?
US 199	Midway St	No
	RCC Entrance	No-Restricted
	Hubbard Ln	Yes
	Willow Ln	No-Restricted
	Fairground Rd	No RI-RO
	Henderson Ln	No RI-RO
	Tussey Ln	No RI-RO

RI-RO means Right in-Right Out only access.

The east section, with the addition of a third through lane in each direction from 6th Street to Dowell Road, gets the v/c ratios less than 1.0, but does not get them to within the HDM v/c guideline of 0.70. This cross-section is a compromise section for moving traffic better than the no-build while not wiping out all businesses and residences in the proximity of the roads. A design exception will have to be sought for the non-conforming v/c ratios. The v/c ratio at 6th Street and the expressway will have to be addressed in another project. Much of the area from Ringuette Street east to before 6th Avenue (the couplet) will be re-studied in the South Y Project within the next few years. The work suggested in that area will be considered as part of a Phase 2 for construction, and will be reevaluated when alternatives are considered for the South Y project.

Table 23: Alternative A 2025 v/c Ratios at Critical Signalized Intersections

Major Street	Minor Road	v/c Ratio	LOS
US 199	Dowell Rd	0.85 ¹	-
	Allen Creek Rd	0.84 ¹	-
	Ringuette St	0.78 ¹	-
	6 th St	1.72²	-
OR 238	Union Ave	1.30²	-
Redwood Ave	Allen Creek Rd	-	D ³
	Dowell Rd	-	C ³

1 Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or .65; and local standard = LOS D).

2 Black cells show intersections which are over capacity.

3 This intersection unsignalized in the No-build, but is signalized in the build alternative.

Without capacity improvements many intersections cannot meet the HDM Design standards. Table 24 shows the expected queuing distances along segments of the state highway and major local streets. Queues over 200-feet long typically block adjacent intersections, and make it difficult for access to and from minor streets.

Table 24: 2025 Queuing Distances Alternative A

Major Street	Minor Road	Queue Distance (Feet)
US 199	Midway Ave	50
	Arbor Ridge/Dawn Dr	50
	RCC Entrance	75
	Hubbard Ln	75
	Willow Ln	175
	Dowell Road	300 ¹
	Allen Creek Rd	525 ¹
	Fairgrounds Rd	700²
	Ringuette Ave	1000²
	Henderson Ln	1150²
	Tussey Ln	350 ¹
	OR 99 (6 th St)	750²
OR 238	Union Ave	1575²
Union Ave	Ringuette St	800²
Redwood Ave	Hubbard Ln	100
	Willow Ln	75
	Dowell Rd	1025²
	Allen Creek Rd	1000²

1 Gray Shading any queue between 200 and 600 feet in length.

2 Black Shading any queue over 600 feet long.

Alternative C

The mainline segment of the west section of this alternative has the same traffic characteristics as the no-build as far as v/c ratios. Since the future no-build had v/c ratios under 0.60, the two lanes in each direction, along with the exclusive turn lanes at public roadways will meet the v/c standard for the 20-year design. See Table 25.

Table 25: Alternative C 2025 v/c Ratios at Critical Unsignalized Intersections

Major Street	Minor Road	v/c Ratio	LOS	Critical Move
US 199	Midway Ave	0.23	-	WB
	Arbor Ridge/Dawn Dr	0.33	-	WB
	RCC Entrance	0.25	-	WB
	Hubbard Ln	0.52	-	SB
	Willow Ln	0.38	-	WB
	Fairgrounds Rd	0.48	-	WB
	Henderson Ln	0.64	-	WB
	Tussey Ln	0.63	-	WB
Redwood Ave	Hubbard Ln	-	C	NB/SB
	Willow Ln	-	F	SB
	Dowell Rd	-	C	B
Demeray Dr	Hubbard Ln	-	B	SB
	Willow Ln	-	C	NB
Union Ave	Ringuette St	-	F	EB

Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or .65; and local standard = LOS D).

A review of the traffic volumes for the unsignalized intersections in Alternative C shows that only the intersection of Hubbard Lane will meet signal warrants in the future. See Table 26. The remaining intersections including the college entrance will not meet warrants because of the reduction in conflicts with the removal of traffic movements.

Table 26: Preliminary Signal Warrants – Alternative C 2025 Volumes

Major Street	Minor Road	Warrants Met?
US 199	Midway St	No
	RCC Entrance	No-Restricted
	Hubbard Ln	Yes
	Willow Ln	No Restricted
	Fairground Rd	No RI-RO
	Henderson Ln	No RI-RO
	Tussey Ln	No RI-RO

RI-RO means Right in-Right Out only access

The east section, with the addition of a third through lane in each direction from 6th Street to Dowell Road gets the v/c ratios less than 1.0, but does not get them to within the HDM v/c guideline of 0.70. See Table 27. This cross-section is a compromise section for moving traffic better than the no-build while not wiping out all businesses and residences in the proximity of the roads. A design exception will have to be sought for the non-conforming v/c ratios. The v/c ratio at 6th Street and the expressway will have to be addressed in another project. Much of the area from Ringuette Street east to before 6th Avenue (the couplet) will be re-studied in the South Y Project within the next few years. The work suggested in that area will be considered as part of a Phase 2 for construction, and will be reevaluated when alternative from the South Y study.

Table 27: Alternative C 2025 v/c Ratios at Critical Signalized Intersections

Major Street	Minor Road	v/c Ratio	LOS
US 199	Dowell Rd	0.85 ¹	--
	Allen Creek Rd	0.77 ¹	--
	Fairgrounds Rd	(0.48 WB) ³	--
	Ringuette St	0.78 ¹	--
	6 th St	1.72 ²	--
Redwood Ave	Allen Creek Rd	--	A
	Dowell Rd	--	C
OR 238	Union Ave	1.30 ²	--

¹ Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or .65; and local standard = LOS D).

² Black cells show intersections which are over capacity.

³ This intersection was signalized in the no-build, but is unsignalized in either alternative.

Without capacity improvements, many intersections cannot meet the HDM Design standards. Table 28 shows the expected queuing distances along segments of the state highway and major local streets. Queues over 200-feet long typically block adjacent intersections, and make it difficult for access to and from minor streets.

Table 28: 2025 Queuing Distances – Alternative C

Major Street	Minor Road	Queue Distance (Feet)
US 199	Midway Ave	50
	Arbor Ridge/Dawn Dr	50
	RCC Entrance	75
	Hubbard Ln	75
	Willow Ln	200
US 199	Dowell Rd	525 ¹
	Allen Creek Rd	575 ¹
	Fairgrounds Rd	875 ²
	Ringuette Ave	1000 ²
	Henderson Ln	1075 ²
	Tussey Ln	375 ¹
	OR 99 (6 th St)	725 ²
OR 238	Union Ave	1525 ²
Union Ave	Ringuette St	450 ¹
Redwood Ave	Hubbard Ln	75
	Willow Ln	100 ¹
	Dowell Rd	1150 ²
	Allen Creek Rd ³	725 ²

1 Gray Shading any queue between 200 and 600 feet.

2 Black Shading any queue over 600 feet.

3 Intersection re-configured making the Redwood Avenue to Allen Creek Road the through movement and the Redwood Avenue connection a minor (stopped) movement.

ALTERNATIVES COMPARISON

In both Alternatives A and C improvement is shown over the No-Build Alternative as illustrated in Table 29. At the unsignalized intersections the median restricted configuration has reduced the v/c ratio to within mobility standards, and only Hubbard Lane meets preliminary traffic signal warrants in the design year. In the west section, there is no real difference in the v/c ratios since the same traffic is using the same intersections. With the median restriction to control the few remaining accesses, this cross-section seems like a reasonable compromise.

Table 29: Comparison of 2025 v/c Ratios at Critical Unsignalized Intersections

Major Street	Minor Road	No-Build Alternative	Alternative A	Alternative C
US 199	Midway Ave	0.23 WB	0.23 WB	0.23 WB
	Arbor Ridge/Dawn Dr	0.33 WB	0.33 WB	0.33 WB
	RCC Entrance	0.39 NB	0.25 WB	0.25 WB
	Hubbard Ln	0.83 SB	0.52 SB	0.52 SB
	Willow Ln	0.38 WB	0.38 WB	0.38 WB
	Henderson Ln	1.04 WB¹	0.64 WB	0.64 WB
	Tussey Ln	1.04 WB¹	0.63 WB	0.63 WB
Redwood Ave	Hubbard Ln	C NB/SB	C NB/SB	C NB/SB
	Willow Ln	F SB¹	F SB¹	F SB¹
	Dowell Rd	F¹	C ²	C ²
Demeray Dr	Hubbard Ln	B SB	B SB	B SB
	Willow Ln	C NB	C NB	C NB
Union Ave	Ringuette St	F¹	F¹	F¹

¹ Black cells show intersections which are over capacity.

² This intersection unsignalized in the No-build, but is signalized in either build alternative.

At the unsignalized intersections the median restricted configuration has generally eliminated consideration for preliminary traffic signal warrants in the design year. See Table 30. The only location that meets PSW's within the project's design life is Hubbard Lane. Midway Avenue will not have enough turning volumes to meet the warrant before 2030 with current projections.

Table 30: Preliminary Signal Warrants – 2025 Volumes

Major Street	Minor Road	Warrants Met?	
		A	C
US 199	Midway Ave	No	No
	RCC Entrance	No-Restricted	No-Restricted
	Hubbard Ln	Yes	Yes
	Willow Ln	No-Restricted	No-Restricted
	Fairground Rd	No RI-RO	No RI-RO
	Henderson Ln	No RI-RO	No RI-RO
	Tussey Ln	No RI-RO	No RI-RO

RI-RO means Right in-Right Out only access

The additional through lane in this section helps the remaining intersections that do not meet mobility standards to not fail (have a v/c ratio less than 1.0). They are lower than the no-build alternative, and will have better traffic flow with the reduction of accesses and conflict points. See Table 31. The intersections that will be looked at within the South Y project do not meet mobility standards. The failing intersections on Union Avenue at OR 238 and US 199 and OR 238 are outside the project limits. The removal of the two traffic signals and the consolidation/removal of driveways will smooth traffic operations.

Table 31: Comparison of 2025 v/c Ratios at Critical Signalized Intersections

Major Street	Minor Road	No-Build Alternative	Alternative A	Alternative C
US 199	Dowell Rd	0.86 ¹	0.85 ¹	0.85 ¹
	Allen Creek Rd	0.89 ¹	0.84 ¹	0.77 ¹
	Fairgrounds Rd ⁴	1.88 ²	0.48 WB	0.48 WB
	Ringuette St	1.24 ²	0.78 ¹	0.78 ¹
	6 th St	1.72 ²	1.72 ²	1.72 ²
Redwood Ave	Allen Creek Rd	F ²	D	A
	Dowell Rd ³	C	C	C
Union Ave	OR 238	1.30 ²	1.30 ²	1.30 ¹

¹ Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or .65; and local standard = LOS D).

² Black cells show intersections which are over capacity.

³ This intersection unsignalized in the No-build, but is signalized in either build alternative.

⁴ This intersection was signalized in the No-build, but is unsignalized in either build alternative.

Queuing Analysis

The queuing shown in Table 32 is an issue just outside the project limits that is amplified within this section. The South Y intersection is the bottleneck in all alternatives. Congestion levels there impact the queuing analysis results and tend to limit the improvements gained in the build alternatives. Even with the South Y congestion, there is improvement to the US 199 corridor improvements with the build alternatives. The build alternatives, for the most part, eliminate the major queuing along the corridor observed in the no-build alternative. However, the build alternatives result in moderately longer eastbound queues at 6th Avenue as some of the upstream bottlenecks in the no-build alternative are eliminated due to the capacity increases, allowing more traffic to get to the South Y over the peak hour.

Table 32: 2025 Queuing Distances

Major Street	Minor Road	Queue Distance (Feet)		
		No-Build	Alt A	Alt C
US 199	Midway Ave	50	50	50
	Arbor Ridge/Dawn Dr	50	50	50
	RCC Entrance	100	75	75
	Hubbard Ln	75	75	75
	Willow Ln	125	175	200
	Dowell Rd	1800 ²	300 ¹	525 ¹
	Allen Creek Rd	3650 ²	525 ¹	575 ¹
	Redwood Ave (East)	1500 ²	n/a	n/a
	Fairgrounds Rd	1050 ²	700 ²	875 ²
	Ringuette Ave	1050 ²	1000 ²	1000 ²
	Henderson Ln	925 ²	1150 ²	1075 ²
	Tussey Ln	800 ²	350 ¹	375 ¹
OR 99 (6 th St)	725 ²	750 ²	725 ²	
OR 238	Union Ave	1450 ²	1575 ²	1525 ²
Union Ave	Ringuette St	725 ²	800 ²	450 ¹
Redwood Ave	Hubbard Ln	100	100	75
	Willow Ln	250 ¹	75	100
	Dowell Rd	350 ¹	25	1150 ²
	Allen Creek Rd ³	775 ²	1000 ²	725 ²

1 Gray Shading any queue over 200 and less than 600 feet in length.

2 Black Shading any queue over 600 feet long.

3 Intersection re-configured making the Redwood Avenue to Allen Creek Road the through movement and the Redwood Avenue connection a minor (stopped) movement.

Measures of Effectiveness

In order to fully understand the implications of build alternative compared to the no-build alternatives, a set of performance measures (Measures of Effectiveness – MOE) have been selected. These are meant to supplement the traditional highway capacity measures such as v/c ratio or LOS.

A more detailed discussion, including definitions and how each is calculated, is included in Appendix K. The MOE's show that the build alternatives all show improvement in the measured categories over the no-build, except for vehicle miles traveled (VMT). The VMT differences are likely due to more traffic being attracted to the study area in the build alternatives and slightly longer trip lengths due to access management and frontage/access roads along US 199. The increases in VMT are more than offset by the reductions in travel time, delay and pollutants. The South Y is a bottleneck in all alternatives. Congestion levels there skew the analysis results, and tend to limit the improvement in MOEs gained in the build alternatives. Even with the "South Y" congestion, there are overall as well as US 199 corridor improvements with the build alternatives. For example the westbound travel time is reduced by almost 1½ minutes, while the eastbound travel time is reduced 4-5 minutes end to end. The build alternatives, for the most part, eliminate the major queuing along the corridor observed in the no-build alternative. However, the build alternatives result in moderately longer eastbound queues at 6th Avenue as some of the upstream bottlenecks in the no-build alternative are eliminated due to the capacity increases, allowing more traffic to get to the South Y over the peak hour.

Table 33: Additional Transportation Performance Measures 2030 PM Peak Hour

Performance Measure	No-Build	Alt. A	Alt. C
Highway 199 Measures			
Travel Time (Minutes Per Trip: South Y to Midway)¹			
EB	18.1	13.2 ²	13.4 ²
WB	10.6	7.6	7.6
Travel Delay (Minutes Per Vehicle: South Y to Midway)			
EB	12.6	7.8 ³	7.4 ³
WB	3.1	2.0	1.7
Average Speed (mph)			
EB	14	19	19
WB	24	3.3	35
Queue > 2 blocks (600 feet)			
EB	Redwood Ave Fairgrounds Rd Ringuette St 6 th St	6 th St through to Ringuette St	6 th St through to Ringuette St
WB	Ringuette St Redwood Ave	N/A	N/A
Study Area Measures			
Travel Time (veh-hrs)	2,543	1,943	1,968
Travel Distance (VMT)	17,348	18,827	19,691
Total Delay (veh-hrs)	2,071	1,408	1,406
Environmental			
Total Number of Stops Per Vehicle	3.8	3.2	2.6
Fuel Used (gallons)	2,412	2,290	2,321
CO Emissions (kilograms)	213	185	175

¹ Can be broken into segments.

² Large traffic backup caused by South Y congestion affects eastbound travel time.

³ For example, of the 11.5 minutes to travel the corridor eastbound, 6.3 minutes is taken up by slowing or being stopped due to traffic congestion.

RECOMMENDATIONS

The recommendation for the alternative to be selected is based more on the geometry and future coordination with other projects than the traffic analysis. This traffic analysis shows that the two alternatives discussed are comparable for moving traffic through the project.

Based on the required cross-sections that minimize right-of-way impacts, the safety impacts and coordination with future projects, it is recommended that Alternative A be adopted. Although the v/c ratios are comparable, the traffic will flow smoother through the congested section. With no north-side private accesses and only three public road accesses in this section this alternative will likely be the safest. Slowing vehicles some while removing decision (conflict) points is a good compromise to deal with both safety and congestion. This alignment also is more standard and can more easily be adapted for future alignments such as for the fourth bridge. This may be helpful when analyzing alternatives for the South Y configurations. It also requires less re-work for the current proposal for the fourth bridge.

Although Alternative C is comparable for required cross-sections, safety and the v/c ratios, it also has created a new alignment that may be more difficult to connect alternatives for the South Y and the fourth bridge.

Either alternative works from a transportation analysis viewpoint, considering the project is limited to not fully addressing the congestion concerns in the east section at this time. Those will be dealt with in the South Y refinement plan. These alternatives do the best possible with available funding and constraints.

APPENDIX A

Crash History US 199 Redwood Highway No. 25 (Milepost 0.50-4.75)

The crash history analysis for US 199 and the local street system (non-state highways) located within the study area includes all crashes for the years 1999-2005 for US 199 streets. Only crashes reported to the Department of Motor Vehicles (DMV) as required by Oregon law by included. The summary of the crash severity shows about 58 percent of the crashes involve significant or fatal injuries.

Table A1:US 199 Crash Severity Summary (1999-2005)

Year	Fatal	Injury	Property Damage Only	Total
1999	1	26	24	51
2000	0	19	13	32
2001	2	2	28	52
2002	0	34	29	63
2003	2	28	19	49
2004	3	39	19	61
2005	1	44	25	70
Total	9 (2.4%)	212 (56.1%)	157(41.5%)	378

Crash Analysis for US 199

The portion of US 199 from just west of 6th Avenue (MP 0.50) to just west of Midway Street (MP 4.75) is divided into two sections. The east section goes from the beginning of the project to just west of Dowell Road, which is the last signal heading west on US 199. The west section goes from west of Dowell to Midway Street.

Within the past seven years (1999-2005), there were a total of 370 reportable crashes on US 199 throughout the project. There were 310 and 60 crashes in the east and west sections, respectively. Table A1 shows the crash history and crash rate on US 199 for the years 1999-2005 divided into the two sections.

Table A2: US 199 Crash Summaries (1999-2005)

Section of US 199	Length (Miles)	Year							Total Crashes
		1999	2000	2001	2002	2003	2004	2005	
West Section (MP 2.11-4.75)	2.64	14	4	7	15	7	9	8	64
Section of US 199	Length (Miles)	Year							Total Crashes
East Section (MP 0.50-2.10)	1.60	37	28	45	48	42	52	62	
Total	4.24	51	32	52	63	49	61	70	378

Crash Rate Calculation

The comparable rates other state highways during that same general period is shown on Table A2 for the two segments within the project. Note that the high crash rate on the east section drives up the overall section value. Crash rates are calculated with the formula:

Seven Year (1999-2005) Crash Rate Calculation

$$R = \frac{\text{Crashes} \times 1,000,000}{\text{Length of Section (mi.)} \times \text{ADT} \times \text{Time Period (Days)}}$$

$$R = \frac{64 \times 1,000,000}{(4.75-2.10) \times (17,200^*) \times (7 \times 365)} = 0.55$$

* ADT weighted average from TVT volume over distance

Table A3: Comparable Crash Rates

Section	Category	ADT	Crash Rate	Average Statewide Rate	Lower Y/N
West Section	Rural Non-Freeway	17,200	0.55	0.81	Y
East Section	Urban Expressways	30,000	2.56	0.80	N
Combined Section	Expressways	21,200	1.64	0.80	N

Because this project has two distinct types of roadway development, the types of crashes are summarized by the east and west sections on Tables A3 and A4, respectively. This is important to note since the west section has most of the fatalities, even though it has a lower than average overall crash rate.

Safety Priority Index System Sites – US 199 (MP 0.50-4.75)

This report also examines the relevant Safety Priority Index System (SPIS) sites on US 199. The SPIS is a method developed in 1986 by ODOT for identifying potential safety problems on state highways. The SPIS is a method of identifying locations based on three years of crash data and considers crash frequency, crash rate and crash severity. A roadway segment becomes a SPIS sit if a location has three or more crashes or at least one fatal crash over the three year period. The SPIS is a flagging tool, and further identification of the specific safety problem at a site requires an examination of crash records and often a field investigation. ODOT Region 3 Traffic has detailed investigation records at these locations. Table 5A shows the 2006 SPIS Top 10 percent grouped sites identified in the study area. The cutoff value for the Top 10 percent is 45.49.

Table A4: Types and Number of Crashes for US 199 West Section (MP 2.10-4.75)

Crash Type	Year							Total
	1999	2000	2001	2002	2003	2004	2005	
Angle	4	2	2	3	3	1	1	16
Rear-End	3	1	-	1	1	-	2	8
Sideswipe-Meeting	-	-	-	-	-	1	-	1
Sideswipe-Overtaking	1	-	-	1	1	-	-	3
Turning	2	1	1	6	1	3	1	15
Head-On	-	-	-	-	1	-	-	1
Parking/Backing/Fixed	3	-	3	3	-	4	3	16
Pedestrian/Miscellaneous	1	-	1	1	-	-	1	4
Summary	14	4	7	15	7	9	8	64

Table A5: Types and Number of Crashes for US 199 East Section (MP 0.50-2.10)

Crash Type	Year							Total
	1999	2000	2001	2002	2003	2004	2005	
Angle	3	1	5	2	3	3	6	23
Rear-End	24	20	32	34	34	43	48	235
Sideswipe-Meeting	-	-	-	-	-	1	-	1
Sideswipe-Overtaking	5	1	2	-	-	2	3	13
Turning	5	2	2	9	4	2	4	28
Head-On	-	-	-	-	-	-	1	1
Parking/Backing/Fixed	-	-	4	-	1	1	-	6
Pedestrian/Miscellaneous	-	4	-	3	-	-	-	7
Summary	37	28	45	48	42	52	62	314

Table A6: Top 10 Percent SPIS Sites (Grouped) of US 199 (MP 0.50-4.75)

Begin MP	Ending MP	Length	Location	ADT	SPIS Value
0.53	0.71	0.18	Ringuette St	34,700	75.97
0.68	0.88	0.20	Fairgrounds Rd	34,700	79.92
0.95	1.09	0.14	Redwood Ave	37,700	52.23
2.02	2.14	0.12	Dowell Rd	21,800	46.68
2.98	3.16	0.18	Hubbard Dr	14,800	54.85
3.91	4.08	0.17	Arbor Ridge	14,800	60.67

APPENDIX B

US 199 Expressway Crash Summary (2003 – 2005)

Table B1: US 199 Expressway Crash Summary (2003-2005)

Date	MP Location	Weather Surface Light ¹	Crash Type ²	Severity ³	Error
6/23/2005	0.50	CLR DRY DAY	REAR	PDO	Following too closely.
10/19/2005	0.58	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
3/22/2005	0.60	CLD DRY DAY	REAR	INJB	Following too closely.
9/30/2005	0.61	CLR DRY DAY	REAR	PDO	Following too closely.
12/13/2005	0.61	CLR DRY DLIT	REAR	PDO	Failure to avoid stopped vehicle.
03/16/2005	0.61	CLR DRY DAY	REAR	PDO	Improper lane change, failure to avoid stopped vehicle.
2/23/2005	0.62	CLR DRY DAY	SS-O	PDO	Improper lane change.
4/15/2005	0.62	CLR DRY DUSK	REAR	PDO	Failure to avoid stopped vehicle.
5/13/2005	0.62	CLD DRY DAY	REAR	PDO	Following too closely, careless driving.
7/19/2005	0.62	CLR DRY DAY	REAR	INJC	Following too closely.
2/26/2005	0.62	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
9/28/2005	0.62	CLR DRY DAY	REAR	PDO	Following too closely.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
11/7/2005	0.62	RAIN WET DAY	ANGL	INJC	Disregard traffic signal.
08/20/2005	0.63	CLR DRY DAY	REAR	INJC	Following too closely.
5/06/2005	0.64	RAIN WET DAY	REAR	PDO	Failure to avoid stopped vehicle.
4/27/2005	0.65	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
5/18/2005	0.66	CLR DRY DAY	REAR	PDO	Following too closely.
12/14/2005	0.72	CLR DRY DLIT	REAR	INJB	Following too closely.
1/23/2005	0.75	CLD DRY DAY	REAR	PDO	Following too closely.
10/24/2005	0.76	CLR DRY DAY	REAR	INJA	Following too closely.
11/03/2005	0.77	CLD WET DAY	REAR	INJC	Following too closely.
08/16/2005	0.77	CLR DRY DAY	REAR	INJC	Following too closely.
5/06/2005	0.77	RAIN WET DAY	REAR	PDO	Failure to avoid stopped vehicle.
5/19/2005	0.78	CLR DRY DAY	REAR	INJD	Failure to avoid stopped vehicle.
12/21/2005	0.78	RAIN WET DUSK	REAR	INJC	Following too closely.
5/16/2005	0.78	CLR DRY DAY	REAR	INJC	Following too closely.

Date	MP Location	Weather Surface Light ¹	Crash Type ²	Severity ³	Error
5/19/2005	0.78	CLD WET DAY	REAR	PDO	Following too closely.
08/18/2005	0.78	CLR DRY DAY	REAR	INJB	Following too closely.
4/08/2005	0.79	RAIN WET DAY	REAR	INJC	Following too closely.
11/15/2005	0.79	CLR DRY DAY	REAR	PDO	Following too closely.
12/21/2005	0.79	RAIN WET DUSK	REAR	INJC	Failure to avoid stopped vehicle.
2/22/2005	0.79	CLR DRY DAY	REAR	INJB	Following too closely, careless driving.
9/23/2005	0.79	CLR DRY DAY	REAR	INJC	Following too closely.
1/28/2005	0.79	RAIN WET DLIT	ANGL	PDO	Disregard traffic signal.
4/20/2005	0.79	CLR DRY DAY	ANGL	INJB	Unable to determine which driver disregarded traffic control device.
6/26/2005	0.79	CLR DRY DAY	ANGL	INJC	Disregard traffic signal.
2/01/2005	0.80	CLR DRY DAY	REAR	PDO	Following too closely.
5/25/2005	0.81	CLR DRY DLIT	REAR	PDO	Inattention, Failure to avoid stopped vehicle.
12/5/2005	0.81	CLD DRY DARK	REAR	PDO	Following too closely.
4/08/2005	0.82	RAIN WET DAY	REAR	INJC	Following too closely.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
7/29/2005	0.91	CLR DRY DAY	REAR	INJC	Following too closely.
1/21/2005	0.92	DLR DRY DUSK	REAR	INJC	Improper lane change.
4/21/2005	0.92	CLR DRY DAY	REAR	INJB	Following too closely, failed to decrease speed for slower moving vehicle.
11/28/2005	0.94	RAIN WET DAY	REAR	INJC	Following too closely, careless driving.
6/26/2005	0.95	CLR DRY DAY	REAR	PDO	Following too closely.
4/23/2005	1.00	CLR DRY DAY	SS-O	INJC	Improper lane change.
5/19/2005	1.04	CLD WET DAY	REAR	INJA	Vehicle deliberately on wrong side of road, failure to avoid stopped vehicle.
4/29/2005	1.06	CLR DRY DAY	REAR	INJC	Inattention.
5/20/2005	1.07	DLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle, inattention.
11/3/2005	1.14	RAIN WET DARK	SS-O	PDO	Improper lane change.
3/19/2005	1.23	RAIN WET DLIT	REAR	INJC	Following too closely.
8/31/2005	1.24	CLR DRY DARK	ANGL	INJC	Disregard traffic signal.
4/24/2005	1.24	CLD DRY DLIT	ANGL	PDO	Disregard traffic signal.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
5/5/2005	1.24	RAIN WET DAY	TURN	INJB	Left in front of oncoming traffic, disregard traffic signal.
6/11/2005	2.05	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
9/21/2005	2.05	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle, careless driving.
3/01/2005	2.05	CLR DRY DAY	TURN	PDO	Cut corner on turn.
10/9/2005	2.05	CLR DRY DAY	TURN	INJA	Disregard traffic signal.
10/29/2005	2.05	CLR DRY DAY	TURN	INJC	Disregard traffic signal.
11/6/2005	2.07	RAIN WET DAY	HEAD	PDO	Driving too fast for conditions, careless driving.
1/9/2005	2.58	SNOW SNO DAY	TURN	INJA	U-turn illegally, turned from wrong lane.
5/14/2005	3.01	CLD DRY DAY	FIX	INJB	Ran off road.
11/05/2005	3.05	RAIN WET DARK	REAR	INJB	Failure to avoid stopped vehicle.
3/31/2005	3.07	CLR DRY DAY	ANGL	INJA	Did not have right of way.
8/14/2005	3.19	CLR DRY DARK	NCOL	INJB	Overcorrected.
1/9/2005	3.92	CLR SNO DAWN	FIX	INJB	Driving too fast for conditions, ran off road.
2/22/2005	3.99	CLR DRY DAY	REAR	FAT(1)	Failure to avoid stopped vehicle.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
11/18/2000	4.5	FOG DRY DARK	FIX	INJC	Ran off road.
5/13/2005	0.69	CLR DRY DAY	REAR	INJA	Careless driving, inattention.
11/05/2004	0.58	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
1/26/2004	0.60	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
11/26/2004	0.60	CLD DRY DUSK	REAR	INJC	Following too closely.
12/6/2004	0.60	CLD DRY DAY	REAR	INJC	Inattention, Failure to avoid stopped vehicle, careless driving.
5/15/2004	0.61	CLR DRY DAY	REAR	INJC	Following too closely.
9/30/2004	0.61	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle, careless driving.
4/19/2004	0.61	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
1/24/2004	0.62	CLD DRY DAY	REAR	INJB	Failure to avoid stopped vehicle.
4/14/2004	0.62	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
9/28/2004	0.62	CLR DRY DAY	REAR	INJB	Following too closely.
1/23/2004	0.62	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
4/13/2004	0.64	RAIN WET DAY	REAR	PDO	Failure to avoid stopped vehicle.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
4/14/2004	0.64	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
4/24/2004	0.66	CLR DRY DAY	REAR	PDO	Disregarded siren or warning of emergency vehicle, failure to avoid stopped vehicle.
5/27/2004	0.77	CLD WET DAY	SS-O	PDO	Improper lane change, careless driving.
10/15/2004	0.77	CLR DRY DAY	REAR	INJB	Driving too fast for conditions, following too closely.
8/4/2004	0.77	CLR DRY DAY	REAR	PDO	Careless driving, failure to avoid stopped vehicle, disregard other drivers signal.
5/27/2004	0.78	RAIN WET DAY	REAR	INJB	Following too closely.
6/10/2004	0.78	CLR DRY DAY	REAR	INJB	Failure to avoid stopped vehicle.
5/5/2004	0.79	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
5/18/2004	0.79	RAIN WET DAY	REAR	INJC	Following too closely.
10/22/2004	0.79	RAIN WET DUSK	REAR	PDO	Failure to avoid stopped vehicle.
3/26/2004	0.79	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle, careless driving.
8/7/2004	0.79	CLR DRY DLIT	TURN	PDO	Disregard traffic signal.
8/21/2004	0.80	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
4/15/2004	0.81	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
3/11/2004	0.81	CLR DRY DAY	REAR	INJC	Following too closely.
3/25/2004	0.81	RAIN WET DAY	REAR	INJB	Following too closely.
4/30/2004	0.81	CLR DRY DAY	REAR	PDO	Following too closely.
10/29/2004	0.81	CLD DRY DAY	REAR	INJB	Failure to avoid stopped vehicle, improper lane change.
8/9/2004	0.85	CLR DRY DAY	REAR	INJC	Following too closely, careless driving.
9/11/2004	0.95	CLR DRY DARK	FIX	PDO	Ran off road.
8/22/2004	0.98	RAIN WET DAY	REAR	INJB	Failure to avoid stopped vehicle.
10/20/2004	0.99	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
10/29/2004	1.00	CLD DRY DAY	REAR	PDO	Following too closely.
2/20/2004	1.04	RAIN WET DLIT	SS-M	PDO	Disregard traffic signal.
10/08/2004	1.23	RAIN WET DAY	REAR	INJB	Following too closely.
6/18/2004	1.24	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
1/27/2004	1.24	RAIN WET DAY	REAR	PDO	Following too closely.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
7/29/2004	1.24	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
2/6/2004	1.24	CLD DRY DAY	REAR	INJC	Following too closely.
3/30/2004	1.24	CLD WET DAY	REAR	PDO	Failure to avoid stopped vehicle.
3/21/2004	1.24	CLR DRY DAY	ANGL	INJB	Disregard traffic signal.
10/17/2004	1.26	RAIN WET DAY	REAR	INJC	Following too closely.
6/6/2004	1.26	CLD DRY DAY	REAR	INJC	Following too closely.
10/5/2004	1.30	CLR DRY DAY	REAR	INJC	Following too closely.
10/7/2007	1.50	CLR DRY DAY	SS-O	INJA	Improper lane change, reckless driving.
7/20/2004	2.05	CLR DRY DAY	REAR	INJB	Following too closely.
11/15/2004	2.05	RAIN WET DUSK	REAR	INJC	Failure to avoid stopped vehicle, driving too fast for conditions.
2/17/2004	2.05	RAIN WET DAY	ANGL	PDO	Disregard traffic signal.
12/14/2004	2.05	CLR WET DAY	ANGL	INJB	Did not have right of way.
6/13/2004	2.55	CLR DRY DARK	FIX	INJC	Failed to obey mandatory traffic turn signal, sign or lane markings, failed to maintain lane.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
6/11/2004	2.56	CLR DRY DARK	FIX	PDO	Failed to maintain lane.
4/12/2004	2.56	CLD DRY DAY	TURN	INJB	Improper signal or failure to signal.
4/18/2004	2.80	RAIN WET DAY	FIX	PDO	Ran off road.
3/20/2004	2.99	CLD DRY DAY	FIX	INJB	Ran off road.
4/5/2004	3.07	CLR DRY DAY	TURN	INJC	Failure to avoid stopped vehicle.
1/15/2004	3.07	CLD WET DAY	ANGL	FAT	Did not have right of way.
2/14/2004	4.00	RAIN WET DLIT	TURN	FAT	Did not have right of way.
10/17/2004	4.00	RAIN WET DAY	SS-M	FAT	Straddling or driving on wrong lanes, failed to maintain lane.
2/17/2004	0.89	RAIN WET DAY	TURN	PDO	Did not have right of way.
2/4/2003	0.60	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
12/24/2003	0.61	RAIN WET DARK	REAR	PDO	Failure to avoid stopped vehicle.
12/09/2003	0.61	CLD WET DLIT	REAR	PDO	Failure to avoid stopped vehicle.
4/18/2003	0.62	CLR DRY DAY	REAR	PD	Failure to avoid stopped vehicle.
11/24/2003	0.62	CLD DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
10/01/2003	0.62	CLR DRY DAY	ANGL	INJB	Disregard traffic signal.
12/03/2003	0.64	RAIN WET DRY	REAR	INJC	Failure to avoid stopped vehicle.
09/08/2003	0.64	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
04/22/2003	0.66	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
5/10/2003	0.71	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
6/15/2003	0.72	CLR DRY DAY	TURN	INJC	Driving on wrong side of road.
11/26/2003	0.75	RAIN WET DUSK	REAR	INJB	Failure to avoid stopped vehicle.
11/14/2003	0.75	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
3/18/2003	0.77	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
8/16/2003	0.77	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
12/1/2003	0.78	CLD WET DAY	REAR	PDO	Failure to avoid stopped vehicle.
11/25/2003	0.79	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
6/10/2003	0.79	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle, disregarded siren or warning of emergency vehicle.
8/22/2003	0.79	CLR DRY DAY	REAR	INJB	Failure to avoid stopped vehicle.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
12/13/2003	0.79	RAIN WET DLIT	REAR	PDO	Failure to avoid stopped vehicle.
5/29/2003	0.79	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
5/5/2003	0.79	CLR DRY DAY	TURN	PDO	Disregard traffic signal.
10/01/2003	0.80	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
8/11/2003	0.81	CLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
8/16/2003	0.81	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
9/7/2003	0.85	CLD WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
1/23/2003	0.94	CLD DRY DARK	REAR	INJC	Following too closely.
11/19/2003	0.94	RAIN WET DUSK	REAR	PDO	Failure to avoid stopped vehicle.
3/25/2003	1.00	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.
11/15/2003	1.00	RAIN WET DLIT	TURN	INJC	Disregarded warning sign, flares or flashing amber.
6/14//2003	1.04	CLLR DRY DAY	REAR	PDO	Failure to avoid stopped vehicle.
11/15/2003	1.04	RAIN WET DAY	REAR	INJB	Failure to avoid stopped vehicle.
1/11/2003	1.04	RAIN WET DAY	REAR	INJC	Failure to avoid stopped vehicle.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
5/10/2003	1.05	CLR DRY DAY	REAR	INJC	Failure to avoid stopped vehicle.
10/05/2003	1.06	CLR DRY DUSK	REAR	PDO	Failure to avoid stopped vehicle.
4/21/2003	1.24	CLD WET DUSK	REAR	INJC	Following too closely.
3/801/2003	1.24	CLR DRY DUSK	REAR	INJB	Improper lane change.
3/18/2003	1.24	CLR DRY DAY	REAR	INJC	Following too closely.
5/5/2003	1.24	CLR DRY DAY	ANGL	PDO	Disregard traffic signal.
3/26/2003	2.05	RAIN WET DAY	ANGL	INJC	Disregard traffic signal.
12/17/2003	2.11	CLD WET DAY	REAR	INJC	Failure to slow for other slow vehicle, following too closely.
9/18/2003	2.56	CLR DRY DAY	ANGL	ONJC	Did not have right of way.
9/18/2003	2.56	CLR DRY DAY	ANGL	INJB	Did not have right of way.
4/21/2003	3.07	CLD WET DLIT	TURN	PDO	Did not have right of way.
7/12/2003	3.40	CLR DRY DARK	HEAD	FAT(2)	Driving on wrong side of road.
1/4/2003	4.41	RAIN WET DAY	SS-O	INJC	Improper lane change.
11/25/2003	4.44	CLD WET DAY	ANGL	FAT(1)	Did not have right of way.

Date	MP Location	Weather Surface Light¹	Crash Type²	Severity³	Error
3/25/2003	1.04	RAIN WET DAY	TURN	PDO	Disregard traffic signal.

¹ CLR – Clear; CLD – Cloudy; SNOW – Snowy; RAIN – Raining; WET – Wet Surface DUNL – Dark-Unlit; DLIT – Dark-Lit; DUSK - Dusk

² ANGL – Angle; REAR – Rear-End; TURN – Turning; FIX – Fixed Object; SS-O – Side-Swipe Overtaking; NONC – Non-Collision

³ PDO – Property Damage Only; INJA – Severe Injury; INJB – Moderate Injury; INJC – Minor Injury; FAT – Fatality

Appendix C

Manual Count Locations, Traffic Development and Analysis Methodology

Base and future traffic data used for this transportation analysis was developed from the following:

- ODOT's Permanent Recorder Stations
- ODOT's Traffic Volume Tables
- Manual Counts at Key Locations
- Grants Pass Transportation Demand Model (Years 2003 and 2025)

ODOT's Permanent Recorder Stations

ODOT maintains 141 permanent Automatic Traffic Recorder (ATR) stations throughout the state highway system that record information about highway use throughout the year. The data gathered from these recorders include: Average Daily Traffic (ADT); Maximum Day, Maximum Hour, 10th, 20th, 30th Highest Hours shown as a percentage of ADT; truck classification breakdowns; Historical Annual Average Daily Traffic (AADT) by year; directional traffic splits; and seasonal variations in traffic. The Timber Ridge ATR (17-015) located at MP 5.00 on US 199 (Redwood Highway) was used to determine when the 30th highest hour traffic flows occurred on this project.

ODOT's Transportation Volume Tables

ODOT's Transportation Volume Tables (TVT) contain the tabulation listing of ADT values for state highways. Information from these tables provides a basis for the current ADT values and historical growth trends

Manual Counts at Key Locations

This analysis used 28 manual classification counts and three road tube counts to collect volume information at various locations on and near the project limits. A listing of the locations with date and duration are on Table C1 and illustrated on Figure C1. The majority of the counts were taken in either February or November of 2003 or October 2004. There were a few counts from 2001 and 2002, which were needed to fill-in.

Traffic Development

Counts were seasonally adjusted to 30th Highest Hour Volumes using the local ATR located just west of the project limits. The Timber Ridge ATR (17-015) is located at MP 5.00 on US 199 (Redwood Highway).

Table C1: Manual Counts at Key Locations

Major Street	Minor Road	Count Date	Duration
US 199	Redwood Ave (west end)	10-12-2004	16 hours
	Midway Ave	10-12-2004	16 hours
	RRC Dr	10-12-2004	16 hours
	Ringuette St	2-10/11-2004	16 hours
	OR238 (Jacksonville Hwy)	11-5/6-2003	16 hours
	Redwood Ave (east end)	11-5/6-2003	16 hours
	Allen Creek Rd	11-5/6-2003	16 hours
	Tussey Ln	11-5/6-2003	14 hours
	Fairgrounds Rd	2-13/14-2001	14 hours
	Dowell Rd	10/12/2004	16 hours
Willow Ln (before re-configured)	2-17/18-2004	14hours	
OR 99 (6 th St SB)	SW Park St	11-18/19-2003	16 hours
	East Park St	11-18/19-2003	16 hours
	Lewis St	11-18/19-2003	16 hours
OR 99 (7 th St NB)	East Park St	11-18/19-2003	16 hours
Allen Creek Rd	Albertson's south driveway	11-12/13-2003	16 hours
	Albertson's north driveway	11-5-2003	3 hours
	Redwood Ave	11-13/14-2003	16 hours
Fairgrounds Rd	Union Ave	11-17/18-2003	16 hours
Redwood Ave	Midway Ave	10-07-2004	16 hours
	Hubbard Ln/Darnielle Ln	10-12-2004	16 hours
	Willow Ln	10-12-2004	16 hours
	Dowell Rd	10-12-2004	16 hours
Jacksonville Hwy	Harbeck Rd and Union Ave	Nov/Dec 2003	16 hours
Demeray Dr	Hubbard Ln	10-12-2004	16 hours
	Willow Ln	10-12-2004	16 hours
Ringuette Ave	Union Ave	11-18/19-2003	16 hours
	SW Park Ave	11-19/20-2003	16 hours
US 199 EB ramp	US 199 NB ramp	11-4/5/6-2003	48 hour tube
OR 238 NB ramp	US 199 NB ramp	11-4/5/6-2003	48 hour tube
Redwood Ave SB ramp	US 199 ramp	11-4/5/6-2003	48 hour tube

Growth factors were developed to standardize the counts to 2004 values. The factors were developed using the future historical volumes based on the TVTs to adjust the volumes to 2004. Adjusted volumes were balanced between the intersections. The 2004 30th Highest Hour No-Build Volumes are shown in Appendix D.

Figure C1: West - Count Locations and Duration

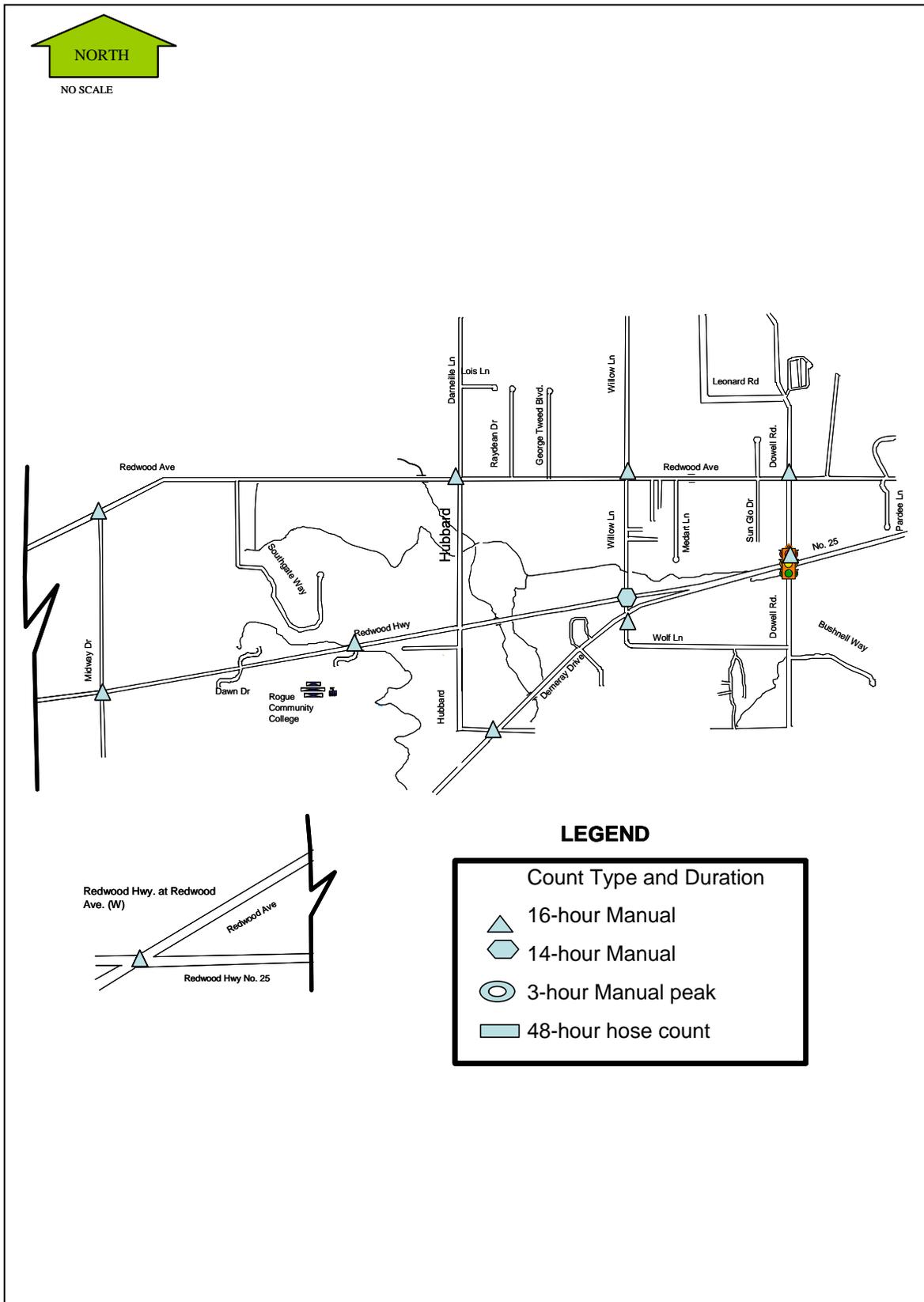
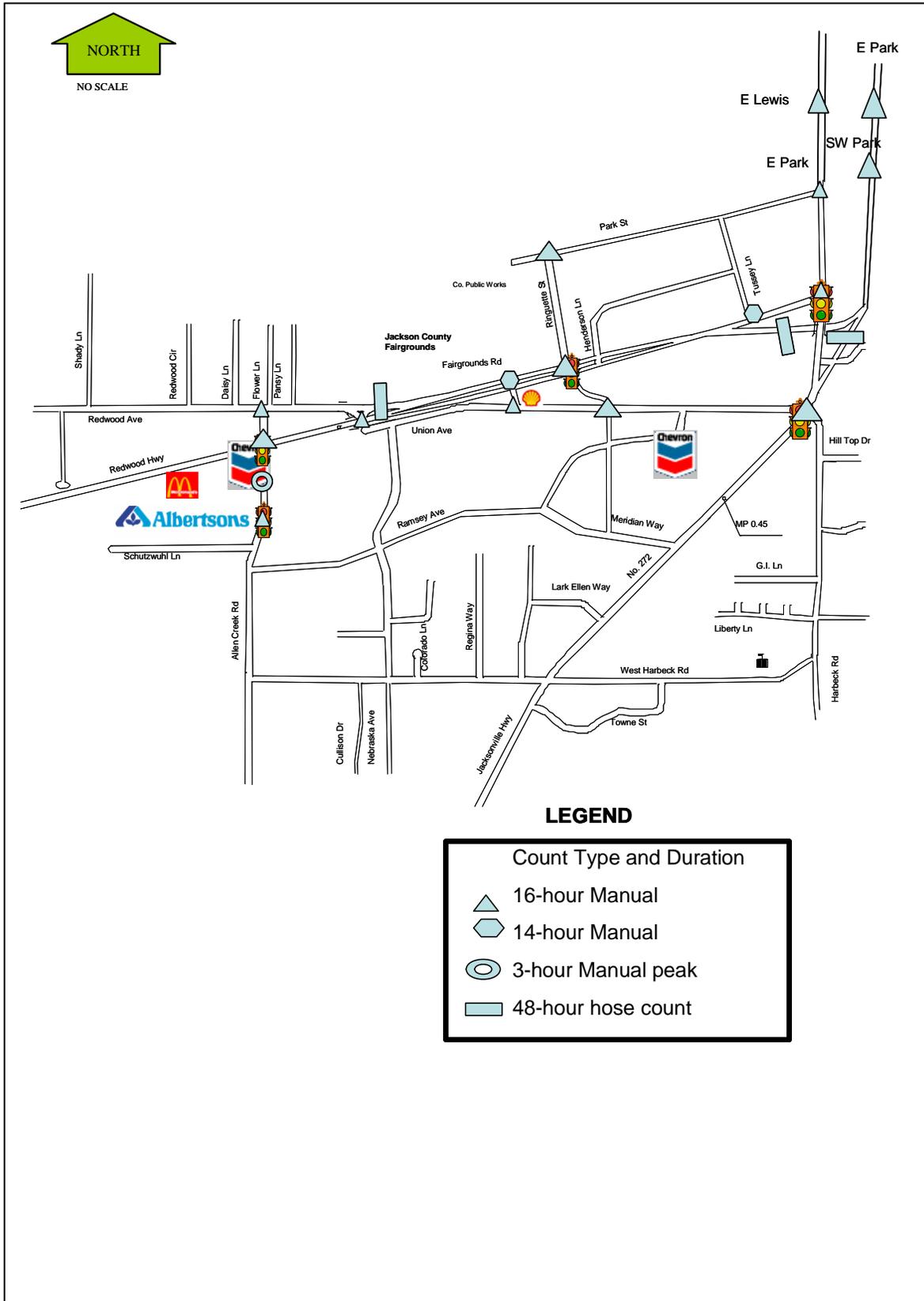


Figure C2: East – Count Locations and Durations



Grants Pass Transportation Demand Model

Population Projections

Projected population data was obtained from the City of Grants Pass. Between the years 1996 and 2005 the population of Grants Pass has steadily increased at approximately 2.9 percent per annum and by 29 percent in the last ten years. Most of this population growth has been the result of in-migration rather than natural increase. A large percentage of the city's building permits are in subdivisions adjacent to this roadway. The model shows large growth in this area for this reason.

Future Volume Development Summary

The traffic volumes were developed from analysis of Base and Future Travel Demand Models for the City of Grants Pass.

- Year 2002 and 2025 Travel Demand Models were developed by TPAU for Grants Pass from population and employment data furnished by city staff.
- The future data incorporated the effect that anticipated developmental growth will have on traffic flows between the years 2002 and 2025.
- The 2025 Grants Pass Travel Demand Model is based on work included in the city's TSP. The plan includes a rough location of the fourth bridge, but that is an un-funded project since the plan does not have to be fiscally constrained.
- The 2025 Travel Demand Model for the City of Grants Pass was used to project traffic flows for the study area. The future traffic volumes were post-processed following NRCHP Report 255 guidelines.
- Alternative modes will have a negligible effect on the transportation system.
- The future no-build volumes were used for the build network, since there were minimal route changes per alternatives.

The single model run used to evaluate the impacts of connecting the fourth bridge was run in March of 2005. A quick analysis used the following process:

- Used the base (2002) network and volumes to establish existing volumes using the bridge.
- Entered a link between the north end of Allen Creek Road and the south end of Lincoln Road to create an alternative route.
- Different speed and number of lanes characteristics were assigned to the new connection to see the effects on the 6th/7th street volumes.

The fourth bridge analysis shows an increase of about 15 percent of volumes into the project area because it makes some trips via the fourth bridge more attractive versus using the 6th/7th street bridges. The routing of traffic volumes with this alternative shows the new bridge takes about 25 percent of the north/south bound traffic in the area and draws about 15 percent of the overall east/west volume off of Redwood Highway. Although the 15 percent is significant, it is partially offset by the volume increase in the

area by the added (attracted) trip options that weren't there before. Based on the project purpose, the Redwood Highway volume is the relevant figure, and the changes to the east/west traffic are minimal with the change. Therefore, this feature is relatively neutral when considering whether this it is a solution for the problems on US 199.

Table C2 shows the expected percent reduction on the 6th/7th street couplet by the characteristics of the new bridge using the existing volumes. It shows that the difference only mattered on 6th Street (the southbound), and that it only took about an additional 15 percent of the volume off the link. The reduction northbound on 7th relatively matched the percentage on the bridge for the pm peak. This was thought to be the worst case, since the system has a pm peak. At this point in the project, the PDT had decided that unless there was at least an additional 20% reduction from both the 6th and 7th Street Bridges, they did not want to include the fourth bridge since it deals was mostly north/south traffic, not east /west.

Table C2: Impacts on 6th/7th Streets by Fourth Bridge Connection.

Characteristic	Percent of Volume on New Link	Percent Reduction	
		On 6 th Street	On 7 th Street
Existing with No Link	0.0	0.0	0.00
2-Lane Bridge; 25 MPH speed	17.8	22.9	17.5
2-Lane Bridge; 35 MPH speed	23.6	37.9	22.9
4-Lane Bridge; 35 MPH speed	22.3	37.6	22.6

The CAC and PDT agreed that although the fourth bridge altered the traffic volumes enough to be considered, the additional traffic reassigned into the area was more than what was removed. Since the fourth bridge deals with the circulation in the entire town area and mostly moves north to south traffic, the team decided to not include the concept for consideration, but to do whatever to minimize the impacts to a future alignment

APPENDIX D
Analysis Methodologies

The v/c ratios and intersection queuing for signalized intersections were analyzed using Synchro and SimTraffic, which are intended to be used as companion models. The signalized intersection v/c ratio is a quantitative measure of the ratio between the existing for projected volumes to the ideal capacity of the roadway at a given location. The OHP lists v/c mobility standards based on highway classification and surrounding land use.

Synchro is a software package for intersection capacity analysis, modeling actuated signals and optimizing traffic signal timings. Synchro determines v/c ratios and delays at a macro level, while SimTraffic determines problems that may not be realized with a macro-level model. Synchro represents traffic in terms of aggregate measures for each intersection movement. Measures of effectiveness like delay and queue length are determined with equations. These models do not account for “bottleneck” situations where upstream traffic deficiencies reduce the amount of traffic reaching downstream intersections. This situation would have Synchro showing more delay than SimTraffic because of the reduced volumes arriving at the intersection.

SimTraffic is traffic simulation and animation software that models the behavior of vehicles. Turn moves use gap acceptance methodology. SimTraffic provides average speeds for the link conditions and maximum queue length over the designated time period. SimTraffic also includes vehicle and driver performance characteristics developed by Federal Highway Administration for use in traffic modeling. SimTraffic is a microscopic simulation model that has the capability to simulate a variety of traffic controls, including a network with traffic signals operation on different cycle lengths or operation under fully actuated conditions. Most other traffic analysis software packages do not allow for a direct evaluation of these types of traffic conditions.

All v/c ratios with obtained from Highway Capacity Software (HCS2000) or the HCM (HCM2000) methods. Two-way and T-intersection stops were analyzed using HCM2000 methodology.

Preliminary ADT Traffic Signal Warrants

Of the eight traffic signal warrants in the *Manual on Uniform Traffic Control Devices* (MUTCD), page 4C-1, only Warrant 1 (Case A or Case B) can be used to project a future need for a traffic signal, according to *Oregon Administrative Rule 734-020-0460*. Case A (minimum vehicular volume) is mainly for high volumes on the minor street. Case B (interruption of Continuous Volume) deals with high volumes on the major street and the potential delays and safety hazards with minor street traffic crossing or turning onto the major street.

When evaluating Preliminary ADT Traffic Signal Warrants for unsignalized intersections, both the size of the community and the speeds are considered. Intersections have the 85th percentile speed in excess of 40 MPH on the major street (the roadway not being stopped) or are located in an isolated community with a population less than 10,000 are evaluated with 70 percent of the standard warrants. If the 85th percentile speed is less

than 40 miles per hour and the population are greater than 10,000, full standard warrants are used for evaluation. Depending on the location's speed, 70 percent warrants may have been used.

Meeting Preliminary ADT Traffic Signal Warrants does not guarantee that a signal will be installed. Before any signals are considered for installation on the state highway system, ODOT Region Traffic staff need to perform a "field warrant" analysis and submit a recommendation to the ODOT Traffic Engineering and Operation Section. Even if the MUTCD signal warrants are met, the State Traffic Engineer must approve the signals before they may be installed.

APPENDIX E

Existing Year 2004 Traffic Volumes

Figure E1: West – Mainline – Balanced 2024 Volumes

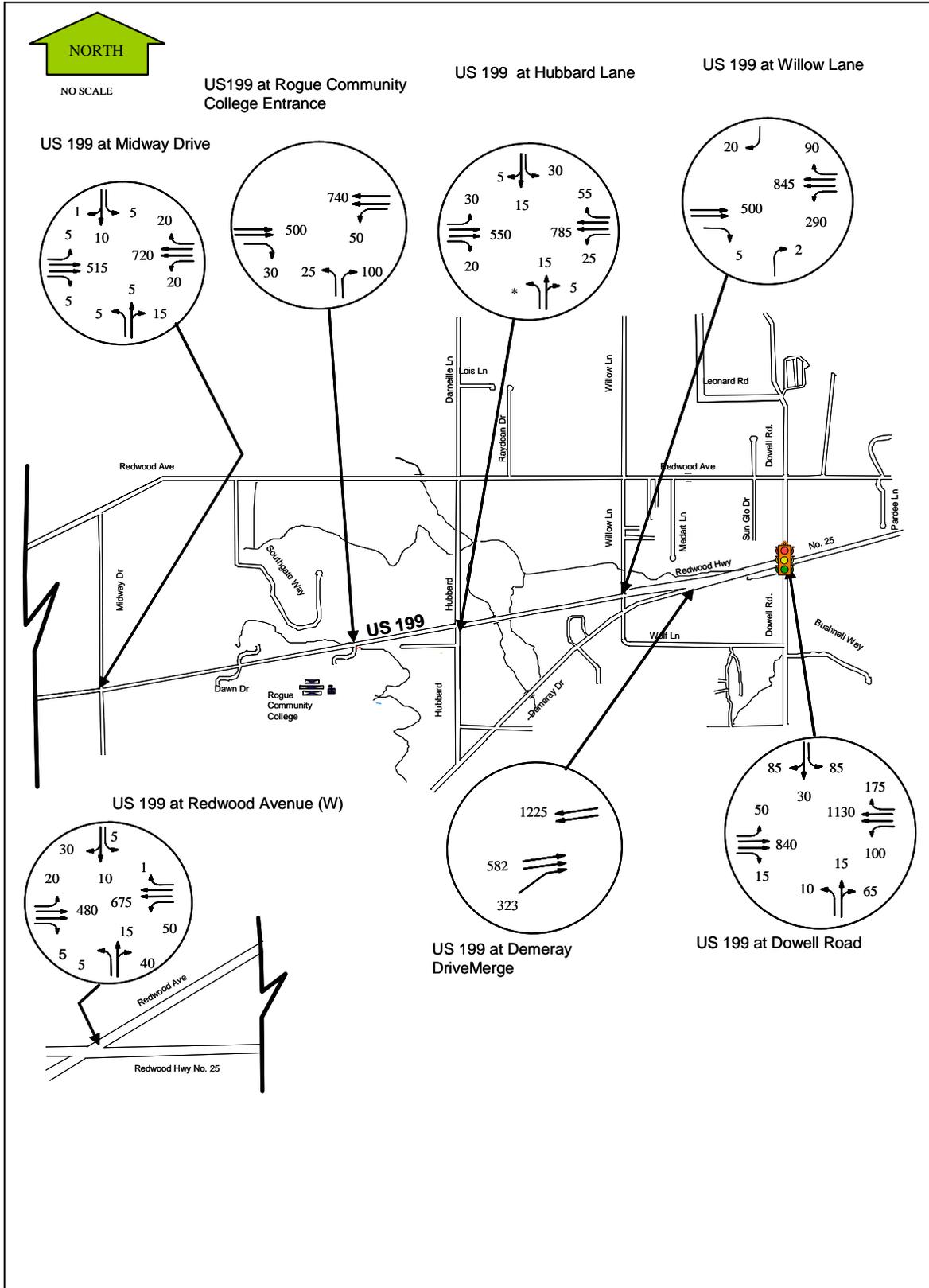


Figure E2: East – Mainline – Balanced 2004 Volumes

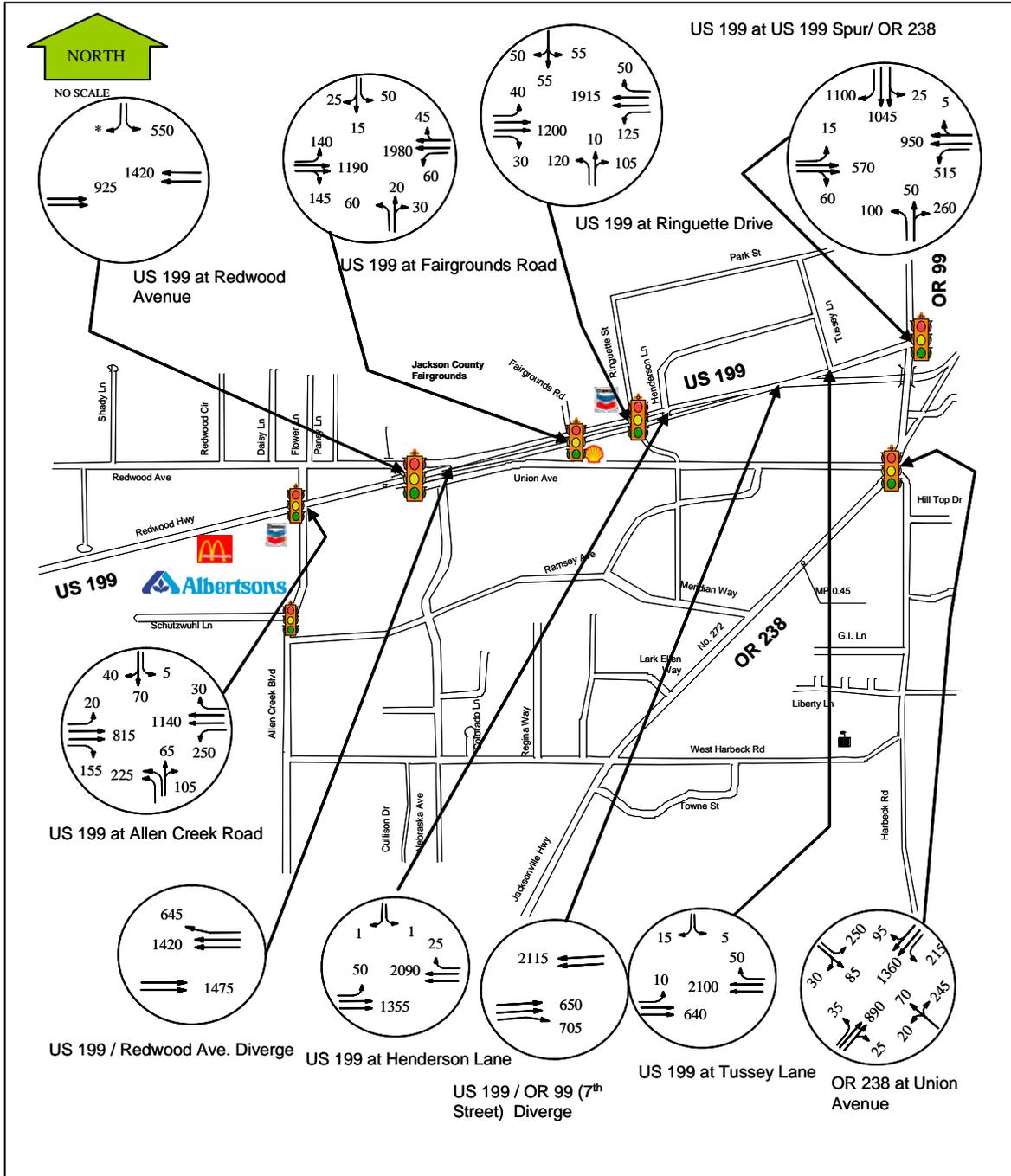


Figure E3: West – Local Streets – Balanced 2004 Volumes

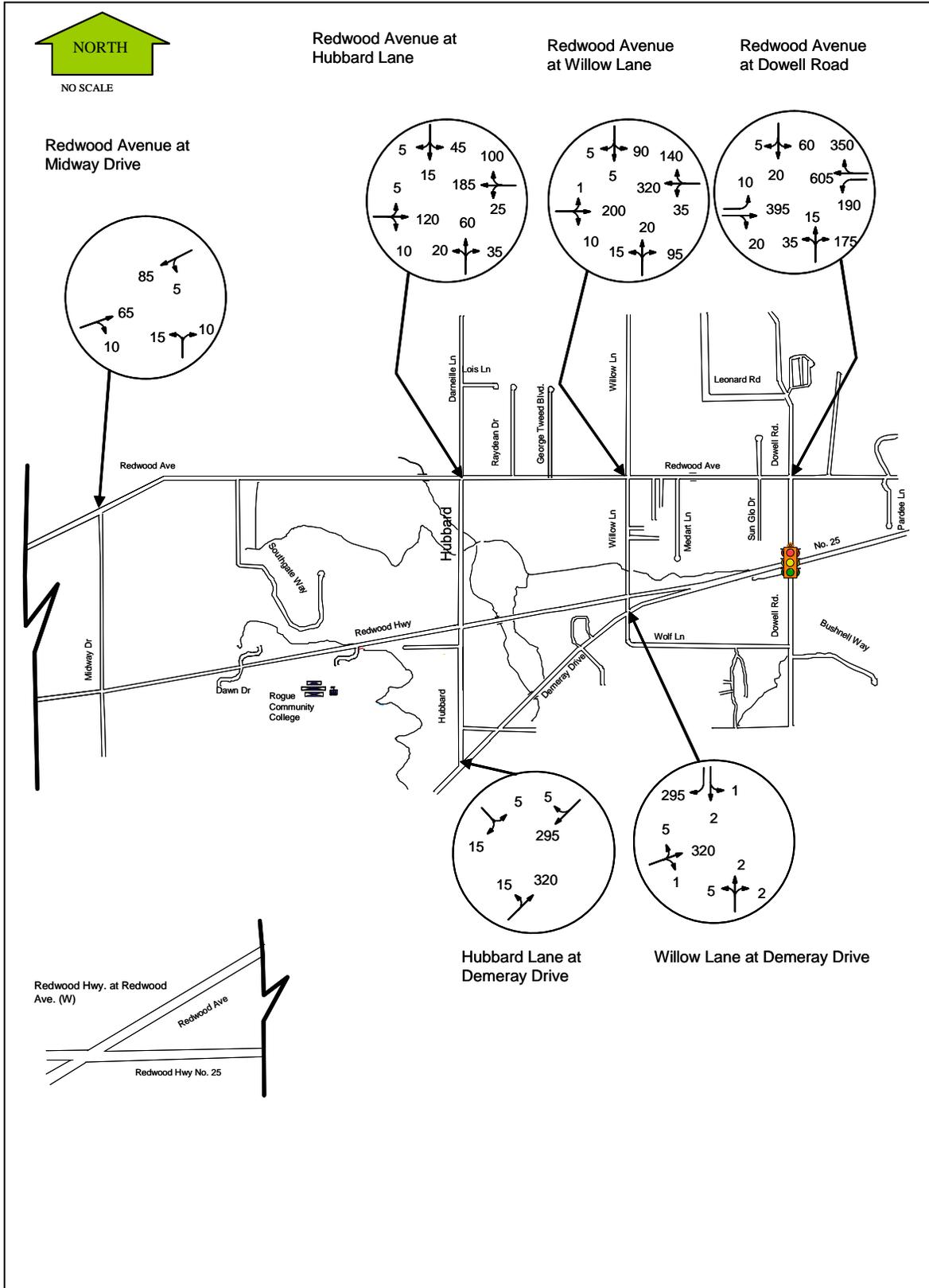
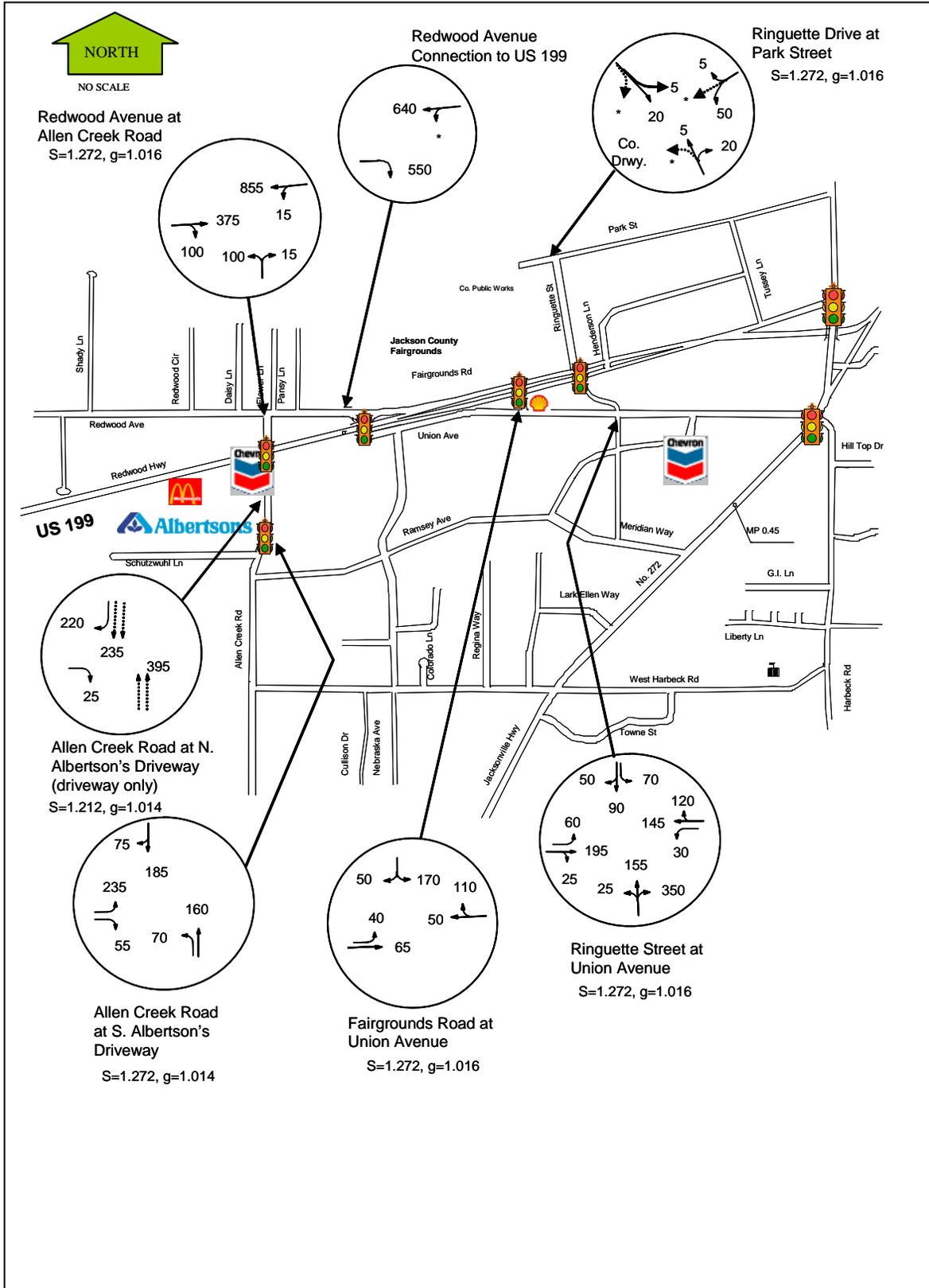


Figure E4: East – Local Streets – Balanced 2004 Volumes



APPENDIX F
No-Build 2025 Volumes

Figure F1: West – Mainline – 2025 DHV

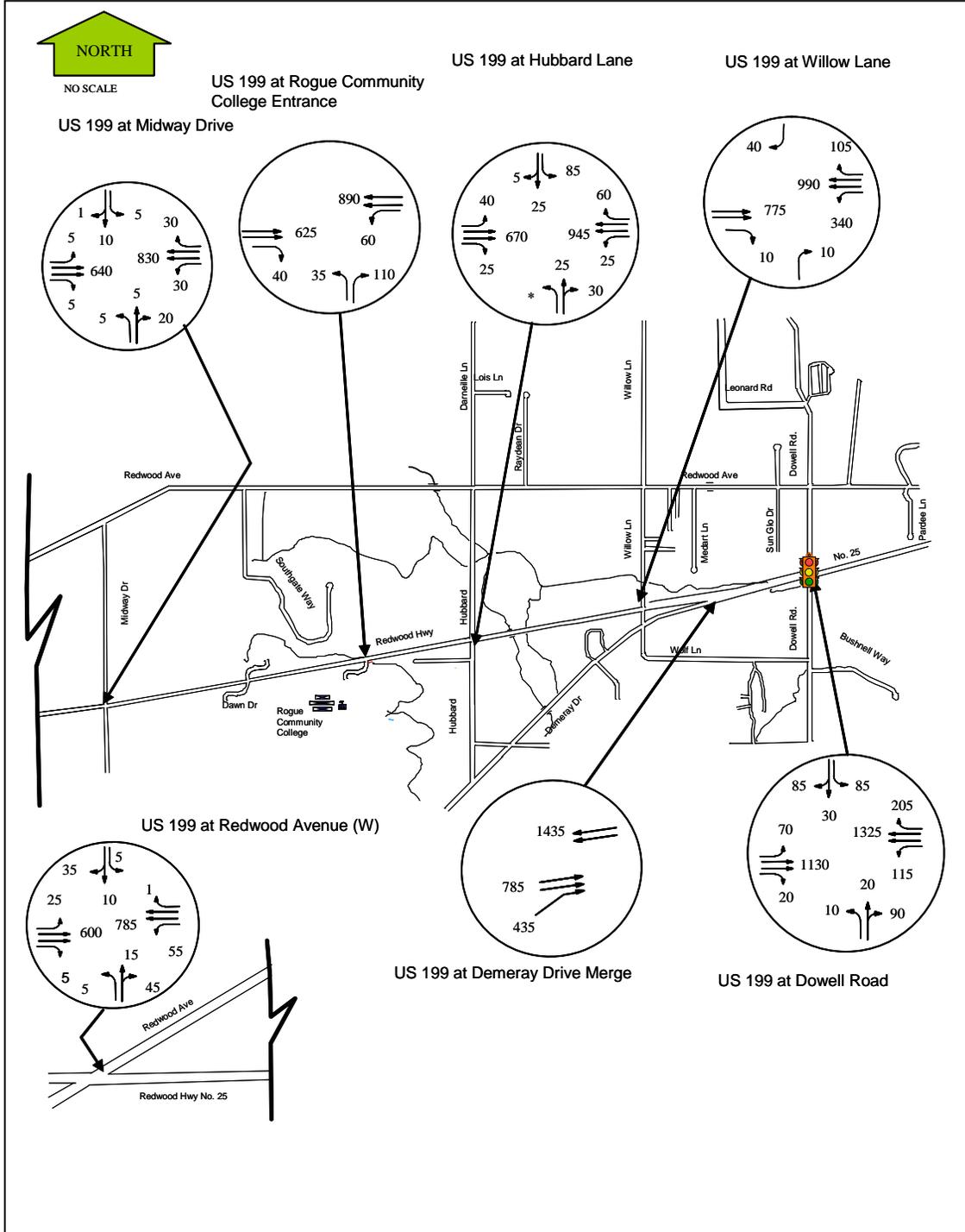


Figure F3: West – Local Streets – 2025 DHV

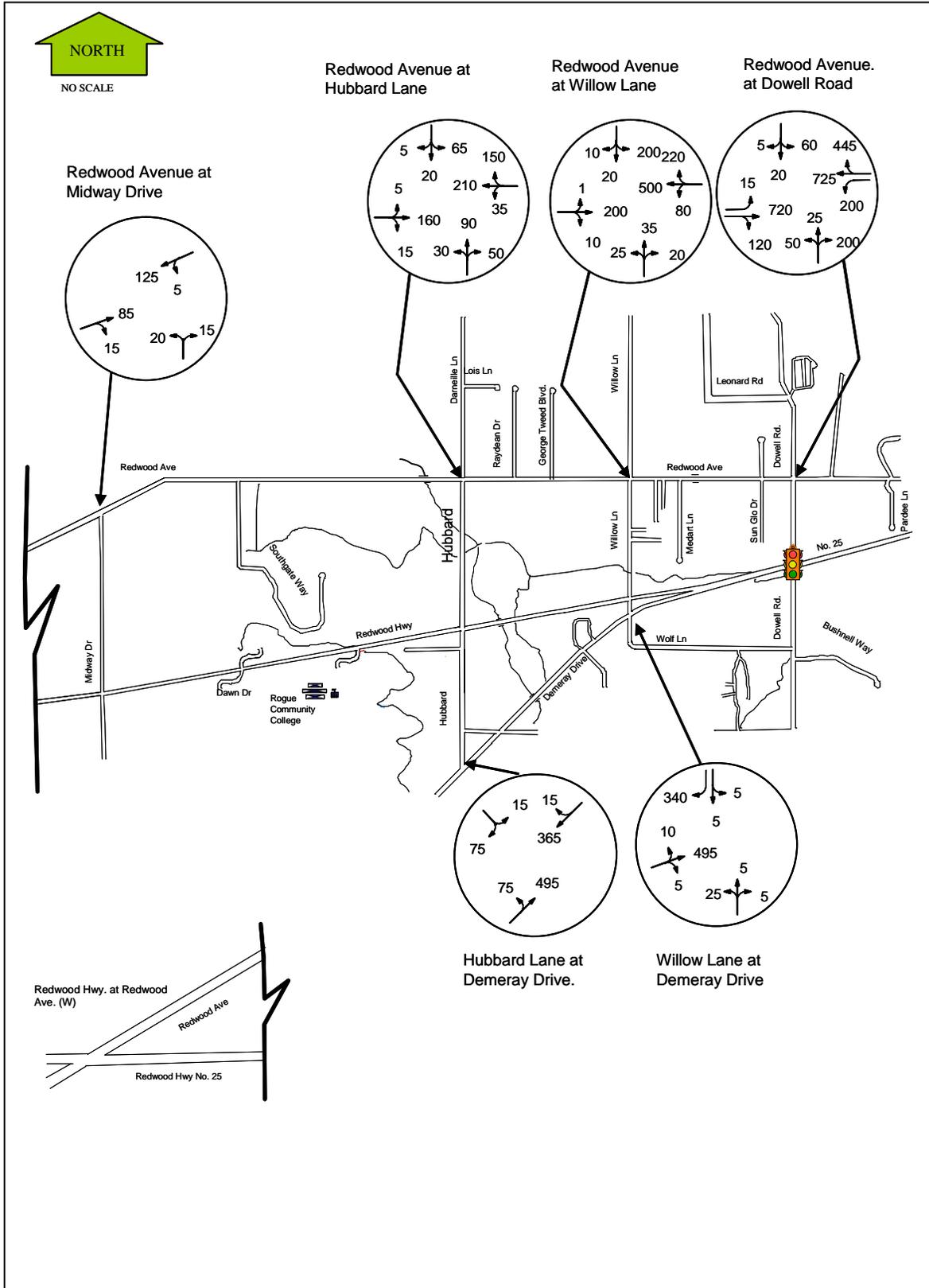
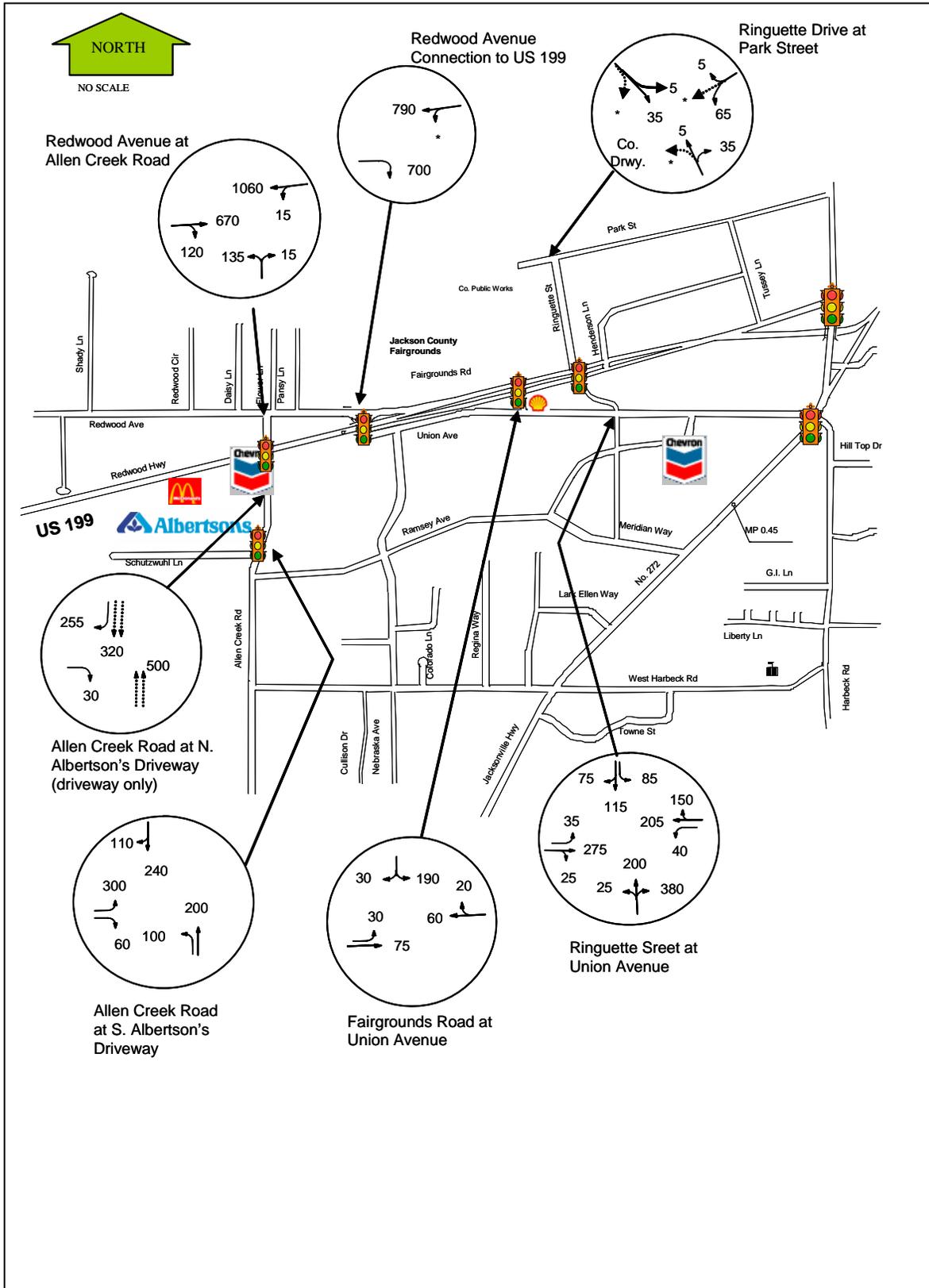


Figure F4: East – Local Streets – 2025 DHV



APPENDIX G

Alternative A 2025 Volumes

Figure G1: West – Mainline – 2025 DHV Alternative A

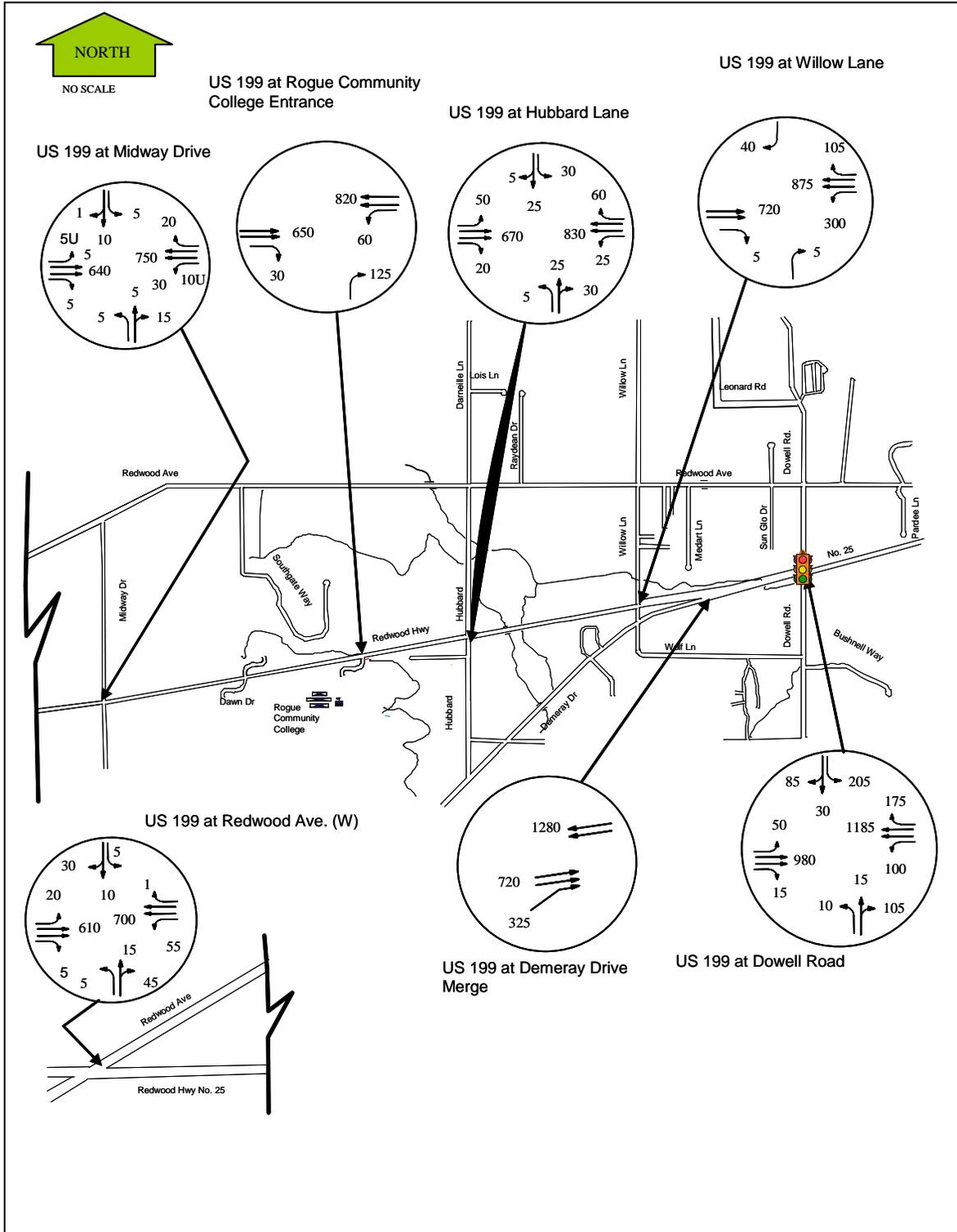


Figure G2: East – Mainline – 2025 DHV Alternative A

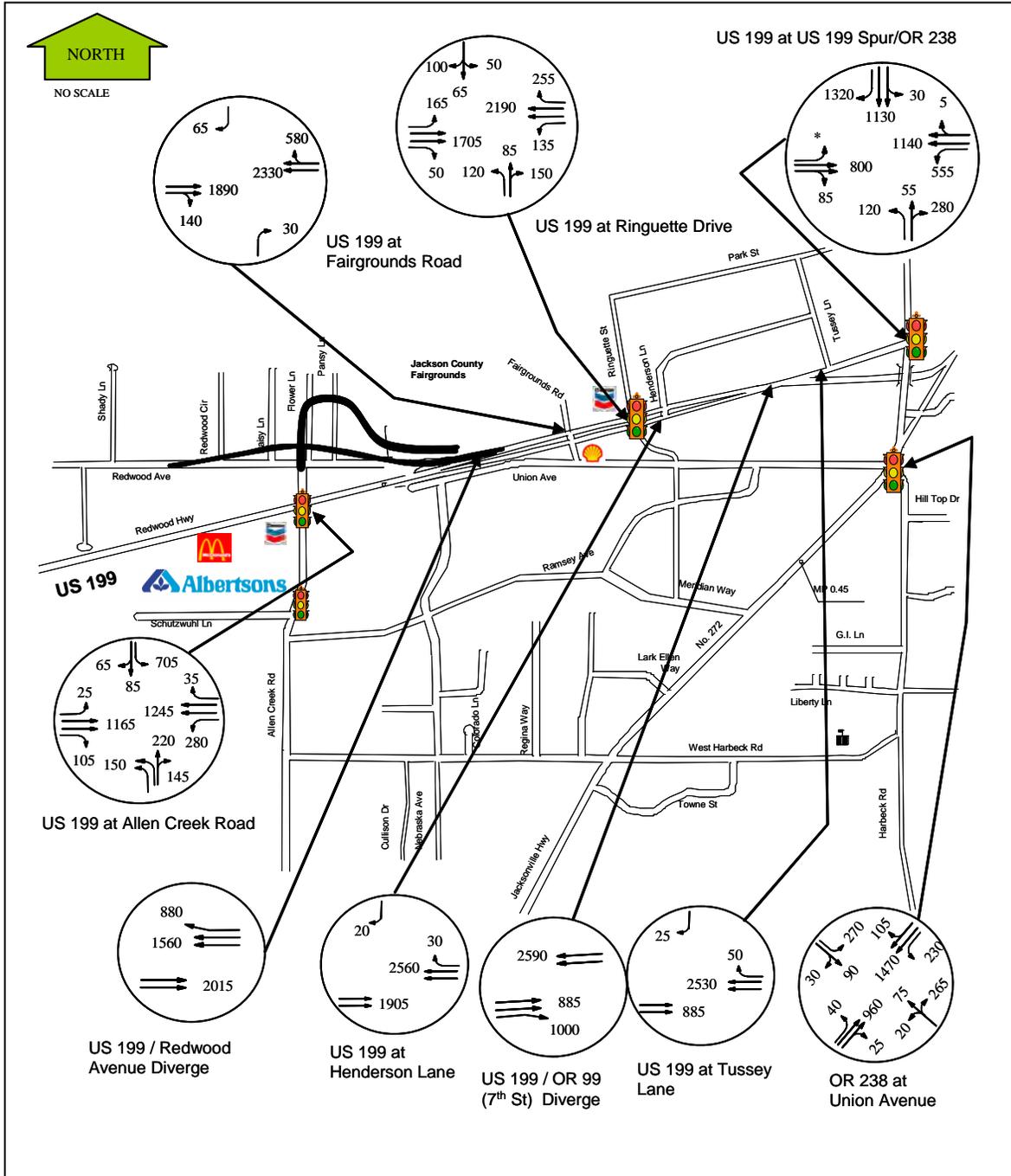


Figure G3: West – Local Streets – 2025 DHV Alternative A

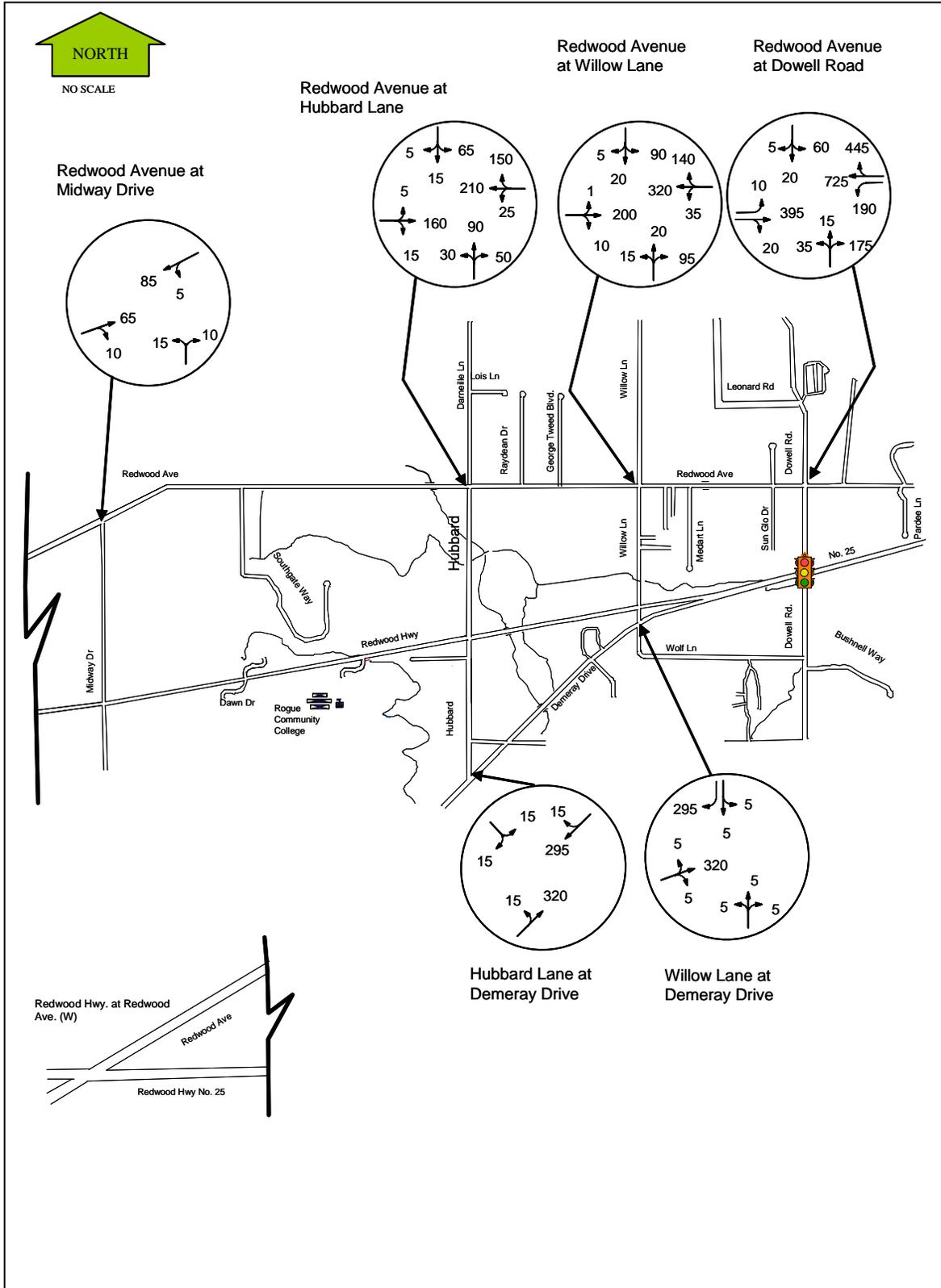
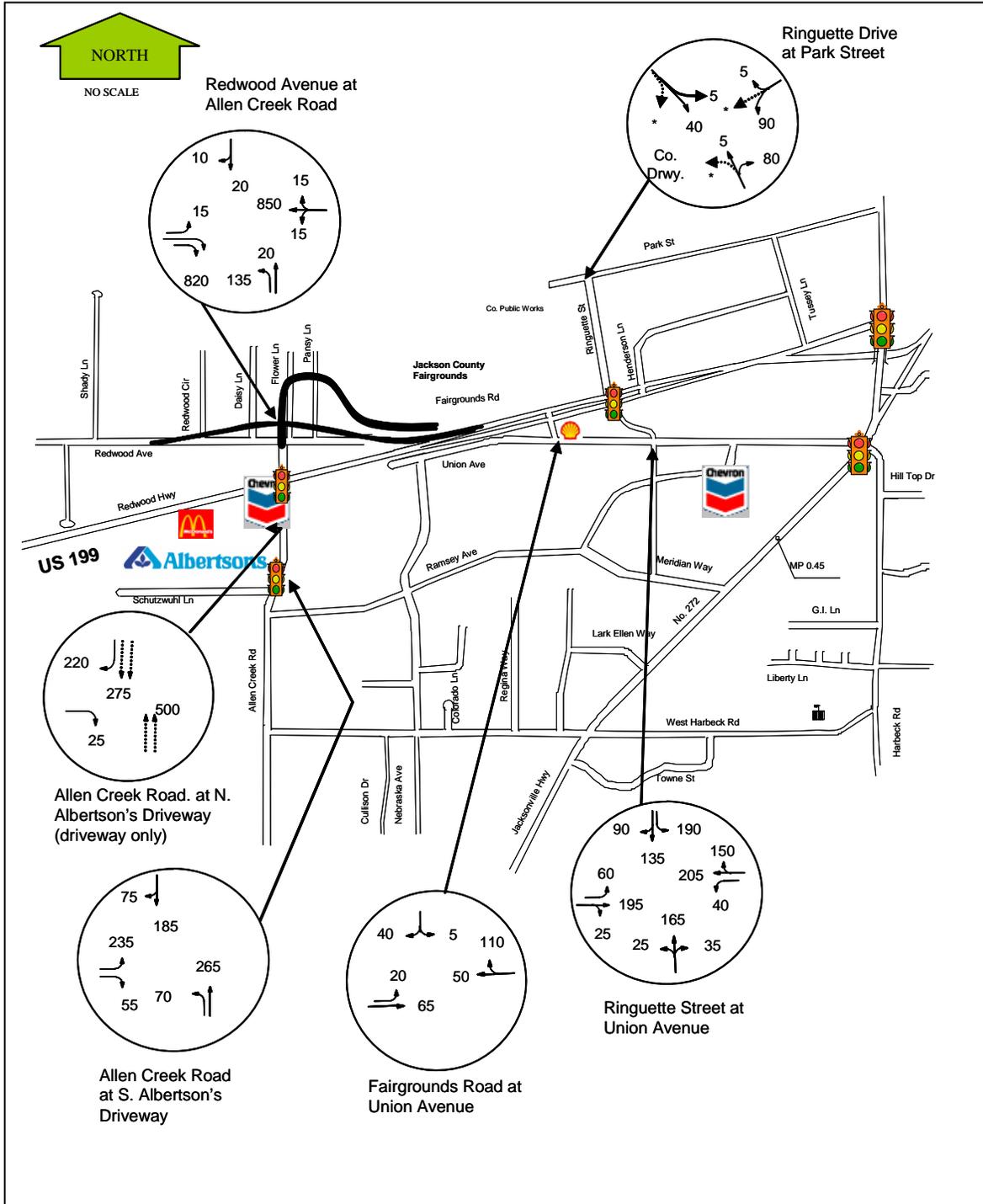


Figure G4: East – Local Streets – 2025 DHV Alternative A



APPENDIX H
Alternative C 2025 Volumes

Figure H2: East – Mainline – 2025 DHV Alternative C

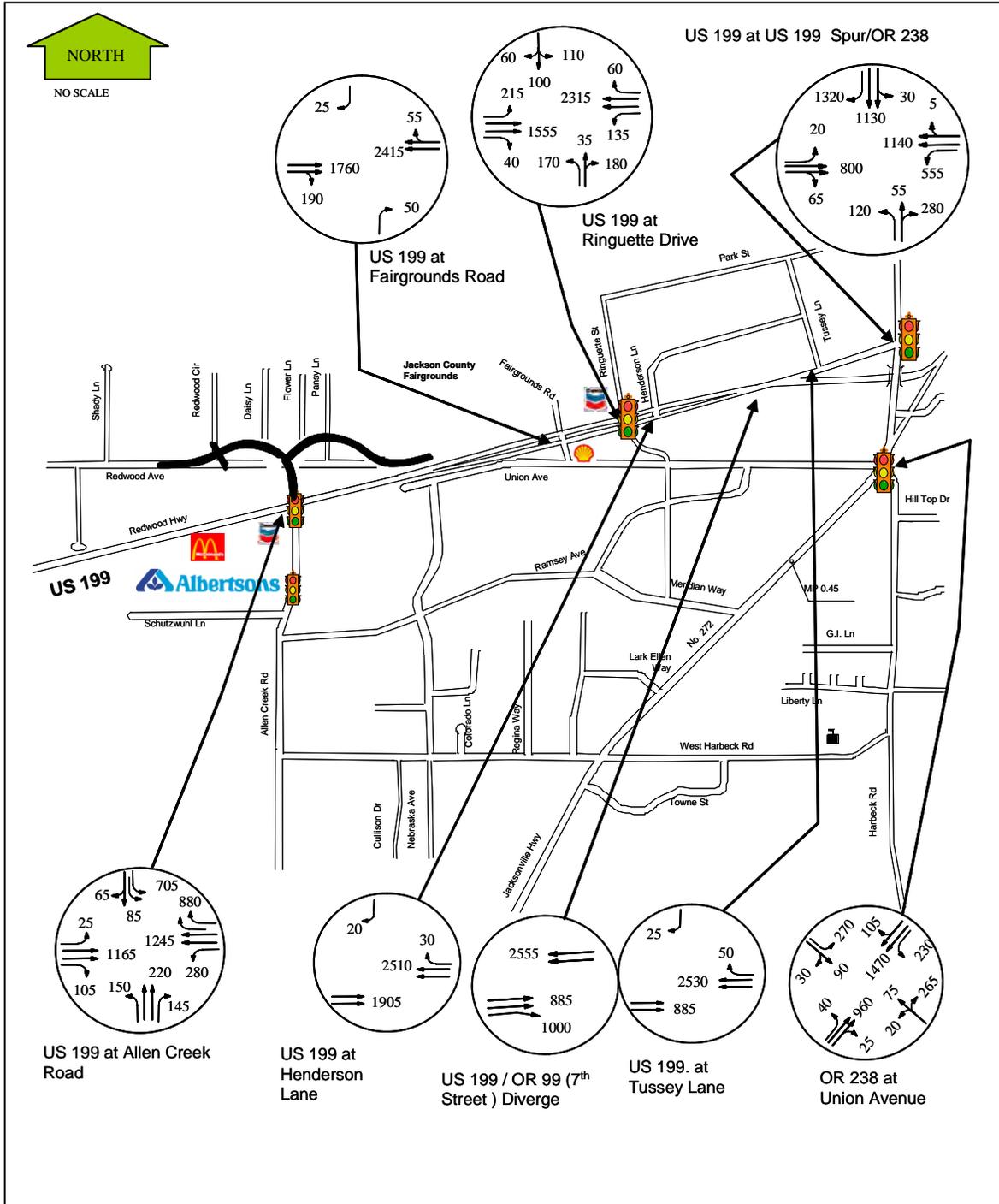


Figure H3: West – Local Streets – 2025 DHV Alternative C

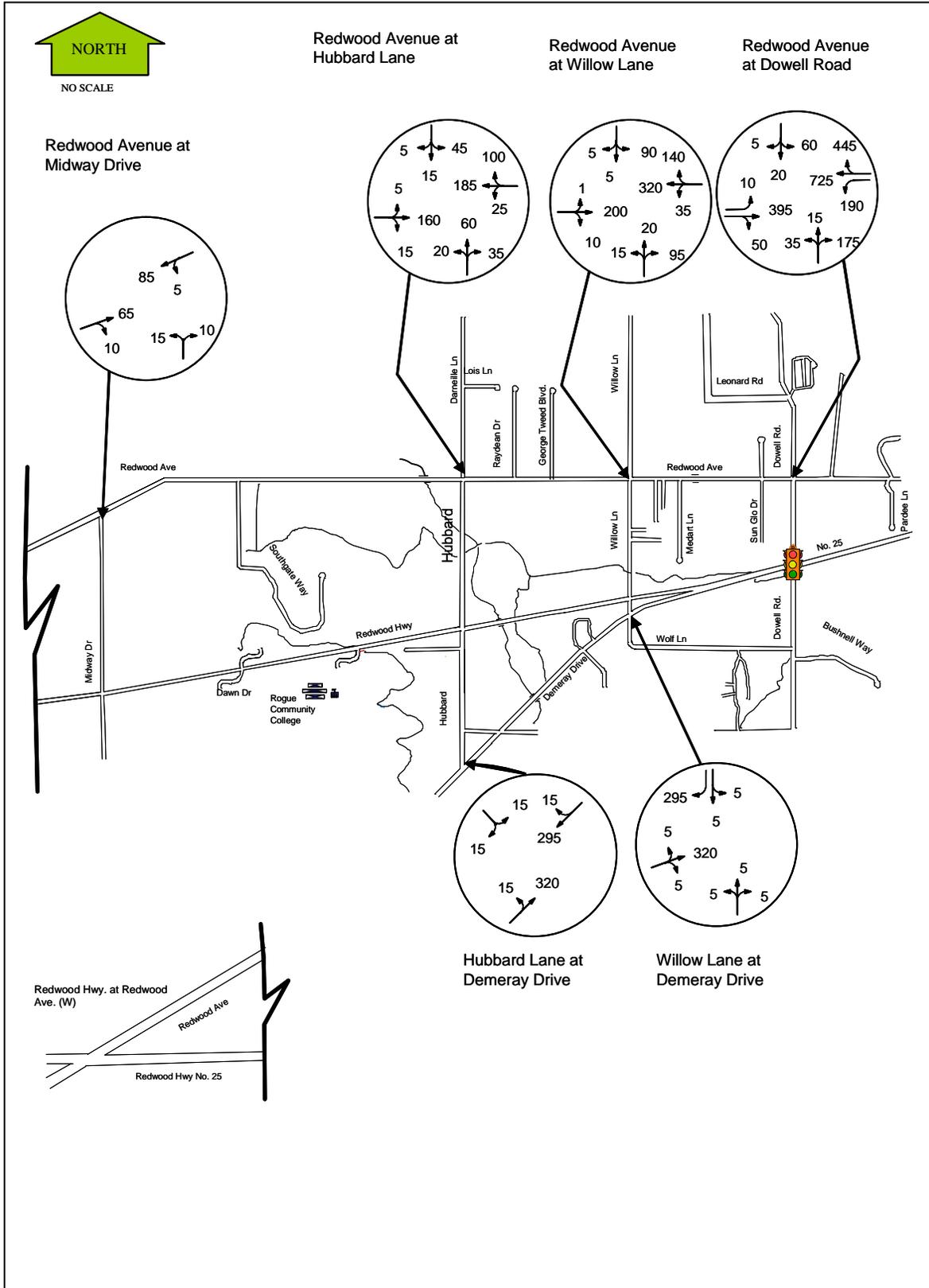
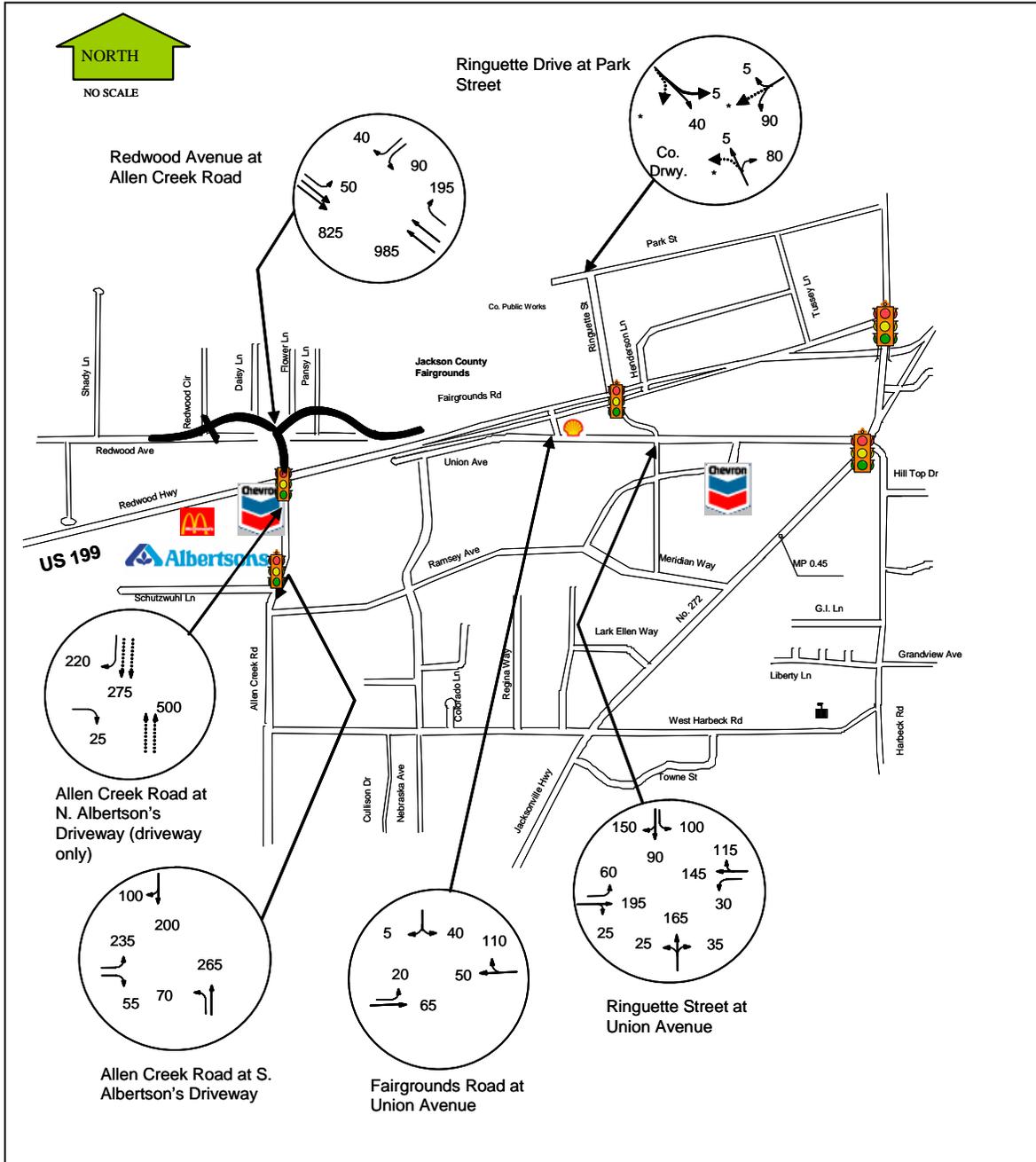


Figure H4: East – Local Streets – 2025 DHV Alternative C



APPENDIX I
Alternatives Considered but not Advanced

The concepts were developed in two groups with the idea that any alternative would be created by pairing one from each group.

West Section (MP 2.10-4.75)

The section of US 199 (Redwood Highway No. 25) from just west of Dowell Road east to Midway Avenue is a 4-5 lane section with median/turn lane furnished between Rogue Community College and Dowell Road. The section includes stop-controlled intersections at Midway Avenue, Arbor Ridge Drive, Dawn Drive, Hubbard Lane, Willow Lane, and Demeray Drive. These intersections are all full movement except for Willow Lane where a restriction removes the minor street left and through movements and the westbound left from US199 onto Willow Lane northbound. These all remain the same unless specifically discussed in the descriptors below. The PMT identified West 1 through 5 as a starting point for discussion. The CAC and PDT added four more alternatives for consideration.

West 1 – This concept has median treatment from Midway Avenue to Dowell Road with the existing left ingress access at Willow Lane, full access at Hubbard Lane and Arbor Ridge, and no access to Rogue Community College. This concept also builds a short frontage road on the north side from Arbor Ridge to connect back to Dawn Drive. This concept does not add traffic signals.

West 2 – This concept consists of a continuous two-way left turn from Midway Avenue to Dowell Road and included removal of the Willow Lane restriction. The CAC and PDT determined that this alternative did nothing to improve safety which was part of the purpose and need, therefore it was dropped.

West 3 – This concept has full median from Midway Avenue to Dowell Road except for three items: 1) Hubbard Lane improved south to Demeray Drive; 2) US 199 at Hubbard Lane is signalized; and 3) Dawn Drive is connected north to Redwood Avenue. All the components of this alternative were included in other ones, so this was not forwarded.

West 4 – The concept is referred to as a mini-couplet with a wide median (50'+) between Willow Lane and Midway Avenue with indirect left turns centered around Willow Lane and Midway Avenue. Hubbard Lane would be right-in/right-out only and a left-in only to Rogue Community College would be allowed. Dawn Drive would have a frontage road that would connect across from Arbor Ridge Drive with full access having stop-controlled medians. This alternative was dropped because it had the greatest right of way acquisition and relocations.

West 5 – The concept includes full median barrier from Midway Avenue to Dowell Road, with traffic signals at Midway Avenue and Hubbard Lane. It also proposed a westbound grade separation for the westbound at Willow Lane movement. There were also the improvements to Hubbard Lane and the short frontage road for accesses north of the highway at Dawn Drive. It had left ingress from one direction only at the college and

Willow (if not grade separated) and dual left ingress at Arbor Ridge/Dawn Drive. The one-direction ingress at Willow Lane has dealt with the crash concern, and a quick review of the volumes shows that Midway Avenue is not near meeting traffic signal warrants. This concept was dropped early because most of the features were included in other alternatives, and the ones not included were deemed as not allowed or not needed.

West 6 - Full-length median barrier in place between the public roads with left ingress from both directions at Arbor Ridge/Dawn Drive and left ingress for one direction at Rogue Community College and Willow Lane. Hubbard Lane would be signalized and improved south to Demeray Drive. A short frontage road would be connected north of US 199 at Dawn Drive to connect driveways. This alternative was withdrawn because the CAC and PDT felt there was not enough benefit to the differences between this and West 1 to justify carrying both into the EA.

West 7- This project is the same as West 6 except that Dawn Drive is connected north to Redwood Avenue. This alternative was withdrawn because it had high residential impacts, relocations, and cost to construct the Dawn Drive collector that likely would not outweigh traffic and safety benefits that a connecting road to Redwood Avenue may have and it provided no additional benefits when compared to West 6, yet it had greater impacts associated with Dawn Drive.

The alternatives that the CAC and PDT created were just variations that blended back into the other alternatives. These concepts were grouped into four alternatives for analysis.

- Two-Way left turn lane entire length; no turn restriction at Willow Lane.
- 50-ft median with “off-set” lefts centered on Willow Lane, Hubbard Lane and Midway Avenue.
- Full-length median barrier in place with full turn movements allowed at Hubbard (proposed signal), Arbor Ridge/Dawn Drive and Midway Avenue; in-place turn restriction at Willow Lane; turn restriction at the college and improvements to Hubbard Lane south of US 199 to Demeray Drive. U-turns would be permitted at Dowell Road and Hubbard Lane.
- Same as Full Barrier with Dawn Drive connected north to Redwood Avenue.

The CAC recommended and the PDT agreed to **not forward** the Dawn Drive connector since it does not noticeably change travel patterns. Building it provides no added benefit to meeting the project purpose and need. They also decided to **not forward** the Two-Way Left Turn lane since it does not address the safety purpose of the project goal.

Consideration was to **continue** on any barrier treatment alternative since the project has to consider traffic movements to all portions of the project with things such as U-turns and the wide median, which helps improve safety by reducing access points. However, it may increase conflicts when slow-moving, turning traffic is in the “fast” through lane. This conflict is not reflected in the model, and should be addressed when evaluating

safety. This alternative only changes the movements vehicles make, from turning across lanes to turning from or into the fast lane of traffic.

East Section (MP 0.50 – 2.10)

The PMT developed initial alternatives for discussion and took them to the CAC, PDT and technical staff at the May 2005 meetings. Upon discussion, the CAC and PDT added alternatives to make a total of eleven alternatives for the East section of the project. All alternatives remove the existing signals at Fairgrounds Road and Redwood Avenue. The alternatives considered but discarded are summarized in Appendix G.

As part of the preliminary screening, the alternatives were grouped into categories to consider specific features.

- Frontage Road/Driveway Collectors
- West Park Street Connector
- Union Avenue Slip Ramp
- Added Lanes on US 199
- Fourth Bridge Connection

The West Park Street connector and the Union Avenue slip ramps were dropped from consideration because of the impacts to the local road networks and the neighborhoods. The fourth bridge was dropped as a unique alternative because it will directly help the north/south traffic through town, but not the east/west traffic on this roadway.

After this screening, six alternatives and the no-build remained for preliminary analysis of critical intersections. Out of that analysis, the following were dropped:

- East 1- Full Frontage road with the Redwood Avenue connection.
- East 2 - Frontage Ringuette Street to Allen Creek Road and Driveway Collectors Tussey Lane to Ringuette Street.
- East 5A – Full Frontage with Grade Separation at Ringuette Street and Allen Creek Road.
- East 5B - Full Frontage with Grade Separation at Allen Creek Road.
- East PDT2 – Tussey Lane to Fairgrounds Road Frontage, Redwood Avenue connector to Union Avenue.
- East CAC2 – Driveway Collectors only, Redwood Avenue westbound connector.

East 2 was withdrawn because of difficulty in getting access to businesses near Ringuette Street, not accommodating freight deliveries to businesses between Ringuette Street and Tussey Lane, and that the connections would likely increase cut-through traffic in the residential areas.

East PDT2 was determined to have large impacts to right-of-way in order to get the connection from Redwood Avenue to Union Avenue. Also, the project could not be staged in that no portion could be built and be useful until the major work was done.

This alternative was withdrawn because it would have substantial business displacements, would shift congestion to local streets, would be expensive, and could not be built in phases.

East 5A created a new public road (access road) crossing over Allen Creek Road and Ringuette Street, rather than intersecting them at grade. This alternative was withdrawn because it had substantial impacts to businesses and the costs associated with the two structures for minimal traffic on the access road.

East CAC2 included improving Highway 199 to have six travel lanes with limited access to properties. The intersection of Allen Creek Road and Redwood Avenue would be curved to allow more free-flow vehicle movement. This alternative was withdrawn because it would be extremely difficult to provide access to businesses east and west of Allen Creek Road, would have the least accommodation for safe pedestrian and bicycle movement, would have substantial out-of-direction travel, and would not be safe because drivers could inadvertently make wrong turns.

The remaining alternatives were grouped together and renamed. Alternative A consists of the west section concept combined with East 1, while Alternative B is the West Section with East 5B. With public input from the fall of 2005 and spring of 2006, Alternative C was created combining the West Section with a modification of the realigned US199 at Allen Creek Road as a curve. During the analysis and evaluation of these three alternatives, the CAC and PDT decided to drop Alternative B from further consideration.

Alternative B is a refined combination of the west concept with East 5B. The sections from Midway Avenue to Dowell Road and from Redwood Avenue to Tussey Lane are the same as in Alternative A. In the section from Dowell Road to Redwood Avenue, the roadway transitions from four travel lanes to six travel lanes separated with full median barrier. The intersection of US 199 at Allen Creek Road remains signalized and is expanded. On all approaches Allen Creek Road is extended north and became grade separated as it proceeds under Redwood Avenue. It then curves easterly and connected via signalized intersection to Redwood Avenue that is now disconnected from US 199 and acts as an access/frontage road. Sidewalk and bike lane improvements are included along US 199 and the new alignment sections. The existing signal at US 199 at Redwood Avenue is removed.

Since this alternative cannot be phased, cost efficient, and due to the cost of the structure to grade separate the roadways, the CAC and PDT decided to drop this alternative from further consideration as the analysis was proceeding.

Appendix J

East Section Alternative Screening Discussion

East Section

The PMT developed initial alternatives for discussion and took them to the CAC, PDT and technical staff at the May 2005 meetings. Upon discussion the CAC and PDT added alternatives to make a total of eleven alternatives for the East section of the project. All alternatives remove the existing signals at Fairgrounds Road and Redwood Avenue. The alternatives considered but not advanced are summarized in Appendix I.

As part of the preliminary screening, the alternatives were grouped into categories to consider specific features.

- Frontage Road/Driveway Collectors – East-1, East-2, East-5, CAC2, PDT1, PDT2
- West Park Street Connector – East-2, East-3, East-4, CAC1A
- Union Avenue Slip Ramp – PDT 1, PDT 2, CAC 1A, CAC1B, CAC 2
- Added Lanes on US 199 – East-4, CAC 1A, CAC1B, PDT 1
- Fourth Bridge Connection – East-6

Features Discussion and Screening

Frontage Roads and Driveway Collectors on the north side of Redwood Highway do not noticeably affect how the model assigns/distributes the trips along the network in this section. The simulation model shows traffic leaving the roadway when not at an intersection, but not at any specific driveway location. The model does not reflect the safe access, out-of-direction travel and visibility of businesses. It is recommended that alternatives that include frontage roads and driveway collectors be used in conjunction with any alternatives forwarded.

The West Park Connector, a road that runs behind the fairgrounds to Allen Creek Road, does not help to relieve the congestion experienced on the Redwood Highway. Because this street would be a local, residential type, it does not appeal to enough through traffic to remove if from Redwood Highway. Also, the Redwood Highway business driveways do not directly access the connector, so highway safety is not improved as access points are not removed by this connector.

For the **Union Avenue Connector** to remove a noticeable amount (10 percent) of removing the eastbound traffic off of Redwood Highway, it (Union Avenue) needs minor arterial characteristics and a speed of 35 MPH. Currently this is a collector with a 25 MPH speed. However, drawing a large volume of traffic from Ringuette Street to OR 238 (Williams Highway), causes major impacts there. The added Union Avenue traffic requires that the Union Avenue/Harbeck Road/OR 238 intersection have a dual left installed as well as a traffic signal at Ringuette Street and Union Avenue, which has substandard spacing back to Redwood Highway that is also a concern.

Adding Lanes on Redwood Highway increases the capacity of Redwood Highway, but it is not a straight correlation to reducing the congestion. Adding a lane of capacity (each

ideally being 1200 vehicles) does not add 1200 vehicles to the capacity of the section of roadway or equal the number of lanes times the capacity. Also, unless the lanes exist for at least a mile or so, drivers do not use the lanes equally. Therefore some lanes will be heavily used, while others will be ignored. This increases the likelihood of vehicles changing lanes, or weaving. The more lanes, the greater the traffic imbalance and less capacity are available. Safety concerns are not addressed since a higher level of weaving between lanes and varying speeds would occur.

Removing the **Existing Redwood Avenue connector** from Redwood Highway causes nearly 90 percent of the traffic to use the Allen Creek Road Intersection, almost 10 percent to use the Dowell Road Intersection and the small remainder of the traffic to go on to the Hubbard Road Intersection to access Redwood Avenue.

The Fourth Bridge analysis shows an increase of about 15 percent of volumes into the project area because it makes some trips via the 4th bridge more attractive versus using the 6th/7th street bridges. The routing of traffic volumes with this alternative shows the new bridge takes about 25 percent of the north/south bound traffic in the area and draws about 15 percent of the overall east/west volume off of Redwood Highway. Although the 15 percent is significant, it is partially offset by the volume increase in the area by the added (attracted) trip alternatives that were not there before. Based on the project purpose, the Redwood Highway volume is the relevant figure and the changes to the east/west traffic are minimal with the change. Therefore, this feature is relatively neutral when considering whether this it is a solution for the problems on US 199.

At the August 2005 meetings, the CAC and PDT considered the concepts/components of the east section alternatives and determined that:

- The West Park connector does not draw enough traffic off the highway to be a wise expenditure of funds.
- The Union Avenue connector may pull a significant of traffic off US199, but the impacts to the local street system (Ringuette Street and Union Avenue) and the connection (Union Avenue and OR 238) would be too large for the benefit gained by building the connector.
- The Existing Redwood Avenue connector was highly desirable to have, since it helps lower the impacts at the US 199 at Allen Creek Road intersection.
- The teams agreed that although the fourth bridge altered the traffic volumes enough to be considered, the additional traffic reassigned into the area was more that what was removed. Since the fourth bridge deals with the circulation in the entire town area and mostly moves north to south traffic the team decided to not include the concept for considered, but to do whatever to minimize the impacts to a future alignment.
- Additional lanes were needed for capacity to try to meet the 20-year design life.

Alternative Summary

After the August 2005 meeting, the PMT took the selected features and grouped or applied them to the various alternatives to define the next round of alternative analysis. The following six alternatives along with the no-build scenario were analyzed. Refinement analysis was done on the remaining features which included frontage roads and driveway collectors, additional lane(s) on Redwood Highway and minimized driveway closures and leaving the Redwood Avenue westbound connector. Five concepts remain when considering the concepts still included from the various alternatives.

The **No-Build Refined Alternative** is taking what currently exists, removing the signals on US 199 at Redwood Avenue and Fairgrounds Road, and adding dual left turns for southbound to eastbound traffic at US 199 and Allen Creek Road. Although the v/c ratios improve over the no-build, it leaves only two lanes on Redwood Highway, particularly through the Ringuette Street intersection. Traffic flow improves with the removal of standing queues (from the US199 signals), but it does little to improve safety because the traffic interactions (weave, merge, diverge) still occur and no reduction to the number of conflict points. All of the remaining alternatives will be compared to the No-Build Refined Alternative. Due to the volume of traffic using Redwood Highway, all alternatives need three through lanes in each direction between the signalized intersections. This is what brings the v/c ratios below 1.00.

Six concepts were analyzed for this preliminary analysis the alternatives are based on the features remaining, with various components within the original concepts in relation to the no-build scenario for a few key intersections. The discussion will focus on critical intersections in the east section: US 199 at Ringuette; US 199 at Allen Creek; Redwood Avenue at Allen Creek; and Redwood Avenue at Dowell Road. In some concepts there may be an additional intersection to discuss, such as OR 238 at Union Avenue for the concepts that move traffic onto Union Avenue. The analysis took the features and the alternatives to date and finalized the analysis into the following five scenarios:

- East 1- Full Frontage road with the Redwood Avenue connection.
- East 2 - Frontage Ringuette Street to Allen Creek Road and Driveway Collectors Tussey Lane to Ringuette Street.
- East 5 – Full Frontage with Grade Separation at Ringuette Street and Allen Creek Road.
- East PDT2 – Tussey Lane to Fairgrounds Road Frontage, Redwood Avenue connector to Union Avenue.
- East CAC2 – Driveway Collectors only, Redwood Avenue westbound connector.

The No-Build Refined Alternative uses the current alignment, but with no additional lanes for capacity, removes the US 199 signals at Redwood Avenue and Fairgrounds Road, and adds dual left turns for southbound to eastbound traffic at US 199 and Allen Creek Road. Traffic flow and v/c ratios improve with the removal of standing queues, but safety improvements are minimal because the traffic interactions (weave, merge, diverge) and conflict points are not reduced.

The analysis took the features and the alternatives to date and finalized the analysis into the following five scenarios that had varying combinations of frontage roads and driveway collectors with the grade separation ideas related to the heavy Redwood Avenue moves.

The concepts include additional lanes, full or partial frontage roads and whether to grade separate intersections. An added through lane and frontage roads improve safety due to the reduced number of conflict /decision points through the corridor, while allowing access at a few major locations (Ringuette Street and Allen Creek Road). The v/c ratios may be higher than other alternatives, but this is because of gathering up the conflict/decision points and putting them at the signal-controlled intersections. Gathering conflict/decision points to signal-controlled intersections increases safety. All of the alternatives have a US 199 cross section from Tussey Lane to Allen Creek Road that includes three lanes in each direction, and exclusive turn lanes (right and left) at the signalized intersections. This requires a width of nine travel lanes which is over 100-feet without bike lanes or medians.

East 1

East 1 is full frontage road system from Tussey Lane to Allen Creek Road, with full access at the signalized intersection of US 199 and Ringuette Street. The Redwood Avenue westbound connector is included along with a traffic signal at the Redwood Avenue/Allen Creek Road intersection.

East 1 brings all the critical intersections to under full capacity. The local streets meet the required mobility standard, while the ODOT controlled intersections do not. However, considering the impacts from the footprint of an expanded section to bring the intersection within standard, a design exception could be sought to allow a higher level of congestion given the geometry already supplied.

Table J1: East 1 v/c Ratio Comparison

Major Street	Minor Road	2025 No-Build Refined		2025 Build	
		v/c Ratio	LOS	v/c Ratio	LOS
US 199	Ringuette St	1.25 ²	-	0.96 ¹	-
	Allen Creek Rd	0.90 ¹	--	0.80 ^{1 4}	-
Redwood Ave	Allen Creek Rd	-	F ²	-	C
	Dowell Ln	-	F ²	-	D ³

1 Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or 0.65; and local standard = LOS D).

2 Black cells show intersections which are over capacity.

3 Intersection if signalized.

4 Intersection reconfigured making the Redwood Avenue to Allen Creek Road movement the major one and the Redwood Avenue Connection the minor (stopped) one.

East 2

East 2 has a frontage road from Ringuette Street to Allen Creek Road and Redwood Avenue westbound connected to US 199. Henderson Lane and Tussey Lane lose direct access to the highway as they become part of the driveway collector system that accesses mid-way between the two signalized intersections.

East 2 brings all the critical to under full capacity. The local streets meet the required mobility standard, while the ODOT controlled do not. However, considering the impacts from the footprint of an expanded section, a design exception could be sought to allow a higher level of congestion given the geometry already supplied.

Table J2: East 2 v/c Ratio Comparison

Major Street	Minor Road	2025 No-Build Refined		2025 Build	
		v/c Ratio	LOS	v/c Ratio	LOS
US 199	Ringuette Ave	1.22 ²	-	0.91 ¹	-
	Allen Creek Rd	0.85 ¹	-	0.82 ¹	-
Redwood Ave	Allen Creek Rd	-	C	-	B
	Dowell Ln	-	C	-	B ³

¹ Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or 0.65; and local standard = LOS D).

² Black cells show intersections which are over capacity.

³ Intersection if signalized.

East 5

East 5 is a full frontage road from Tussey Lane to Allen Creek Road. This alternative does not have Redwood Avenue westbound connection. A major difference between this and East 1 are grade separated crossings of the frontage road over Ringuette Street and Allen Creek Road with the Allen Creek Road configuration using a loop ramp to make the heavy Redwood Avenue traffic a right turn at the Allen Creek Road intersection, instead of a left.

East 5 brings all the critical intersections to under full capacity. The local streets meet the required mobility standard, while the ODOT controlled do not. However, considering the impacts from the footprint of an expanded section, a design exception could be sought to allow a higher level of congestion given the geometry already supplied.

Table J3: East 5 v/c Ratio Comparison

Major Street	Minor Road	2025 No-Build Refined		2025 Build	
		v/c Ratio	LOS	v/c Ratio	LOS
US 199	Ringuette Ave	1.22 ²	-	0.79 ¹	-
	Allen Creek Rd	0.85 ¹	-	0.80 ^{1 4}	-
Redwood Ave	Allen Creek Rd	-	C	-	C
	Dowell Ln	-	C	-	D ³

1 Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or 0.65; and local standard = LOS D).

2 Black cells show intersections which are over capacity.

3 Intersection if signalized.

4 Intersection reconfigured making the Redwood Avenue to Allen Creek Road movement the major one and the Redwood Avenue Connection the minor (stopped) one.

East PDT2

East PDT2 is a frontage road from Tussey Lane to the Fairgrounds that is grade separated over Ringuette Street, which is its connection to US 199. The other major component of this concept is connecting Redwood Avenue to Union Avenue via a structure over US 199.

East PDT2 brings all the critical points to under full capacity. The local streets meet the required mobility standard, while the ODOT controlled ones do not. However, considering the impacts from the footprint of an expanded section, a design exception could be sought to allow a higher level of congestion given the geometry already supplied. The US 199 cross section from Ringuette Street remains a 4-lane section, while from Ringuette Street to Tussey Lane it is the three lanes in each direction, and exclusive turn lanes (right and left) at the signalized intersections. This also causes great impacts to the OR 238 at Union Avenue intersection and the local intersections along Union Avenue particularly the hospital.

Table J4: East PDT2 v/c Ratio Comparison

Major Street	Minor Road	2025 No-Build Refined		2025 Build	
		v/c Ratio	LOS	v/c Ratio	LOS
US 199	Ringuette Ave	1.22 ²	-	0.72 ¹	-
	Allen Creek Rd	0.85 ¹	-	0.72 ^{1 4}	-
Redwood Ave	Allen Creek Rd	-	C	-	D
	Dowell Ln	-	C	-	C ³
OR 238	Union Ave	2.37 ²	-	0.72 ¹	-

1 Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or 0.65; and local standard = LOS D).

2 Black cells show intersections which are over capacity.

3 Intersection if signalized.

4 Intersection reconfigured making the Redwood Avenue to Allen Creek Road movement the major one and the Redwood Avenue Connection the minor (stopped) one.

East CAC2

East CAC2 has driveway collectors, added lanes and the Redwood Avenue westbound connector. This alternative has only two driveway collectors: one to serve the accesses between Tussey Lane and Ringuette Street, and a second to access from Ringuette to about the existing fairgrounds access. Access for the YMCA would have to be via a portion of the Redwood Avenue connector that would have to be maintained as two-way. However, this alternative requires out-of direction travel from the YMCA patrons to get back into town. The route will require them to drive westbound on Redwood Avenue past Allen Creek Road to Dowell Lane in order to turn left and then access US 199 back into town.

Table J5: East CAC2 v/c Ratio Comparison

Major Street	Minor Road	2025 No-Build Refined		2025 Build	
		v/c Ratio	LOS	v/c Ratio	LOS
US 199	Ringuette St	1.22 ²	-	0.87 ¹	-
	Allen Creek Rd	0.85 ¹	-	0.83 ¹	-
Redwood Ave	Allen Creek Rd	-	C	-	D
	Dowell Ln	-	C	-	C ³

¹ Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or 0.65; and local standard = LOS D).

² Black cells show intersections which are over capacity.

³ Intersection if signalized.

East CAC2 brings all the critical intersections to under full capacity. The local streets meet the required mobility standard, while the ODOT controlled ones do not. However, considering the impacts from the footprint of an expanded section, a design exception could be sought to allow a higher level of congestion given the geometry already supplied.

Preliminary Screening

East 2 includes a driveway collector east of Ringuette Street and a frontage road from Ringuette Street to Allen Creek Road. Safety is improved with the reduction in conflict points. The v/c ratios may be higher than other alternatives, but this is because of gathering up the conflict/decision points and putting them at the signal-controlled intersections. The increase in safety comes from a trade off in the use of the capacity. Withdrawn because of difficulty in getting access to businesses near Ringuette Street, not accommodating freight deliveries to businesses between Ringuette Street and Tussey Lane and that the connections would likely increase cut-through traffic in the residential areas.

East 5 Improving US 199 in the same way as East 2, except the new public road (access road) would cross over Allen Creek Road and Ringuette Street, rather than intersecting them at grade. This alternative was withdrawn because it would have substantial impacts to businesses and the costs associated with the two structures for a minimal traffic on access road.

East CAC2 included improving US 199 to have six travel lanes with limited access to properties. The intersection of Allen Creek Road and Redwood Avenue would be curved to allow more free-flow vehicle movement. This alternative was withdrawn because it would be extremely difficult to provide access to businesses east and west of Allen Creek Road, would have least accommodation for safe pedestrian and bicycle movement, would have substantial out-of-direction travel, and would not be safe because drivers could inadvertently make wrong turns.

East PDT2 Improves US 199 to have six travel lanes with limited access to properties. A partial access road would provide access to businesses along the north side of US 199 from the fairgrounds to Tussey Lane. Redwood Avenue and Union Avenue would be connected via a bridge over US 199. This alternative was withdrawn because it would have substantial business displacements, would shift congestion to local streets, would be expensive and could not be phased.

Summary

All the alternatives improve safety by reducing the number of conflict points. The v/c ratios are higher with alternatives that use driveway collectors since turns are being re-located. Many of the driveway collectors created difficulties for freight to be delivered. Impacts from adding structures were a major concern. Only the structure of Redwood Avenue over Allen Creek Road seemed to make sense with its minimal impacts to existing businesses. The Redwood Avenue to Union Avenue connector was an alternative that had major impacts to local roads south of US 199 and to businesses near the structure. It could not be phased and did not help westbound congestion so the CAC and PDT determined to drop it. The alternative for the re-worked Redwood Avenue at Allen Creek Road intersection had difficulties providing access to businesses along Allen Creek Road, substantial out-of-direction travel, and introduced safety concerns of confused drivers inadvertently making a wrong turn and no clear pedestrian and bicycle movements.

All of the alternatives show that the local street system can function with the projected growth in the area. All the local street are either in compliance with the standard or can easily be expanded (improved).

Based on the through volumes on US 199 and the 20-year future projections, the proposed cross-section seems a reasonable compromise between building wide enough (probably be close to 150-foot wide) to bring the v/c ratio into compliance and building

enough to be below full capacity (traffic moving) while keeping the width reasonable for pedestrian and bicycles. A design exception will have to be applied for and obtained.

Table J6: East Alternatives v/c Ratio Comparison – 2025 Build

Major Street	Minor Road	East 1	East 2	East 5	PDT2	CAC2
US 199	Ringuette St	0.96	0.91	0.79	0.72	0.87
	Allen Creek Rd	0.80	0.82	0.80	0.72	0.83
Redwood Ave	Allen Creek Rd	LOS C	LOS B	LOS C	LOS D	LOS D
	Dowell Rd	LOS D	LOS C	LOS D	LOS C	LOS C
OR 238	Union Ave	N/A	N/A	N/A	0.72	N/A

Grey cells show intersections that do not meet mobility standards (ODOT = 0.70 or 0.65; and local standard = LOS D).

The direct comparison of alternatives shows furnishing a higher safety level (less conflicts) comes with more congestion (higher v/c ratios). However, this is an acceptable trade-off because traffic will flow smoother, even at higher v/c ratios when there are not conflicts in the traffic stream. PDT2 helps traffic flows on US 199, the impacts to the local system are sizable. Although it has the best v/c ratios, East CAC2 is least favorable from an access (out-of-direction travel) and safety point of view. This is a compromise with cost that the PDT and CAC decided to drop. East 2 was dropped since most of its features were covered in East 1. TPAU recommended further investigation of the following alternatives for the given reasons:

- East 1– Although this has the higher v/c ratios, the traffic will flow smoother through the congested section, and with no north-side private accesses and only three public road accesses in this section this alternative will likely be the safest. Slowing vehicles some while removing decision (conflict) points is a good compromise to deal with both safety and congestion.
- East 5 – This alternative uses a large share of existing roadways while furnishing a manner of complete off highway movements in the study.

This leaves East 1 (full frontage road) and East 5B (Allen Creek Road grade separation) as the viable alternatives for the EA.

Appendix K

Additional Transportation Performance Measures (by Chuck Green of Parsons Brinkerhoff)

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**Highway 199 Expressway Project
Additional Transportation Performance Measures
Year 2030 PM Peak Hour**

Summary

In order to fully understand the transportation implications of “build” alternatives compared to the no-build alternative, a set of performance measures have been developed. These measures, called “MOE” or Measures of Effectiveness, are meant to supplement the traditional highway capacity measures such as volume-to-capacity ratio or level-of-service. They summarize either the study area transportation system or the Highway 199 corridor.

Definitions

The MOEs are measured for the year 2025 PM peak hour. The MOEs were calculated by averaging five one-hour traffic simulations (“iterations”) and is measured from Midway to 6th Avenue (South Y). Each traffic simulation was seeded with background traffic for a simulated ten-minute period before the one-hour simulation was recorded. The SimTraffic simulation uses random numbers to determine when new vehicles and pedestrians enter the network and to choose vehicle paths through the network. For each of the five simulations, the random number is varied.

The following are definitions of the MOEs and how they are calculated:

Highway 199 Corridor Measures

These MOEs are measured for Highway 199 from Midway to the South Y.

- Travel time: this measures the average travel time from one end of the Highway 199 study corridor to the opposite end during the peak hour. This is measured by direction.
- Travel delay: delay is the additional amount of time to travel through an intersection or over a segment of corridor compared to uncongested traffic conditions. This measure represents the average delay encountered by a vehicle traveling through the entire Highway 199 study corridor during the peak hour. This MOE is measured by direction.
- Average speed: measures the average speed during the peak hour for a vehicle traveling from one end of the corridor to the opposite end as is measured by direction.
- Queues > 2blocks: this measure is determined by examining queues either calculated in Synchro using the traffic capacity module or the traffic simulation model runs. The queue used for this measure is the 95th percentile queue, or the maximum queue length that occurs 95 percent of the time during the peak hour.

Study Area Measures

These MOEs are measured for the transportation study area which is roughly the Rogue River on the north, Parkdale Street on the east, Union Avenue/Highline Canal on the south, and the west intersection of Highway 199/Redwood Avenue on the west.

- Travel time: measured in total vehicle-hours of travel during the peak hour in the model. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.
- Travel distance: measured in total vehicle-miles of travel during the peak hour in the model. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.
- Total delay: measured in total vehicle-hours of travel during the peak hour in the model. This is the total amount of vehicle delay, which is the amount of travel time experienced in the peak hour compared to the same trip being made in uncongested conditions. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.

Environmental Measures

These are measured for the transportation study area.

- Number of stops per vehicle: the simulation model totals the number of times a vehicle must stop for traffic congestion at an intersection. This does not include stopping that is required for a stop sign or a red light but does include stopping for a traffic backup caused by congestion at an intersection. The measure is calculated by dividing the total number of stops by the total number of vehicles in the model.
- Fuel used: measured in total number of gallons used during the peak hour. It is a measure of travel distance, speed, and delay.
- CO emissions: carbon monoxide emissions generated during the peak hour. According to the Synchro users' manual, CO emissions are calculated based on fuel consumption and use a simplified formula based on an unpublished letter to the Federal Highway Administration from Oak Ridge National Laboratories. Thus, it cannot replace the more detailed "hot spot" and areawide air quality analyses conducted during the EA but is listed here as a comparative measure.

Results

The following conclusions are reached from reviewing the MOEs:

- The build alternatives show improvements in all measured categories over the no-build, with the exception of vehicle miles traveled (VMT). Differences in VMT are likely due to more traffic attracted to the study area in the build alternatives and slightly longer trip lengths due to access management and frontage roads

along Highway 199 in the build alternatives. Increases in VMT are more-than-offset by reductions in travel time, delay, and pollutants.

- The South Y is a bottleneck in all alternatives; congestion levels there skew the results of the analysis and tend to limit the improvement in MOEs gained in the build alternatives.
- Even with congestion at the South Y, there are overall improvements as well as improvements in the Highway 199 corridor with the build alternatives. For example, the westbound travel time is reduced by approximately 1 ½ minutes while the eastbound travel time is reduced by 4-5 minutes, end-to-end.
- The build alternatives for the most part eliminate the major queuing along the corridor that was observed in the no-build scenario. However, the build alternatives result in moderately longer eastbound queues at the South Y (6th Avenue) as some of the upstream bottlenecks in the No-Build alternative (Allen Creek, Ringuette, Fairgrounds) have been eliminated due to capacity increases, allowing more traffic to “get through” to the South Y over the peak hours.
- At this level of analysis, the differences between Alternative A and Alternative C are not statistically significant.

The following uses a question-and-answer format to further understand the results.

1. Why isn't there a large difference in travel time, delay, and air pollutant emissions between no-build and build?

First, there are measurable differences, mostly on the order of 8-10% improvement over no-build. The number is not higher because of the South Y - there is just too much congestion there, especially eastbound heading into the intersection, that masks improvements that may be gained in the Expressway section. However, there are still improvements due to the removal of two traffic signals and adding a lane in each direction.

2. Why is there only a small savings in fuel consumed?

Fuel consumption is a combination of travel distance, delay, and speed. As vehicles go faster, the fuel consumption rate increases (above 45 mph). Fuel consumption also increases with increased distance, obviously. So, while there are gains by having vehicle speeds increase over no-build, in some cases the speeds increase so much that the rate of fuel consumption increases (or, the miles per gallon decreases). Finally, the congestion at the South Y still has most everyone stuck in traffic, which means that fuel will be consumed no matter which alternative due to the South Y.

3. Why isn't there a larger decrease in air pollution emissions between no-build and build?

Because queues and delays at the South Y tends to limit improvements in traffic flow gained along the Highway 199 corridor in the build alternatives. If it weren't for that, there would be a much larger difference between no-build and build for CO, which is generated by vehicle exhaust and increases when there is severe congestion. It shouldn't be overlooked that there is still a reduction of 2-3 kg/peak hour, which is 4.5 to 5 pounds of CO per peak hour.

4. Why is there a difference between Alts A and C?

While Phase 1 east of the Fairgrounds is the same between the two alternatives, there are still some differences in the vicinity of Allen Creek. Those differences favor Alt. C a bit due to the smooth connection between Allen Creek and Redwood Ave. The same is also true in the stops per vehicle - in Alt A, just about all vehicles turning from Highway 199 onto Allen Creek north of 199 will need to stop at a traffic signal where Allen Creek meets Redwood Ave. In Alt C, the meeting point of the two roads is smooth, rather than a "T", which serves to reduce the number of stops. These differences are not considered significant.

Summary of Performance Measures

Performance Measure	No-Build	Alt. A	Alt. C
<i>Highway 199 Measures</i>			
Travel Time (Minutes per trip: South Y to Midway)¹			
Eastbound	18.8	14.0 ²	13.3 ²
Westbound	8.8	7.4	7.2
Travel Delay (Minutes per vehicle: South Y to Midway)			
- Eastbound	13.4	8.6	7.5 ³
- Westbound	3.6	2.0	1.7
Average Speed (mph)			
- Eastbound	13	18	19
- Westbound	29	34	35
Queues > 2 blocks (600 feet)			
- Eastbound	<ul style="list-style-type: none"> • Redwood • Fairgrounds • Ringuette • South Y 	<ul style="list-style-type: none"> • Ringuette • South Y 	<ul style="list-style-type: none"> • Ringuette • South Y
- Westbound	<ul style="list-style-type: none"> • Ringuette • Redwood 	N/A	N/A
<i>Study Area Measures</i>			
Travel Time (veh-hrs)	2,127	2,007	1,964
Travel distance (VMT)	19,123	18,324	19,713
Total delay (veh-hrs)	1,597	1,483	1,400
<i>Environmental</i>			
Number of “stops” per vehicle ⁴	3.5	3.3	2.6
Fuel used (gallons)	2,353	2,281	2,333
CO Emissions (kg)	180	178	177

Notes:

- Uses TPAU 2030 Synchro models
- Average of five “usable” traffic simulations with varying random number starter seed
- Uses TPAU vehicle size and performance factors
- Simulation assumes 10 minutes of seeding the network, 15 minutes of simulation adjusting for peak hour factor, and 45 minutes of “anti-peak hour factor” adjustment per simulation run

¹ Can be broken into segments.

² Large traffic backup caused by South Y congestion affects eastbound travel time.

³ A simple way to look at this is that of the 14.6 minutes to travel the corridor eastbound. 8.8 minutes is taken up by slowing or being stopped due to traffic congestion (eastbound, mostly approaching the South Y).

⁴ Measures the number of times an average vehicle must completely stop for queued traffic approaching a traffic signal on its trip in the simulation model.

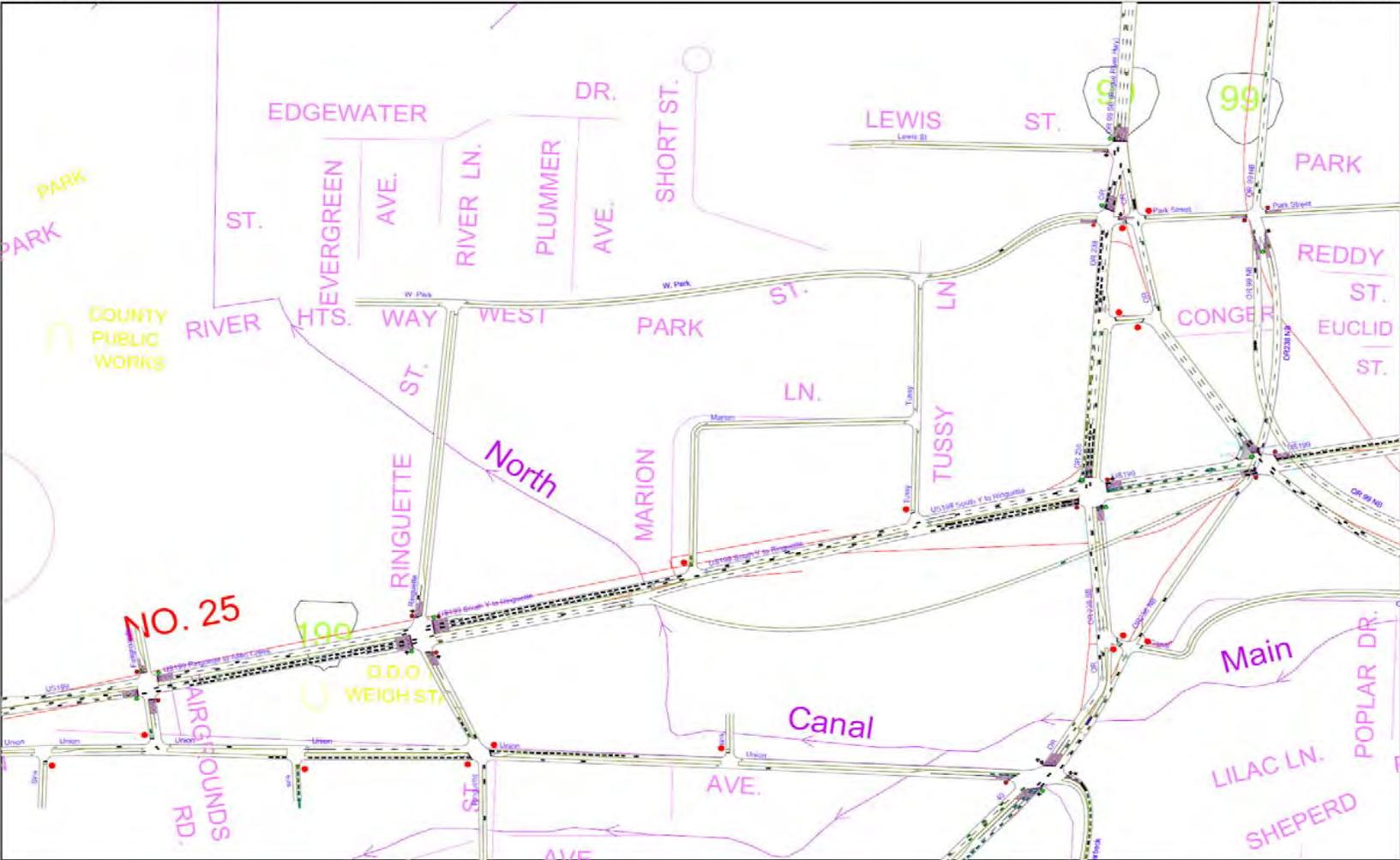
- Summaries are for peak hour of simulation only (excludes seeding interval)

The following pages include snapshots of the various traffic simulations to help understand the queuing associated with each alternative, as well as the more significant queues associated with the South Y in all alternatives.

The following screenshots show the no-build alternative at different times during the 2025 peak hour. These screenshots show how the queues build at the South Y and spread westward, impacting adjacent intersections in the eastbound direction. Also note the amount of “outbound” queuing at the South Y before trips even enter the study corridor. Queues on Allen Creek approaching Redwood are starting to back up into the Highway 199/Allen Creek intersection.

Hwy 199 No Build
Screenshot

15 mins of peak
At Allen Creek



Hwy 199 No Build
Screenshot

Half hour of peak
At Allen Creek



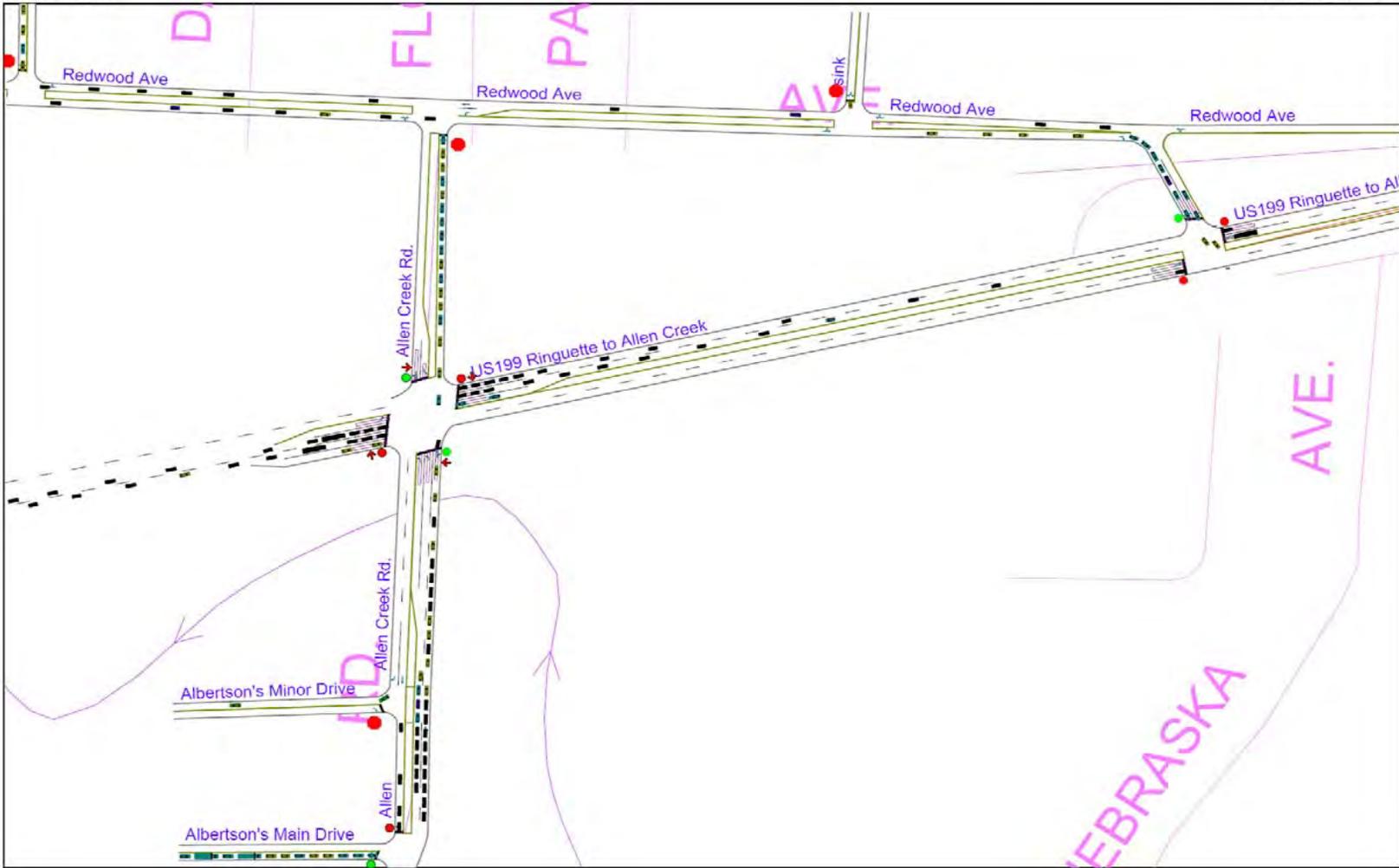
Hwy 199 No Build
Screenshot

End of peak



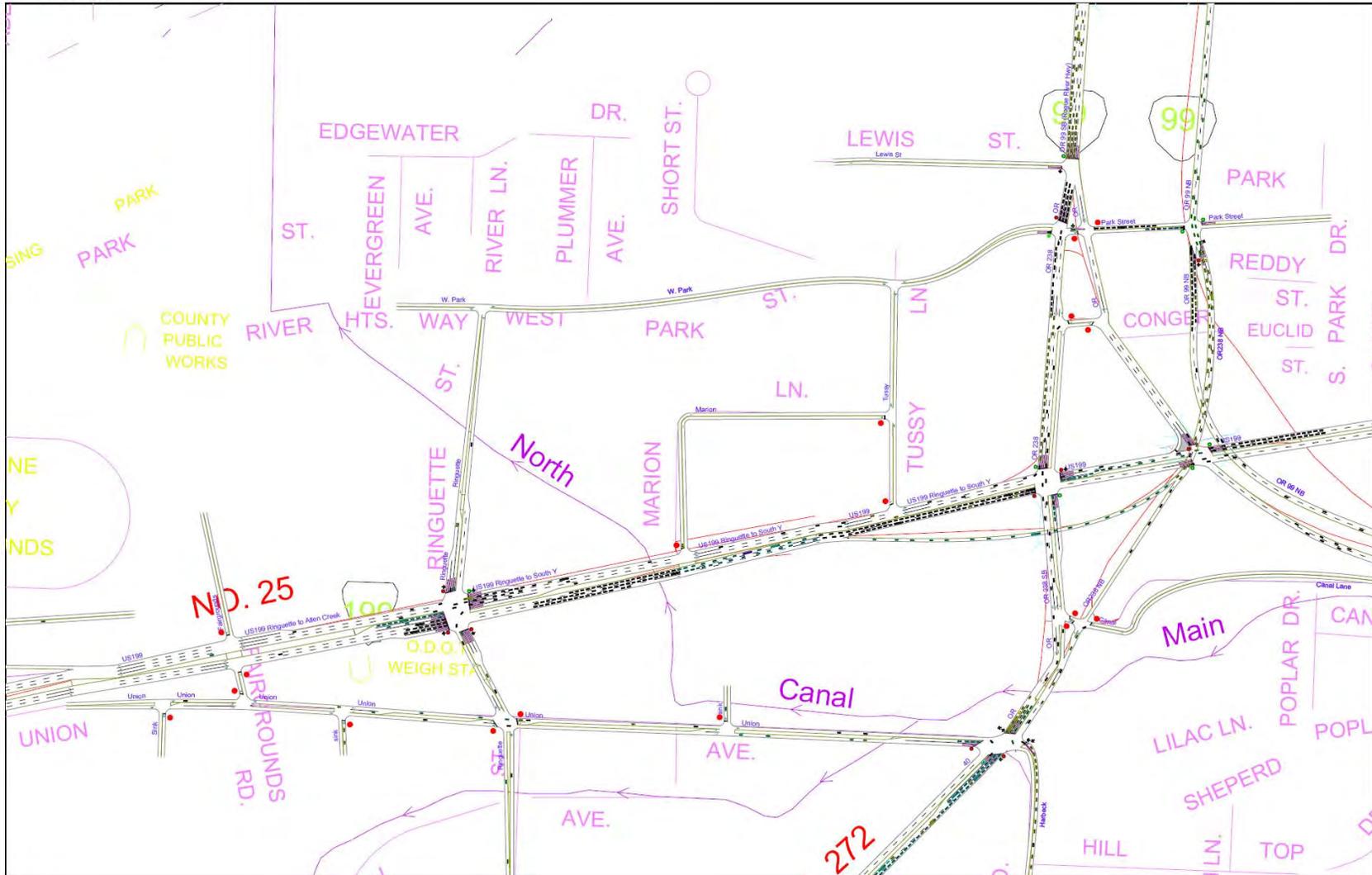
Hwy 199 No Build
Screenshot

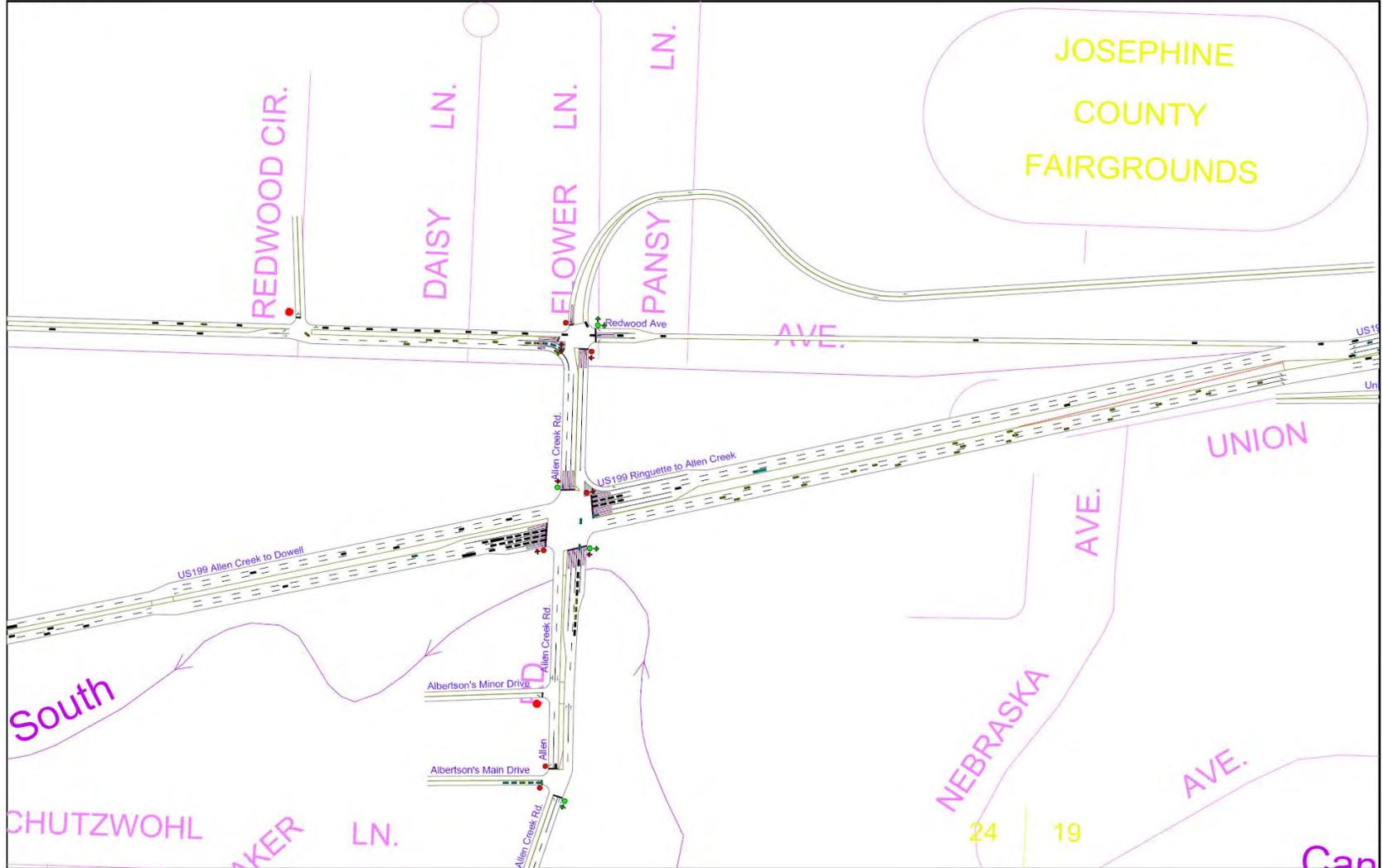
End of peak
At Allen Creek



Hwy 199 Alt A Screenshot

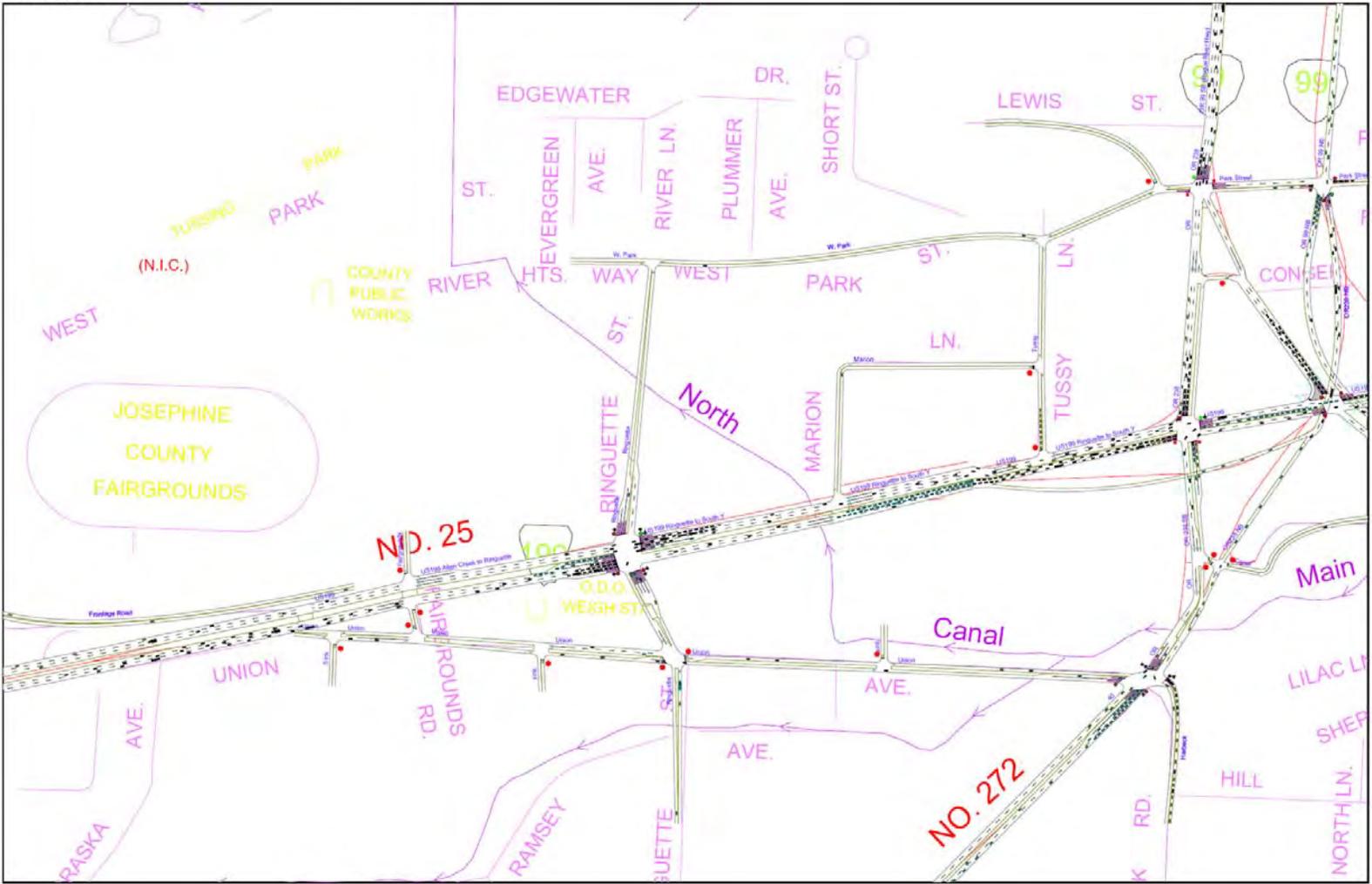
End of PM Peak hour





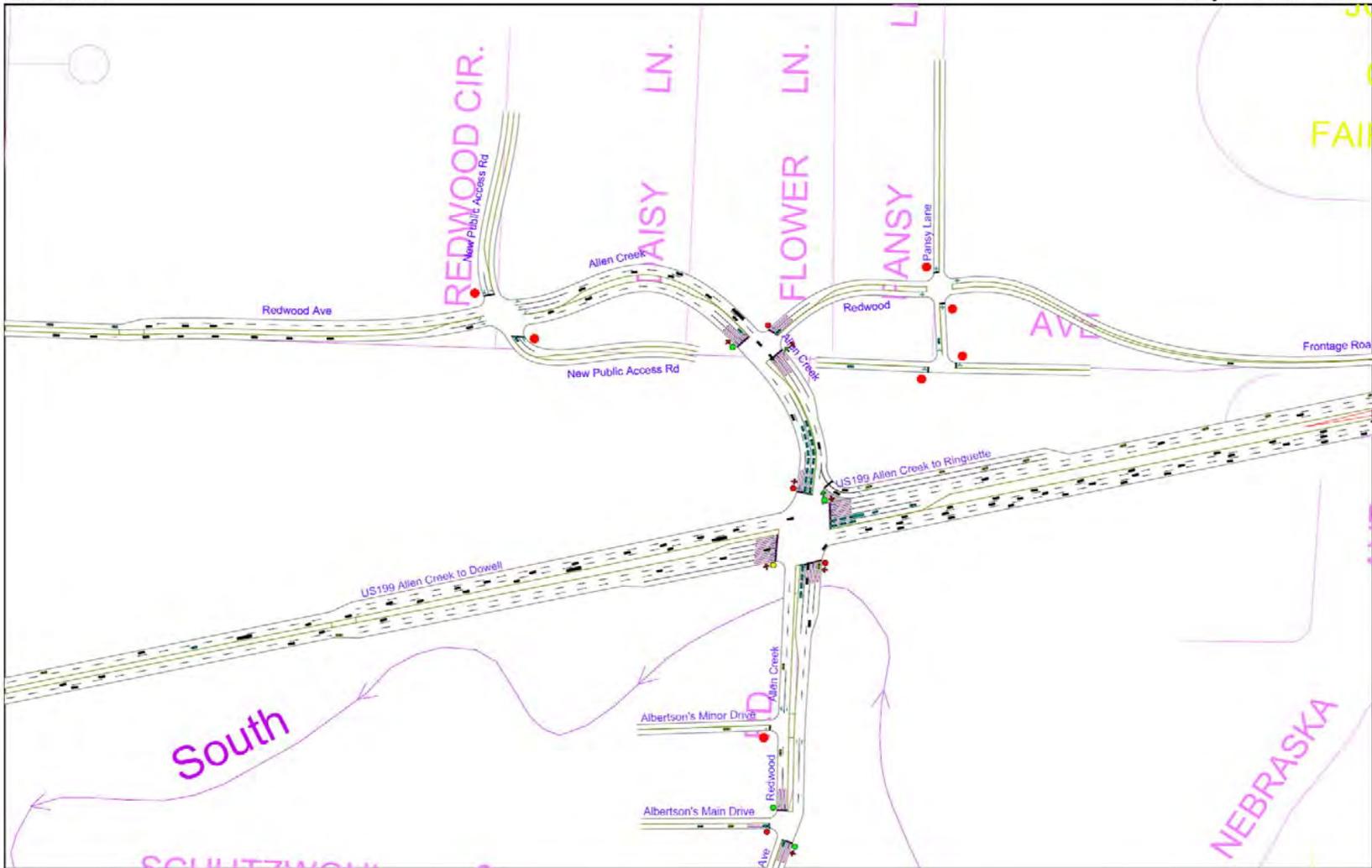
Hwy 199 Alt C
Screenshot

PM Peak hour



Hwy 199 Alt C
Screenshot

PM Peak hour
Hwy 199/Allen Creek



Appendix L

EIS Information Furnished to Consultant by ODOT

Figure L1: EIS Section Identifier – West End

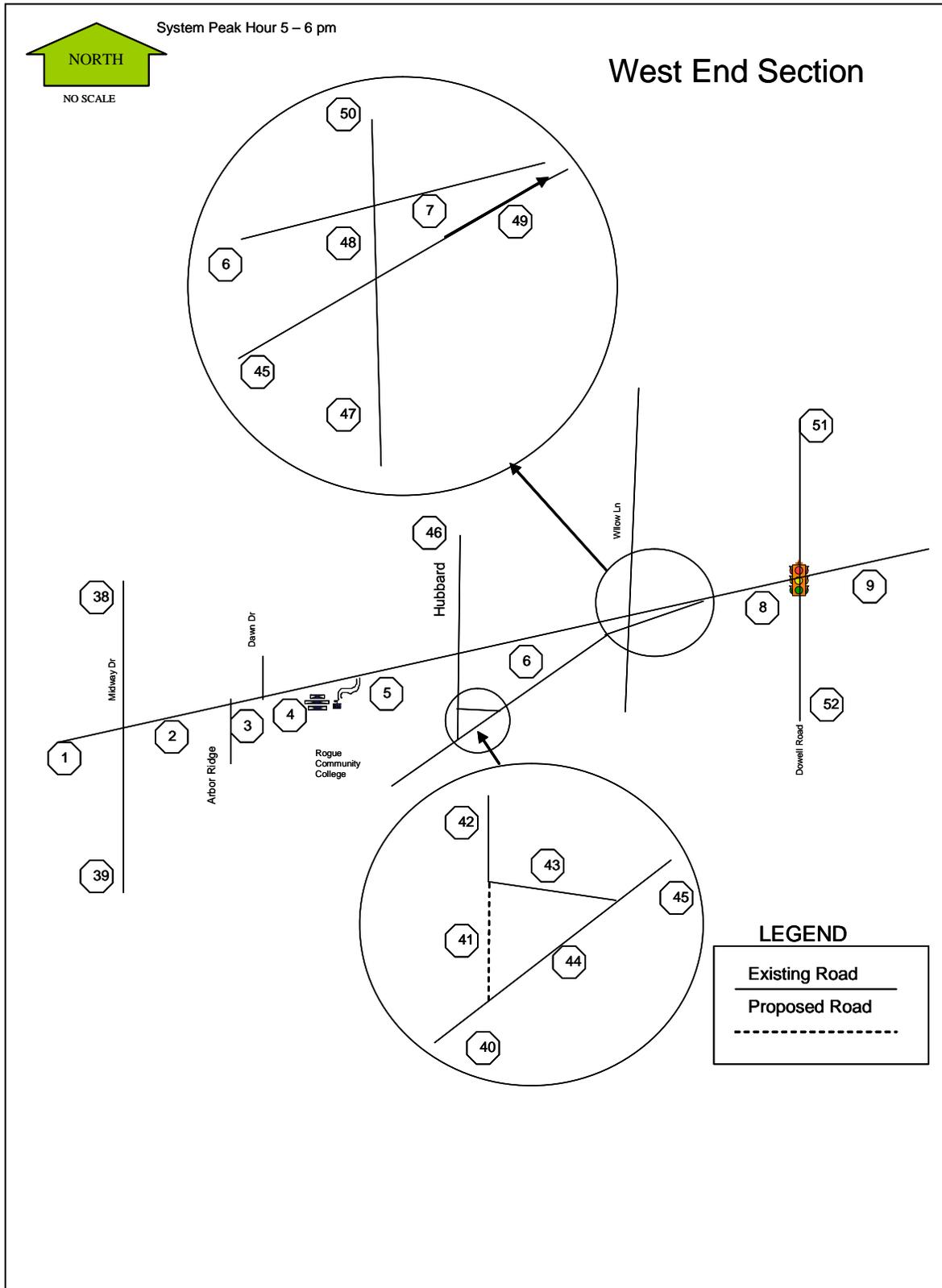


Figure L2: EIS Section Identifier – East End No-Build 1

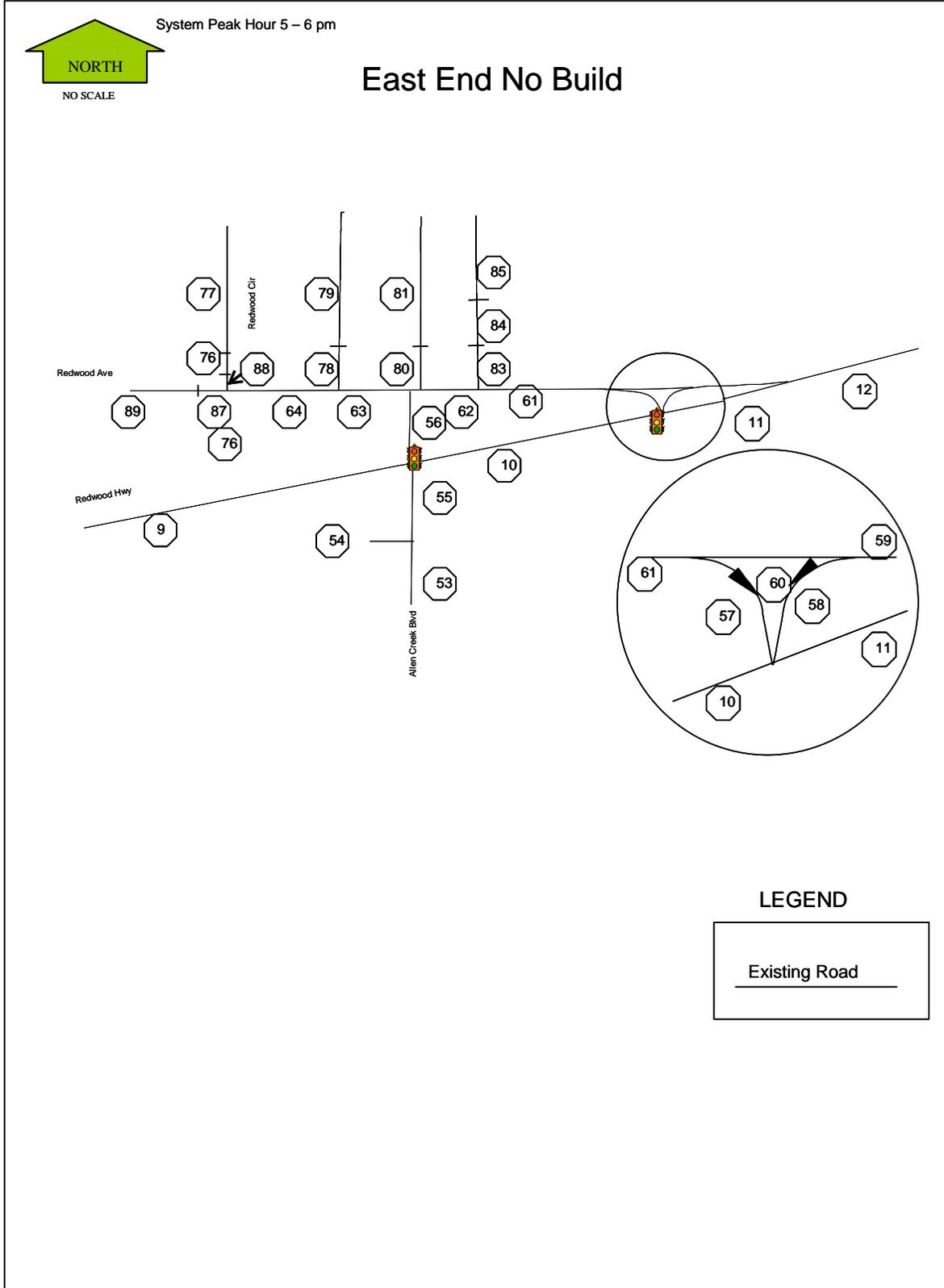


Figure L3: EIS Section Identifier East End No-Build 2

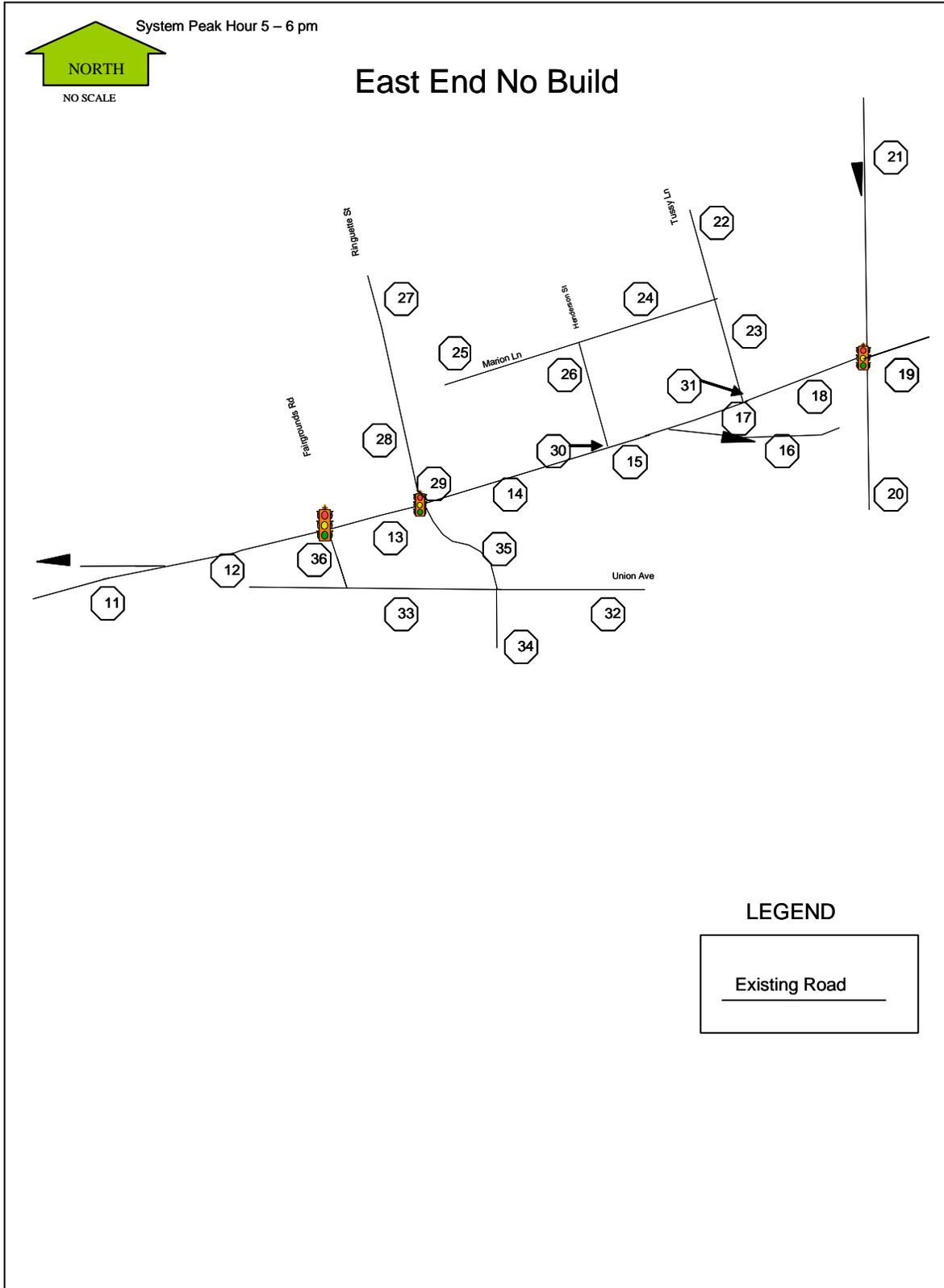


Figure L4: EIS Section Identifier – East End Alternative A

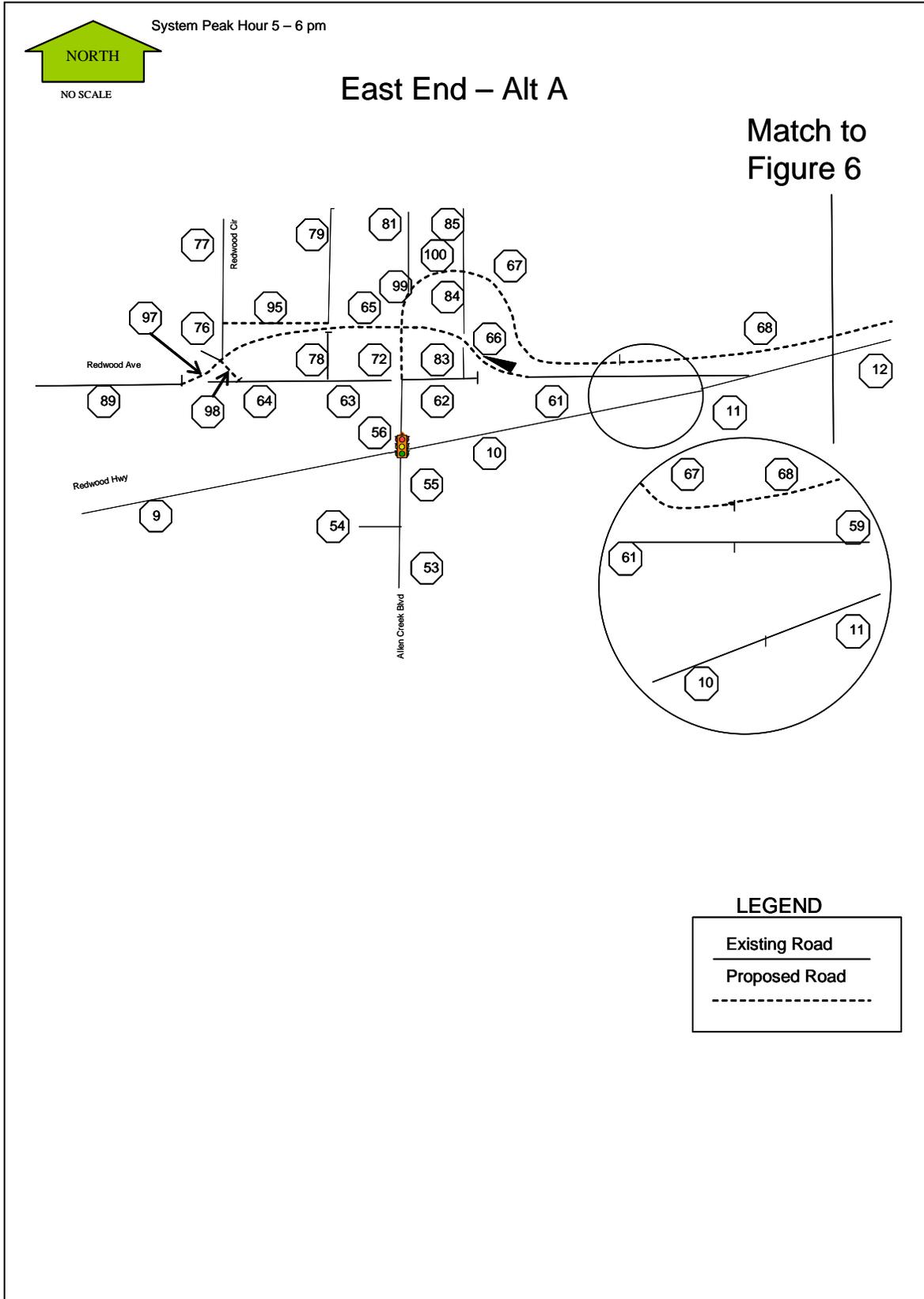


Figure L5: EIS Section Identifier - East End Ringuette Street

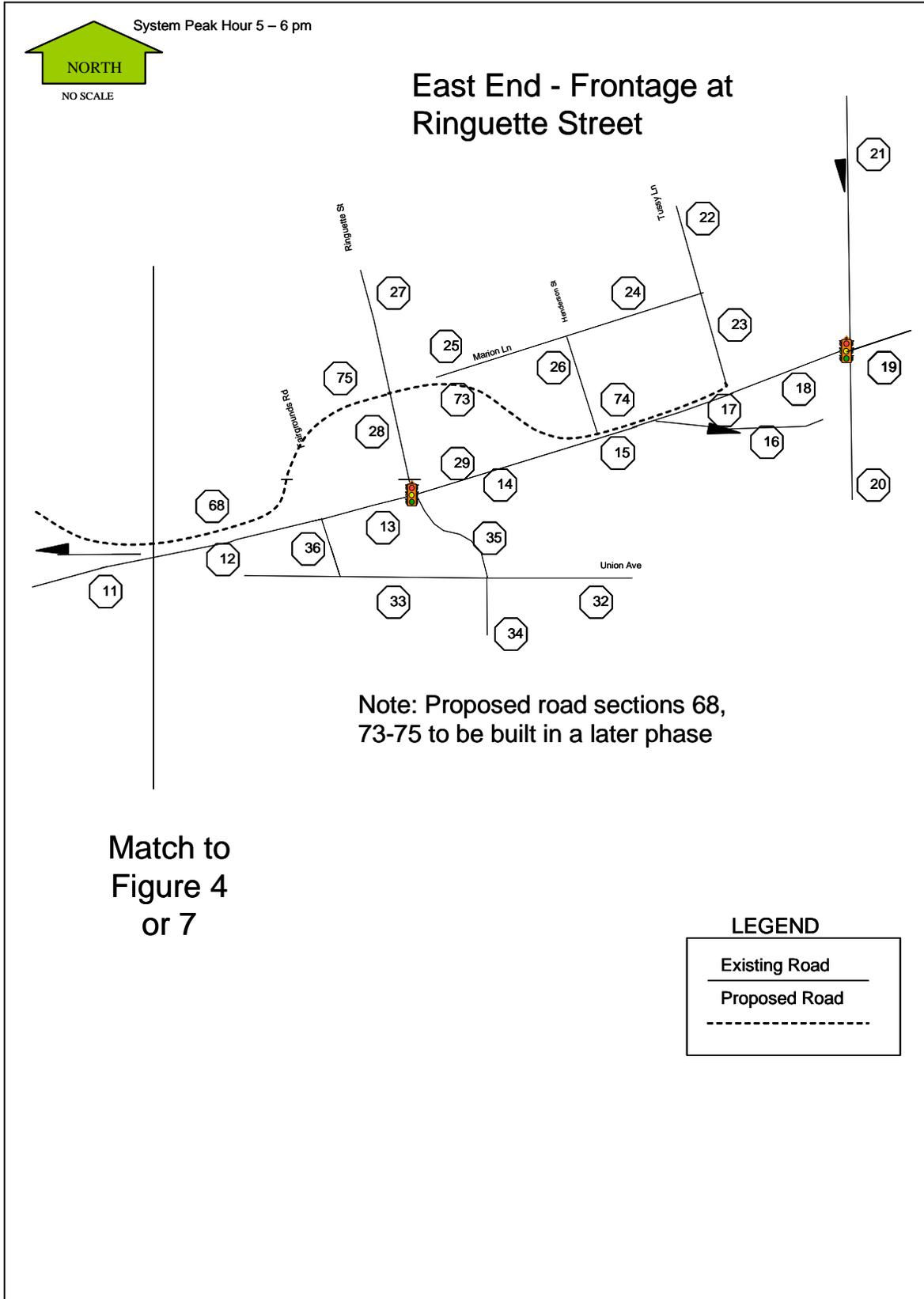
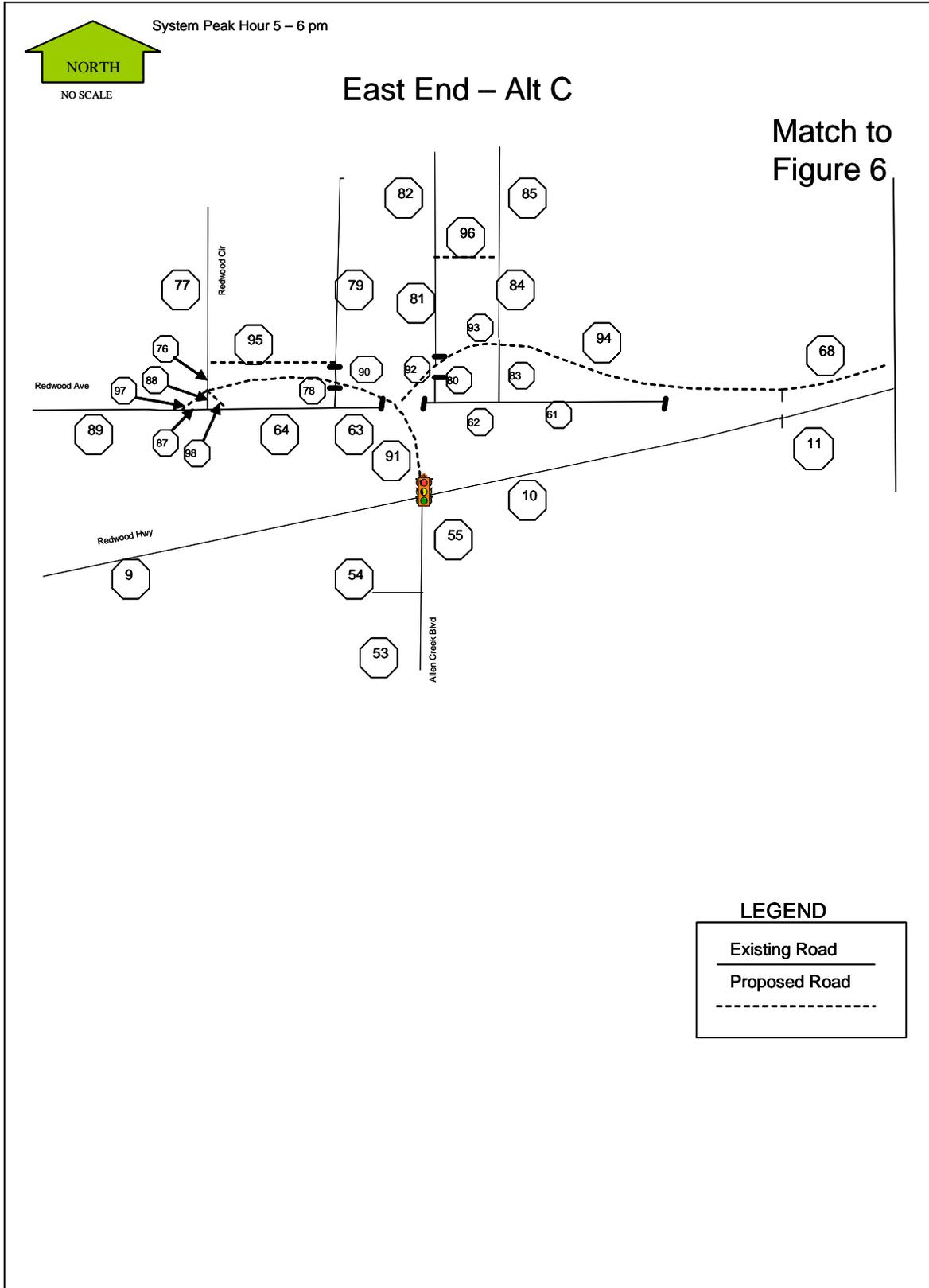


Figure L6: EIS Section Identifier – East End Alternative C



**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 1
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	HTR	VOL	TRKS	SP	VOL	AUTO	MTR	SP			
US 199	001	0.25	14000	1008	55	1250	1211	19	20	55	900	74	55	820	744	41	35	55
	001	0.25	15200	1094	55	1360	1318	20	22	55	980	81	55	890	807	45	38	55
	001	0.25	15600	1123	55	1390	1347	21	22	55	1000	83	55	910	825	46	39	55
	001	0.25	16600	1195	55	1740	1686	26	28	55	1250	104	55	1140	1034	57	49	55
US 199	002	0.56	14800	2782	50	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	002	0.56	16000	3008	50	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	002	0.56	16400	3083	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	002	0.56	20500	3854	50	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	003	0.01	14800	1036	50	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	003	0.01	16000	1120	50	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	003	0.01	16400	1148	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	003	0.01	20500	1435	50	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	004	0.48	14800	1036	50	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	004	0.48	15900	1113	50	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	004	0.48	16400	1148	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	004	0.48	20500	1435	50	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	005	0.32	14700	1029	50	1330	1289	20	21	50	970	79	50	900	816	48	36	50
	005	0.32	15900	1113	50	1440	1395	22	23	50	1050	85	50	970	860	51	39	50
	005	0.32	16400	1148	50	1480	1434	22	24	50	1080	88	50	1000	907	53	40	50
	005	0.32	20500	1435	50	1850	1792	28	30	50	1350	110	50	1250	1134	66	50	50
US 199	006	0.51	14700	882	50	1380	1320	32	28	50	1140	85	50	1170	1073	44	53	50
	006	0.51	15900	954	50	1490	1426	34	30	50	1230	92	50	1270	1165	48	57	50
	006	0.51	16400	984	50	1530	1464	35	31	50	1260	94	50	1300	1193	49	58	50
	006	0.51	20500	1230	50	1910	1828	44	38	50	1570	118	50	1620	1485	62	73	50
US 199	007	0.27	19200	988	45	1800	1730	38	32	45	1020	80	45	1130	1032	43	55	45
	007	0.27	20600	1062	45	1960	1884	41	35	45	1110	87	45	1230	1123	47	60	45

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *Dorothy Upton*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PAGE: 2
PRINTING DATE: Aug 15, 2006
UNIT: English

PROJECT: US 199 Expressway Upgrade Project
LOCATION: Grants Pass
ALTERNATIVE: No Build-Final Revised (Final)

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR									
			VOL	SP	VOL	SP	VOL	TRKS	VOL	TRKS	VOL	SP						
007	0.27	2012	21400	1113	45	2010	1932	42	36	45	1130	90	45	1260	1150	48	62	45
		2030	26700	1388	45	2510	2412	53	45	43	1420	112	45	1580	1443	60	77	45
008	0.23	2004	24200	1210	45	2330	2249	44	37	45	1440	101	45	1620	1503	52	65	45
		2010	26200	1310	45	2530	2442	48	40	43	1570	110	45	1760	1634	56	70	45
008	0.23	2012	26900	1345	45	2590	2500	49	41	43	1600	112	45	1800	1670	58	72	45
		2030	33600	1680	45	3240	3126	62	52	38	2010	140	45	2250	2088	72	90	45
009	0.80	2004	26400	1505	45	2400	2304	62	34	42	1940	136	45	2090	1929	111	50	44
		2010	28600	1630	44	2600	2496	68	36	40	2100	147	44	2270	2096	120	54	43
009	0.80	2012	29400	1676	44	2660	2554	69	37	39	2150	151	44	2320	2141	123	56	42
		2030	36800	2098	42	3330	3196	87	47	31	2690	189	39	2900	2676	154	70	37
010	0.22	2004	25600	1536	45	2200	2088	79	33	43	1960	147	45	1960	1790	129	41	45
		2010	27800	1668	44	2350	2230	85	35	42	2090	157	44	2100	1917	139	44	44
010	0.22	2012	28500	1710	44	2420	2297	87	36	41	2160	162	44	2160	1972	143	45	44
		2030	35600	2136	42	3110	2951	112	47	34	2770	208	38	2770	2529	183	58	38
011	0.15	2004	27400	1480	45	2720	2611	76	33	45	2490	165	45	2330	2125	135	70	45
		2010	29700	1604	45	2920	2803	82	35	42	2680	177	45	2500	2280	145	75	45
011	0.15	2012	30500	1647	45	3000	2890	84	36	40	2750	182	45	2570	2344	149	77	45
		2030	38200	2063	36	3860	3706	108	46	17	3540	234	26	3310	3019	192	99	32
012	0.07	2004	29000	1131	45	2750	2664	58	28	45	1190	93	45	1200	1090	86	24	45
		2010	31400	1225	45	2980	2897	63	30	40	1290	101	45	1310	1190	94	26	45
012	0.07	2012	32400	1264	45	3070	2975	64	31	38	1330	104	45	1340	1217	96	27	45
		2030	40500	1579	45	3840	3721	81	38	18	1660	130	45	1680	1525	121	34	45
013	0.17	2004	29000	1131	35	2750	2664	58	28	35	1190	93	35	1200	1090	86	24	35
		2010	31400	1225	35	2980	2897	63	30	32	1290	101	35	1310	1190	94	26	35
013	0.17	2012	32400	1264	35	3070	2975	64	31	30	1330	104	35	1340	1217	96	27	35
		2030	40500	1579	35	3840	3721	81	38	15	1660	130	35	1680	1525	121	34	35

ANALYST: Doris P. [Signature]
CHECKED BY: [Signature]
FILE: 199NBRFN.MDB

SP = SPEED OF VEHICLE
AUTO = AUTOMOBILE VOLUME
HTR = HEAVY TRUCK VOLUME

SECT = SECTION NUMBER
VOL = TOTAL VOLUME
MTR = MEDIUM TRUCK VOLU

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 3
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	HTR	VOL	TRKS	SP	VOL	AUTO	HTR	SP			
014	0.16	2004	30400	1642	35	3220	3123	68	29	27	2000	118	35	1800	1632	101	67	35
		2010	33000	1782	35	3490	3386	73	31	22	2170	128	35	1950	1769	109	72	35
		2012	33900	1831	35	3580	3473	75	32	20	2220	131	35	2000	1814	112	74	35
		2030	42400	2290	35	4480	4346	94	40	10	2780	164	35	2510	2276	141	93	35
US 199	0.14	2004	30400	1642	35	3220	3123	68	29	27	2000	118	35	1800	1632	101	67	35
		2010	33000	1782	35	3490	3386	73	31	22	2170	128	35	1950	1769	109	72	35
		2012	33900	1831	35	3580	3473	75	32	20	2220	131	35	2000	1814	112	74	35
		2030	42400	2290	35	4480	4346	94	40	10	2780	164	35	2510	2276	141	93	35
016	0.25	2004	6400	320	35	680	647	26	7	35	630	36	35	520	474	26	20	35
		2010	6900	345	35	740	704	28	8	35	680	39	35	570	519	29	22	35
		2012	7100	355	35	760	723	29	8	35	700	40	35	580	528	29	23	35
		2030	8900	445	32	950	904	36	10	25	880	50	30	730	665	37	28	35
US 199	0.02	2004	24100	1205	35	2540	2416	91	33	32	2320	171	35	2020	1808	139	73	35
		2010	26100	1305	34	2750	2615	99	36	27	2510	186	33	2190	1960	151	79	35
		2012	26800	1340	33	2820	2681	102	37	26	2570	190	31	2240	2004	155	81	35
		2030	33600	1680	26	3540	3367	127	46	10	3230	239	17	2810	2515	194	101	26
US 199	0.11	2004	24100	1205	35	2540	2416	91	33	32	2320	171	35	2020	1808	139	73	35
		2010	26100	1305	34	2750	2615	99	36	27	2510	186	33	2190	1960	151	79	35
		2012	26800	1340	33	2820	2681	102	37	26	2570	190	31	2240	2004	155	81	35
		2030	33600	1680	26	3540	3367	127	46	10	3230	239	17	2810	2515	194	101	26
US 199	0.25	2004	26600	2181	35	2320	2172	109	39	35	2200	214	35	1870	1614	174	82	35
		2010	28900	2370	35	2520	2359	118	43	32	2390	232	35	2030	1752	169	89	35
		2012	29600	2427	34	2580	2415	121	44	31	2450	238	34	2080	1795	193	92	35
		2030	37700	3042	28	3240	3033	152	55	17	3080	299	20	2610	2252	243	115	30
Jacksonville Highway	0.25	2004	20100	1005	35	2030	1979	45	6	35	1820	106	35	2030	1909	93	28	35
		2010	21800	1090	35	2200	2145	48	7	35	1980	115	35	2200	2068	101	31	35
		2012	22400	1120	35	2380	2321	52	7	35	2140	124	35	2380	2238	109	33	35

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy P. Schmitt
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 4
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	VOL	AUTO	MTR	HTR	SP	
020	0.25	2030	28000	32	2990	2915	66	9	22	2690	156	29	2990	2810	138	42	22
US 199 (6th Street)																	
021	0.10	2004	20700	787	2240	2171	60	9	30	1880	85	30	1680	1569	87	24	30
021	0.10	2010	22400	851	2430	2354	66	10	29	2040	92	30	1820	1700	95	25	30
021	0.10	2012	23000	874	2630	2548	71	11	26	2210	100	30	1970	1840	102	28	30
021	0.10	2030	28800	1094	3300	3198	89	13	14	2780	125	23	2470	2307	128	35	29
Tussey Lane																	
022	0.10	2004	500	6	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2010	600	7	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2012	600	7	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2030	700	8	60	60	0	0	25	40	4	25	40	35	1	4	25
Tussey Lane																	
023	0.07	2004	500	6	50	50	0	0	25	30	3	25	30	26	1	3	25
023	0.07	2010	600	8	60	60	0	0	25	40	4	25	40	35	1	4	25
023	0.07	2012	600	8	60	60	0	0	25	40	4	25	40	35	1	4	25
023	0.07	2030	700	9	80	80	0	0	25	50	5	25	50	44	1	5	25
Marion Lane																	
024	0.15	2004	500	11	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2010	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2012	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2030	700	15	60	60	0	0	25	50	5	25	50	44	1	5	25
Marion Lane																	
025	0.15	2004	500	11	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2010	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2012	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2030	700	15	60	60	0	0	25	50	5	25	50	44	1	5	25
Henderson Street																	
026	0.08	2004	500	11	50	50	0	0	25	40	4	25	40	35	1	4	25
026	0.08	2010	600	13	60	60	0	0	25	50	5	25	50	44	1	5	25
026	0.08	2012	600	13	60	60	0	0	25	50	5	25	50	44	1	5	25
026	0.08	2030	700	15	80	80	0	0	25	60	6	25	60	52	2	6	25
Ringette Street																	

ANALYST: Dorothy *Dorothy Schyberg*
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
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 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 5
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR		SP					
			VOL	TRKS	VOL	MTR	HTR	SP	VOL	TRKS		VOL	AUTO	MTR	HTR	SP
027	0.10	2004	2000	206	25	520	477	33	10	25	25	520	416	89	15	25
027	0.10	2010	2200	227	25	560	514	35	11	25	25	560	448	96	16	25
027	0.10	2012	2200	227	25	580	531	37	12	25	25	580	464	99	17	25
027	0.10	2030	2800	288	25	720	661	45	14	25	25	720	576	123	21	25
Ringuette Street																
028	0.05	2004	2000	206	25	520	482	33	5	25	25	520	416	89	15	25
028	0.05	2010	2200	227	25	560	519	35	6	25	25	560	448	96	16	25
028	0.05	2012	2200	227	25	580	537	37	6	25	25	580	464	99	17	25
028	0.05	2030	2800	288	25	720	668	45	7	25	25	720	576	123	21	25
Ringuette Street																
029	0.02	2004	2000	206	25	520	482	33	5	25	25	520	416	89	15	25
029	0.02	2010	2200	227	25	560	519	35	6	25	25	560	448	96	16	25
029	0.02	2012	2200	227	25	580	537	37	6	25	25	580	464	99	17	25
029	0.02	2030	2800	288	25	720	668	45	7	25	25	720	576	123	21	25
Henderson Street																
030	0.01	2004	500	11	25	50	50	0	0	25	25	40	35	1	4	25
030	0.01	2010	600	13	25	60	60	0	0	25	25	50	44	1	5	25
030	0.01	2012	600	13	25	60	60	0	0	25	25	50	44	1	5	25
030	0.01	2030	700	15	25	80	80	0	0	25	25	60	52	2	6	25
Tussey Lane																
031	0.01	2004	500	6	25	50	50	0	0	25	25	30	26	1	3	25
031	0.01	2010	600	8	25	60	60	0	0	25	25	40	35	1	4	25
031	0.01	2012	600	8	25	60	60	0	0	25	25	40	35	1	4	25
031	0.01	2030	700	9	25	80	80	0	0	25	25	50	44	1	5	25
Union Avenue																
032	0.25	2004	4800	3451	25	900	889	11	0	25	25	900	836	49	15	25
032	0.25	2010	5200	3739	25	980	968	12	0	25	25	980	910	53	17	25
032	0.25	2012	5300	3811	25	1060	1047	13	0	25	25	1060	985	57	18	25
032	0.25	2030	6600	4745	25	1320	1304	16	0	25	25	1320	1227	71	22	25
Union Avenue																
033	0.20	2004	3800	1949	25	500	497	3	0	25	25	500	470	24	6	25
033	0.20	2010	4100	2103	25	540	537	3	0	25	25	540	508	25	7	25
033	0.20	2012	4200	2155	25	590	587	3	0	25	25	590	554	28	8	25

ABBREVIATION: SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 6
 LOCATION: Grants Pass PRINTING DATE: Aug 15, 2006
 ALTERNATIVE: No Build-Final Revised (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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033	0.20	2030	5200	2668	25	740	736	4	0	25	740	24	25	740	695	35	10	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Ringuette Street																			034	0.10	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25	034	0.10	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25	034	0.10	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25	034	0.10	2030	700	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25	Ringuette Street																			035	0.09	2004	5400	518	25	440	424	15	1	25	270	14	25	300	279	19	2	25	035	0.09	2010	5800	557	25	480	463	16	1	25	300	15	25	330	307	21	2	25	035	0.09	2012	6000	576	25	520	502	17	1	25	320	16	25	360	334	23	3	25	035	0.09	2030	7500	720	25	660	637	22	1	25	410	21	25	450	419	28	3	25	Fairgrounds Road																			036	0.04	2004	500	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25	036	0.04	2010	600	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25	036	0.04	2012	600	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25	036	0.04	2030	800	0	25	100	100	0	0	25	10	0	25	10	10	0	0	25	Union Ave W of Fairground																			037	0.25	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25	037	0.25	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25	037	0.25	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25	037	0.25	2030	700	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25	Midway Avenue																			038	0.25	2004	500	36	25	40	36	2	2	25	30	3	25	40	33	7	0	25	038	0.25	2010	600	43	25	50	46	2	2	25	40	3	25	50	41	9	0	25	038	0.25	2012	600	43	25	50	46	2	2	25	40	3	25	50	41	9	0	25	038	0.25	2030	700	50	25	60	54	3	3	25	40	4	25	60	49	11	0	25	Midway Avenue																			039	0.25	2004	900	36	25	60	55	2	3	25	60	3	25	50	44	2	4	25	039	0.25	2010	1000	40	25	60	55	2	3	25	60	3	25	50	44	2	4	25	039	0.25	2012	1000	40	25	70	64	2	4	25	60	4	25	60	52	3	5	25	039	0.25	2030	1300	52	25	90	82	3	5	25	80	5	25	70	61	3	6	25	Demaray Street																		
034	0.10	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
034	0.10	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
034	0.10	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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035	0.09	2004	5400	518	25	440	424	15	1	25	270	14	25	300	279	19	2	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
035	0.09	2010	5800	557	25	480	463	16	1	25	300	15	25	330	307	21	2	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
035	0.09	2012	6000	576	25	520	502	17	1	25	320	16	25	360	334	23	3	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
035	0.09	2030	7500	720	25	660	637	22	1	25	410	21	25	450	419	28	3	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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036	0.04	2004	500	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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039	0.25	2030	1300	52	25	90	82	3	5	25	80	5	25	70	61	3	6	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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ANALYST: Dorothy Upton
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 7
 LOCATION: Grants Pass PRINTING DATE: Aug 15, 2006
 ALTERNATIVE: No Build-Final Revised (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR					
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR
040	0.25	2004	6400	166	35	640	612	13	15	20	35	570	537	26	7	35	35
040	0.25	2010	6900	179	35	700	669	15	16	22	35	620	584	28	8	35	35
040	0.25	2012	7100	185	35	760	727	16	17	23	35	670	631	30	9	35	35
040	0.25	2030	8900	231	35	950	908	20	22	29	35	840	791	38	11	35	35
Hubbard Road New Conn t																	
041	0.17																
041	0.17																
041	0.17																
Hubbard Road																	
042	0.25	2004	500	35	25	80	77	2	1	7	25	60	50	4	6	25	25
042	0.25	2010	600	42	25	90	87	2	1	8	25	70	58	5	7	25	25
042	0.25	2012	600	42	25	100	97	2	1	9	25	80	66	6	8	25	25
042	0.25	2030	700	49	25	120	117	2	1	10	25	90	74	7	9	25	25
Hubbard Road																	
043	0.17	2004	500	35	25	80	77	2	1	7	25	60	50	4	6	25	25
043	0.17	2010	600	42	25	90	87	2	1	8	25	70	58	5	7	25	25
043	0.17	2012	600	42	25	90	87	2	1	8	25	70	58	5	7	25	25
043	0.17	2030	600	42	25	120	117	2	1	10	25	90	74	7	9	25	25
Demaray Street																	
044	0.17	2004	6400	166	35	620	607	11	2	20	35	550	517	25	8	35	35
044	0.17	2010	6900	179	35	680	666	12	2	22	35	600	565	27	8	35	35
044	0.17	2012	7100	185	35	730	715	13	2	23	35	640	602	29	9	35	35
044	0.17	2030	8900	231	35	920	900	17	3	29	35	810	763	36	11	35	35
Demaray Street																	
045	0.53	2004	6400	166	35	620	607	11	2	20	35	550	517	25	8	35	35
045	0.53	2010	6900	179	35	680	666	12	2	22	35	610	574	27	9	35	35
045	0.53	2012	7100	185	35	730	715	13	2	23	35	650	612	29	9	35	35
045	0.53	2030	8900	231	35	920	900	17	3	29	35	820	772	37	11	35	35
Hubbard Road																	
046	0.25	2004	1600	131	25	150	147	1	2	4	25	130	119	9	2	25	25
046	0.25	2010	1800	148	25	160	156	1	3	5	25	140	127	10	3	25	25
046	0.25	2012	1800	148	25	180	176	1	3	5	25	150	136	11	3	25	25

ABBREVIATION SECT = SECTION NUMBER VOL = TOTAL VOLUME MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE AUTO = AUTOMOBILE VOLUME HTR = HEAVY TRUCK VOLUME
 ANALYST: Dorothy Upor
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 8
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR			SP					
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	AUTO	MTR	HTR						
046	0.25	2030	2200	180	25	220	214	2	4	25	170	6	25	190	173	14	3	25	
Willow Lane																			
047	0.25	2004	200	6	25	20	20	0	0	25	20	0	25	0	0	0	0	25	
047	0.25	2010	200	6	25	20	20	0	0	25	20	0	25	0	0	0	0	25	
047	0.25	2012	300	10	25	20	20	0	0	25	20	0	25	0	0	0	0	25	
047	0.25	2030	300	10	25	20	20	0	0	25	20	0	25	0	0	0	0	25	
Willow Lane																			
048	0.05	2004	3400	24	25	300	299	1	0	25	130	2	25	190	184	4	2	25	
048	0.05	2010	3700	26	25	320	319	1	0	25	140	2	25	210	204	4	2	25	
048	0.05	2012	3800	27	25	350	349	1	0	25	150	2	25	230	222	5	3	25	
048	0.05	2030	4700	33	25	430	429	1	0	25	190	3	25	280	271	6	3	25	
Demaray Street Slip Conn																			
049	0.29	2004	3500	91	35	320	320	0	0	35	170	6	35	210	200	10	0	35	
049	0.29	2010	3800	99	35	350	350	0	0	35	190	6	35	230	219	11	0	35	
049	0.29	2012	3900	101	35	380	380	0	0	35	210	7	35	250	238	12	0	35	
049	0.29	2030	4800	125	35	480	480	0	0	35	260	8	35	320	305	15	0	35	
Willow Lane																			
050	0.25	2004	2100	0	25	160	160	0	0	25	110	2	25	70	67	2	1	25	
050	0.25	2010	2200	0	25	170	170	0	0	25	110	2	25	70	67	2	1	25	
050	0.25	2012	2300	0	25	180	180	0	0	25	120	2	25	80	77	2	1	25	
050	0.25	2030	2900	0	25	220	220	0	0	25	150	2	25	90	86	3	1	25	
Dowell Road																			
051	0.25	2004	3800	346	25	460	444	12	4	25	300	28	25	330	281	28	21	25	
051	0.25	2010	4100	373	25	500	483	13	4	25	330	31	25	360	307	30	23	25	
051	0.25	2012	4300	391	25	540	521	14	5	25	350	33	25	390	332	33	25	25	
051	0.25	2030	5300	482	25	680	656	18	6	25	440	42	25	490	418	41	31	25	
Dowell Road																			
052	0.25	2004	2600	182	25	240	235	5	0	25	180	15	25	220	194	17	9	25	
052	0.25	2010	2800	196	25	260	255	5	0	25	190	17	25	240	211	19	10	25	
052	0.25	2012	2900	203	25	280	274	6	0	25	210	18	25	260	229	21	10	25	
052	0.25	2030	3600	252	25	350	343	7	0	25	260	22	25	320	282	25	13	25	
Allen Creek Boulevard																			

ABBREVIATION SECT = SECTION NUMBER
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 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *Dorothy Upton*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 9
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
053	0.25	2004	5700	291	400	382	14	4	25	330	18	25	390	351	25	14	25
053	0.25	2010	6100	311	440	420	16	4	25	370	20	25	430	386	28	16	25
053	0.25	2012	6300	321	450	430	16	4	25	370	21	25	440	395	29	16	25
053	0.25	2030	7900	403	560	535	20	5	25	470	26	25	540	485	35	20	25
Albertson's South Driveway																	
054	0.10	2004	4700	118	400	393	6	1	25	300	7	25	220	205	14	1	25
054	0.10	2010	5100	128	460	453	6	1	25	350	8	25	250	233	16	1	25
054	0.10	2012	5200	130	490	482	7	1	25	370	9	25	270	251	18	1	25
054	0.10	2030	6600	165	620	610	9	1	25	470	11	25	340	317	22	1	25
Allen Creek Boulevard																	
055	0.09	2004	10400	447	870	844	20	6	25	510	23	25	560	510	34	16	25
055	0.09	2010	11300	486	940	911	22	7	25	550	24	25	600	546	37	17	25
055	0.09	2012	11600	499	1020	990	23	7	25	600	26	25	650	591	40	19	25
055	0.09	2030	14600	628	1280	1242	29	9	25	760	33	25	820	746	50	24	25
Allen Creek Boulevard																	
056	0.09	2004	2800	126	230	226	4	0	25	210	11	25	200	181	16	3	25
056	0.09	2010	3000	135	250	246	4	0	25	230	12	25	210	190	17	3	25
056	0.09	2012	3100	139	270	265	5	0	25	250	13	25	230	207	19	4	25
056	0.09	2030	3800	171	340	334	6	0	25	310	16	25	290	262	23	5	25
Redwood Avenue Conn EB																	
057	0.04	2004	7000	308	540	522	17	1	35	540	31	35	540	502	36	2	35
057	0.04	2010	7500	330	560	541	18	1	35	560	32	35	560	520	38	2	35
057	0.04	2012	7700	339	640	619	20	1	32	640	37	32	640	594	43	3	32
057	0.04	2030	9700	427	800	772	26	2	18	800	46	18	800	743	54	3	18
Redwood Avenue Conn WI																	
058	0.25	2004	200	9	10	10	0	0	35	10	0	35	10	9	1	0	35
058	0.25	2010	200	9	10	10	0	0	35	10	0	35	10	9	1	0	35
058	0.25	2012	300	13	10	10	0	0	35	10	0	35	10	9	1	0	35
058	0.25	2030	300	13	10	10	0	0	35	10	0	35	10	9	1	0	35
Redwood Avenue Conn WI																	
059	0.25	2004	7600	372	640	627	10	3	35	480	13	35	190	174	12	4	35
059	0.25	2010	8200	402	700	686	11	3	35	530	14	35	210	193	13	4	35
059	0.25	2012	8500	417	760	745	12	3	35	570	15	35	220	201	14	5	35

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 HTR = HEAVY TRUCK VOLUME
 ANALYST: Doroth [Signature]
 CHECKED BY: [Signature]
 FILE: 199NBRFN.MDB

TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA

PROJECT: US 199 Expressway Upgrade Project PAGE: 10
 LOCATION: Grants Pass PRINTING DATE: Aug 15, 2006
 ALTERNATIVE: No Build-Final Revised (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR								
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP		
059	0.25	2030	10600	519	35	950	931	15	4	25	710	19	35	280	256	18	6	35	
Redwood Avenue Conn WI																			
060	0.10	2004	7600	372	35	640	627	10	3	35	480	13	35	190	174	12	4	35	
060	0.10	2010	8200	402	35	700	686	11	3	35	530	14	35	210	193	13	4	35	
060	0.10	2012	8500	417	35	760	745	12	3	35	570	15	35	220	201	14	5	35	
060	0.10	2030	10600	519	35	950	931	15	4	25	710	19	35	280	256	18	6	35	
Redwood Avenue Conn WI																			
061	0.10	2004	7600	365	35	1260	1230	24	6	35	1000	59	35	730	658	45	27	35	
061	0.10	2010	8200	394	35	1320	1288	25	7	35	1050	62	35	760	685	47	28	35	
061	0.10	2012	8500	408	35	1400	1366	27	7	35	1110	66	35	810	730	50	30	35	
061	0.10	2030	10600	509	35	1760	1718	33	9	21	1400	83	35	1010	910	63	37	35	
Redwood Avenue																			
062	0.11	2004	7600	365	35	1260	1230	24	6	35	1000	59	35	730	658	45	27	35	
062	0.11	2010	8200	394	35	1320	1288	25	7	35	1050	62	35	760	685	47	28	35	
062	0.11	2012	8500	408	35	1400	1366	27	7	35	1110	66	35	810	730	50	30	35	
062	0.11	2030	10600	509	35	1760	1718	33	9	21	1400	83	35	1010	910	63	37	35	
Redwood Avenue																			
063	0.10	2004	11300	441	35	1320	1300	15	5	35	630	37	35	760	712	30	18	35	
063	0.10	2010	12300	480	35	1450	1428	16	6	35	700	40	35	840	787	33	20	35	
063	0.10	2012	12600	491	35	1500	1478	16	6	35	720	42	35	870	815	34	21	35	
063	0.10	2030	15800	616	35	1870	1842	21	7	26	900	52	35	1080	1012	42	26	35	
Redwood Avenue																			
064	0.25	2004	11300	441	35	1340	1320	15	5	35	640	37	35	770	722	30	18	35	
064	0.25	2010	12300	480	35	1450	1428	16	6	35	700	40	35	840	787	33	20	35	
064	0.25	2012	12600	491	35	1500	1478	16	6	35	720	42	35	870	815	34	21	35	
064	0.25	2030	15800	616	35	1870	1842	21	7	26	900	52	35	1080	1012	42	26	35	
New Redwood Avenue In A																			
065	0.20																		
065	0.20																		
065	0.20																		
065	0.20																		
New Redwood Avenue Alt.																			

ABBREVIATION SECT = SECTION NUMBER VOL = TOTAL VOLUME MTR = MEDIUM TRUCK VOLUME SP = SPEED OF VEHICLE AUTO = AUTOMOBILE VOLUME HTR = HEAVY TRUCK VOLUME
 ANALYST: Dorothy Utton
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 11
 LOCATION: Grants Pass PRINTING DATE: Aug 15, 2006
 ALTERNATIVE: No Build-Final Revised (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR		
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	AUTO	MTR	HTR
066		0.20												
066		0.20												
066		0.20												
066		0.20												
Alt A Access Road Frontag														
067		0.45												
067		0.45												
067		0.45												
067		0.45												
N Side Access Road Straig														
068		0.10												
068		0.10												
068		0.10												
068		0.10												
Skipped														
069		0.00												
069		0.00												
069		0.00												
069		0.00												
Alt B														
070		0.00												
070		0.00												
070		0.00												
070		0.00												
Alt B Slip to Allen Creek Bl														
071		0.00												
071		0.00												
071		0.00												
071		0.00												
Allen Creek Boulevard Exte														
072		0.00												
072		0.00												
072		0.00												

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ANALYST: Dorothy J. [Signature]
 CHECKED BY: [Signature]
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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 12
 LOCATION: Grants Pass PRINTING DATE: Aug 15, 2006
 ALTERNATIVE: No Build-Final Revised (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
072	0.00																
Phase 2 Nside Frontage Rt																	
073	0.00																
073	0.00																
073	0.00																
Phase 2 Nside Frontage Rt																	
074	0.00																
074	0.00																
074	0.00																
Phase 2 Nside Frontage Rt																	
075	0.00																
075	0.00																
075	0.00																
Redwood Circle just s of ne																	
076	0.04	2004	400	0	25	40	0	0	25	10	0	0	25	10	0	0	25
076	0.04	2010	400	0	25	50	0	0	25	10	0	0	25	10	0	0	25
076	0.04	2012	500	0	25	50	0	0	25	10	0	0	25	10	0	0	25
076	0.04	2030	600	0	25	60	0	0	25	10	0	0	25	10	0	0	25
Redwood Circle North End																	
077	0.50	2004	400	0	25	40	0	0	25	10	0	0	25	10	0	0	25
077	0.50	2010	400	0	25	50	0	0	25	10	0	0	25	10	0	0	25
077	0.50	2012	500	0	25	50	0	0	25	10	0	0	25	10	0	0	25
077	0.50	2030	600	0	25	60	0	0	25	10	0	0	25	10	0	0	25
Daisy Lane South Section																	
078	0.06	2004	500	0	25	50	0	0	25	10	0	0	25	10	0	0	25
078	0.06	2010	600	0	25	60	0	0	25	10	0	0	25	10	0	0	25
078	0.06	2012	600	0	25	60	0	0	25	10	0	0	25	10	0	0	25
078	0.06	2030	700	0	25	70	0	0	25	10	0	0	25	10	0	0	25
Daisy Lane North Section																	

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 ANALYST: Dorothy Upton
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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 13
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR					
			VOL	TRKS	VOL	MTR	HTR	SP	VOL	TRKS	VOL	AUTO	MTR	HTR
079	0.50	2004	400	0	25	40	0	0	25	10	10	0	0	25
079	0.50	2010	500	0	25	50	0	0	25	10	10	0	0	25
079	0.50	2012	500	0	25	50	0	0	25	10	10	0	0	25
079	0.50	2030	600	0	25	60	0	0	25	10	10	0	0	25
Flower South Section														
080	0.10	2004	300	0	25	30	0	0	25	10	10	0	0	25
080	0.10	2010	300	0	25	40	0	0	25	10	10	0	0	25
080	0.10	2012	400	0	25	40	0	0	25	10	10	0	0	25
080	0.10	2030	400	0	25	40	0	0	25	10	10	0	0	25
Flower Middle Section														
081	0.25	2004	300	0	25	30	0	0	25	10	10	0	0	25
081	0.25	2010	300	0	25	40	0	0	25	10	10	0	0	25
081	0.25	2012	400	0	25	40	0	0	25	10	10	0	0	25
081	0.25	2030	400	0	25	40	0	0	25	10	10	0	0	25
Flower North Section														
082	0.25	2004	400	0	25	40	0	0	25	10	10	0	0	25
082	0.25	2010	500	0	25	40	0	0	25	10	10	0	0	25
082	0.25	2012	600	0	25	50	0	0	25	10	10	0	0	25
082	0.25	2030	700	0	25	60	0	0	25	10	10	0	0	25
Pansy South Section														
083	0.10	2004	400	0	25	60	0	0	25	10	10	0	0	25
083	0.10	2010	500	0	25	70	0	0	25	10	10	0	0	25
083	0.10	2012	600	0	25	70	0	0	25	10	10	0	0	25
083	0.10	2030	700	0	25	80	0	0	25	20	20	0	0	25
Pansy Middle Section														
084	0.10	2004	400	0	25	40	0	0	25	10	10	0	0	25
084	0.10	2010	400	0	25	50	0	0	25	10	10	0	0	25
084	0.10	2012	500	0	25	50	0	0	25	10	10	0	0	25
084	0.10	2030	600	0	25	60	0	0	25	10	10	0	0	25
Pansy North Section														
085	0.25	2004	400	0	25	40	0	0	25	10	10	0	0	25
085	0.25	2010	400	0	25	50	0	0	25	10	10	0	0	25
085	0.25	2012	500	0	25	50	0	0	25	10	10	0	0	25

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ANALYST: Dorothy J. [Signature]
 CHECKED BY: [Signature]
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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 14
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
085	0.25	2030	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
skipped																		
086	0.00																	
086	0.00																	
086	0.00																	
086	0.00																	
Redwood Ave just west of I																		
087	0.50	2004	11300	441	35	1340	1320	15	5	35	640	37	35	770	722	30	18	35
087	0.50	2010	12300	480	35	1450	1428	16	6	35	700	40	35	840	787	33	20	35
087	0.50	2012	12600	491	35	1500	1478	16	6	35	720	42	35	870	815	34	21	35
087	0.50	2030	15800	616	35	1870	1842	21	7	26	900	52	35	1080	1012	42	26	35
Redwood Circle South Sec																		
088	4.00	2004	500	77	25	50	48	1	1	25	30	4	25	40	35	3	2	25
088	4.00	2010	600	93	25	60	58	1	1	25	40	4	25	50	43	4	3	25
088	4.00	2012	600	93	25	60	58	1	1	25	40	4	25	50	43	4	3	25
088	4.00	2030	700	108	25	70	68	1	1	25	50	5	25	50	43	4	3	25
Redwood Ave westerly sec																		
089	0.25	2004	11300	441	35	1340	1320	15	5	35	640	37	35	770	722	30	18	35
089	0.25	2010	12300	480	35	1450	1428	16	6	35	700	40	35	840	787	33	20	35
089	0.25	2012	12600	491	35	1500	1478	16	6	35	720	42	35	870	815	34	21	35
089	0.25	2030	15800	616	35	1870	1842	21	7	26	900	52	35	1080	1012	42	26	35
New Connection Alt C																		
090	0.00																	
090	0.00																	
090	0.00																	
090	0.00																	
New Connection Alt C Not L																		
091	0.00																	
091	0.00																	
091	0.00																	
091	0.00																	

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Johnson
 CHECKED BY: *[Signature]*
 FILE: 199NBR-FN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 15
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
092	0.00																
092	0.00																
092	0.00																
Alt C	0.00																
093	0.00																
093	0.00																
093	0.00																
093	0.00																
Alt C	0.00																
094	0.00																
094	0.00																
094	0.00																
094	0.00																
Alt A & C	0.00																
095	0.00																
095	0.00																
095	0.00																
095	0.00																
Alt C	0.00																
096	0.00																
096	0.00																
096	0.00																
096	0.00																
Alt C	0.00																
097	0.00																
097	0.00																
097	0.00																
097	0.00																
Alt C	0.00	2004															
098	0.00	2010															
098	0.00	2012															

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *Dorothy Upton*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 16
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
098	0.00	2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Up *[Signature]*
 CHECKED BY: *[Signature]*
 FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 1
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECTION	<u>ERROR MESSAGES</u>
001	NONE
002	NONE
003	NONE
004	NONE
005	NONE
006	NONE
007	NONE
008	NONE
009	2030 PHV exceeds LOS C Volume by 18%
010	NONE
011	2030 PHV exceeds LOS C Volume by 37%
012	2030 PHV exceeds LOS C Volume by 37%
013	2030 PHV exceeds LOS C Volume by 37%
014	2004 PHV exceeds LOS C Volume by 14% 2010 PHV exceeds LOS C Volume by 24% 2012 PHV exceeds LOS C Volume by 27% 2030 PHV exceeds LOS C Volume by 60%
015	2004 PHV exceeds LOS C Volume by 14% 2010 PHV exceeds LOS C Volume by 24% 2012 PHV exceeds LOS C Volume by 27% 2030 PHV exceeds LOS C Volume by 60%
016	2030 PHV exceeds LOS C Volume by 18%
017	2010 PHV exceeds LOS C Volume by 14% 2012 PHV exceeds LOS C Volume by 17% 2030 PHV exceeds LOS C Volume by 47%
018	2010 PHV exceeds LOS C Volume by 14% 2012 PHV exceeds LOS C Volume by 17% 2030 PHV exceeds LOS C Volume by 47%
019	2030 PHV exceeds LOS C Volume by 35%
020	2030 PHV exceeds LOS C Volume by 24%
021	2030 PHV exceeds LOS C Volume by 37%
022	NONE
023	NONE
024	NONE
025	NONE
026	NONE
027	NONE

FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 2
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECTION	ERROR MESSAGES
028	NONE
029	NONE
030	NONE
031	NONE
032	NONE
033	NONE
034	NONE
035	NONE
036	NONE
037	NONE
038	NONE
039	NONE
040	NONE
041	NONE
042	NONE
043	NONE
044	NONE
045	NONE
046	NONE
047	NONE
048	NONE
049	NONE
050	NONE
051	NONE
052	NONE
053	NONE
054	NONE
055	NONE
056	NONE
057	2030 PHV exceeds LOS C Volume by 33%
058	NONE
059	2030 PHV exceeds LOS C Volume by 18%
060	2030 PHV exceeds LOS C Volume by 18%
061	2030 PHV exceeds LOS C Volume by 25%

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 3
 PRINTING DATE: Aug 15, 2006
 UNIT: English

SECTION	<u>ERROR MESSAGES</u>
062	2030 PHV exceeds LOS C Volume by 25%
063	2030 PHV exceeds LOS C Volume by 16%
064	2030 PHV exceeds LOS C Volume by 16%
065	NONE
066	NONE
067	NONE
068	NONE
069	NONE
071	NONE
072	NONE
073	NONE
074	NONE
075	NONE
070	NONE
076	NONE
077	NONE
078	NONE
079	NONE
080	NONE
081	NONE
082	NONE
083	NONE
084	NONE
085	NONE
086	NONE
087	2030 PHV exceeds LOS C Volume by 16%
088	NONE
089	2030 PHV exceeds LOS C Volume by 16%
090	NONE
091	NONE
092	NONE
093	NONE
094	NONE
095	NONE

FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
LOCATION: Grants Pass
ALTERNATIVE: No Build-Final Revised (Final)

PAGE: 4
PRINTING DATE: Aug 15, 2006
UNIT: English

SECTION	<u>ERROR MESSAGES</u>
096	NONE
097	NONE
098	NONE

FILE: 199NBRFN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 1
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR								
			VOL	TRKS	VOL	TRKS	VOL	TRKS	VOL	TRKS							
US 199	001	0.25	14000	1008	1250	1211	19	20	55	900	74	55	820	744	41	35	55
	001	0.25	15200	1094	1360	1318	20	22	55	980	81	55	890	807	45	38	55
	001	0.25	15600	1123	1390	1347	21	22	55	1000	83	55	910	825	46	39	55
	001	0.25	16600	1195	1740	1686	26	28	55	1250	104	55	1140	1034	57	49	55
US 199	002	0.56	14800	2782	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	002	0.56	16000	3008	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	002	0.56	16400	3083	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	002	0.56	20500	3854	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	003	0.01	14800	1036	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	003	0.01	16000	1120	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	003	0.01	16400	1148	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	003	0.01	20500	1435	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	004	0.48	14800	1036	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	004	0.48	15900	1113	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	004	0.48	16400	1148	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	004	0.48	20500	1435	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	005	0.32	14700	1029	1330	1289	20	21	50	970	79	50	900	816	48	36	50
	005	0.32	15900	1113	1440	1395	22	23	50	1080	88	50	970	880	51	39	50
	005	0.32	16400	1148	1480	1434	22	24	50	1080	88	50	1000	907	53	40	50
	005	0.32	20500	1435	1850	1792	28	30	50	1350	110	50	1250	1134	66	50	50
US 199	006	0.51	14700	862	1380	1320	32	28	50	1140	85	50	1170	1073	44	53	50
	006	0.51	15900	954	1490	1426	34	30	50	1230	92	50	1270	1165	48	57	50
	006	0.51	16400	984	1530	1464	35	31	50	1260	94	50	1300	1193	49	58	50
	006	0.51	20500	1230	1910	1828	44	38	50	1570	118	50	1620	1485	62	73	50
US 199	007	0.27	19200	988	1800	1730	38	32	45	1020	80	45	1130	1032	43	55	45
	007	0.27	20800	1082	1960	1884	41	35	45	1110	87	45	1230	1123	47	60	45

ABBREVIATION: SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *[Signature]*
 FILE: 18951FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Ait A Bulb Out (Final)

PAGE: 2
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR		SP				
			VOL	TRKS	VOL	MTR	HTR	SP	VOL	MTR		HTR	SP		
007	0.27	2012	21400	1113	45	2010	1932	42	36	45	1260	1150	48	62	45
	0.27	2030	26700	1388	45	2510	2412	53	45	43	1580	1443	60	77	45
US 199	0.23	2004	24200	1210	45	2330	2258	44	28	45	1390	1290	44	56	45
	0.23	2010	26200	1310	45	2530	2452	48	30	43	1510	1402	48	60	45
	0.23	2012	26900	1345	45	2590	2510	49	31	43	1540	1429	49	62	45
	0.23	2030	33600	1680	45	3240	3139	62	39	38	1930	1791	62	77	45
US 199	0.80	2004	26400	1716	45	2400	2311	60	29	45	2090	1952	67	71	45
	0.80	2010	28600	1859	45	2600	2504	65	31	45	2260	2111	72	77	45
	0.80	2012	29400	1911	45	2660	2561	67	32	45	2320	2167	74	79	45
	0.80	2030	36800	2392	45	3330	3207	83	40	31	2900	2708	93	99	42
US 199	0.22	2004	27400	1754	45	2720	2641	52	27	45	1280	1152	83	45	45
	0.22	2010	29700	1901	45	2920	2836	55	29	45	1370	1233	89	48	45
	0.22	2012	30500	1952	45	3000	2913	57	30	45	1410	1269	92	49	45
	0.22	2030	38200	2445	45	3860	3748	73	39	40	1810	1629	118	63	45
US 199	0.15	2004	27400	1754	45	2720	2641	52	27	45	1260	1145	90	45	45
	0.15	2010	29700	1901	45	2920	2836	55	29	45	1370	1236	96	48	45
	0.15	2012	30500	1952	45	3000	2913	57	30	45	1410	1262	99	49	45
	0.15	2030	38200	2445	45	3860	3748	73	39	40	1810	1620	127	63	45
US 199	0.07	2004	29000	1798	45	2750	2664	58	28	45	1200	1066	86	48	45
	0.07	2010	31400	1947	45	2980	2887	63	30	45	1310	1164	94	52	45
	0.07	2012	32400	2009	45	3070	2975	64	31	45	1340	1190	96	54	45
	0.07	2030	40500	2511	45	3840	3721	81	38	40	1680	1492	121	67	45
US 199	0.17	2004	29000	1798	35	2750	2664	58	28	35	1200	1066	86	48	35
	0.17	2010	31400	1947	35	2980	2887	63	30	35	1310	1164	94	52	35
	0.17	2012	32400	2009	35	3070	2975	64	31	35	1340	1190	96	54	35
	0.17	2030	40500	2511	35	3840	3721	81	38	35	1680	1492	121	67	35

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy [Signature]
 CHECKED BY: [Signature]
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 3
 LOCATION: Grants Pass PRINTING DATE: Aug 16, 2006
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR		SP
			VOL	TRKS	VOL	MTR	HTR	SP	VOL	AUTO	
014	0.16	2004	30400	1642	35	3220	3123	68	29	35	35
014	0.16	2010	33000	1782	35	3490	3386	73	31	35	35
014	0.16	2012	33900	1831	35	3580	3473	75	32	35	35
014	0.16	2030	42400	2290	35	4480	4346	94	40	22	35
US 199											
015	0.14	2004	30400	1642	35	3220	3123	68	29	35	35
015	0.14	2010	33000	1782	35	3490	3386	73	31	35	35
015	0.14	2012	33900	1831	35	3580	3473	75	32	35	35
015	0.14	2030	42400	2290	35	4480	4346	94	40	22	35
US 199											
016	0.25	2004	6400	320	35	680	647	26	7	35	35
016	0.25	2010	6900	345	35	740	704	28	8	35	35
016	0.25	2012	7100	355	35	760	723	29	8	35	35
016	0.25	2030	8900	445	32	950	904	36	10	25	30
US 199											
017	0.02	2004	24100	1205	35	2540	2416	91	33	35	35
017	0.02	2010	26100	1305	35	2750	2615	99	36	35	35
017	0.02	2012	26800	1340	35	2820	2681	102	37	35	35
017	0.02	2030	33600	1680	33	3540	3367	127	46	26	31
US 199											
018	0.11	2004	24100	1205	35	2540	2416	91	33	35	35
018	0.11	2010	26100	1305	35	2750	2615	99	36	35	35
018	0.11	2012	26800	1340	35	2820	2681	102	37	35	35
018	0.11	2030	33600	1680	33	3540	3367	127	46	26	31
US 199											
019	0.25	2004	26600	2181	35	2320	2172	109	39	35	35
019	0.25	2010	28900	2370	35	2520	2359	118	43	32	35
019	0.25	2012	29600	2427	34	2580	2415	121	44	31	35
019	0.25	2030	37100	3042	28	3240	3033	152	55	17	20
Jacksonville Highway											
020	0.25	2004	20100	1467	35	2030	1979	45	6	35	35
020	0.25	2010	21800	1591	35	2200	2145	48	7	35	35
020	0.25	2012	22400	1635	35	2380	2321	52	7	35	35

ABBREVIATION SECT = SECTION NUMBER
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 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy V. [Signature]
 CHECKED BY: [Signature]
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 4
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR									
			VOL	TRKS	VOL	MTR	HTR	SP	VOL	TRKS	VOL	MTR	HTR	SP				
020	0.25	2030	28000	2044	32	2990	2915	66	9	22	2690	156	29	2990	2810	138	42	22
US 199 (6th Street)																		
021	0.10	2004	20700	787	30	2240	2171	60	9	30	1880	85	30	1680	1569	87	24	30
021	0.10	2010	22400	851	30	2430	2354	66	10	29	2040	92	30	1820	1700	95	25	30
021	0.10	2012	23000	874	30	2630	2548	71	11	26	2210	100	30	1970	1840	102	28	30
021	0.10	2030	28800	1094	26	3300	3198	89	13	14	2780	125	23	2470	2307	128	35	29
Tussey Lane																		
022	0.10	2004	500	6	25	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2010	600	7	25	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2012	600	7	25	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2030	700	8	25	60	60	0	0	25	40	4	25	40	35	1	4	25
Tussey Lane																		
023	0.07	2004	500	6	25	50	50	0	0	25	50	2	25	50	45	0	5	25
023	0.07	2010	600	8	25	60	60	0	0	25	60	3	25	60	54	0	6	25
023	0.07	2012	600	8	25	60	60	0	0	25	60	3	25	60	54	0	6	25
023	0.07	2030	700	9	25	80	80	0	0	25	80	4	25	80	72	0	8	25
Marion Lane																		
024	0.15	2004	500	11	25	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2010	600	13	25	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2012	600	13	25	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2030	700	15	25	60	60	0	0	25	50	5	25	50	44	1	5	25
Marion Lane																		
025	0.15	2004	500	11	25	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2010	600	13	25	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2012	600	13	25	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2030	700	15	25	60	60	0	0	25	50	5	25	50	44	1	5	25
Henderson Street																		
026	0.08	2004	500	11	25	50	50	0	0	25	40	4	25	40	35	1	4	25
026	0.08	2010	600	13	25	60	60	0	0	25	50	5	25	50	44	1	5	25
026	0.08	2012	600	13	25	60	60	0	0	25	50	5	25	50	44	1	5	25
026	0.08	2030	700	15	25	80	80	0	0	25	60	6	25	60	52	2	6	25
Ringuette Street																		

ABBREVIATION SECT = SECTION NUMBER
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 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy [Signature]
 CHECKED BY: [Signature]
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 5
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR					
			VOL	TRKS	VOL	MTR	VOL	TRKS	VOL	AUTO	MTR	HTR	SP	
027	0.10	2004	2000	206	520	482	33	470	55	520	416	89	15	25
027	0.10	2010	2200	227	560	519	35	510	59	560	448	96	16	25
027	0.10	2012	2200	227	580	537	37	520	61	580	464	99	17	25
027	0.10	2030	2800	288	720	668	45	650	76	720	576	123	21	25
Ringuette Street														
028	0.05	2004	2000	206	520	482	33	470	55	520	416	89	15	25
028	0.05	2010	2200	227	560	519	35	510	59	560	448	96	16	25
028	0.05	2012	2200	227	580	537	37	520	61	580	464	99	17	25
028	0.05	2030	2800	288	720	668	45	650	76	720	576	123	21	25
Ringuette Street														
029	0.02	2004	2000	206	520	482	33	470	55	520	416	89	15	25
029	0.02	2010	2200	227	560	519	35	510	59	560	448	96	16	25
029	0.02	2012	2200	227	580	537	37	520	61	580	464	99	17	25
029	0.02	2030	2800	288	720	668	45	650	76	720	576	123	21	25
Henderson Street														
030	0.01	2004	500	11	50	50	0	40	4	40	35	1	4	25
030	0.01	2040	600	13	60	60	0	50	5	50	44	1	5	25
030	0.01	2012	600	13	60	60	0	50	5	50	44	1	5	25
030	0.01	2030	700	15	80	80	0	60	6	60	52	2	6	25
Tussey Lane-														
031	0.01	2004	500	6	50	50	0	40	1	50	48	1	1	25
031	0.01	2010	600	8	60	60	0	50	2	50	48	1	1	25
031	0.01	2012	600	8	60	60	0	50	2	50	48	1	1	25
031	0.01	2030	700	9	80	80	0	70	2	70	68	1	1	25
Union Avenue														
032	0.25	2004	4800	3451	900	889	11	900	38	900	836	49	15	25
032	0.25	2010	5200	3739	980	968	12	980	41	980	910	53	17	25
032	0.25	2012	5300	3811	1060	1047	13	1060	44	1060	985	57	18	25
032	0.25	2030	6600	4745	1320	1304	16	1320	55	1320	1227	71	22	25
Union Avenue														
033	0.20	2004	3800	1949	500	497	3	500	16	500	470	24	6	25
033	0.20	2010	4100	2103	540	537	3	540	17	540	508	25	7	25
033	0.20	2012	4200	2155	590	587	3	590	19	590	554	28	8	25

ABBREVIATION SECT = SECTION NUMBER
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SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy J. [Signature]
 CHECKED BY: [Signature]
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
LOCATION: Grants Pass
ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 6
PRINTING DATE: Aug 16, 2006
UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR						
			VOL	TRKS	VOL	MTR	HTR	SP	VOL	AUTO	MTR	HTR	SP		
033	0.20	2030	5200	2668	25	740	736	4	0	25	740	695	35	10	25
Ringuette Street															
034	0.10	2004	500	0	25	50	50	0	0	25	10	10	0	0	25
034	0.10	2010	600	0	25	60	60	0	0	25	10	10	0	0	25
034	0.10	2012	600	0	25	60	60	0	0	25	10	10	0	0	25
034	0.10	2030	700	0	25	80	80	0	0	25	10	10	0	0	25
Ringuette Street															
035	0.09	2004	5400	518	25	440	424	15	1	25	270	279	19	2	25
035	0.09	2010	5800	557	25	480	463	16	1	25	300	307	21	2	25
035	0.09	2012	6000	576	25	520	502	17	1	25	320	334	23	3	25
035	0.09	2030	7500	720	25	660	637	22	1	25	410	419	28	3	25
Fairgrounds Road															
036	0.04	2004	500	0	25	70	70	0	0	25	10	10	0	0	25
036	0.04	2010	600	0	25	80	80	0	0	25	10	10	0	0	25
036	0.04	2012	600	0	25	80	80	0	0	25	10	10	0	0	25
036	0.04	2030	800	0	25	100	100	0	0	25	10	10	0	0	25
Union Ave W of Fairground															
037	0.08	2004	500	0	25	50	50	0	0	25	10	10	0	0	25
037	0.08	2010	600	0	25	60	60	0	0	25	10	10	0	0	25
037	0.08	2012	600	0	25	60	60	0	0	25	10	10	0	0	25
037	0.08	2030	700	0	25	70	70	0	0	25	10	10	0	0	25
Midway Avenue															
038	0.25	2004	500	36	25	40	36	2	2	25	30	33	7	0	25
038	0.25	2010	600	43	25	50	46	2	2	25	40	41	9	0	25
038	0.25	2012	600	43	25	50	46	2	2	25	40	41	9	0	25
038	0.25	2030	700	50	25	60	54	3	3	25	40	49	11	0	25
Midway Avenue															
039	0.25	2004	900	36	25	60	55	2	3	25	60	44	2	4	25
039	0.25	2010	1000	40	25	60	55	2	3	25	60	44	2	4	25
039	0.25	2012	1000	40	25	70	64	2	4	25	60	52	3	5	25
039	0.25	2030	1300	52	25	90	82	3	5	25	70	61	3	6	25
Demaray Street															

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ANALYST: Dorothy Upstey
CHECKED BY: *Dorothy Upstey*
FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 7
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
040	0.25	2004	6400	166	640	612	13	15	35	640	20	35	570	537	26	7	35
040	0.25	2010	6900	179	700	669	15	16	35	700	22	35	620	584	28	8	35
040	0.25	2012	7100	185	760	727	16	17	35	760	23	35	670	631	30	9	35
040	0.25	2030	8900	231	950	908	20	22	35	950	29	35	840	791	38	11	35
Hubbard Road New Conn																	
041	0.17	2004	500	35	80	77	2	1	25	80	7	25	60	50	4	6	25
041	0.17	2010	600	42	90	87	2	1	25	90	8	25	70	58	5	7	25
041	0.17	2012	600	42	90	87	2	1	25	90	8	25	70	58	5	7	25
041	0.17	2030	600	42	120	117	2	1	25	120	10	25	90	74	7	9	25
Hubbard Road																	
042	0.25	2004	500	35	80	77	2	1	25	80	7	25	60	50	4	6	25
042	0.25	2010	600	42	90	87	2	1	25	90	8	25	70	58	5	7	25
042	0.25	2012	600	42	100	97	2	1	25	100	9	25	80	66	6	8	25
042	0.25	2030	700	49	120	117	2	1	25	120	10	25	90	74	7	9	25
Hubbard Road - Removed																	
043	0.00																
043	0.00																
043	0.00																
043	0.00																
Demaray Street																	
044	0.17	2004	6400	166	620	607	11	2	35	620	20	35	550	517	25	8	35
044	0.17	2010	6900	179	680	666	12	2	35	680	22	35	610	574	27	9	35
044	0.17	2012	7100	185	730	715	13	2	35	730	23	35	650	612	29	9	35
044	0.17	2030	8900	231	920	900	17	3	35	920	29	35	820	772	37	11	35
Demaray Street																	
045	0.53	2004	6400	166	620	607	11	2	35	620	20	35	550	517	25	8	35
045	0.53	2010	6900	179	680	666	12	2	35	680	22	35	610	574	27	9	35
045	0.53	2012	7100	185	730	715	13	2	35	730	23	35	650	612	29	9	35
045	0.53	2030	8900	231	920	900	17	3	35	920	29	35	820	772	37	11	35
Hubbard Road																	
046	0.25	2004	1600	131	150	147	1	2	25	120	4	25	130	119	9	2	25
046	0.25	2010	1800	148	160	156	1	3	25	130	5	25	140	127	10	3	25
046	0.25	2012	1800	148	180	176	1	3	25	140	5	25	150	136	11	3	25

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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 8
 LOCATION: Grants Pass PRINTING DATE: Aug 16, 2006
 ALTERNATIVE: Build 1 - Alt A Bulb Out (Final) UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR								
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP		
046	0.25	2030	2200	180	25	220	214	2	4	25	170	6	25	190	173	14	3	25	
Willow Lane																			
047	0.25	2004	200	6	25	20	20	0	0	25	20	0	25	10	10	0	0	25	
047	0.25	2010	200	6	25	20	20	0	0	25	20	0	25	10	10	0	0	25	
047	0.25	2012	300	10	25	20	20	0	0	25	20	0	25	10	10	0	0	25	
047	0.25	2030	300	10	25	20	20	0	0	25	20	0	25	10	10	0	0	25	
Willow Lane																			
048	0.05	2004	3400	24	25	300	299	1	0	25	130	2	25	190	184	4	2	25	
048	0.05	2010	3700	26	25	320	319	1	0	25	140	2	25	210	204	4	2	25	
048	0.05	2012	3800	27	25	350	349	1	0	25	150	2	25	230	222	5	3	25	
048	0.05	2030	4700	33	25	430	429	1	0	25	190	3	25	280	271	6	3	25	
Demaray Street Slip Conn																			
049	0.29	2004	3500	91	35	320	320	0	0	35	170	6	35	210	200	10	0	35	
049	0.29	2010	3800	99	35	350	350	0	0	35	190	6	35	230	219	11	0	35	
049	0.29	2012	3900	101	35	380	380	0	0	35	210	7	35	250	238	12	0	35	
049	0.29	2030	4800	125	35	480	480	0	0	35	260	8	35	320	305	15	0	35	
Willow Lane																			
050	0.25	2004	2100	0	25	160	160	0	0	25	110	2	25	70	67	2	1	25	
050	0.25	2010	2200	0	25	170	170	0	0	25	110	2	25	70	67	2	1	25	
050	0.25	2012	2300	0	25	180	180	0	0	25	120	2	25	80	77	2	1	25	
050	0.25	2030	2900	0	25	220	220	0	0	25	150	2	25	90	86	3	1	25	
Dowell Road																			
051	0.25	2004	3800	346	25	460	444	12	4	25	300	28	25	330	281	28	21	25	
051	0.25	2010	4100	373	25	500	483	13	4	25	330	31	25	360	307	30	23	25	
051	0.25	2012	4300	391	25	540	521	14	5	25	350	33	25	390	332	33	25	25	
051	0.25	2030	5300	482	25	680	656	18	6	25	440	42	25	490	418	41	31	25	
Dowell Road																			
052	0.25	2004	2600	182	25	240	235	5	0	25	180	15	25	220	194	17	9	25	
052	0.25	2010	2800	196	25	260	255	5	0	25	190	17	25	240	211	19	10	25	
052	0.25	2012	2900	203	25	280	274	6	0	25	210	18	25	260	229	21	10	25	
052	0.25	2030	3600	252	25	350	343	7	0	25	260	22	25	320	282	25	13	25	
Allen Creek Boulevard																			

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 ANALYST: Dorothy Upton
 CHECKED BY: *[Signature]*
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 9
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR		PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	VOL	TRKS	VOL	AUTO	MTR	HTR	SP	
053	0.25	2004	5700	291	400	382	14	4	25	330	18	390	351	25	14	25
053	0.25	2010	6100	311	440	420	16	4	25	370	20	430	386	28	16	25
053	0.25	2012	6300	321	450	430	16	4	25	370	21	440	395	29	16	25
053	0.25	2030	7900	403	560	535	20	5	25	470	26	540	485	35	20	25
Albertson's South Driveway)																
054	0.10	2004	4700	118	400	393	6	1	25	300	7	220	205	14	1	25
054	0.10	2010	5100	128	460	453	6	1	25	350	8	250	233	16	1	25
054	0.10	2012	5200	130	490	482	7	1	25	370	9	270	251	18	1	25
054	0.10	2030	6600	165	620	610	9	1	25	470	11	340	317	22	1	25
Allen Creek Boulevard																
055	0.09	2004	10400	447	870	844	20	6	25	510	23	560	510	34	16	25
055	0.09	2010	11300	486	940	911	22	7	25	550	24	600	546	37	17	25
055	0.09	2012	11600	499	1020	990	23	7	25	600	26	650	591	40	19	25
055	0.09	2030	14600	628	1280	1242	29	9	25	760	33	820	746	50	24	25
Allen Creek Boulevard																
056	0.09	2004	12900	310	1040	1015	20	5	25	500	11	580	555	20	5	25
056	0.09	2010	14000	336	1130	1103	21	6	25	540	12	630	602	22	6	25
056	0.09	2012	14400	346	1160	1132	22	6	25	550	12	640	612	22	6	25
056	0.09	2030	18000	432	1450	1415	28	7	24	690	15	810	775	28	7	25
Redwood Avenue Conn EE																
057	0.00															
057	0.00															
057	0.00															
057	0.00															
Redwood Avenue Conn WI																
058	0.00															
058	0.00															
058	0.00															
058	0.00															
Redwood Avenue Conn WI																
059	0.25	2004	7600	372	640	627	10	3	35	480	13	190	174	12	4	35
059	0.25	2010	8200	402	700	686	11	3	35	530	14	210	193	13	4	35
059	0.25	2012	8500	417	760	745	12	3	35	570	15	220	201	14	5	35

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ANALYST: Dorothy *[Signature]*
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**TRANSPORTATION PLANNING ANALYSIS UNIT
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PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1 - Alt A Bulb Out (Final)

PAGE: 10
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 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
059	0.25	2030	10600	35	950	931	15	4	25	710	19	35	280	256	18	6	35
Redwood Avenue Conn WI																	
060	0.10	2004	7600	35	640	627	10	3	35	480	13	35	190	174	12	4	35
060	0.10	2010	8200	35	700	686	11	3	35	530	14	35	210	193	13	4	35
060	0.10	2012	8500	35	760	745	12	3	35	570	15	35	220	201	14	5	35
060	0.10	2030	10600	35	950	931	15	4	25	710	19	35	280	256	18	6	35
Redwood Avenue Conn WI																	
061	0.10	2004	7600	35	640	627	10	3	35	480	13	35	190	174	12	4	35
061	0.10	2010	8200	35	700	686	11	3	35	530	14	35	210	193	13	4	35
061	0.10	2012	8500	35	760	745	12	3	35	570	15	35	220	201	14	5	35
061	0.10	2030	10600	35	950	931	15	4	25	710	19	35	280	256	18	6	35
Redwood Ave Access W of																	
062	0.20	2004	500	25	50	48	1	1	25	20	0	25	40	38	1	1	25
062	0.20	2010	600	25	60	58	1	1	25	30	0	25	40	38	1	1	25
062	0.20	2012	600	25	60	58	1	1	25	30	0	25	40	38	1	1	25
062	0.20	2030	800	25	60	58	1	1	25	30	0	25	40	38	1	1	25
Redwood Avenue Access I																	
063	0.10	2004	500	255	50	45	4	1	255	20	5	255	20	8	8	4	255
063	0.10	2010	600	255	60	54	5	1	255	20	6	255	30	12	12	6	255
063	0.10	2012	600	255	60	54	5	1	255	20	6	255	30	12	12	6	255
063	0.10	2030	700	255	70	63	6	1	255	30	7	255	30	12	12	6	255
Redwood Avenue-Access I																	
064	0.00	2004	600	35	60	54	5	1	35	20	6	35	30	12	12	6	35
064	0.00	2010	700	35	70	63	6	1	35	30	7	35	30	12	12	6	35
064	0.00	2012	700	35	70	63	6	1	35	30	7	35	30	12	12	6	35
064	0.00	2030	800	35	80	73	6	1	35	30	8	35	30	12	12	6	35
New Redwood Avenue Cor																	
065	0.11	2004	11300	441	1340	1320	15	5	35	640	37	35	770	722	30	18	35
065	0.11	2010	12300	480	1450	1428	16	6	35	700	40	35	840	787	33	20	35
065	0.11	2012	12600	491	1500	1478	16	6	35	720	42	35	870	815	34	21	35
065	0.11	2030	15800	616	1870	1842	21	7	28	900	52	35	1080	1012	42	26	35
New Redwood Avenue Cor																	

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ANALYST: Dorothy Upton
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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 11
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	
066	0.21	2004	7600	372	35	640	627	10	3	34	480	13	35	190	174	12	4	35
066	0.21	2010	8200	402	35	700	686	11	3	33	530	14	35	210	193	13	4	35
066	0.21	2012	8500	417	35	760	745	12	3	32	570	15	35	220	201	14	5	35
066	0.21	2030	10600	519	34	950	931	15	4	28	710	19	33	280	256	18	6	35
Frontage Road Connection																		
067	0.33	2004	1000	369	30	100	88	9	3	30	80	5	30	80	68	3	9	30
067	0.33	2010	1100	406	30	120	106	11	3	30	100	6	30	100	84	4	12	30
067	0.33	2012	1100	406	30	130	115	12	3	30	100	6	30	110	93	4	13	30
067	0.33	2030	1400	517	30	150	132	14	4	30	120	7	30	120	101	5	14	30
Frontage Road Straight Se-																		
068	0.15	2004	300	75	35	80	78	1	1	35	50	2	35	60	58	1	1	35
068	0.15	2010	300	75	35	90	88	1	1	35	60	2	35	70	68	1	1	35
068	0.15	2012	300	75	35	100	98	1	1	35	70	2	35	80	78	1	1	35
068	0.15	2030	400	100	35	120	117	1	2	35	80	3	35	90	87	1	2	35
Frontage Conn to Old Red.																		
069	0.00																	
069	0.00																	
069	0.00																	
069	0.00																	
Alt B																		
070	0.00																	
070	0.00																	
070	0.00																	
070	0.00																	
Alt B																		
071	0.00																	
071	0.00																	
071	0.00																	
071	0.00																	
Allen Creek Boulevard Exit																		
072	0.09	2004	12900	310	35	1040	1015	20	5	35	500	11	35	580	555	20	5	35
072	0.09	2010	14000	336	35	1130	1103	21	6	35	540	12	35	630	602	22	6	35
072	0.09	2012	14300	343	35	1160	1132	22	6	35	550	12	35	640	612	22	6	35

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUN

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Updegraff
 CHECKED BY: *[Signature]*
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1 - Alt A Bulb Out (Final)

PAGE: 12
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
072	0.09	2030	18000	432	35	1450	1415	28	7	24	690	15	35	810	775	28	7	35
Frontage Road - Phase 2																		
073	0.00																	
073	0.00																	
073	0.00																	
073	0.00																	
Frontage Road - Phase 2																		
074	0.00																	
074	0.00																	
074	0.00																	
074	0.00																	
Frontage Road - Phase 2																		
075	0.00																	
075	0.00																	
075	0.00																	
075	0.00																	
Redwood Circle Middle Sect																		
076	0.10	2004	400	0	25	40	40	0	0	25	30	0	25	40	40	0	0	25
076	0.10	2010	400	0	25	50	49	1	0	25	40	0	25	50	48	1	1	25
076	0.10	2012	500	1	25	50	49	1	0	25	40	0	25	50	48	1	1	25
076	0.10	2030	600	1	25	60	59	1	0	25	40	0	25	60	58	1	1	25
Redwood Circle North Sect																		
077	0.50	2004	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
077	0.50	2010	400	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
077	0.50	2012	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
077	0.50	2030	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
Daisy South Section																		
078	0.06	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
078	0.06	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
078	0.06	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
078	0.06	2030	700	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25
Daisy North Section																		

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *[Signature]*
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 13
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	
079	0.50	2004	400	0	25	40	0	0	25	10	0	25	10	10	0	0	25	
079	0.50	2010	500	0	25	50	0	0	25	10	0	25	10	10	0	0	25	
079	0.50	2012	500	0	25	50	0	0	25	10	0	25	10	10	0	0	25	
079	0.50	2030	600	0	25	60	0	0	25	10	0	25	10	10	0	0	25	
Alt C																		
080	0.00																	
080	0.00																	
080	0.00																	
Flower Middle Section																		
081	0.25	2004	300	0	25	30	0	0	25	10	0	25	10	10	0	0	25	
081	0.25	2010	300	0	25	40	0	0	25	10	0	25	10	10	0	0	25	
081	0.25	2012	400	0	25	40	0	0	25	10	0	25	10	10	0	0	25	
081	0.25	2030	400	0	25	40	0	0	25	10	0	25	10	10	0	0	25	
Alt C																		
082	0.00																	
082	0.00																	
082	0.00																	
Pansy South of Slip																		
083	0.10	2004	400	0	25	60	0	0	25	0	0	25	0	0	0	0	25	
083	0.10	2010	500	0	25	70	0	0	25	0	0	25	0	0	0	0	25	
083	0.10	2012	600	0	25	70	0	0	25	0	0	25	0	0	0	0	25	
083	0.10	2030	700	0	25	80	0	0	25	0	0	25	0	0	0	0	25	
Pansy Middle Section																		
084	0.10	2004	400	12	25	60	57	2	1	25	50	1	25	50	46	3	1	25
084	0.10	2010	500	15	25	70	66	3	1	25	60	1	25	60	56	3	1	25
084	0.10	2012	600	18	25	70	66	3	1	25	60	1	25	60	56	3	1	25
084	0.10	2030	700	21	25	80	75	3	2	25	70	1	25	70	65	4	1	25
Pansy North Section																		
085	0.25	2004	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
085	0.25	2010	400	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
085	0.25	2012	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Lighton
 CHECKED BY: *[Signature]*
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 14
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR								
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP		
085	0.25	2030	600	0	60	60	0	0	0	25	10	10	10	0	0	25			
Skipped																			
086	0.00																		
086	0.00																		
086	0.00																		
086	0.00																		
Redwood Ave Old Align at																			
087	0.04																		
087	0.04																		
087	0.04																		
087	0.04																		
Redwood Circle Original at																			
088	0.05																		
088	0.05																		
088	0.05																		
088	0.05																		
Redwood Ave westerly																			
089	0.50	2004	11300	441	1340	1320	15	5	35	35	640	37	35	770	722	30	18	35	
089	0.50	2010	12300	480	1450	1428	16	6	35	35	700	40	35	840	787	33	20	35	
089	0.50	2012	12600	491	1500	1478	16	6	35	35	720	42	35	870	815	34	21	35	
089	0.50	2030	15800	616	1870	1842	21	7	26	26	900	52	35	1080	1012	42	26	35	
Alt C																			
090	0.00																		
090	0.00																		
090	0.00																		
090	0.00																		
Alt C																			
091	0.00																		
091	0.00																		
091	0.00																		
091	0.00																		
Alt C																			

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Upton
 CHECKED BY: *[Signature]*
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 15
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR									
		VOL	TRKS	VOL	TRKS	VOL	TRKS	VOL	TRKS								
092	0.00																
092	0.00																
092	0.00																
092	0.00																
Alt C																	
093	0.00																
093	0.00																
093	0.00																
093	0.00																
Alt C																	
094	0.00																
094	0.00																
094	0.00																
Connector Circle to Daisy																	
095	0.20 2004	500	0	25	50	50	0	0	25	10	10	0	0	25			
095	0.20 2010	600	0	25	60	60	0	0	25	10	10	0	0	25			
095	0.20 2012	600	0	25	60	60	0	0	25	10	10	0	0	25			
095	0.20 2030	700	0	25	70	70	0	0	25	10	10	0	0	25			
Alt C																	
096	0.00																
096	0.00																
096	0.00																
096	0.00																
New Conn for N Redwood																	
097	0.02 2004	11300	441	25	1340	1320	15	5	25	640	37	25	770	722	30	18	25
097	0.02 2010	12300	480	25	1450	1428	16	6	25	700	40	25	840	787	33	20	25
097	0.02 2012	12600	491	25	1500	1478	16	6	25	720	42	25	870	815	34	21	25
097	0.02 2030	15800	616	25	1870	1842	21	7	20	900	52	25	1080	1012	42	26	25
New Conn for S Redwood																	
098	0.02 2004	600	6	25	60	54	5	1	25	20	6	25	30	12	12	6	25
098	0.02 2010	700	7	25	70	63	6	1	25	30	7	25	30	12	12	6	25
098	0.02 2012	700	7	25	70	63	6	1	25	30	7	25	30	12	12	6	25

ABBREVIATION: SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Pappas
 CHECKED BY: *[Signature]*
 FILE: 199B1FN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1 - Alt A Bulb Out (Final)

PAGE: 16
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	
098	0.02	2030	800	8	25	80	73	6	1	25	30	8	25	30	12	12	6	25	
Access Road to Fairground																			
099	0.05	2004	1000	369	35	120	106	11	3	35	100	6	35	100	84	4	12	35	
099	0.05	2010	1100	406	35	130	115	12	3	35	100	6	35	110	93	4	13	35	
099	0.05	2012	1100	406	35	140	123	13	4	35	110	7	35	120	101	5	14	35	
099	0.05	2030	1400	517	35	170	150	16	4	35	130	8	35	140	119	5	16	35	
Access Road to Fairground																			
100	0.05	2004	1100	406	35	120	106	11	3	35	100	6	35	100	84	4	12	35	
100	0.05	2010	1100	406	35	130	115	12	3	35	100	6	35	110	93	4	13	35	
100	0.05	2012	1200	443	35	140	123	13	4	35	110	7	35	120	101	5	14	35	
100	0.05	2030	1400	517	35	170	150	16	4	35	130	8	35	140	119	5	16	35	

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Wilson
 CHECKED BY: *[Signature]*
 FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 1
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECTION	<u>ERROR MESSAGES</u>
001	NONE
002	NONE
003	NONE
004	NONE
005	NONE
006	NONE
007	NONE
008	NONE
009	2030 PHV exceeds LOS C Volume by 18%
010	NONE
011	NONE
012	NONE
013	NONE
014	2030 PHV exceeds LOS C Volume by 24%
015	2030 PHV exceeds LOS C Volume by 24%
016	2030 PHV exceeds LOS C Volume by 18%
017	2030 PHV exceeds LOS C Volume by 17%
018	2030 PHV exceeds LOS C Volume by 17%
019	2030 PHV exceeds LOS C Volume by 35%
020	2030 PHV exceeds LOS C Volume by 24%
021	2030 PHV exceeds LOS C Volume by 37%
022	NONE
023	NONE
024	NONE
025	NONE
026	NONE
027	NONE
028	NONE
029	NONE
030	NONE
031	NONE
032	NONE
033	NONE
034	NONE

FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 2
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECTION	ERROR MESSAGES
035	NONE
036	NONE
037	NONE
038	NONE
039	NONE
040	NONE
041	NONE
042	NONE
043	NONE
044	NONE
045	NONE
046	NONE
047	NONE
048	NONE
049	NONE
050	NONE
051	NONE
052	NONE
053	NONE
054	NONE
055	NONE
056	NONE
057	NONE
058	NONE
059	2030 PHV exceeds LOS C Volume by 18%
060	2030 PHV exceeds LOS C Volume by 18%
061	2030 PHV exceeds LOS C Volume by 18%
062	NONE
063	NONE
064	NONE
065	2030 PHV exceeds LOS C Volume by 16%
066	2030 PHV exceeds LOS C Volume by 18%
067	NONE
068	NONE

FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA WARNING NOTES**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 1- Alt A Bulb Out (Final)

PAGE: 3
 PRINTING DATE: Aug 16, 2006
 UNIT: English

SECTION	ERROR MESSAGES
069	NONE
071	NONE
072	2030 PHV exceeds LOS C Volume by 20%
073	NONE
074	NONE
075	NONE
070	NONE
076	NONE
077	NONE
078	NONE
079	NONE
080	NONE
081	NONE
082	NONE
083	NONE
084	NONE
085	NONE
086	NONE
087	NONE
088	NONE
089	2030 PHV exceeds LOS C Volume by 16%
090	NONE
091	NONE
092	NONE
093	NONE
094	NONE
095	NONE
096	NONE
097	2030 PHV exceeds LOS C Volume by 16%
098	NONE
099	NONE
100	NONE

FILE: 199B1FIN.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 1
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	AUTO	MTR	HTR	SP				
US 199	001	0.25	2004	14000	1008	55	1250	1211	19	20	55	900	74	55	820	744	41	35	55
	001	0.25	2010	15200	1094	55	1360	1318	20	22	55	980	81	55	890	807	45	38	55
	001	0.25	2012	15600	1123	55	1390	1347	21	22	55	1000	83	55	910	825	46	39	55
	001	0.25	2030	16600	1195	55	1740	1686	26	28	55	1250	104	55	1140	1034	57	49	55
US 199	002	0.56	2004	14800	2782	50	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	002	0.56	2010	16000	3008	50	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	002	0.56	2012	16400	3083	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	002	0.56	2030	20500	3854	50	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	003	0.01	2004	14800	1036	50	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	003	0.01	2010	16000	1120	50	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	003	0.01	2012	16400	1148	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	003	0.01	2030	20500	1435	50	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	004	0.48	2004	14800	1036	50	1300	1260	19	21	50	950	77	50	880	798	47	35	50
	004	0.48	2010	15900	1113	50	1400	1357	21	22	50	1020	83	50	950	862	50	38	50
	004	0.48	2012	16400	1148	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	004	0.48	2030	20500	1435	50	1800	1744	27	29	50	1320	107	50	1220	1106	65	49	50
US 199	005	0.32	2004	14700	1029	50	1330	1289	20	21	50	970	79	50	900	816	48	36	50
	005	0.32	2010	15900	1113	50	1440	1395	22	23	50	1050	85	50	970	880	51	39	50
	005	0.32	2012	16400	1148	50	1480	1434	22	24	50	1080	88	50	1000	907	53	40	50
	005	0.32	2030	20500	1435	50	1850	1792	28	30	50	1350	110	50	1250	1134	66	50	50
US 199	006	0.51	2004	14700	882	50	1380	1320	32	28	50	1140	85	50	1170	1073	44	53	50
	006	0.51	2010	15900	954	50	1490	1426	34	30	50	1230	92	50	1270	1165	48	57	50
	006	0.51	2012	16400	984	50	1530	1464	35	31	50	1260	94	50	1300	1193	49	58	50
	006	0.51	2030	20500	1230	50	1910	1828	44	38	50	1570	118	50	1620	1485	62	73	50
US 199	007	0.27	2004	19200	998	45	1800	1730	38	32	45	1020	80	45	1130	1032	43	55	45
	007	0.27	2010	20800	1082	45	1960	1884	41	35	45	1110	87	45	1230	1123	47	60	45

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy *Dorothy Self*
 CHECKED BY: *Dorothy Self*
 FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 2
 LOCATION: Grants Pass PRINTING DATE: Aug 8, 2006
 ALTERNATIVE: Build 3 - Allen Creek Revision UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	
007	0.27	2012	21400	1113	45	2010	1932	42	36	45	1130	90	45	1260	1150	48	62	45
			26700	1388	45	2510	2412	53	45	43	1420	112	45	1580	1443	60	77	45
US 199	0.23	2004	24200	1210	45	2330	2249	44	37	45	1440	101	45	1620	1503	52	65	45
			26200	1310	45	2530	2442	48	40	43	1570	110	45	1760	1634	56	70	45
008	0.23	2012	26900	1345	45	2590	2500	49	41	43	1600	112	45	1800	1670	58	72	45
			33600	1680	45	3240	3126	62	52	38	2010	140	45	2250	2088	72	90	45
US 199	0.80	2004	26400	1716	45	2400	2320	46	34	44	1570	121	45	1610	1458	118	34	45
			28600	1859	45	2600	2515	49	36	43	1700	131	45	1740	1576	127	37	45
009	0.80	2012	29400	1911	45	2660	2572	51	37	42	1740	134	45	1780	1613	130	37	45
			36800	2392	45	3330	3220	63	47	37	2180	168	45	2230	2020	163	47	45
US 199	0.22	2004	29000	1131	45	2750	2664	58	28	44	1190	93	45	1200	1090	86	24	45
			31400	1225	45	2980	2887	63	30	42	1290	101	45	1310	1190	94	26	45
010	0.22	2012	32400	1264	45	3070	2975	64	31	42	1330	104	45	1340	1217	96	27	45
			40500	1579	45	3840	3721	81	38	36	1660	130	45	1680	1525	121	34	45
US 199	0.15	2004	29000	1131	45	2750	2664	58	28	45	1190	93	45	1200	1090	86	24	45
			31400	1225	45	2980	2887	63	30	45	1290	101	45	1310	1190	94	26	45
011	0.15	2012	32400	1264	45	3070	2975	64	31	45	1330	104	45	1340	1217	96	27	45
			40500	1579	45	3840	3721	81	38	40	1660	130	45	1680	1525	121	34	45
US 199	0.07	2004	29000	1131	45	2750	2664	58	28	45	1190	93	45	1200	1090	86	24	45
			31400	1225	45	2980	2887	63	30	45	1290	101	45	1310	1190	94	26	45
012	0.07	2012	32400	1264	45	3070	2975	64	31	45	1330	104	45	1340	1217	96	27	45
			40500	1579	45	3840	3721	81	38	40	1660	130	45	1680	1525	121	34	45
US 199	0.17	2004	29000	1131	35	2750	2664	58	28	35	1190	93	35	1200	1090	86	24	35
			31400	1225	35	2980	2887	63	30	35	1290	101	35	1310	1190	94	26	35
013	0.17	2012	32400	1264	35	3070	2975	64	31	35	1330	104	35	1340	1217	96	27	35
			40500	1579	35	3840	3721	81	38	31	1660	130	35	1680	1525	121	34	35

ANALYST: Dorothy Price
 CHECKED BY: *Dorothy Price*
 FILE: 199B31.MDB

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 3
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR							
			VOL	SP	VOL	SP	VOL	SP	VOL	SP						
014	0.16	2004	30400	1642	35	3220	3123	68	29	35	1800	1632	101	67	35	
		2010	33000	1782	35	3490	3386	73	31	35	1950	1769	109	72	35	
		2012	33900	1831	35	3580	3473	75	32	35	2000	1814	112	74	35	
		2030	42400	2290	35	4480	4346	94	40	22	2780	164	141	93	35	
US 199	0.14	2004	30400	1642	35	3220	3123	68	29	35	1800	1632	101	67	35	
		2010	33000	1782	35	3490	3386	73	31	35	1950	1769	109	72	35	
		2012	33900	1831	35	3580	3473	75	32	35	2000	1814	112	74	35	
		2030	42400	2290	35	4480	4346	94	40	22	2780	164	141	93	35	
US 199	0.25	2004	6400	320	35	680	647	26	7	35	630	36	35	20	35	
		2010	8900	345	35	740	704	28	8	35	680	39	35	22	35	
		2012	7100	355	35	760	723	29	8	35	560	528	29	23	35	
		2030	8900	445	32	950	904	36	10	25	730	665	37	28	35	
US 199	0.02	2004	24100	1205	35	2540	2416	91	33	35	2320	171	35	1808	139	73
		2010	26100	1305	35	2750	2615	99	36	35	2510	186	35	2190	1960	151
		2012	26800	1340	35	2820	2681	102	37	35	2570	190	35	2240	2004	155
		2030	33600	1680	33	3540	3367	127	46	26	3230	239	31	2810	2515	194
US 199	0.11	2004	24100	1205	35	2540	2416	91	33	35	2320	171	35	1870	1614	174
		2010	26100	1305	35	2750	2615	99	36	35	2510	186	35	2190	1960	151
		2012	26800	1340	35	2820	2681	102	37	35	2570	190	35	2240	2004	155
		2030	33600	1680	33	3540	3367	127	46	26	3230	239	31	2810	2515	194
US 199	0.25	2004	26600	2181	35	2320	2172	109	39	35	2200	214	35	1870	1614	174
		2010	28900	2370	35	2520	2359	118	43	32	2390	232	35	2030	1752	189
		2012	26800	2427	34	2580	2415	121	44	31	2450	238	34	2080	1795	193
		2030	37100	3042	28	3240	3033	152	55	17	3080	289	20	2610	2252	243
Jacksonville Highway	0.25	2004	20100	1467	35	2030	1979	45	6	35	1820	106	35	2030	1909	93
		2010	21800	1581	35	2200	2145	48	7	35	1980	115	35	2200	2068	101
		2012	22400	1635	35	2380	2321	52	7	35	2140	124	35	2380	2238	109
		2012														

ANALYST: Dorothy J. [Signature]
 CHECKED BY: [Signature]
 FILE: 19993RY.MDB

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 4
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR		PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	AUTO	MTR	HTR	SP			
020	0.25	2030	28000	2044	2990	2915	66	9	22	2690	156	29	2990	2810	138	42	22
US 199 (6th Street)																	
021	0.10	2004	20700	787	2240	2171	60	9	30	1880	85	30	1680	1569	87	24	30
021	0.10	2010	22400	851	2430	2354	66	10	29	2040	92	30	1820	1700	95	25	30
021	0.10	2012	23000	874	2630	2548	71	11	26	2210	100	30	1970	1840	102	28	30
021	0.10	2030	28800	1094	3300	3198	89	13	14	2780	125	23	2470	2307	128	35	29
Tussey Lane																	
022	0.10	2004	500	6	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2010	600	7	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2012	600	7	40	40	0	0	25	20	2	25	20	17	1	2	25
022	0.10	2030	700	8	60	60	0	0	25	40	4	25	40	35	1	4	25
Tussey Lane																	
023	0.07	2004	500	6	50	50	0	0	25	30	3	25	30	26	1	3	25
023	0.07	2010	600	8	60	60	0	0	25	40	4	25	40	35	1	4	25
023	0.07	2012	600	8	60	60	0	0	25	40	4	25	40	35	1	4	25
023	0.07	2030	700	9	80	80	0	0	25	50	5	25	50	44	1	5	25
Marion Lane																	
024	0.15	2004	500	11	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2010	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2012	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
024	0.15	2030	700	15	60	60	0	0	25	50	5	25	50	44	1	5	25
Marion Lane																	
025	0.15	2004	500	11	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2010	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2012	600	13	40	40	0	0	25	30	3	25	30	26	1	3	25
025	0.15	2030	700	15	60	60	0	0	25	50	5	25	50	44	1	5	25
Henderson Street																	
026	0.08	2004	500	11	50	50	0	0	25	40	4	25	40	35	1	4	25
026	0.08	2010	600	13	60	60	0	0	25	50	5	25	50	44	1	5	25
026	0.08	2012	600	13	60	60	0	0	25	50	5	25	50	44	1	5	25
026	0.08	2030	700	15	80	80	0	0	25	60	6	25	60	52	2	6	25
Ringuette Street - North En																	

ABBREVIATION SECT = SECTION NUMBER
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 MTR = MEDIUM TRUCK VOLUME

SP = SPEED OF VEHICLE
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 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Jipiro
 CHECKED BY: *Dorothy Jipiro*
 FILE: 199B-F1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 5
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR		AVERAGE HOUR		PEAK TRUCK HOUR					
			VOL	SP	VOL	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
027	0.10	2004	2000	25	520	477	33	470	55	520	416	89	15	25
027	0.10	2010	2200	25	560	514	35	510	59	560	448	96	16	25
027	0.10	2012	2200	25	580	531	37	520	61	580	464	99	17	25
027	0.10	2030	2800	25	720	661	45	650	76	720	576	123	21	25
Ringuette Street-Mid-Section														
028	0.05	2004	2000	25	520	477	33	470	55	520	416	89	15	25
028	0.05	2010	2200	25	560	514	35	510	59	560	448	96	16	25
028	0.05	2012	2200	25	580	531	37	520	61	580	464	99	17	25
028	0.05	2030	2800	25	720	661	45	650	76	720	576	123	21	25
Ringuette Street at US199														
029	0.02	2004	2000	25	520	477	33	470	55	520	416	89	15	25
029	0.02	2010	2200	25	560	514	35	510	59	560	448	96	16	25
029	0.02	2012	2200	25	580	531	37	520	61	580	464	99	17	25
029	0.02	2030	2800	25	720	661	45	650	76	720	576	123	21	25
Henderson Street														
030	0.01	2004	500	11	50	50	0	40	4	50	35	1	4	25
030	0.01	2010	600	13	60	60	0	50	5	50	44	1	5	25
030	0.01	2012	600	13	60	60	0	50	5	50	44	1	5	25
030	0.01	2030	700	15	80	80	0	60	6	60	52	2	6	25
Tussey Lane														
031	0.01	2004	500	6	50	50	0	30	3	30	26	1	3	25
031	0.01	2010	600	8	60	60	0	40	4	40	35	1	4	25
031	0.01	2012	600	8	60	60	0	40	4	40	35	1	4	25
031	0.01	2030	700	9	80	80	0	50	5	50	44	1	5	25
Union Avenue														
032	0.25	2004	4800	3451	900	889	11	900	38	900	836	49	15	25
032	0.25	2010	5200	3739	980	968	12	980	41	980	910	53	17	25
032	0.25	2012	5300	3611	1060	1047	13	1060	44	1060	985	57	18	25
032	0.25	2030	6600	4745	1320	1304	16	1320	55	1320	1227	71	22	25
Union Avenue														
033	0.20	2004	3800	1949	500	497	3	500	16	500	470	24	6	25
033	0.20	2010	4100	2103	540	537	3	540	17	540	508	25	7	25
033	0.20	2012	4200	2155	590	587	3	590	19	590	554	28	8	25

ABBREVIATION: SECT = SECTION NUMBER
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 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Updegraff
 CHECKED BY: *Dorothy Updegraff*
 FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 6
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP		
033	0.20	2030	5200	2668	25	740	736	4	0	25	740	24	25	740	695	35	10	25
Ringuette Street			500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
034	0.10	2004	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
034	0.10	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
034	0.10	2012	700	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25
034	0.10	2030	700	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25
Ringuette Street			5400	518	25	440	424	15	1	25	270	14	25	300	279	19	2	25
035	0.09	2004	5800	557	25	480	463	16	1	25	300	15	25	330	307	21	2	25
035	0.09	2010	6000	576	25	520	502	17	1	25	320	16	25	360	334	23	3	25
035	0.09	2012	7500	720	25	660	637	22	1	25	410	21	25	450	419	28	3	25
035	0.09	2030	7500	720	25	660	637	22	1	25	410	21	25	450	419	28	3	25
Fairground S of US199			500	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25
036	0.04	2004	500	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25
036	0.04	2010	600	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25
036	0.04	2012	600	0	25	80	80	0	0	25	10	0	25	10	10	0	0	25
036	0.04	2030	700	0	25	100	100	0	0	25	10	0	25	10	10	0	0	25
Union Ave -West of Fairgr			500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
037	0.08	2004	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
037	0.08	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
037	0.08	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
037	0.08	2030	700	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25
Midway Avenue			500	36	25	40	36	2	2	25	30	3	25	40	33	7	0	25
038	0.25	2004	600	43	25	50	46	2	2	25	40	3	25	50	41	9	0	25
038	0.25	2010	600	43	25	50	46	2	2	25	40	3	25	50	41	9	0	25
038	0.25	2012	600	43	25	50	46	2	2	25	40	3	25	50	41	9	0	25
038	0.25	2030	700	50	25	60	54	3	3	25	40	4	25	60	49	11	0	25
Midway Avenue			900	36	25	60	55	2	3	25	60	3	25	50	44	2	4	25
039	0.25	2004	1000	40	25	60	55	2	3	25	60	3	25	50	44	2	4	25
039	0.25	2010	1000	40	25	70	64	2	4	25	60	4	25	60	52	3	5	25
039	0.25	2012	1000	40	25	70	64	2	4	25	60	4	25	60	52	3	5	25
039	0.25	2030	1300	52	25	90	82	3	5	25	80	5	25	70	61	3	6	25
Demaray Street																		

ABBREVIATION SECT = SECTION NUMBER
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ANALYST: *Dorothy*
 CHECKED BY: *Dorothy*
 FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 7
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	
040	0.25	2004	6400	166	35	640	612	13	15	35	640	20	35	570	537	26	7	35
040	0.25	2010	6900	179	35	700	669	15	16	35	700	22	35	620	584	28	8	35
040	0.25	2012	7100	185	35	760	727	16	17	35	760	23	35	670	631	30	9	35
040	0.25	2030	8900	231	35	950	908	20	22	35	950	29	35	840	791	38	11	35
Hubbard Road New Conn																		
041	0.17	2004	500	35	25	80	77	2	1	25	80	7	25	60	50	4	6	25
041	0.17	2010	600	42	25	90	87	2	1	25	90	8	25	70	58	5	7	25
041	0.17	2012	600	42	25	90	87	2	1	25	90	8	25	70	58	5	7	25
041	0.17	2030	600	42	25	120	117	2	1	25	120	10	25	90	74	7	9	25
Hubbard Road																		
042	0.25	2004	500	35	25	80	77	2	1	25	80	7	25	60	50	4	6	25
042	0.25	2010	600	42	25	90	87	2	1	25	90	8	25	70	58	5	7	25
042	0.25	2012	600	42	25	100	97	2	1	25	100	9	25	80	66	6	8	25
042	0.25	2030	700	49	25	120	117	2	1	25	120	10	25	90	74	7	9	25
Hubbard Road - Removed																		
043	0.00																	
043	0.00																	
043	0.00																	
Demaray Street																		
044	0.17	2004	6400	166	35	620	607	11	2	35	620	20	35	550	517	25	8	35
044	0.17	2010	6900	179	35	680	666	12	2	35	680	22	35	610	574	27	9	35
044	0.17	2012	7100	185	35	730	715	13	2	35	730	23	35	650	612	29	9	35
044	0.17	2030	8900	231	35	920	900	17	3	35	920	29	35	820	772	37	11	35
Demaray Street																		
045	0.53	2004	6400	166	35	620	607	11	2	35	620	20	35	550	517	25	8	35
045	0.53	2010	6900	179	35	680	666	12	2	35	680	22	35	610	574	27	9	35
045	0.53	2012	7100	185	35	730	715	13	2	35	730	23	35	650	612	29	9	35
045	0.53	2030	8900	231	35	920	900	17	3	35	920	29	35	820	772	37	11	35
Hubbard Road																		
046	0.25	2004	1600	131	25	150	147	1	2	25	120	4	25	130	119	9	2	25
046	0.25	2010	1800	148	25	160	156	1	3	25	130	5	25	140	127	10	3	25
046	0.25	2012	1800	148	25	180	176	1	3	25	140	5	25	150	136	11	3	25

ABBREVIATION SECT = SECTION NUMBER
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ANALYST: Doroth
 CHECKED BY: *[Signature]*
 FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 8
 LOCATION: Grants Pass PRINTING DATE: Aug 8, 2006
 ALTERNATIVE: Build 3 - Allen Creek Revision UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
046	0.25	2030	2200	180	220	214	2	4	25	170	6	25	190	173	14	3	25
Willow Lane																	
047	0.25	2004	200	6	20	20	0	0	25	20	0	25	20	17	2	1	25
047	0.25	2010	200	6	20	20	0	0	25	20	0	25	20	17	2	1	25
047	0.25	2012	300	10	20	20	0	0	25	20	0	25	20	17	2	1	25
047	0.25	2030	300	10	20	20	0	0	25	20	0	25	20	17	2	1	25
Willow Lane																	
048	0.05	2004	3400	24	300	299	1	0	25	130	2	25	190	184	4	2	25
048	0.05	2010	3700	26	320	319	1	0	25	140	2	25	210	204	4	2	25
048	0.05	2012	3800	27	350	349	1	0	25	150	2	25	230	222	5	3	25
048	0.05	2030	4700	33	430	429	1	0	25	190	3	25	280	271	6	3	25
Demaray Street Slip Conn																	
049	0.29	2004	3500	91	320	320	0	0	35	170	6	35	210	200	10	0	35
049	0.29	2010	3800	99	350	350	0	0	35	190	6	35	230	219	11	0	35
049	0.29	2012	3900	101	380	380	0	0	35	210	7	35	250	238	12	0	35
049	0.29	2030	4800	125	480	480	0	0	35	260	8	35	320	305	15	0	35
Willow Lane																	
050	0.25	2004	2100	0	160	160	0	0	25	110	2	25	70	67	2	1	25
050	0.25	2010	2200	0	170	170	0	0	25	110	2	25	70	67	2	1	25
050	0.25	2012	2300	0	180	180	0	0	25	120	2	25	80	77	2	1	25
050	0.25	2030	2900	0	220	220	0	0	25	150	2	25	90	86	3	1	25
Dowell Road																	
051	0.25	2004	3800	346	460	444	12	4	25	300	28	25	330	281	28	21	25
051	0.25	2010	4100	373	500	483	13	4	25	330	31	25	360	307	30	23	25
051	0.25	2012	4300	391	540	521	14	5	25	350	33	25	390	332	33	25	25
051	0.25	2030	5300	482	680	656	18	6	25	440	42	25	490	418	41	31	25
Dowell Road																	
052	0.25	2004	2600	182	240	235	5	0	25	180	15	25	220	194	17	9	25
052	0.25	2010	2800	196	260	255	5	0	25	190	17	25	240	211	19	10	25
052	0.25	2012	2900	203	280	274	6	0	25	210	18	25	260	229	21	10	25
052	0.25	2030	3600	252	350	343	7	0	25	260	22	25	320	282	25	13	25
Allen Creek Boulevard																	

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

ANALYST: Dorothy Schyler
 CHECKED BY: Dorothy Schyler
 FILE: 199B3R1.MDB

TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 9
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
053	0.25	2004	5700	291	400	382	14	4	25	330	18	25	390	351	25	14	25
053	0.25	2010	6100	311	440	420	16	4	25	370	20	25	430	386	28	16	25
053	0.25	2012	6300	321	450	430	16	4	25	370	21	25	440	395	29	16	25
053	0.25	2030	7900	403	560	535	20	5	25	470	26	25	540	485	35	20	25
Albertson's South Driveway																	
054	0.10	2004	4700	118	400	393	6	1	25	300	7	25	220	205	14	1	25
054	0.10	2010	5100	128	460	453	6	1	25	350	8	25	250	233	16	1	25
054	0.10	2012	5200	130	490	482	7	1	25	370	9	25	270	251	18	1	25
054	0.10	2030	6600	165	620	610	9	1	25	470	11	25	340	317	22	1	25
Allen Creek Boulevard																	
055	0.09	2004	10400	447	870	844	20	6	25	510	23	25	560	510	34	16	25
055	0.09	2010	11300	486	940	911	22	7	25	550	24	25	600	546	37	17	25
055	0.09	2012	11600	499	1020	990	23	7	25	600	26	25	650	591	40	19	25
055	0.09	2030	14600	628	1280	1242	29	9	25	760	33	25	820	746	50	24	25
Allen Creek Boulevard- Rei																	
056	0.00																
056	0.00																
056	0.00																
Redwood Avenue Conn EB																	
057	0.00																
057	0.00																
057	0.00																
Redwood Avenue Conn WI																	
058	0.00																
058	0.00																
058	0.00																
Redwood AveConn WB-1V																	
059	0.00																
059	0.00																
059	0.00																

ANALYST: DoP
 CHECKED BY: *[Signature]*
 FILE: 199B3R1.MDB

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

SECT = SECTION NUMBER
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TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 10
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
059	0.00																	
Redwood Ave Conn WB-1-																		
060	0.00																	
060	0.00																	
060	0.00																	
Redwood Ave at Access																		
061	0.08	2004	400	0	25	40	0	0	0	25	10	0	25	10	0	0	0	25
061	0.08	2010	500	0	25	50	0	0	0	25	10	0	25	10	0	0	0	25
061	0.08	2012	500	0	25	50	0	0	0	25	10	0	25	10	0	0	0	25
061	0.08	2030	600	0	25	60	0	0	0	25	10	0	25	10	0	0	0	25
Redwood Ave as Access																		
062	0.04	2004	500	64	25	50	48	1	1	25	50	3	25	50	47	2	1	25
062	0.04	2010	600	77	25	60	57	2	1	25	60	3	25	60	55	3	2	25
062	0.04	2012	600	77	25	60	57	2	1	25	60	3	25	60	55	3	2	25
062	0.04	2030	700	90	25	70	67	2	1	25	70	4	25	70	65	3	2	25
Redwood Avenue as Access																		
063	0.10	2004	500	5	25	50	45	4	1	25	20	5	25	20	8	4	4	25
063	0.10	2010	600	6	25	60	54	5	1	25	20	6	25	30	12	6	6	25
063	0.10	2012	600	6	25	60	54	5	1	25	20	6	25	30	12	6	6	25
063	0.10	2030	700	7	25	70	63	6	1	25	30	7	25	30	12	6	6	25
Redwood Avenue as Access																		
064	0.11	2004	600	6	25	60	54	5	1	25	20	6	25	30	12	6	6	25
064	0.11	2010	700	7	25	70	63	6	1	25	30	7	25	30	12	6	6	25
064	0.11	2012	700	7	25	70	63	6	1	25	30	7	25	30	12	6	6	25
064	0.11	2030	800	8	25	80	73	6	1	25	30	8	25	30	12	6	6	25
In Alt A																		
065	0.00																	
065	0.00																	
065	0.00																	
065	0.00																	
In Alt A																		

ANALYST: Dorothy [Signature]
 CHECKED BY: [Signature]
 FILE: 199B3R1.MDB

SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
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**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

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 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY		PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR							
			VOL	TRKS	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	
066	0.00																	
066	0.00																	
066	0.00																	
In Alt A	0.00																	
067	0.00																	
067	0.00																	
067	0.00																	
Frontage Road Straight Se-																		
068	0.15	2004	300	75	25	160	157	1	2	25	100	3	25	130	127	1	2	25
068	0.15	2010	300	75	25	180	176	2	2	25	120	4	25	140	136	2	2	25
068	0.15	2012	300	75	25	190	186	2	2	25	120	4	25	150	145	2	3	25
068	0.15	2030	400	100	25	230	225	2	3	25	150	5	25	180	175	2	3	25
Skipped																		
069	0.00																	
069	0.00																	
069	0.00																	
069	0.00																	
Loop Conn to Frontage Alt																		
070	0.00																	
070	0.00																	
070	0.00																	
070	0.00																	
Redwood Ave Slip to AC B																		
071	0.00																	
071	0.00																	
071	0.00																	
071	0.00																	
Allen Creek Blvd Extension																		
072	0.00																	
072	0.00																	
072	0.00																	

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ANALYST: Doris U...
 CHECKED BY: *[Signature]*
 FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 12
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
072	0.00																	
Frontage Rd Ph2																		
073	0.00																	
073	0.00																	
073	0.00																	
Frontage Rd Ph2																		
074	0.00																	
074	0.00																	
074	0.00																	
Frontage Rd Ph2																		
075	0.00																	
075	0.00																	
075	0.00																	
Redwood Circle South End																		
076	0.04	2004	500	77	25	50	48	1	1	25	30	4	25	40	35	2	25	25
076	0.04	2010	600	93	25	60	58	1	1	25	40	4	25	50	43	4	3	25
076	0.04	2012	600	93	25	60	58	1	1	25	40	4	25	50	43	4	3	25
076	0.04	2030	700	108	25	70	68	1	1	25	50	5	25	50	43	4	3	25
Redwood Circle North End																		
077	0.50	2004	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
077	0.50	2010	400	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
077	0.50	2012	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
077	0.50	2030	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
Daisy Lane South Section																		
078	0.06	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
078	0.06	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
078	0.06	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
078	0.06	2030	700	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25
Daisy Lane North Section																		

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ANALYST: Dorothy [Signature]
 CHECKED BY: [Signature]
 FILE: 199B3K1.MDB

TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 13
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
079	0.50	2004	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
079	0.50	2010	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
079	0.50	2012	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
079	0.50	2030	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
Flower-Redwood Ave to Ac																		
080	0.04	2004	200	0	25	20	20	0	0	25	0	0	25	0	0	0	0	25
080	0.04	2010	200	0	25	30	30	0	0	25	10	0	25	10	10	0	0	25
080	0.04	2012	200	0	25	30	30	0	0	25	10	0	25	10	10	0	0	25
080	0.04	2030	300	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
Flower Redwood Ave N to I																		
081	0.07	2004	300	0	25	30	30	0	0	25	10	0	25	10	10	0	0	25
081	0.07	2010	300	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
081	0.07	2012	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
081	0.07	2030	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
Flower North of Connector																		
082	0.50	2004	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
082	0.50	2010	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
082	0.50	2012	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
082	0.50	2030	500	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
Pansy Redwood Ave to Ac																		
083	0.04	2004	600	96	25	140	134	3	3	25	120	10	25	130	120	7	3	25
083	0.04	2010	700	112	25	150	144	3	3	25	130	11	25	140	129	7	4	25
083	0.04	2012	700	112	25	150	144	3	3	25	130	11	25	140	129	7	4	25
083	0.04	2030	800	128	25	160	154	3	3	25	140	12	25	150	138	8	4	25
Pansy N of Access Rd																		
084	0.07	2004	400	12	25	60	57	2	1	25	50	1	25	50	46	3	1	25
084	0.07	2010	500	15	25	70	66	3	1	25	60	1	25	60	56	3	1	25
084	0.07	2012	600	18	25	70	66	3	1	25	60	1	25	60	56	3	1	25
084	0.07	2030	700	21	25	80	75	3	2	25	70	1	25	70	65	4	1	25
Pansy N of Flower Connec																		
085	0.05	2004	400	0	25	40	40	0	0	25	10	0	25	10	10	0	0	25
085	0.05	2010	400	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
085	0.05	2012	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25

ABBREVIATION SECT = SECTION NUMBER
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ANALYST: Dong
 CHECKED BY: *[Signature]*
 FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project PAGE: 14
 LOCATION: Grants Pass PRINTING DATE: Aug 8, 2006
 ALTERNATIVE: Build 3 - Allen Creek Revision UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
085	0.05	2030	600	0	25	60	60	0	0	0	25	10	0	0	0	0	25	
Skipped																		
086	0.00																	
086	0.00																	
086	0.00																	
086	0.00																	
Redwood Ave Old align at																		
087	0.04																	
087	0.04																	
087	0.04																	
087	0.04																	
Redwood Circle Original A																		
088	0.05																	
088	0.05																	
088	0.05																	
088	0.05																	
Redwood Ave-Redwood Cir																		
089	0.50	2004	11300	441	35	1340	1320	15	5	35	640	37	35	770	722	30	18	35
089	0.50	2010	12300	480	35	1450	1428	16	6	35	700	40	35	840	840	33	20	35
089	0.50	2012	12600	491	35	1500	1478	16	6	35	720	42	35	870	815	34	21	35
089	0.50	2030	15800	616	35	1870	1842	21	7	26	900	52	35	1080	1012	42	26	35
Redwood Ave-Redwood Cir																		
090	0.00	2004	11300	441	35	1360	1335	20	5	35	640	37	35	770	722	30	18	35
090	0.00	2010	12300	480	35	1480	1452	22	6	35	700	41	35	840	840	33	20	35
090	0.00	2012	12600	491	35	1520	1491	23	6	35	720	42	35	860	805	34	21	35
090	0.00	2030	15800	616	35	1900	1864	28	8	35	900	52	35	1080	1012	42	26	35
Redwood Ave-Connector 1																		
091	0.06	2004	12100	569	35	1460	1429	25	6	35	860	50	35	1030	965	40	25	35
091	0.06	2010	13100	616	35	1580	1547	27	6	35	930	54	35	1120	1049	44	27	35
091	0.06	2012	13500	635	35	1630	1595	28	7	35	960	56	35	1150	1077	45	28	35
091	0.06	2030	16900	794	35	2040	1997	35	8	35	1200	70	35	1440	1349	56	35	35
Access Rd-Redwood Aveto F																		

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ANALYST: *Dorothy Upton*
 CHECKED BY: *Dorothy Upton*
 FILE: 19983R1.MDB

TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA

PROJECT: US 199 Expressway Upgrade Project
LOCATION: Grants Pass
ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 15
PRINTING DATE: Aug 8, 2006
UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	AUTO	MTR	HTR	SP			
092	0.04	2004	1200	154	25	230	219	7	4	25	220	12	25	230	213	10	7	25
092	0.04	2010	1200	154	25	250	239	7	4	25	240	14	25	250	232	11	7	25
092	0.04	2012	1300	166	25	260	248	8	4	25	250	14	25	260	241	11	8	25
092	0.04	2030	1600	205	25	320	306	9	5	25	300	17	25	320	297	14	9	25
Access to Pansy easterly																		
093	0.06	2004	1200	154	25	230	219	7	4	25	220	12	25	230	213	10	7	25
093	0.06	2010	1200	154	25	250	239	7	4	25	240	14	25	250	232	11	7	25
093	0.06	2012	1300	166	25	260	248	8	4	25	250	14	25	260	241	11	8	25
093	0.06	2030	1600	205	25	320	306	9	5	25	300	17	25	320	297	14	9	25
Access East End Conn																		
094	0.08	2004	300	60	25	60	58	1	1	25	60	2	25	60	58	1	1	25
094	0.08	2010	400	80	25	70	68	1	1	25	70	2	25	70	68	1	1	25
094	0.08	2012	400	80	25	70	68	1	1	25	70	2	25	70	68	1	1	25
094	0.08	2030	500	100	25	80	78	1	1	25	80	2	25	80	78	1	1	25
ConnectorRedwoodCirclect																		
095	0.07	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
095	0.07	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
095	0.07	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
095	0.07	2030	700	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25
AccessRdFlower to Pansy																		
096	0.04	2004	500	0	25	50	50	0	0	25	10	0	25	10	10	0	0	25
096	0.04	2010	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
096	0.04	2012	600	0	25	60	60	0	0	25	10	0	25	10	10	0	0	25
096	0.04	2030	700	0	25	70	70	0	0	25	10	0	25	10	10	0	0	25
New Conn for N Redwood t																		
097	0.02	2004	11300	441	25	1340	1320	15	5	25	640	37	25	770	722	30	18	25
097	0.02	2010	12300	480	25	1450	1428	16	6	25	700	40	25	840	787	33	20	25
097	0.02	2012	12600	491	25	1500	1478	16	6	25	720	42	25	870	815	34	21	25
097	0.02	2030	15600	616	25	1870	1842	21	7	20	900	52	25	1080	1012	42	26	25
New Conn for S Redwood t																		
098	0.02	2004	400	41	25	60	50	7	3	25	30	3	25	40	25	11	4	25
098	0.02	2010	500	51	25	70	58	8	4	25	40	4	25	50	31	14	5	25
098	0.02	2012	500	51	25	70	58	8	4	25	40	4	25	50	31	14	5	25

ABBREVIATION SECT = SECTION NUMBER
VOL = TOTAL VOLUME
MTR = MEDIUM TRUCK VOLUME
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AUTO = AUTOMOBILE VOLUME
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ANALYST: Dorothy [Signature]
CHECKED BY: [Signature]
FILE: 199B3R1.MDB

**TRANSPORTATION PLANNING ANALYSIS UNIT
EIS TRAFFIC DATA**

PROJECT: US 199 Expressway Upgrade Project
 LOCATION: Grants Pass
 ALTERNATIVE: Build 3 - Allen Creek Revision

PAGE: 16
 PRINTING DATE: Aug 8, 2006
 UNIT: English

SECT	DIST	YEAR	AVERAGE DAY			PEAK HOUR			AVERAGE HOUR			PEAK TRUCK HOUR						
			VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP	VOL	TRKS	SP	VOL	AUTO	MTR	HTR	SP
098	0.02	2030	600	62	25	80	67	9	4	25	40	4	25	60	37	17	6	25

ABBREVIATION SECT = SECTION NUMBER
 VOL = TOTAL VOLUME
 MTR = MEDIUM TRUCK VOLUME
 SP = SPEED OF VEHICLE
 AUTO = AUTOMOBILE VOLUME
 HTR = HEAVY TRUCK VOLUME

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