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City of Woodland

Scott Avenue Reconnection

Alternatives Analysis

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**Introduction**

In 2012 the Washington State Legislature approved a \$2,000,000 grant to the City of Woodland for the Scott Avenue Reconnection Project and assigned the Washington State Department of Transportation (WSDOT) to administer the grant. In July of 2012 the City received an award letter from WSDOT stating the \$2,000,000 would be coming from federal funds and that no match would be required.

The letter from WSDOT asked the City to re-evaluate previous completed transportation studies to confirm the Scott Avenue Reconnection was the project the City wanted to pursue or whether the City wanted the grant money to be spent on another project.

This report reviews the alternatives in the 2008 Transportation Infrastructure Strategic Plan (TISP), provides a recommendation to pursue the Scott Avenue Reconnection Project, and explains why this project is the preferred alternative.

**Preferred Alternative to Relieve Congestion on I-5/SR 503 Interchange**

The worst congestion in Woodland is at the four intersections at the I-5/SR 503 interchange. These intersections are going from west to east Buckeye/Goerig, SR 503/Pacific/I-5 Southbound on ramp, SR 503/Atlantic/Northbound off ramp, and SR 503/CC Street. The 2008 Transportation Infrastructure Strategic Plan (TISP) looked at various alternatives to relieving existing congestion at these intersections and providing increased capacity for future growth.

The preferred alternative selected in the 2008 TISP to deal with this congestion consisted of several different projects that when all completed, would provide the increased capacity needed for future growth. Table 1 lists the project names, a description of the project, and the estimated cost for each project.

Table 1 – 2008 TISP Preferred Alternative Project List

Project Name	Description	Cost
Scott Avenue Reconnection	I-5 Undercrossing and signals at Pacific and Atlantic	\$33,100,000
Scott/Old Pacific Intersect.	Signalize Intersection, realign streets	\$2,000,000
I-5 at SR 503	Relocate CC Street connection to A Street, signalize Buckeye/Goerig, add eastbound lane to SR 503 from Atlantic to A Street	\$8,900,000
Total Cost		\$44,000,000

## Improvement Alternatives to I-5/SR 503 Interchange without Scott Avenue Reconnection

The 2008 TISP also looked at a bunch of other alternatives to relieve this congestion without a Scott Avenue Reconnection. Three of those alternatives were analyzed and reviewed in detail. The alternatives reviewed, a description, and the 2008 cost are provided in Table 2.

The other alternatives studied were all lower in cost than the preferred alternative. Alternative 2B is an order of magnitude cheaper than the preferred alternative because it does not require any new crossing of I-5 like the other alternatives. Alternative 3B would require a widening of the existing undercrossing. Alternative 5 would require a new undercrossing just south of the existing undercrossing.

Table 2 – 2008 TISP I-5 at SR 503 Alternatives not selected as preferred project

Alternative Name	Description	Cost
No-Build	Existing transportation system.	\$0
2B	Construct multi-lane roundabouts west and east of I-5, realign Lakeshore, restricted stop control at Buckeye	\$4,000,000
3B	Widen SR 503 through interchange, add signal at Buckeye, close CC and reroute to A Street	\$30,000,000
5	Construct one-way couplet with signalized intersections	\$21,000,000

## Comparison of Levels of Service at I-5/SR 503 provided by the 4 alternatives

Based on the analysis done in the 2008 TISP, the preferred alternative and alternatives 2B, 3B, and 5 would provide varying levels of acceptable service through the I-5/SR 503 Interchange Area in the year 2025. All 4 intersections would have a failing level of service in 2025 in the no-build option.

Table 3 provides levels of service of the existing conditions in 2007, and the four improvement alternatives in 2025. Level of Service (LOS) is based on grades of A-F with F a failing level of service. An acceptable LOS at signalized intersections or roundabouts is E or better.

Table 3 – LOS for Existing Conditions and 2008 TISP Improvement Alternatives

Intersection	2007 Existing Conditions	2025 LOS and Delay (seconds) for the 4 alternatives			
		Preferred (Scott)	2B	3B	5
I-5 SB On-Ramp	B – 17.3 sec.	C – 23.7 sec.	C – 20.2 sec.	C – 34.6 sec.	<b>B – 14.5 sec.</b>
I-5 NB Off-Ramp	D – 51.3 sec.	D – 53.9 sec.	B – 18.8 sec.	D – 33.6 sec.	<b>B – 14.0 sec.</b>
Buckeye/Goerig	<i>F – 80+ sec.</i>	<b>B – 12.3 sec.</b>	E – 46.5 sec.	B – 17.4 sec.	B – 13.1 sec.
SR 503 @ CC or A*	C – 20.3 sec.	C – 29.0 sec.	B – 18.8 sec.	C – 24.5 sec.	<b>A – 9.5 sec.</b>

\* In the preferred alternative and options 3B and 5 Lewis River Bridge traffic connects with SR 503 at A Street. In option 2B this traffic connects with SR 503 at CC Street and combines with the I-5 NB Off-Ramp intersection.

Based on LOS at the I-5/SR 503 Area, Alternative 5 provides the best service for this interchange. The preferred alternative has a better LOS at the Buckeye/Goerig Intersection but substantially worse LOS at the remaining intersections. Alternatives 2B and 3B provide lower LOS than Alternative 5 at all intersections but 2B is better than 3B for 3 of the 4 intersections.

*The preferred alternative in 2025 will provide similar or worse LOS to our existing conditions at 3 of the 4 intersections while providing improved service to the Buckeye/Goerig Intersection. Considering the LOS of D to the NB Off-Ramp in 2025, additional improvements like a couplet or roundabouts would still be needed beyond 2025 to provide acceptable service. Additional improvements in the future would not be anticipated for Alternative 5.*

### **Benefits of Scott Avenue Reconnection besides I-5/SR 503 Interchange**

Whereas Options 2B, 3B, and 5 provide improved levels of service only at the I-5/SR 503 Interchange area, the Scott Avenue Reconnection provides benefits to the I-5/Dike Road Interchange as well. The 2008 TISP indicates that in 2025, a Scott Avenue Reconnection would reduce traffic at the I-5/Dike Road Interchange by 50% and the I-5/SR 503 Interchange by 30%. This diversion in turn would improve operations at intersections like Old Pacific Highway/Green Mountain Road and Davidson Ave/5<sup>th</sup> Street because of the shift in traffic.

Other benefits the Scott Avenue Reconnection provides that I-5/SR 503 Improvements do not:

- Provide better access to the middle of the City for police and fire vehicles.
- Improve Industrial Area connections to the east side of the City and northbound I-5.
- Improve connections to the commercial area on Atlantic from the residential eastside.
- Provide another route for school buses crossing I-5.

### **Recommendations**

If the only consideration was the level of service at the I-5/SR 503 Interchange Alternative 5, the one way couplet, would be the best alternative. This alternative provides substantially better service at the Interchange for half the cost of the Scott Avenue Reconnection Alternative. If funding becomes extremely limited then the multi-lane roundabouts would be the preferred alternative. With the \$2,000,000 grant the City has now, the City could complete design, ROW, and maybe even construct one of the roundabouts.

The Scott Avenue Reconnection is about more than just the I-5/SR 503 Interchange though. The third crossing provides system wide benefits to the transportation system, residents, and businesses. The \$44,000,000 estimated cost in 2008 dollars, however, is substantial. That cost also does not include a railroad grade separation project at Scott west of I-5 that would provide better service to the Industrial Area. The cost estimate for that project in the 2008 TISP was an additional \$18,500,000. While one focus of the Scott Avenue Connection Study should be to look at alternatives that will reduce the cost of this project and make it more viable for full funding, the alternative of a third crossing at Scott Avenue is still the preferred alternative.