APPENDIX B

Travel Forecasting

APPENDIX B
TRAVEL FORECASTING METHODOLOGY

This appendix presents a short discussion of the development of future year traffic projections that were used to evaluate the relative effectiveness of various transportation system improvement alternatives. Two levels of traffic forecasting were prepared:

- The first was prepared to support a system level analysis and initial screening of major transportation investment choices to identify the most promising concepts for further analysis.
- The second was prepared to support a refinement of the promising alternatives by evaluating intersection level traffic performance.

Forecasts to Support Initial Screening of Improvement Options

Four system wide alternatives were developed to support the initial screen of improvement options. These alternatives included elements related to freeway interchange improvements, options to connect the eastern and western portions of the city by providing a grade separation from the freeway and railroad, options to provide a new north/south arterial street on the west side of the city (generally between N Pekin and Robinson Roads), and options to accommodate new and/or modified connections to I-5.

The system wide alternatives are illustrated in Figures B-1 through B-4 and include the following distinguishing features:

- **Alternative 1:** this alternative includes a freeway and railroad overcrossing at Port Way coupled with a new north/south arterial roadway extending from Schurman Way at Guild Road southward to Whalen Road (see Figure B-1).
- **Alternative 2:** this alternative includes a freeway and railroad overcrossing at Scott Avenue coupled with a new north/south arterial roadway extending from N Pekin Road just north of Goerig Road southward to Whalen Road (see Figure B-2):
- **Alternative 3:** this alternative includes a freeway and railroad overcrossing at Heritage Street coupled with a new north/south arterial roadway extending from Robinson Road at Guild Road southward to Whalen Road (see Figure B-3).
- **Alternative 4:** this alternative includes a freeway and railroad overcrossing at Port Way coupled with a new north/south arterial roadway extending from N Pekin Road just north of Goerig Road southward to Whalen Road (see Figure B-4).

As noted above, each alternative assumes a variety of improvement options at the Dike Road and SR 503 interchanges with I-5 to address and resolve existing congestion and safety issues. It should also be noted that each of these alternatives also includes a variety of roadway and intersection improvement projects, some of which have previously been identified in the City's Transportation System Plan and others of which have been suggested through public input and/or technical analysis. These are illustrated in blue on each Figure.

2025 PM peak hour traffic forecasts for baseline conditions and for each alternative were prepared using the travel demand model developed for the Woodland urban area as described in the Future Conditions Technical Memorandum. PM peak hour roadway traffic volumes for each

alternative are illustrated in Tables B-1 and B-2 below. Table B-1 presents a summary by location of the levels of traffic expected on the proposed options for east/west connectivity over I-5 and the railroad and compares these with the Baseline (no-build) condition.

Table B-1. Comparison of PM Peak Hour Traffic with East/West Connectivity Options

	2025 PM Peak Hour Traffic Volumes for Comp Plan Plus Scenario				
Location	**Baseline (No-Build)**	**Alternative 1: Port Way Crossing**	**Alternative 2: Scott Avenue Crossing**	**Alternative 3: Heritage Street Crossing**	**Alternative 4: Port Way Crossing with Pekin**
Dike Road					
Eastbound	703	571	223	581	583
Westbound	520	421	466	381	423
Total	1,223	992	689	962	1,006
Overcrossing					
Eastbound	0	237	816	134	218
Westbound	0	143	290	98	125
Total	0	380	1,106	232	343
SR 503					
Eastbound	1,107	1,002	823	1,115	1,010
Westbound	2,095	2,050	1,910	2,155	2,068
Total	3,202	3,052	2,733	3,270	3,078
Totals					
Eastbound	1,810	1,810	1,862	1,830	1,811
Westbound	2,615	2,614	2,666	2,634	2,616
Total	4,425	4,424	4,528	4,464	4,427

Source: The Transpo Group, 2008.

The projected levels of traffic expected on the proposed options for north/soutn connectivity west of the railroad tracks, generally between Guild Road and Whalen Road are shown in Table B-2 below.

Table B-2. Comparison of PM Peak Hour Traffic with North/South Connectivity Options

	2025 PM Peak Hour Traffic Volumes for Comp Plan Plus Scenario			
Location	**Baseline (No-Build)**	**Pekin Road Extension**	**Schurman Way Extension**	**Robinson Road Extension**
South of Dike Road				
Northbound	440	199	273	72
Southbound	211	118	161	36
Total	651	317	434	108
North of Scott Avenue/Guild Road				
Northbound	283	137	220	54
Southbound	164	148	162	38
Total	447	285	382	92
South of Scott Avenue/Guild Road				
Northbound	131	172	86	30
Southbound	135	221	111	33
Total	266	393	197	63

Figure B-1. Alternative 1- Port Way Crossing

Figure B-2. Alternative 2 – Scott Avenue Crossing

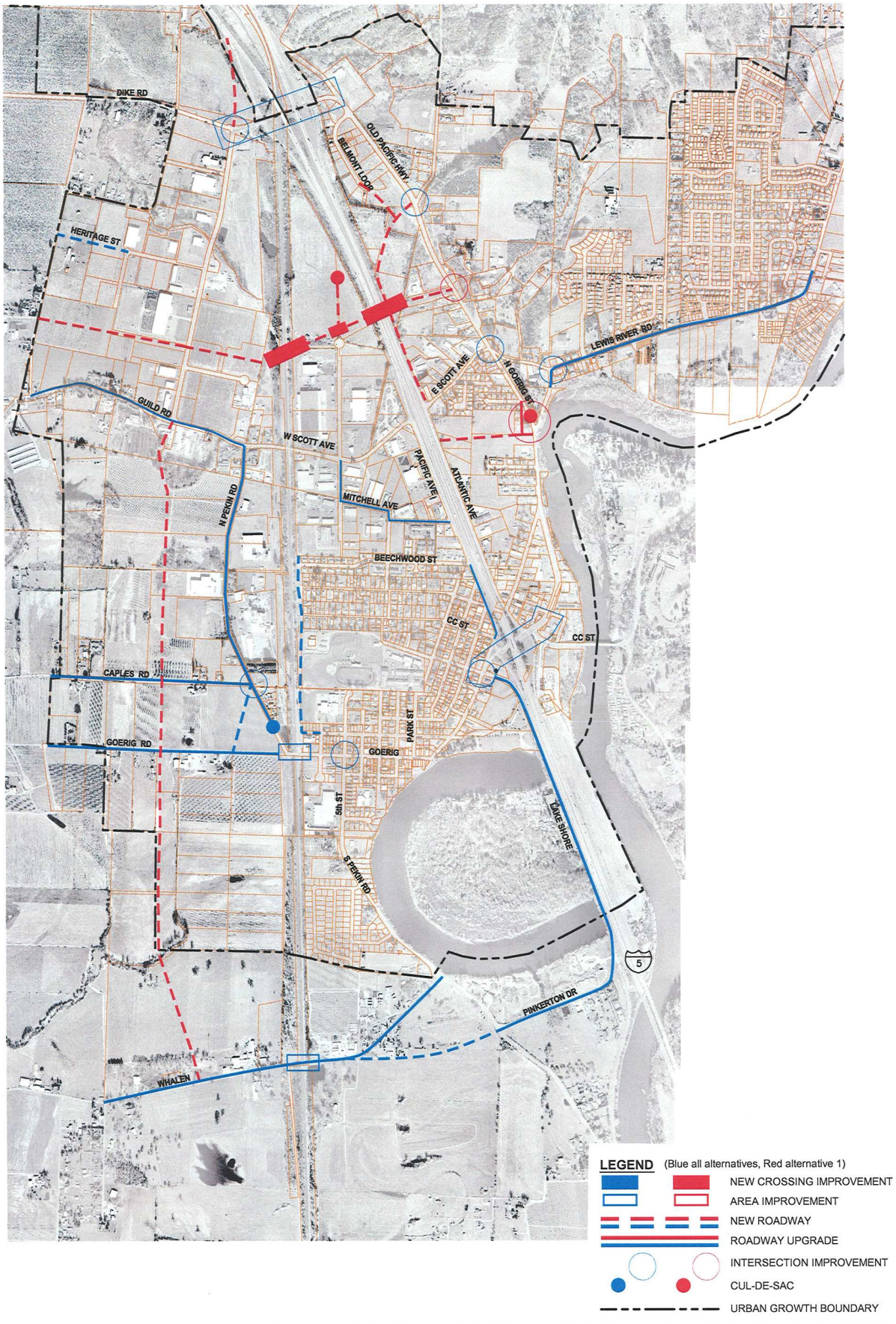
Figure B-3. Alternative 3 – Heritage Street Crossing

Figure B-4. Alternative 4 – Port Way Crossing with Pekin Road Extension

Table B-2. Comparison of PM Peak Hour Traffic with North/South Connectivity Options Continued

Location	2025 PM Peak Hour Traffic Volumes for Comp Plan Plus Scenario			
	Baseline (No-Build)	Pekin Road Extension	Schurman Way Extension	Robinson Road Extension
South of Scott Avenue/Guild Road plus Pekin				
Northbound	131	172	166	112
Southbound	135	221	178	97
Total	266	393	344	209
North of Goerig Road				
Northbound	156	152	90	57
Southbound	162	204	118	46
Total	318	356	208	103
North of Whalen Road				
Northbound	0	54	37	29
Southbound	0	113	68	31
Total	0	167	105	60

Source: The Transpo Group, 2008.



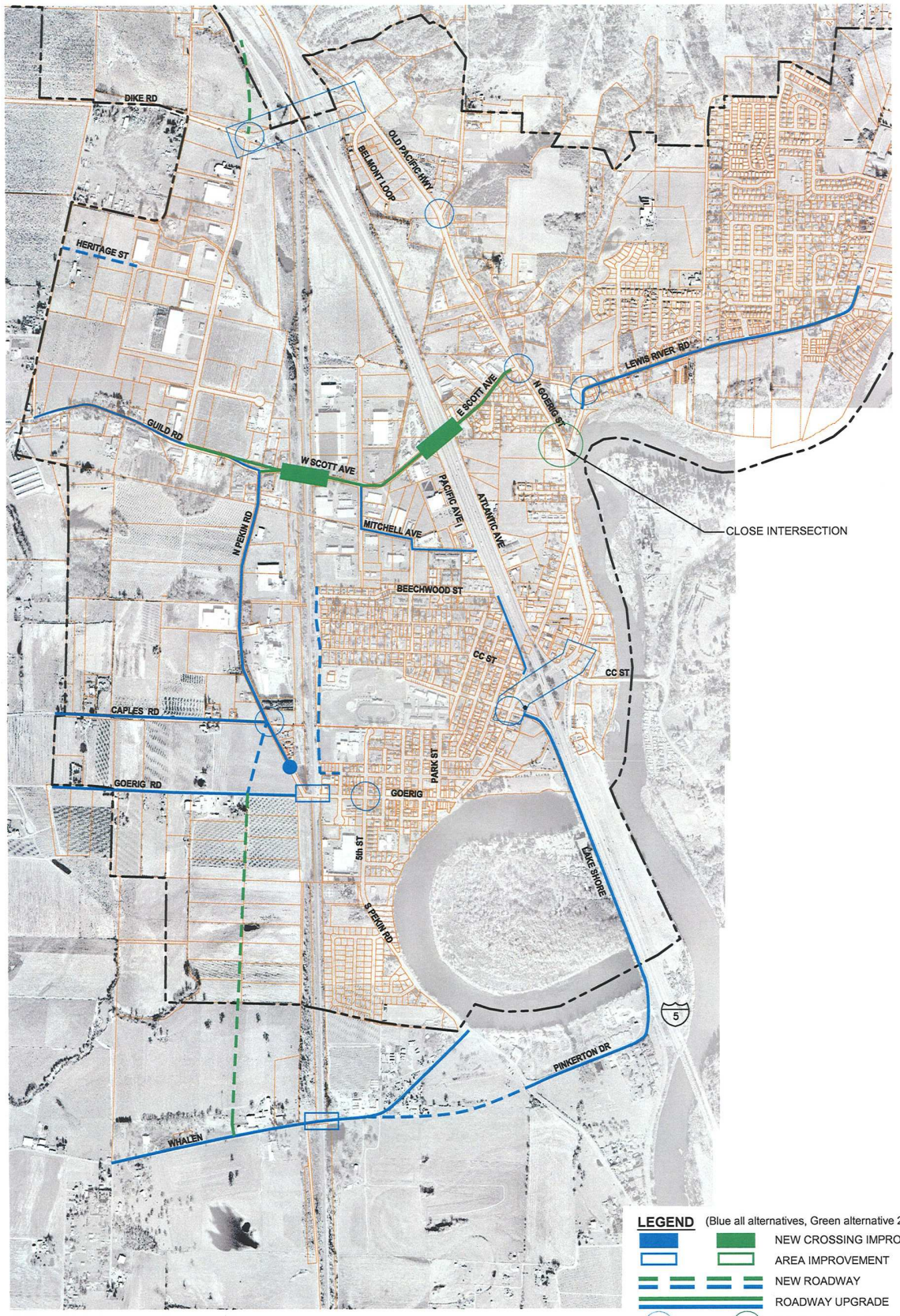
Parametrix DATE: May 27, 2008 FILE: PO2398006F-19

N

0 1500

SCALE IN FEET

Figure B-1
Alternative 1
Port Way Crossing



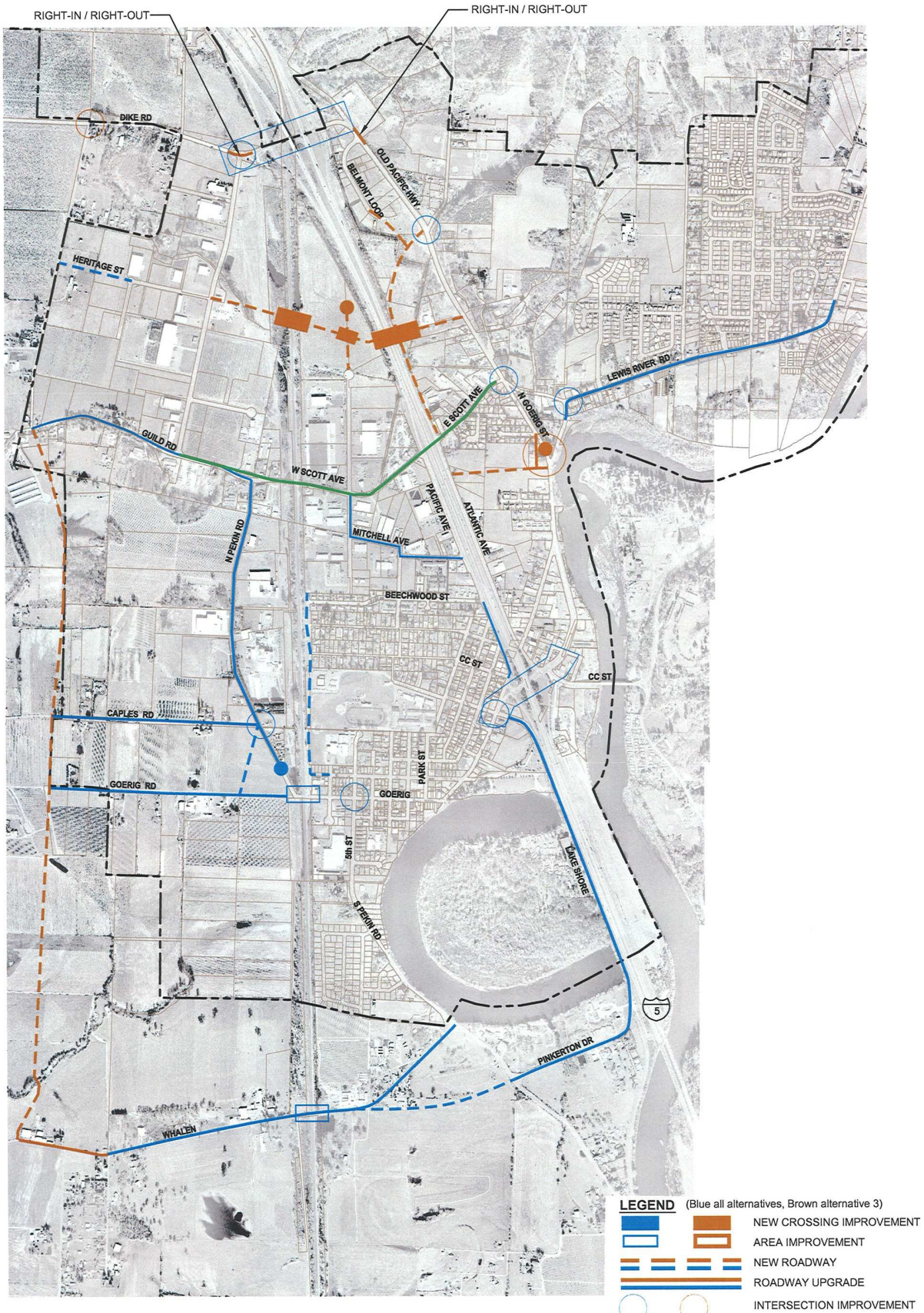
Parametrix DATE: May 27, 2008 FILE: PO2398006F-20

N

0 1500

SCALE IN FEET

Figure B-2
Alternative 2
Scott Avenue Crossing



LEGEND (Blue all alternatives, Brown alternative 3)

- NEW CROSSING IMPROVEMENT
- AREA IMPROVEMENT
- NEW ROADWAY
- ROADWAY UPGRADE
- INTERSECTION IMPROVEMENT
- CUL-DE-SAC
- URBAN GROWTH BOUNDARY

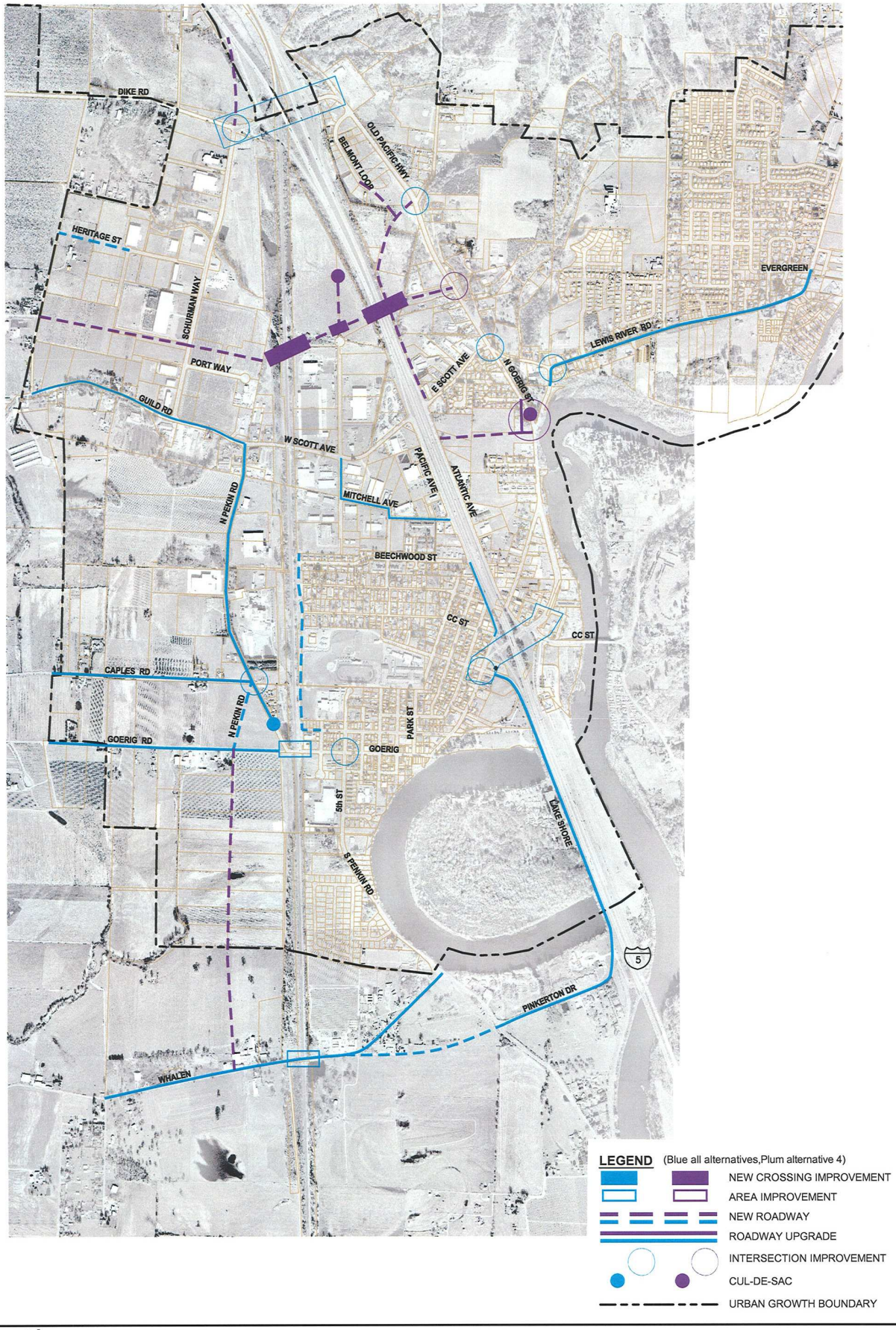
Parametrix DATE: May 27, 2008 FILE: PO2398006F-21

N

0 1500

SCALE IN FEET

Figure B-3
Alternative 3
Heritage Street Crossing



Parametrix DATE: May 27, 2008 FILE: PO2398006F-36

N

0 1500

SCALE IN FEET

Figure B-4
Alternative 4
Port Way Crossing
With Pekin Road Extension

TABLE B-3

Woodland TISP 2025 Comp Plan Plus Turning Movement Projections

2007 Existing PM Peak Hour Turning Movement Counts

1 Robinson Rd / Dike Access Rd

		0	0	0	
0					0
35		80			35
0					5
		0	0	5	

2 Shurman Way / Dike Access Rd

		0	0	0	
0					0
35		360			35
5					40
		5	0	240	

3 I-5 SB Ramps / Dike Access Rd

		30	5	110	
0					0
175		520			45
100					55
		0	0	0	

4 I-5 NB Ramps / Dike Access Rd

		0	0	0	
0					40
115		475			75
170					0
		25	0	50	

5 Green Mtn Rd / Old Pacific Hwy

		0	175	50	
0					25
0		410			0
0					25
		0	95	40	

2025 Comp Plan Plus (2007 Model)

1 Robinson Rd / Dike Access Rd

		260		190	
		0	5	255	
70	0			185	265
	80	620		70	
80	0			10	345
		0	5	10	
		15		15	

2 Shurman Way / Dike Access Rd

		0		0	
		0	0	0	
265	0			0	345
	305	1,140		210	
350	45			135	695
		55	0	390	
		180		445	

3 I-5 SB Ramps / Dike Access Rd

		325		0	
		80	5	240	
345	0			0	440
	410	1,460		265	
695	285			175	650
		0	0	0	
		465		0	

4 I-5 NB Ramps / Dike Access Rd

		0		270	
		0	0	0	
440	150			120	400
	495	1,320		280	
645	0			0	610
		160	0	115	
		0		275	

5 Green Mtn Rd / Old Pacific Hwy

		565		305	
		0	460	105	
0	0			75	260
	0	1,220		0	
0	0			185	270
		0	230	165	
		645		395	

2025 Alt 5c with Scott Avenue Crossing (2007 Model)

1 Robinson Rd / Dike Access Rd

		260		190	
		0	5	255	
70	0			185	260
	80	605		70	
80	0			5	335
		0	5	0	
		10		5	

2 Shurman Way / Dike Access Rd

		0		0	
		0	0	0	
255	0			0	280
	315	925		220	
340	25			60	585
		35	0	270	
		85		305	

3 I-5 SB Ramps / Dike Access Rd

		140		0	
		75	5	60	
280	0			0	375
	190	1,100		205	
585	395			170	250
		0	0	0	
		570		0	

4 I-5 NB Ramps / Dike Access Rd

		0		190	
		0	0	0	
380	105			85	315
	145	845		230	
250	0			0	275
		150	0	130	
		0		280	

5 Green Mtn Rd / Old Pacific Hwy

		200		195	
		0	110	90	
0	0			60	260
	0	770		0	
0	0			200	265
		0	135	175	
		310		310	

2007 Existing PM Peak Hour Turning Movement Counts

6 Shurman Way / Guild Rd

		5	0	45	
10					130
15		225			20
0					0
		0	0	0	

7 North Pekin Rd / West Scott Ave

		0	0	0	
0					0
50		245			90
20					25
		45	0	15	

8 SB I-5 Off-Ramp/ Pacific Ave / West Scott Ave

		20	300	0	
0					0
0		470			0
75					0
		75	0	0	

9 NB I-5 On-Ramp/ Atlantic Ave / East Scott Ave

		0	0	0	
0					30
0		370			0
0					50
		0	230	60	

10 Old Pacific Hwy / East Scott Ave

		35	80	95	
20					60
15		425			20
15					10
		15	60	0	

2025 Comp Plan Plus (2007 Model)

6 Shurman Way / Guild Rd

		155	275		
		30	0	125	
95	50			225	290
	85	580		65	
135	0			0	210
		0	0	0	
		0	0		

7 North Pekin Rd / West Scott Ave

		0	0		
		0	0	0	
270	0			0	215
	130	565		165	
225	95			50	150
		105	0	20	
		145	125		

8 SB I-5 Off-Ramp/ Pacific Ave / West Scott Ave

		535	0		
		55	480	0	
205	0			0	0
	0	855		0	
170	170			0	0
		150	0	0	
		650	150		

9 NB I-5 On-Ramp/ Atlantic Ave / East Scott Ave

		0	360		
		0	0	0	
0	0			70	355
	0	895		0	
0	0			285	250
		0	290	250	
		285	540		

10 Old Pacific Hwy / East Scott Ave

		780	540		
		160	355	265	
235	65			150	220
	75	1,520		60	
180	40			10	340
		15	325	0	
		405	340		

2025 Alt 5c with Scott Avenue Crossing (2007 Model)

6 Shurman Way / Guild Rd

		140	210		
		15	0	125	
100	25			185	270
	115	550		85	
140	0			0	240
		0	0	0	
		0	0		

7 North Pekin Rd / West Scott Ave

		0	0		
		0	0	0	
270	0			0	320
	200	760		190	
270	70			130	290
		80	0	90	
		200	170		

8 SB I-5 Off-Ramp/ Pacific Ave / West Scott Ave

		820	0		
		75	250	495	
300	0			0	400
	255	1,765		200	
280	25			200	990
		25	0	240	
		475	265		

9 NB I-5 On-Ramp/ Atlantic Ave / East Scott Ave

		0	455		
		0	0	0	
400	110			75	530
	620	2,135		355	
990	260			100	920
		45	270	300	
		360	615		

10 Old Pacific Hwy / East Scott Ave

		505	515		
		150	285	70	
325	325			175	360
	335	1,675		165	
780	120			20	410
		10	15	5	
		425	30		

2007 Existing PM Peak Hour Turning Movement Counts	2025 Comp Plan Plus (2007 Model)	2025 Alt 5c with Scott Avenue Crossing (2007 Model)

11 Insel Rd / Lewis River Rd (SR 503)

		35	0	5		
60	570	0	1,080		5	405	0
		0	0	0		

11 Insel Rd / Lewis River Rd (SR 503)

		65	0	5		70	120
650	115	905	1,680		5	585	0	590	910
1,020	0								
		0	0	0		0	0

11 Insel Rd / Lewis River Rd (SR 503)

		65	0	5		70	120
650	115	905	1,680		5	585	0	590	910
1,020	0								
		0	0	0		0	0

12 Gun Club Rd / Lewis River Rd (SR 503)

		105	0	5		
180	530	0	1,140		5	315	0
		0	0	0		

12 Gun Club Rd / Lewis River Rd (SR 503)

		125	0	5		130	225
590	220	805	1,625		5	465	0	470	810
1,025	0								
		0	0	0		0	0

12 Gun Club Rd / Lewis River Rd (SR 503)

		125	0	5		130	225
590	220	805	1,625		5	465	0	470	810
1,025	0								
		0	0	0		0	0

13 N Goerig St (SOUTH INT) / Lewis River Rd (SR 503)

		70	510	0		
70	0	10	1,415		0	0	0
		10	745	0		

13 N Goerig St (SOUTH INT) / Lewis River Rd (SR 503)

		80	900	0		980	1,270
85	250	0	2,270		0	0	0	0
265	15								
		5	1,020	0		915	1,025

13 N Goerig St (SOUTH INT) / Lewis River Rd (SR 503)

		80	820	0		900	935
85	80	0	1,845		0	0	0	0
85	5								
		5	855	0		825	860

14 North Pekin Rd / Caples Rd

		5	60	0		
5	0	20	160		0	0	0
		25	45	0		

14 North Pekin Rd / Caples Rd

		15	150	0		165	115
60	15	0	370		0	0	0	0
60	45								
		45	100	0		195	145

14 North Pekin Rd / Caples Rd

		35	175	0		210	150
65	30	0	415		0	0	0	0
55	25								
		30	120	0		200	150

15 5th St / Davidson Ave

		10	20	0		
5	60	20	315		5	35	65
		20	15	60		

15 5th St / Davidson Ave

		15	50	0		65	35
160	5	145	1,130		5	90	300	540	345
245	95								
		55	25	150		590	280

15 5th St / Davidson Ave

		20	35	0		55	20
110	0	115	675		5	55	240	300	235
150	35								
		35	15	120		310	170

2007 Existing PM Peak Hour Turning Movement Counts

16 Goerig St / Buckeye St/ Lakeshore Dr

		110	250	70	
100					85
5		1,120			10
10					10
		5	460	5	

17 I-5 SB On-ramp / Pacific Ave / Lewis River Rd (SR 503)

		55	190	325	
65					275
415		2,110			375
165					245
		0	0	0	

18 I-5 NB Off-ramp / Atlantic Ave / Lewis River Rd (SR 503)

		130	0	30	
210					115
530		2,320			470
0					0
		295	65	475	

19 CC St / Lewis River Rd (SR 503)

		0	0	0	
0					0
790		1,800			410
245					110
		175	0	70	

20 SR 503 / E Scott Ave

		55	415	0	
125					0
0		1,290			0
5					0
		5	685	0	

2025 Comp Plan Plus (2007 Model)

16 Goerig St / Buckeye St/ Lakeshore Dr

			945	895		
			110	555	280	
120	100				160	130
	10		1,885		10	
120	10				10	150
			0	635	5	
			720		690	

17 I-5 SB On-ramp / Pacific Ave / Lewis River Rd (SR 503)

			825	425		
			115	270	440	
920	70				355	1,770
	610		3,485		805	
890	210				610	1,050
			0	0	0	
			1,090		0	

18 I-5 NB Off-ramp / Atlantic Ave / Lewis River Rd (SR 503)

			470	805		
			440	0	30	
1,770	335				140	995
	720		3,905		855	
1,055	0				0	1,330
			475	330	580	
			0		1,385	

19 CC St / Lewis River Rd (SR 503)

			0	0		
			0	0	0	
995	0				0	895
	1,025		2,530		780	
1,335	310				115	1,110
			215	0	85	
			425		300	

20 SR 503 / E Scott Ave

			695	1,235		
			180	515	0	
185	355				0	0
	0		1,940		0	
360	5				0	0
			5	880	0	
			520		885	

2025 Alt 5c with Scott Avenue Crossing (2007 Model)

16 Goerig St / Buckeye St/ Lakeshore Dr

			875	825		
			95	495	285	
120	80				170	200
	20		1,770		20	
110	10				10	310
			5	575	5	
			515		585	

17 I-5 SB On-ramp / Pacific Ave / Lewis River Rd (SR 503)

			605	430		
			185	355	65	
880	165				265	1,485
	445		2,915		695	
825	215				525	510
			0	0	0	
			1,095		0	

18 I-5 NB Off-ramp / Atlantic Ave / Lewis River Rd (SR 503)

			420	580		
			250	0	170	
1,485	145				170	920
	365		3,240		750	
510	0				0	1,175
			485	265	640	
			0		1,390	

19 CC St / Lewis River Rd (SR 503)

			0	0		
			0	0	0	
920	0				0	820
	865		2,295		705	
1,175	310				115	950
			215	0	85	
			425		300	

20 SR 503 / E Scott Ave

			700	1,240		
			245	455	0	
325	425				0	0
	0		2,025		0	
430	5				0	0
			80	815	0	
			460		895	

2007 Existing PM Peak Hour Turning Movement Counts

21 Hillshire Dr / Lewis River Rd (SR 503)

		30	0	5	
35					5
700		1,170			395
0					0
		0	0	0	

22 Fir Ave / Lewis River Rd (SR 503)

		10	0	0	
25					0
455		835			345
0					0
		0	0	0	

23 Lewis River Rd (SR 503) / Evergreen Lane

		5	340	0	
5					0
0		815			0
5					0
		5	455	0	

24 N Goerig St (NORTH INT) / Lewis River Rd (SR 503)

		0	0	0	
0					0
0		0			0
0					0
		0	0	0	

2025 Comp Plan Plus (2007 Model)

21 Hillshire Dr / Lewis River Rd (SR 503)

			55		80		
			50	0	5		
650	75					5	605
	1,090		1,825			600	
1,165	0					0	1,095
			0	0	0		
			0		0		

22 Fir Ave / Lewis River Rd (SR 503)

			10		25		
			10	0	0		
500	25					0	490
	725		1,250			490	
750	0					0	725
			0	0	0		
			0		0		

23 Lewis River Rd (SR 503) / Evergreen Lane

			490		730		
			5	485	0		
10	5					0	0
	0		1,230			0	
10	5					0	0
			5	725	0		
			490		730		

24 N Goerig St (NORTH INT) / Lewis River Rd (SR 503)

			520		885		
			10	510	0		
350	10					0	0
	0		2,150			0	
415	405					0	0
			340	875	0		
			915		1,215		

2025 Alt 5c with Scott Avenue Crossing (2007 Model)

21 Hillshire Dr / Lewis River Rd (SR 503)

			55		80		
			50	0	5		
650	75					5	605
	1,090		1,825			600	
1,165	0					0	1,095
			0	0	0		
			0		0		

22 Fir Ave / Lewis River Rd (SR 503)

			10		25		
			10	0	0		
505	25					0	495
	730		1,260			495	
755	0					0	730
			0	0	0		
			0		0		

23 Lewis River Rd (SR 503) / Evergreen Lane

			495		735		
			5	490	0		
10	5					0	0
	0		1,240			0	
10	5					0	0
			5	730	0		
			495		735		

24 N Goerig St (NORTH INT) / Lewis River Rd (SR 503)

			460		890		
			5	455	0		
5	0					0	0
	0		1,740			0	
390	390					0	0
			0	890	0		
			845		890		

APPENDIX C

Evaluation Matrix for Initial Screening of Improvement Options

Table C-1
Initial Screening of Improvement Concepts for Woodland Transportation Infrastructure Strategic Plan

Location/Concept	Congestion Improvement (1)	Safety	System Considerations (1)	Bicycle/Pedestrian	Land Acquisition/ Displacement	Environmental Issues	Cost Influences
I-5 Interchange Vicinity at Dike Road							
1-SB Loop Ramp, NB Signal (Figure A-1A)	• Most movements likely to operate at LOS D or better. • Vehicle queuing between intersections needs further investigation, particularly at I-5 northbound ramps	• Increases length of merge lane • 30 mph loop	• Loop eliminates need for left turn storage • Increases signal spacing • Facilitates access to Schurman Way • Weaving issue between southbound on at Dike Road and northbound off at Scott Avenue, may require ramp redesign	• Crossing loop ramp requires a gap in traffic	• Realigned SB ramp impacts Wal-Mart parking spaces and right-in/right-out site access	• Potential wetland impacts	• Widen and raise I-5 and railroad structures (assumes adequate clearance between railroad and I-5 southbound structure) • Loop Ramp • New SB Exit Ramp • Railroad temporary relocation • New signals & intersections
2-Signals with SB Ramp moved west (Figure A-1B)	• Some movements may not operate acceptably due to number and spacing of signals • Limited vehicle storage between signals may not allow separate left turn lanes or back-to-back turn lanes	• Limited queue storage between Shurman Way and SB on-ramp	• WB movements separated at SB on ramp • Facilitates access to Schurman Way	• Widened Dike Road results in greater crossing distances at intersections	• Realigned SB ramp impacts Wal-Mart parking spaces and right-in/right-out site access	• Potential wetland impacts	• Widen and raise I-5 and railroad structures (assumes adequate clearance between railroad and I-5 southbound structure) • New SB Exit Ramp • Railroad temporary relocation • New signals & intersections
3A-Roundabouts with SB Ramp moved west (Figure A-1B)	• Most movements likely to operate at LOS D or better • Vehicle storage between RBTs needs further investigation	• Reduces accident severity by reducing turning conflict points and reduced speeds	• Less direct for on-off movements for SB vehicles • Facilitates access to Schurman Way	• Provides pedestrian refuges in center of street but no pedestrian signal phase • Typically safer crossings due to higher visibility and slower speeds	• Realigned SB ramp impacts Wal-Mart parking spaces and right-in/right-out site access	• Potential wetland impacts	• New SB Exit Ramp • Roundabouts • May need railroad temporary relocation • Modifications to DikeRoad
3B-Roundabouts at Existing Ramps (Figure A-1C)	• Most movements likely operate at LOS D or better • Vehicle storage between RBTs needs further investigation	• Reduces accident severity by reducing turning conflict points and reduced speeds	• More direct on-off movements for SB vehicles	• Provides pedestrian refuges in center of street but no pedestrian signal phase • Typically safer crossings due to higher visibility and slower speeds		• Potential wetland impacts	• New southbound off ramp • Roundabouts • May need railroad temporary relocation • Modifications to Dike Road
4A-Signals at both Ramps, Stop at Schurman Way (Figure A-1C)	• Some movements may operate at below LOS D • Poor traffic operations likely at Schurman Way due to lack of gaps in traffic flow • Limited vehicle storage between signals may not allow separate left turn lanes or back-to-back turn lanes			• Widened Dike Road results in greater crossing distances at intersections		• Potential wetland impacts	• Widen and raise I-5 and railroad structures (assumes adequate clearance between railroad and I-5 southbound structure) • Railroad temporary relocation • New signals & intersections
4B-Signals at Ramps and Schurman Way (Figure A-1D)	• Some movements may operate at below LOS D • Limited vehicle storage between signals may not allow back to back turn lanes			• Widened Dike Road results in greater crossing distances at intersections		• Potential wetland impacts	• Widen and raise I-5 and railroad structures (assumes adequate clearance between railroad and I-5 southbound structure) • Railroad temporary relocation • New signals & intersections
5-Signals at both Ramps, Right-in/Right-out at Schurman Way (Figure A-1D)	• Some movements may operate at below LOS D • Limited vehicle storage between signals may not allow separate left turn lanes or back-to-back turn lanes		• Restricts access to Schurman Way	• Widened Dike Road results in greater crossing distances at intersections		• Potential wetland impacts	• Widen and raise I-5 and railroad structures (assumes adequate clearance between railroad and I-5 southbound structure) • Railroad temporary relocation • New signals
I-5 Interchange Vicinity at SR 503							
1-Multi-lane Roundabouts, relocate access to CC Street, Signalize Goerig/Buckeye (Figure A-2A)	• Like most if not all movements would operate at LOS D or better • More analysis needed on traffic backups from signals	• Reduces accident severity by reducing turning conflict points and lowering speeds at RBTs	• Reroutes CC traffic and adds signal to 'A' St/SR 503 • Allows good access to/from I-5 frontage roads	• Provides pedestrian refuges in center of street but no pedestrian signal phase • Typically safer crossings due to higher visibility and slower speeds	• Changes access to treatment plant • May affect access along A Street	• Potential floodplain and hazmat sites	• New signal and roundabouts • CC St to A St connection • Modifications to SR 503

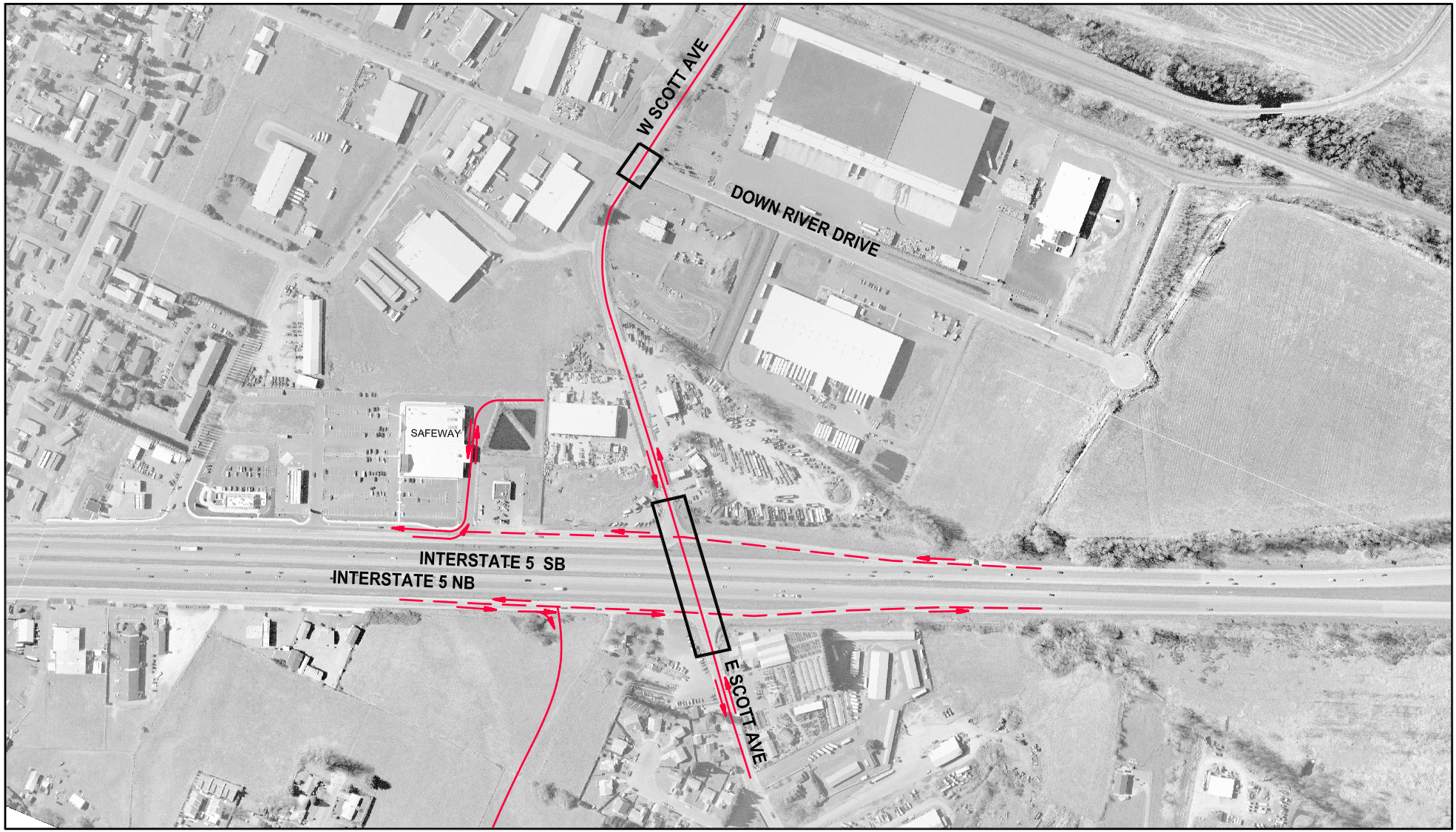
Location/Concept	Congestion Improvement (1)	Safety	System Considerations (1)	Bicycle/Pedestrian	Land Acquisition/ Displacement	Environmental Issues	Cost Influences
2A-Multi-lane Roundabouts, combine NB off and CC Street (Figure A-2B)	• Like most if not all movements would operate at LOS D or better • More analysis needed on traffic backups from signals	• Reduces accident severity by reducing turning conflict points and lowering speeds at RBTs	• Accommodates CC St as 5th leg of roundabout • Allows good access to/from I-5 frontage roads	• Provides pedestrian refuges in center of street but no pedestrian signal phase • Typically safer crossings due to higher visibility and slower speeds		• Potential hazmat sites	• New NB off ramp • New Signal and roundabouts • Modifications to SR 503
2B- Multi-lane Roundabouts, combine NB off and CC Street; combine SB on and Buckeye (Figure A-2B)	• Likely most if not all movements would operate at LOS D or better, no apparent traffic backups	• Reduces accident severity by reducing turning conflict points and lowering speeds at RBTs	• Requires out of direction travel from SB Pacific to SB I-5 ramp • Eliminates signal at Buckeye	• Provides pedestrian refuges in center of street but no pedestrian signal phase • Typically safer crossings due to higher visibility and slower speeds	• Impacts Park and Ride Lot	• Potential hazmat sites	• New NB off ramp • New roundabouts • Modifications to SR 503
3A-Major widening, signalize all existing intersections (Figure A-2C)	• Some movements may not operate acceptably and traffic back-ups may occur affecting adjacent intersections • May need side-by-side left lanes for adequate vehicle storage			• Widened roadway results in greater crossing distances at intersections		• Potential hazmat sites	• Major widening of SR 503 for turn lanes • Lengthen I-5 bridge structure • New Signals
3B-Major widening, signalize all intersections and relocate CC Street connection to 'A' St (Figure A-2C)	• Some movements may not operate acceptably and traffic back-ups may occur affecting adjacent intersections • May need side-by-side left lanes for adequate vehicle storage		• Reroutes CC traffic and adds signal to 'A' St/SR 503	• Widened roadway results in greater crossing distances at intersections	• Changes access to treatment plant • May affect access along A Street	• Potential floodplain and hazmat sites	• Major widening of SR 503 for turn lanes • Lengthen I-5 bridge structure • CC St to A St connection • New Signals & intersections
4-Single Point Urban Interchange (Figure A-2D)	• Some movements may not operate acceptably and traffic back-ups may occur	• Confusing	• Changes Pacific and Atlantic to one-way streets • Significant decline in local connectivity	• Widened roadway results in greater crossing distances at intersections	• Major access-circulation changes • Impacts Park and Ride Lot and properties in vicinity of Buckeye intersection • May affect access along A Street	• Potential floodplain and hazmat sites	• CC St to A St connection • New Roadway • New ramp approaches
5A-One-way couplet from Buckeye to 'A' St with signals (Figure A-2E)	• Traffic signal progression on SR 503 appears adequate • May experience northbound back-ups between eastbound and westbound segments of SR 503	• One-way traffic minimizes turning conflicts	• Relocates CC Street • Potential out of direction travel	• Minimizes crossing distance with one-way traffic a many of the signalized locations	• Impacts Park and Ride Lot and area southeast of CC St and SR 503	• Potential floodplain and hazmat sites	• CC St to A St connection • New I-5 Bridge and New Roadway • Several Signals
5B-One-way couplet from Buckeye to 'A' St with roundabouts at both ends (Figure A-2E)	• Most movements expected to operate at LOS D or better • Further investigation of traffic back-ups needed to determine impact of signals on adjacent roundabouts	• One-way traffic minimizes turning conflicts	• Allows for U-turn maneuvers • Minimizes signals	• Minimizes crossing distance with one-way traffic a many of the signalized locations, • Provides pedestrian refuges in center of street but no signal phase at roundabouts • Pedestrians are more visible at roundabouts	• Impacts Park and Ride Lot and area southeast of CC St and SR 503	• Potential floodplain and hazmat sites	• New I-5 Bridge and New Roadway • Several Signals
<u>I-5 Freeway Crossing Options</u>							
1-Port Way (Figure B-1)	• Reduces pm peak traffic at SR 503 crossing by 5% and Dike Road crossing by 20%		• Adds east/west connection to relieve Dike Road and SR 503 • Adds grade-separated railroad crossing	• Would be accommodated in design • New east/west connection provided	• Entire corridor must be acquired • Largely undeveloped parcels	• Potential wetland impacts	• 2 New structure and 1 Box culvert • Short roadway section
2A-Scott Avenue with smoother slopes (Figure B-2A)	• Reduces pm peak traffic at SR 503 crossing by 15% and Dike Road crossing by 40% • Attracts traffic better than other crossing locations because of ramps		• Local roadway connections impacted • Adds grade-separated railroad crossing	• Would be accommodated in design • New east/west connection provided	• Significant access and property impacts	• Potential wetland impacts	• Wider structure to span Ramps and I-5 • Box culvert for Downriver Dr • New I-5 ramps with interchange option • Relocate or raise Pekin Road connection

Location/Concept	Congestion Improvement (1)	Safety	System Considerations (1)	Bicycle/Pedestrian	Land Acquisition/ Displacement	Environmental Issues	Cost Influences
2B-Scott Avenue with steeper slopes (Figure B-2B)	• Same as 2A above	• Sight distance constraints with tight vertical curve and 20 mph design speed • Undesirable design	• Local roadway connections impacted • One option could provide connection to Downriver • Adds grade-separated railroad crossing	• Would be accommodated in design • New east/west connection provided	• Less property impacts east of I-5 than 2A	• Potential wetland impacts	• Wider structure to span ramps and I-5 • Box culvert for Downriver Drive for one option • New I-5 ramps with interchange option
2C-Scott Avenue undercrossing with I-5 raised (Figure B-2C)	• Same as 2A above	• Sight distance constraints with tight vertical curve and 25 mph design speed	• Local roadway connections remain at grade in one option • Adds grade-separated railroad crossing	• Would be accommodated in design • New east/west connection provided	• Nominal	• Potential wetland impacts • Potential flooding	• New I-5 structure and ramps • Likely will need flooding remediation
2D-Scott Avenue undercrossing with I-5 & railroad raised (Figure B-2D	• Same as 2A above	• No significant sight distance constraints likely	• Adds grade-separated railroad crossing	• Would be accommodated in design • New east/west connection provided	• Nominal	• Potential wetland impacts	• Will require approx. 5,000 feet of new rail track and modifications of existing spur lines and structures • May affect rail crossing at I-5 Dike Road interchange • Will need 5,000 feet of temporary track during construction
3-Heritage Street (Figure B-3)	• Reduces pm peak traffic at Dike Road crossing by 20% and has nominal impact on SR 503 crossing • Attracts little traffic away from interchange crossing areas		• Adds east/west connection to relieve Dike Road and SR 503 • Adds grade-separated railroad crossing • Right-in,/right-out at Schurman Way to encourage traffic to use proposed Robinson R	• Would be accommodated in design • New east/west connection provided	• Entire corridor must be acquired • Largely undeveloped parcels	• Potential wetland impacts	
<u>I-5 Freeway Frontage Roads and New Interchange Options</u>							
1 -Scott Avenue overcrossing-maintain existing I-5 Ramps (Figure C-1)	• Reduces pm peak traffic at SR 503 crossing by 15% and Dike Road crossing by 40%		• No connection to I-5 from Scott • Eliminates frontage road connection to Scott Ave • East/west connection across I-5	• Would be accommodated in design • New east/west connection provided	• Potential loss of access or relocation of accesses to parcels in SW quadrant	• None expected (impacts limited to I-5 vicinity)	• Long structure with multiple spans • Local street and access modification and improvements
2-Scott Avenue overcrossing of I-5 with diamond interchange (Figure C-2)	• Likely add more traffic on Scott, reduce traffic at Dike and SR 503 interchanges more than a crossing alone	• Lengthen existing ramps • Will need additional signing and signal control for clarity	• East/west connection across and to I-5 • No two-way frontage road access to Scott	• Would be accommodated in design • New east/west connection provided	• Potential loss of access or relocation of accesses to parcels in SW quadrant • Eliminates northern access to Safeway and adjacent property	• May impact wetlands dependent on length of ramps	• 4 ramp embankments • Overcrossing requires long single span structure • Local street modifications to access
3-Scott Avenue at grade with I-5 overcrossing and diamond interchange (Figure C-3)	• Likely add more traffic on Scott, reduce traffic at Dike and SR 503 interchanges more than a crossing alone	• Lengthen existing ramps • Will need additional signing and signal control for clarity	• East/west connection across and to I-5 • No two-way frontage road access to Scott	• Would be accommodated in design • New east/west connection provided	• Eliminates northern access to Safeway and adjacent property	• May impact wetlands dependent on ramps length	• Large I-5 structure • Extensive staging and traffic control challenges • Local street modifications for access
4-Port Way overcrossing with no ramps (Figure C-4)	• Reduces pm peak traffic at SR 503 crossing by 5% and Dike Road crossing by 20%		• East/west connection across I-5	• Would be accommodated in design • New east/west connection provided		• May impact wetlands dependent on ramps length	• Structure over I-5
5-Port Way overcrossing with C-D road to Scott Avenue (Figure C-5)	• Reduces pm peak traffic at SR 503 crossing by 5% and Dike Road crossing by 20%	• Will need signing and signal control for clarity	• East/west connection across I-5 • Connects Port Way with Scott Avenue via one-way roads	• Would be accommodated in design • New east/west connection provided	• Right-of-way required for Collector/Distributor roads	• May impact wetlands dependent on ramps length	• Structure over I-5 • New connector roads

Location/Concept	Congestion Improvement (1)	Safety	System Considerations (1)	Bicycle/Pedestrian	Land Acquisition/ Displacement	Environmental Issues	Cost Influences
6-Port Way overcrossing with I-5 ramps (Figure C-6)	• Likely add more traffic on Port Way, reduce traffic at Dike and SR 503 interchanges more than a crossing alone	• Will need signing and signal control for clarity	• East/west connection across I-5 • Connects Port Way with Scott Avenue via one-way roads • I-5 northbound off from Scott to Port Way • I-5 southbound on ramp at Scott from Port Way	• Would be accommodated in design • New east/west connection provided	• Right-of-way required for Collector/Distributor roads and ramps	• May impact wetlands dependent on ramps length	• Structure over I-5 • New connector roads • New ramps and ramp structures
North/South Arterial Street Alignments on West side of Town							
1-Pekin Road Extension (Figure 3-2)	• From Dike to Goerig carries 300-400 vehicles in PM peak • South of Goerig attracts two and three times as much traffic as the other routes further to the west	• 3-lane section	• Connects from Guild Road to Whalen Road	• Would be accommodated in design • New east/west connection provided	• Right-of-way must be acquired from Goerig area south to Whalen, largely undeveloped	• Likely nominal	• Approx. 6,500 LF of new arterial road construction • Reconstruction and widening of existing segment of Pekin Road south of Scott Avenue
2-Schurman Way Extension (Figure 3-1)	• From Dike to Goerig carries 200-400 vehicles in PM peak • From Goerig tp Whalen carries 100-200 vehicles in PM peak	• 3-lane section	• Connects Dike Road to Whalen Road	• Would be accommodated in design • New east/west connection provided	• Impacts industrial site south of Guild Road at Schurman Way • Right-of-way must be acquired from Guild south to Whalen, largely undeveloped	• Potential wetland impacts • Channel crossing	• Approx. 11,000 LF of new arterial road construction • Channel crossing as either bridge or culvert
3-Robinson Road Extension (Figure 3-3)	• From Dike to Goerig carries 50-200 vehicles in PM peak • From Goerig to Whalen carries approx. 50 vehicles in PM peak • Too far west to attract large volumes of traffic along entire length	• 3-lane section	• Connects Dike Road to Whalen Road • Length of roadway outside of UGB or on boundary	• Would be accommodated in design • New east/west connection provided	• Right-of-way must be acquired from Guild area south to Whalen, largely undeveloped	• Potential wetland impacts • Channel Crossing	• Approx. 11,500 LF of new arterial road construction • Channel crossing as either bridge or culvert

(1) Information presented represents a worst case scenario from the traffic operational perspective. Does not assume that any overcrossing option is in place which could significantly reduce east/west traffic volumes on SR 503 and Dike Road in the vicinity of I-5, dependent of the option selected.

Definitions:
Congestion Improvement – level of delay reduction, and extent of traffic backups
Safety – likely improvement in accident reduction, alteration in accident potential
System Considerations – effects on other streets or intersections, connectivity improvement
Bicycle/Pedestrian – accommodation of pedestrian and bicycle travel, likely sidewalk widths, pedestrian/bicyclist comfort
Land Acquisition/Displacement – some right-of-way acquisition likely needed, potential magnitude and likely business or residential displacements identified, access revision
Environmental issues – noise, haz mat, historic, permitting, land use, etc.
Cost Impacts – Items or issues that will impact cost of improvement
RBT – Roundabout, ROW – right-of-way



Parametrix DATE: Dec 28, 2007 FILE: PO2398006F-38

N

0 300'

SCALE IN FEET

LEGEND

EXISTING ROADWAY

NEW CONSTRUCTION

Figure C-1
Scott Avenue Overcrossing
Maintain Existing Ramps on I-5

Parametrix DATE: Dec 28, 2007 FILE: PO2398006F-39

N

0 300'

SCALE IN FEET

LEGEND

EXISTING ROADWAY

NEW CONSTRUCTION

Figure C-2
Diamond Interchange at Scott Ave
(Scott Ave Over I-5)

Parametrix DATE: Dec 28, 2007 FILE: PO2398006F-40

N

0 300'

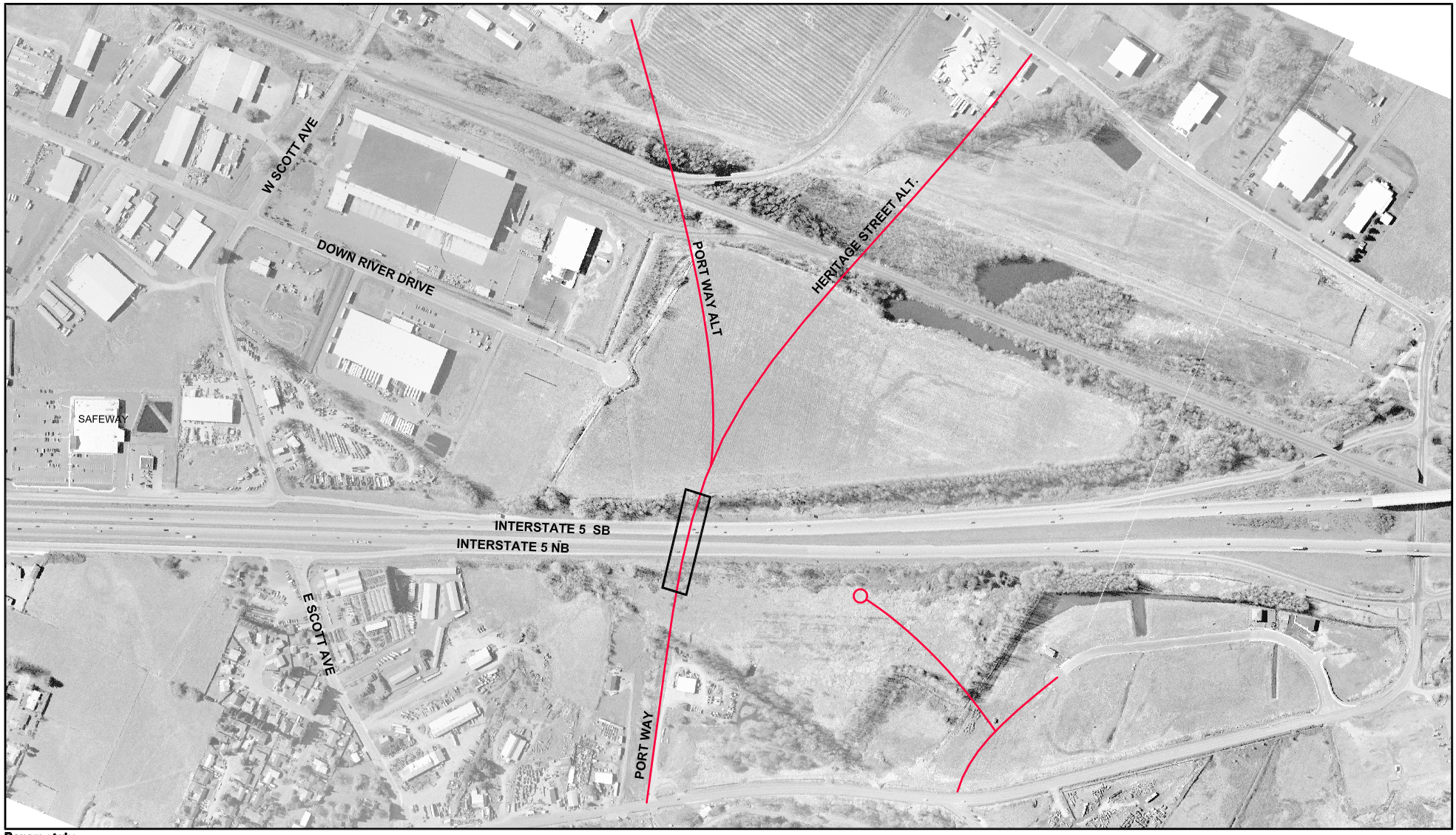
SCALE IN FEET

LEGEND

EXISTING ROADWAY

NEW CONSTRUCTION

Figure C-3
Diamond Interchange at
Scott Ave (I-5 Over Scott Ave)



Parametrix DATE: Dec 28, 2007 FILE: PO2398006F-41

N

0 400'

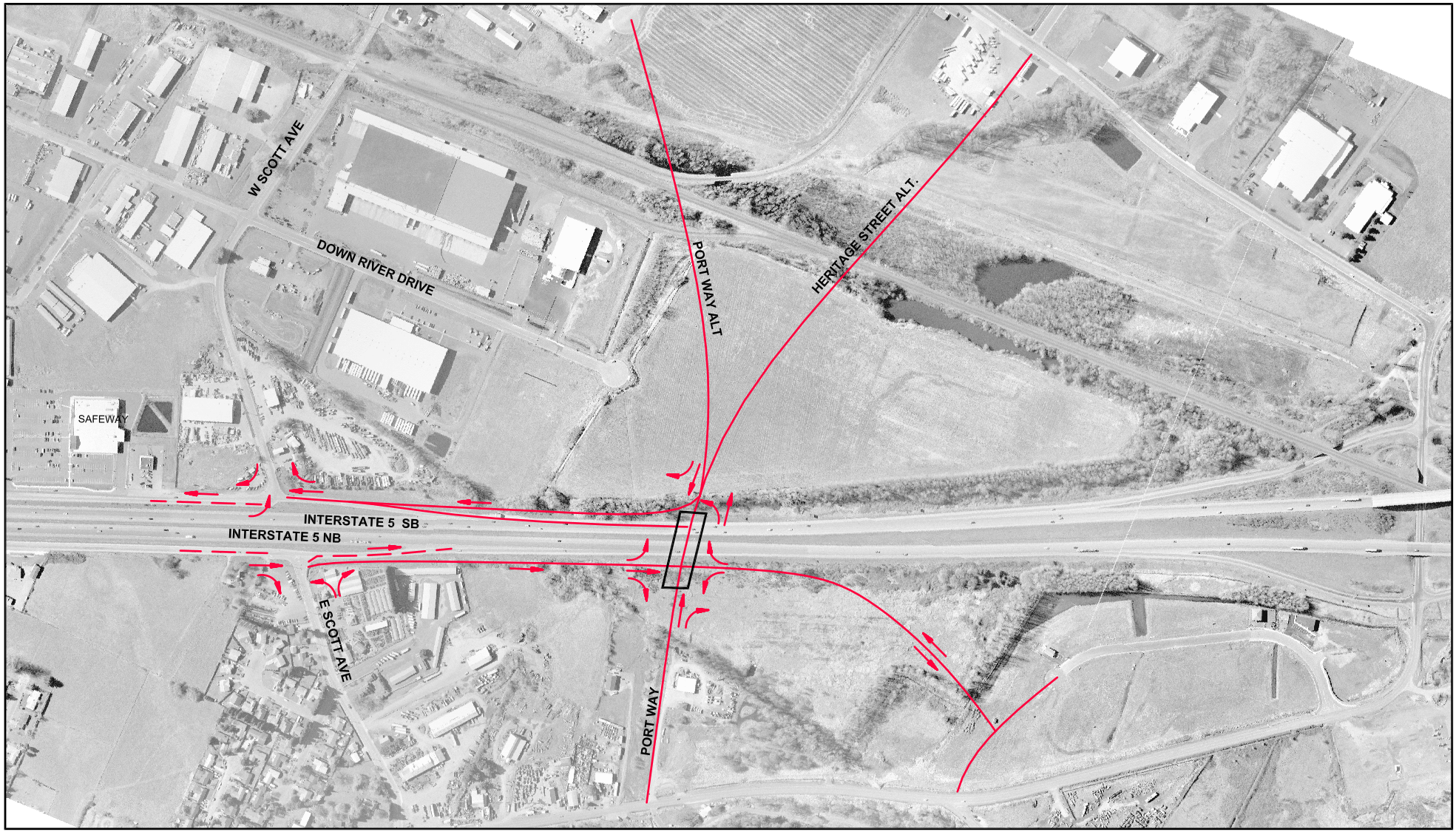
SCALE IN FEET

LEGEND

EXISTING ROADWAY

NEW CONSTRUCTION

Figure C-4
Port Way
Over Crossing Only



Parametrix DATE: Dec 28, 2007 FILE: PO2398006F-42

N

0 400'

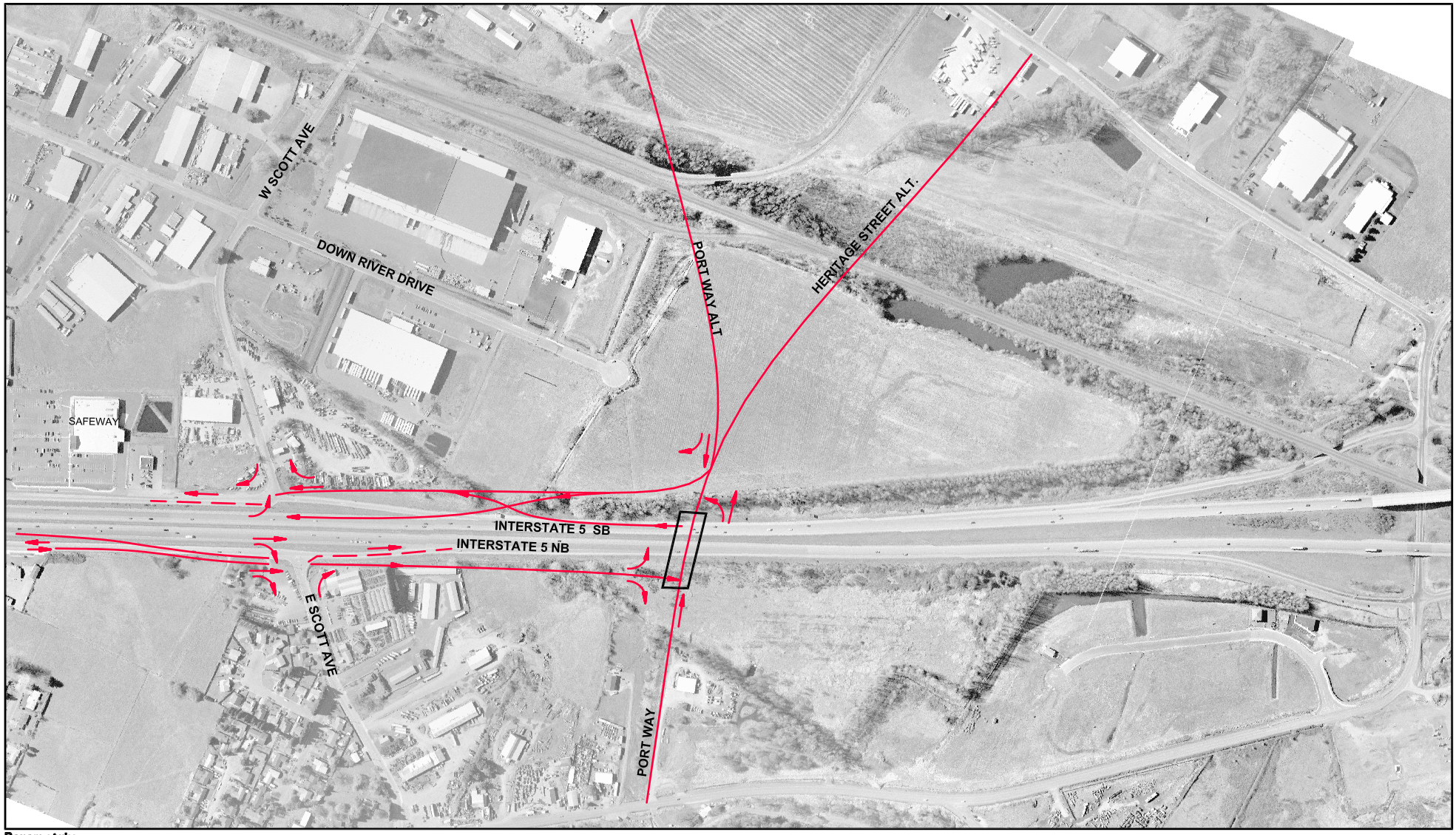
SCALE IN FEET

LEGEND

EXISTING ROADWAY

NEW CONSTRUCTION

Figure C-5
Port Way Overcrossing
With C-D Roads to Scott Ave



Parametrix DATE: Dec 28, 2007 FILE: PO2398006F-43

N

0 400'

SCALE IN FEET

LEGEND

EXISTING ROADWAY

NEW CONSTRUCTION

Figure C-6
Port Way Overcrossing
With I-5 Ramps