

FREIGHT MOBILITY STRATEGIC INVESTMENT BOARD

Prioritization of Prominent Road Rail Conflicts in Washington State

Advisory Committee Meeting
June 11, 2018 | 10:00 am - 2:00 pm

FMSIB Office
505 Union Avenue SE, Suite 350
Olympia, WA 98504

AGENDA

- | | | |
|--------------|--|-----------------------------|
| 10:00 | Welcome and Introductions | Brian Ziegler, FMSIB |
| | <ul style="list-style-type: none">• Agenda overview | |
| 10:10 | Meeting with MPO/RTPOs | Brian |
| | <ul style="list-style-type: none">• Summary of feedback received | |
| 10:30 | Review Updated Project Prioritization Methodology | Jon / Brian |
| | <ul style="list-style-type: none">• Review input received• Describe updated prioritization scoring methodology | |
| 11:00 | Project Priority Rankings | Jon / Brian |
| | <ul style="list-style-type: none">• Review updated project priorities• Discuss issues, questions, concerns• Confirm project priorities | |
| 12:00 | Lunch | |
| 12:30 | Continued Discussion on Project Priorities, If Needed | Jon / Brian |
| 1:50 | Next Steps | Brian |
| 2:00 | Adjourn | |



PRIORITIZATION OF PROMINENT ROAD-RAIL CONFLICTS

FMSIB Advisory Group

June 11, 2018

AGENDA

- Welcome / Introductions
- Summary of MPO/RTPO Feedback
- Review Updated Scoring Methodology
- Confirm Project Priorities
- Next Steps



LEGISLATIVE DIRECTION FOR THE PROJECT

Engrossed Substitute Senate Bill SB 5096 (2017), Section 206:

The appropriation in this section is subject to the following conditions and limitations: \$60,000 of the motor vehicle account—state appropriation is provided solely for the board, from amounts set aside out of statewide fuel taxes distributed to cities according to RCW 46.68.110(2), to manage and update the road-rail conflicts database produced as a result of the joint transportation committee's "Study of Road-rail Conflicts in Cities (2016)." The board shall update the database using data from the most recent versions of the Washington state freight and goods transportation system update, marine cargo forecast, and other relevant sources. The database must continue to identify prominent road-rail conflicts that will help to inform strategic state investment for freight mobility statewide. The board shall form a committee including, but not limited to, representatives from local governments, the department of transportation, the utilities and transportation commission, and relevant stakeholders to identify and recommend a statewide list of projects using a corridor-based approach. The board shall provide the list to the transportation committees of the legislature and the office of financial management **by September 1, 2018**.

MPO/RTPO REQUESTS

**Request sent to MPO/RTPOs*

Based on the Phase 1 list of conflict priorities, sort them into 3 tiers for your region:

1. Tier 1 – Projects that are in design and awaiting full construction
2. Tier 2 – Projects that are planned with no design completed
3. Tier 3 – A crossing in the Top 300, but no project has been studied, scoped, or identified

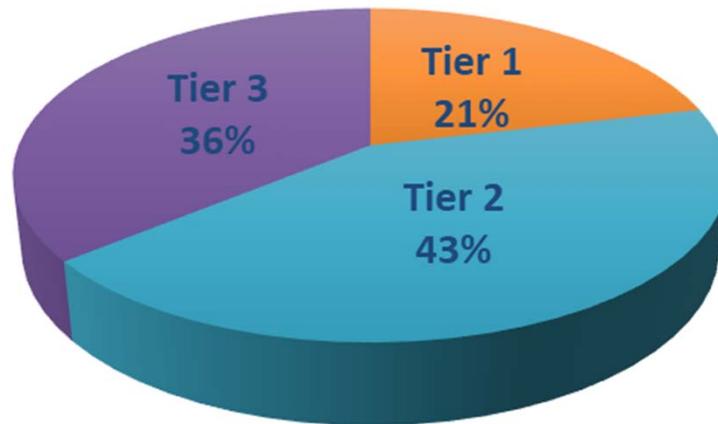


SUBMITTED PROJECTS

Responses Received:

All RTPO's, except for 3 which had few, if any, crossings.

Projects/Crossing by Tier



■ Tier 1 ■ Tier 2 ■ Tier 3



SUBMITTED PROJECTS

Projects that are in design and awaiting full construction

TIER 1



16 Projects (10 Fully Funded)

Projects that are planned with no design completed

TIER 2



34 Projects

A crossing in the Top 300, but no project has been studied, scoped, or identified

TIER 3



27 Crossings

PROJECT CATEGORIES FOR TIER 1 & 2

Category	Type of Improvement
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Grade Separation

-----> **Bridge or Overpass**

Pedestrian Only Grade Separation

-----> **Pedestrian Bridge**

Safety Enhancements

- >
- Signs
 - Gates
 - Lights
 - Quiet Zone

Mobility Solutions

- >
- ITS / Adaptive Signal Control
 - Dynamic Signage / Traveler Information Systems
 - Signal Interconnects / Pre-emption

Railroad Enhancements

-----> Reducing number of tracks, relocating tracks, operational changes

PHASE 1 EVALUATION CRITERIA

MOBILITY 50%, SAFETY 25%, COMMUNITY 25%



Increase Risks



- 1. Number of Alternate Grade-Separated Crossings
- 2. Number of Mainline Tracks
- 3. Proximity to Emergency Services

Safety Record



- 4. Incident History: Total**
- 5. Incident History: Severity**

Infrastructure Status



- 6. Level of Protection**



Freight Demand



- 7. Roadway Freight Classification

People Demand



- 8. Existing Vehicle Volumes
- 9. Future Vehicle Volumes

Mobility Barrier



- 10. Network Sensitivity
- 11. Crossing Density
- 12. Gate Down Time**



Economic



- 13. Employment Density
- 14. First/Last Mile Freight Facilities

Human Health



- 15. Population Density
- 16. Daily Emissions**
- 17. Noise: Quiet Zones**
- 18. Percent Minority
- 19. Percent Low-Income

RED HIGHLIGHTS: Criteria used to score the projects

PHASE 2 SCORING METHODOLOGY

- Simplified scoring process - utilized Phase 1 criteria and data
- Methodology considered the type of crossing improvement (project type)

	Scoring Methodology by Project Type		
Phase 1 Criteria	Grade Separation Projects	Safety Project	Mobility or Railroad Project
4. Incident History: Total 5. Incident History: Severity 6. Level of Protection	Doubled Phase 1 points for a 100% increase	Increased Phase 1 points by 50%	No Change
12. Gate Down Time 16. Daily Emissions		No Change	Increased Phase 1 points by 50%
17. Noise Quiet Zones		Full points if enabled a quiet zone	Full points if enabled a quiet zone

PHASE 2 SCORING METHODOLOGY – ACCOUNTING FOR NEARBY CROSSINGS

- The scoring methodology also considered the benefits to nearby crossings to account for a “corridor approach”

Scoring Methodology by Project Type			
Phase 1 Criteria	Grade Separation Projects	Safety Project	Mobility or Railroad Project
4. Incident History: Total 5. Incident History: Severity 6. Level of Protection	100% pts = closed crossing 50% pts = < 0.5 miles 25% pts = < 1 mile 0 pts = > 1 mile	No Change	No Change
12. Gate Down Time 16. Daily Emissions		No Change	25% pts = < 0.5 miles 10% pts = < 1 mile 0 pts = > 1 mile
17. Noise Quiet Zones	Full points for closed crossing	Full points if enabled a quiet zone	Full points if enabled a quiet zone

PHASE 2 SCORING METHODOLOGY

- Identified two potential scoring options
- Resulting project scores for each option are attached

HOW TO MEASURE PROJECT BENEFITS

DIFFERENTIAL POINTS VERSUS TOTAL COSTS (OPTION 1)

	<u>BEFORE</u>		<u>AFTER</u>	
1. PHASE 1 SCORE	52		74	
<hr/>				
2. CALCULATE DIFFERENTIAL	74 - 52	=	+22	
<hr/>				
3. ACCOUNT FOR CORRIDOR IMPROVEMENTS	OTHER IMPACTED CROSSINGS			
#1	44	=	48	
#2	60	=	67	
	Total increase		+11	+ +22 = +33

- Measures specific benefits of the project
- Does not account for existing crossing characteristics

4. NORMALIZE USING TOTAL COST

$$\left(\$25,000,000 / 33 \right) / 1,000 = 758$$

HOW TO MEASURE PROJECT BENEFITS

TOTAL POINTS VERSUS TOTAL COSTS (OPTION 2)

	<u>BEFORE</u>	<u>AFTER</u>	
1. PHASE 1 SCORE	52	+74	<ul style="list-style-type: none"> • Accounts for existing crossing characteristics • Less focused on project benefits
OTHER IMPACTED CROSSINGS			
2. ACCOUNT FOR CORRIDOR IMPROVEMENTS #1	44	= 48	
#2	60	= 67	
Total increase		+11	+ +74 = +85

3. NORMALIZE USING TOTAL COST

$$\left(\$25,000,000 / 85 \right) / 1,000 = 294$$

QUESTIONS

- Are there any specific concerns regarding the finalized project priorities?
- Do you support submitting two different project priority rankings for the Legislature to consider?
- What other information is necessary to provide to the Legislature?
- Are there any further next steps we should be recommending to the Legislature?

NEXT STEPS

1. Finalize project priorities
2. Meeting with FMSIB Board (July)

MAP OF PROJECTS (Turn on Project/Crossing by Tier Layer)

<http://gisdev.transpogroup.com/jtccrossingstudy/>

Road-Rail Project Priorities														
Ranking based on Final Project Score (Total) versus Total Project Costs. Cost / Benefit Displayed in a Cost per Point (lower number is better)														
Project ID	Crossing Number	Project Name	Street Name / Location	RTPO	Total Cost	Secured Funds	Original Crossing RANK	Original Total Score	Final Project Score (Total)	Final Project Score (Difference)	Project Cost / Benefit	Project Cost / Benefit	PROJECT RANKING	Comments / Notes
											Based on Diff Points & Total Costs (1)	Based on Total Points & Total Costs (2)		
TIER 1 Projects														
T1-13	066367E	Pines Road / BNSF Grade Separation (SR27/SR290), Spokane Valley	Pines Rd-SR27	SRTC	\$22,891,000	\$2,000,000	12	59.45	133.68	74.23	308	171	1	Improves two crossings
T1-2	065840P	McKittrick Street Grade Separation, Wenatchee	Hawley St	CDTC	\$25,000,000	\$0	172	11.84	23.00	11.16	2,239	1,087	2	
T1-3	396576X	South 228th Union Pacific Grade Separation, Kent	S 228th St	PSRC	\$40,100,000	\$21,932,897	84	24.13	35.79	11.67	3,437	1,120	3	
T1-5	New	Canyon Road Freight Corridor Improvements, Pioneer Way E to 52nd St E / 62nd Ave E, Pierce County	Puyallup Area	PSRC	\$62,720,190	\$22,368,125	0	0.00	52.86	17.42	3,600	1,186	4	Provides new grade separated crossing and closes the 52nd Street crossing
T1-1	Railroad	Connell Rail Interchange Project, Connell	Hawley St	BFCOG	\$24,100,000	\$10,000,000	0	0.00	0.00	0.00	0	0	5	Does not benefit an existing, nearby at-grade crossing
T1-16	N/A	Regional Beltway Phase II, Union Gap	New Crossing	YVCOG	\$17,950,000	\$400,000	0	0.00	0.00	0.00	0	0	5	Does not benefit an existing, nearby at-grade crossing
T1-4	084640G	I-5 @ SR 529 Interchange Improvements, Marysville	I-5 & SR 529	PSRC	\$84,400,000	\$84,400,000	18	47.31	0.00	0.00	0	0	N/A	Fully Funded
T1-6	085584F	South Lander Street Grade Separation, Seattle	S Lander St	PSRC	\$123,000,000	\$123,000,000	1	69.33	0.00	0.00	0	0	N/A	Fully Funded
T1-7	Multiple	I-5/Mounts Rd to Thorne Ln Corridor Improvements, Lakewood and Dupont	Lakewood, JBLM, DuPont Area	PSRC	\$482,430,000	\$482,430,000	249	20.09	0.00	0.00	0	0	N/A	Fully Funded
T1-8	092425R	River S Bridge Replacement, Ridgefield	Wildlife Refuge Rd	RTC	\$8,759,600	\$8,759,600	147	584.81	0.00	0.00	0	0	N/A	Fully Funded
T1-9	092428L	Pioneer St Rail Overpass, Port of Ridgefield	Division St	RTC	\$14,923,000	\$14,923,000	166	547.52	0.00	0.00	0	0	N/A	Fully Funded
T1-10	New	SR 14/Bingen Point Access Improvements, Port of Klickitat	Maple Street	RTC	\$22,900,000	\$22,900,000	0	0.00	0.00	0.00	0	0	N/A	Fully Funded
T1-11	084758W	Riverside Dr / 4th St N Safety Improvements, Mount Vernon	Riverside Dr	SCOG	\$1,449,000	\$1,449,000	21	53.03	0.00	0.00	0	0	N/A	Fully Funded
T1-12	066244T	Barker Road / BNSF Grade Separation, Spokane Valley	Barker Rd	SRTC	\$18,738,000	\$25,000,000	36	49.45	0.00	0.00	0	0	N/A	Fully Funded
T1-14	084845A	Birch Bay Lynden/Portal Way Signalization Project	Birch Bay - Lynden Road	WCOG	\$3,900,000	\$3,900,000	83	40.78	0.00	0.00	0	0	N/A	Fully Funded
T1-15	077846P	F Street	F Street	WCOG	\$730,000	\$730,000	29	51.78	0.00	0.00	0	0	N/A	Fully Funded
					Total Costs (w/o fully funded projects)	\$192,761,190	\$56,701,022							
					Total Costs	\$953,990,790	\$824,192,622							
TIER 2 Projects														
T2-17	085680H	Zehnder Street BNSF Crossing at-grade improvements, Sumner	Zehnder St	PSRC	\$300,000	\$0	70	42.55	52.39	9.84	30	6	1	Low-cost safety upgrades
T2-19	Multiple	Railroad Crossing Delay Warning System, Seattle	South Downtown Seattle Crossings	PSRC	\$250,000	\$0	0	0.00	37.05	37.05	7	7	2	Low-cost ITS solution for several at-grade crossings
T2-24	085755E	Steilacoom Ferry Lane Modification, Pierce County	Union Ave	PSRC	\$650,000	\$0	40	49.08	52.58	3.50	186	12	3	Low-cost safety upgrades
T2-1	084464L	Division Street Crossing Safety & ADA Improvements, Cashmere	Division St	CDTC	\$1,500,000	\$0	129	34.24	36.24	2.00	750	41	4	Low-cost safety upgrades
T2-10	084594H	Lenora St/BNSF Rail Line Overcrossing, Everett	Lenora St	PSRC	\$2,304,000	\$0	203	25.82	31.42	5.59	412	73	5	The project cost estimate appears very low for a grade separated crossing
T2-25	085703M	Stewart Avenue East/66th Avenue East, Pierce County	66th Avenue	PSRC	\$4,000,000	\$0	125	34.50	43.20	8.70	460	93	6	Low-cost safety upgrades
T2-16	396597R	8th St at UPRR crossing and Butte Ave SE intersection Signal, Sumner	8th St	PSRC	\$4,704,000	\$1,370,000	188	28.05	29.95	1.90	2,481	157	7	

Road-Rail Project Priorities														
Ranking based on Final Project Score (Total) versus Total Project Costs. Cost / Benefit Displayed in a Cost per Point (lower number is better)														
Project ID	Crossing Number	Project Name	Street Name / Location	RTPO	Total Cost	Secured Funds	Original Crossing RANK	Original Crossing Total Score	Final Project Score (Total)	Final Project Score (Difference)	Project Cost / Benefit	Project Cost / Benefit	PROJECT RANKING	Comments / Notes
T2-12	084605T	Chestnut St / Eclipse Mill Road Improvements from Pacific to 36th, Everett	Chestnut St	PSRC	\$4,288,000	\$0	238	22.19	22.19	0.00	0	193	8	Project is anticipated to provide little benefit based on the scoring methodology
T2-32	066377K	Park Road / BNSF Grade Separation, Spokane Valley	Park Road	SRTC	\$23,000,000	\$0	13	59.16	112.41	53.25	432	205	9	Addresses two problematic at-grade crossings
T2-13	396581U	Willis St (SR 516)/Union Pacific Railroad Grade Separation, Kent	Willis St	PSRC	\$26,500,000	\$0	24	53.67	114.43	60.75	436	232	10	Provides benefits to other nearby crossings
T2-26	090117D	32nd Street/Russell, Washougal	32nd St/Russell	RTC	\$17,863,000	\$863,000	51	46.77	69.27	22.50	794	258	11	
T2-28	084775M	Cook Road Reconstruction, Skagit County	Cook Rd	SCOG	\$15,500,000	\$0	80	41.09	53.40	12.32	1,258	290	12	
T2-33	084853S	Bell Road - SR 548, WSDOT		WCOG	\$13,400,000	\$550,000	116	35.11	45.02	9.91	1352	298	13	
T2-27	084759D	College Way Railroad Grade Separation, Mount Vernon	College Way-SR 538	SCOG	\$22,700,000	\$0	26	53.50	69.49	15.99	1,420	327	14	
T2-7	085640K	Willis St BNSF Grade Separation, Kent	Willis St (SR 516)	PSRC	\$61,000,000	\$0	8	60.99	131.83	70.84	861	463	15	
T2-15	084646X	Grove Street RR Overcrossing, Marysville	Grove St	PSRC	\$21,540,000	\$1,000,000	123	34.57	46.17	11.60	1,857	467	16	
T2-18	085583Y	S. Holgate St. Rail Crossing Improvements, Seattle	S Holgate St	PSRC	\$40,000,000	\$0	10	59.97	73.80	13.83	2,893	542	17	
T2-14	396575R	S 212th St/Union Pacific Railroad Grade Separation, Kent	212th St	PSRC	\$33,000,000	\$0	69	42.63	56.08	13.45	2,453	588	18	
T2-11	084992M	East Everett Avenue / BNSF Overcrossing, Everett	Everett Area	PSRC	\$17,152,000	\$0	264	16.89	22.36	5.47	3,133	767	19	
T2-8	085625H	212th St BNSF RR Grade Separation, Kent	212th St	PSRC	\$66,000,000	\$0	11	59.67	79.32	19.66	3,358	832	20	
T2-2	065839V	Miller St Grade Separation, Wenatchee	N Miller St	CDTC	\$30,000,000	\$0	223	24.65	31.73	7.08	4,238	945	21	
T2-3	065831R	BNSF Wenatchee Switchyard Relocation, Wenatchee	Orondo St	CDTC	\$32,000,000	\$0	225	24.55	26.67	2.12	15,109	1,200	22	
T2-5	New	Edmonds Street Waterfront Connector, Edmonds	Edmonds Waterfront	PSRC	\$29,905,000	\$0	0	0.00	16.77	16.77	1,783	1,783	23	
T2-30	New	Railroad Overpass Project, Burlington	Gilkey Road	SCOG	\$17,000,000	\$0	0	0.00	5.57	5.57	3,050	3,050	24	
T2-9	New	SODO Rail Corridor Grade Separations, Seattle	South Downtown	PSRC	\$154,425,000	\$0	0	0.00	41.34	41.34	3,735	3,735	25	Project cost is very high
T2-20	New	Pedestrian Overpass between Old Town Business District and Ruston Way, Tacoma	Tacoma Waterfront	PSRC	\$0	\$0	0	0.00	3.13	3.13	0	0	N/A	No project cost provided
T2-21	085392N	S 56th and Washington St, Tacoma	S 56th St	PSRC	\$0	\$0	245	20.71	23.08	2.37	0	0	N/A	No project cost provided
T2-22	085382H	Pine St and S Tacoma Way, Tacoma	Pine St	PSRC	\$0	\$0	291	11.04	14.62	3.58	0	0	N/A	No project cost provided
T2-23	085396R	S 74th St and S Tacoma Way, Tacoma	S 74th St	PSRC	\$0	\$0	283	14.19	16.51	2.32	0	0	N/A	No project cost provided
T2-4	New	Bridge Street Non-Motorized Grade Separation, Wenatchee	Bridge St	CDTC	\$4,000,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
T2-6	New	70th Avenue E Railroad Crossing, Fife	70th Ave E	PSRC	\$26,202,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
T2-29	New	Jones Road/John Liner Railroad Undercrossing, Sedro-Woolley	Jones Road	SCOG	\$7,700,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
T2-31	Rail Bridge	BNSF Rail Bridge over Skagit River, Burlington	East Whitmarsh Rd	SCOG	\$60,000,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
Total Costs					\$736,883,000	\$3,783,000								
TIER 3 Projects														
T3-10	084744N	SR 536/Kincaid near S 3rd Street, Mount Vernon	SR 536 - Kincaid	SCOG	\$0	\$0	6	61.70						
T3-18	065970L	Cheney Crossings Study	F St/Cheney-Spangle	SRTC	\$0	\$0	22	54.44						

Road-Rail Project Priorities														
Ranking based on Final Project Score (Total) versus Total Project Costs. Cost / Benefit Displayed in a Cost per Point (lower number is better)														
												Based on Diff Points & Total Costs (1)	Based on Total Points & Total Costs (2)	
Project ID	Crossing Number	Project Name	Street Name / Location	RTPO	Total Cost	Secured Funds	Original Crossing RANK	Original Crossing Total Score	Final Project Score (Total)	Final Project Score (Difference)	Project Cost / Benefit	Project Cost / Benefit	PROJECT RANKING	Comments / Notes
T3-11	084766N	SR 20/Avon Ave near S Spruce St, Burlington	SR 20 - Avon	SCOG	\$0	\$0	23	54.43						
T3-15	662514H	Argonne Road, Millwood	Argonne Rd	SRTC	\$0	\$0	30	51.58						
T3-12	084765G	Fairhaven near Spruce St., Burlington	E Fairhaven Ave	SCOG	\$0	\$0	34	50.38						
T3-14	662519S	Pines Road at I-90, Spokane Valley	Pines Rd	SRTC	\$0	\$0	38	49.25						
T3-16	662503V	Mission Avenue, Spokane	Mission Ave	SRTC	\$0	\$0	46	47.56						
T3-13	084739S	Old 99/Blackburn Road near S 3rd Street, Mount Vernon	Old 99/Blackburn	SCOG	\$0	\$0	49	47.07						
T3-1	104572R	Fruitland Street, Kennewick	N Fruitland St	BFCOG	\$0	\$0	52	46.50						
T3-17	066240R	Harvard Road / BNSF Crossing, Spokane County	Harvard Rd	SRTC	\$26,000,000	\$0	55	45.96						
T3-19	066315M	Cheney Crossings Study	Pine St	SRTC	\$0	\$0	64	43.19						
T3-21	084806J	Cornwall Ave, Bellingham	Cornwall Avenue	WCOG	\$0	\$0	68	42.82						
T3-24	099190G	SR 22-Buena Way, Toppenish	SR 22-Buena Way	YVCOG	\$0	\$0	79	41.19						
T3-2	104568B	Edison/BNSF Grade Separation, Kennewick	N Edison St	BFCOG	\$0	\$0	81	41.04						
T3-20	065971T	Cheney Crossings Study	Cheney-Plaza Rd	SRTC	\$0	\$0	82	40.81						
T3-3	919073D	Kellogg Street, Kennewick	N Kellogg St	BFCOG	\$0	\$0	85	40.51						
T3-22	396920W	Wharf Street, Bellingham	Wharf Street	WCOG	\$0	\$0	102	37.40						
T3-4	104574E	Washington Street Corridor Improvements, Kennewick	N Washington St	BFCOG	\$149,500	\$0	132	33.74						
T3-6	090072Y	Beach Drive, Vancouver	Beach Drive	RTC	\$0	\$0	162	30.08						
T3-7	090112U	6th Street, Washougal	6th Street	RTC	\$0	\$0	176	29.03						
T3-25	099189M	BNSF/ E McDonald Rd, Track Circuitry, Toppenish	McDonald Rd E	YVCOG	\$0	\$0	191	27.42						
T3-5	0900385S	Bowles Road, Benton County	Bowles Rd 9713	BFCOG	\$0	\$0	197	27.08						
T3-8	092421N	NW 122nd Street, Vancouver	NW 122nd Street	RTC	\$0	\$0	210	25.43						
T3-9	090074M	SE Chelsea Avenue, Vancouver	SE Chelsea Avenue	RTC	\$0	\$0	221	24.85						
T3-26	099186S	Branch Road, Toppenish	E Branch Rd	YVCOG	\$0	\$0	280	14.37						
T3-27	099216G	White Swan Branch Line, Safety Upgrade, Harrah	Lateral A Rd	YVCOG	\$0	\$0	302	0.00						

Road-Rail Project Priorities														
Ranking based on Final Project Score (Difference) versus Total Project Costs. Cost / Benefit Displayed in a Cost per Point (lower number is better)														
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											Based on Diff Points & Total Costs (1)	Based on Total Points & Total Costs (2)		
TIER 1 Projects														
T1-13	066367E	Pines Road / BNSF Grade Separation (SR27/SR290), Spokane Valley	Pines Rd-SR27	SRTC	\$22,891,000	\$2,000,000	12	59.45	133.68	74.23	308	171	1	Improves two crossings
T1-2	065840P	McKittrick Street Grade Separation, Wenatchee	Hawley St	CDTC	\$25,000,000	\$0	172	11.84	23.00	11.16	2,239	1,087	2	
T1-3	396576X	South 228th Union Pacific Grade Separation, Kent	S 228th St	PSRC	\$40,100,000	\$21,932,897	84	24.13	35.79	11.67	3,437	1,120	3	
T1-5	New	Canyon Road Freight Corridor Improvements, Pioneer Way E to 52nd St E / 62nd Ave E, Pierce County	Puyallup Area	PSRC	\$62,720,190	\$22,368,125	0	0.00	52.86	17.42	3,600	1,186	4	Provides new grade separated crossing and closes the 52nd Street crossing
T1-1	Railroad	Connell Rail Interchange Project, Connell	Hawley St	BFCOG	\$24,100,000	\$10,000,000	0	0.00	0.00	0.00	0	0	5	Does not benefit an existing, nearby at-grade crossing
T1-16	N/A	Regional Beltway Phase II, Union Gap	New Crossing	YVCOG	\$17,950,000	\$400,000	0	0.00	0.00	0.00	0	0	5	Does not benefit an existing, nearby at-grade crossing
T1-4	084640G	I-5 @ SR 529 Interchange Improvements, Marysville	I-5 & SR 529	PSRC	\$84,400,000	\$84,400,000	18	47.31	0.00	0.00	0	0	N/A	Fully Funded
T1-6	085584F	South Lander Street Grade Separation, Seattle	S Lander St	PSRC	\$123,000,000	\$123,000,000	1	69.33	0.00	0.00	0	0	N/A	Fully Funded
T1-7	Multiple	I-5/Mounts Rd to Thorne Ln Corridor Improvements, Lakewood and Dupont	Lakewood, JBLM, DuPont Area	PSRC	\$482,430,000	\$482,430,000	249	20.09	0.00	0.00	0	0	N/A	Fully Funded
T1-8	092425R	River S Bridge Replacement, Ridgefield	Wildlife Refuge Rd	RTC	\$8,759,600	\$8,759,600	147	584.81	0.00	0.00	0	0	N/A	Fully Funded
T1-9	092428L	Pioneer St Rail Overpass, Port of Ridgefield	Division St	RTC	\$14,923,000	\$14,923,000	166	547.52	0.00	0.00	0	0	N/A	Fully Funded
T1-10	New	SR 14/Bingen Point Access Improvements, Port of Klickitat	Maple Street	RTC	\$22,900,000	\$22,900,000	0	0.00	0.00	0.00	0	0	N/A	Fully Funded
T1-11	084758W	Riverside Dr / 4th St N Safety Improvements, Mount Vernon	Riverside Dr	SCOG	\$1,449,000	\$1,449,000	21	53.03	0.00	0.00	0	0	N/A	Fully Funded
T1-12	066244T	Barker Road / BNSF Grade Separation, Spokane Valley	Barker Rd	SRTC	\$18,738,000	\$25,000,000	36	49.45	0.00	0.00	0	0	N/A	Fully Funded
T1-14	084845A	Birch Bay Lynden/Portal Way Signalization Project	Birch Bay - Lynden Road	WCOG	\$3,900,000	\$3,900,000	83	40.78	0.00	0.00	0	0	N/A	Fully Funded
T1-15	077846P	F Street	F Street	WCOG	\$730,000	\$730,000	29	51.78	0.00	0.00	0	0	N/A	Fully Funded
Total Costs (w/o fully funded projects)					\$192,761,190	\$56,701,022								
Total Costs					\$953,990,790	\$824,192,622								
TIER 2 Projects														
T2-19	Multiple	Railroad Crossing Delay Warning System, Seattle	South Downtown Seattle Crossings	PSRC	\$250,000	\$0	0	0.00	37.05	37.05	7	7	1	Low-cost ITS solution for several at-grade crossings
T2-17	085680H	Zehnder Street BNSF Crossing at-grade improvements, Sumner	Zehnder St	PSRC	\$300,000	\$0	70	42.55	52.39	9.84	30	6	2	Low-cost safety upgrades
T2-24	085755E	Steilacoom Ferry Lane Modification, Pierce County	Union Ave	PSRC	\$650,000	\$0	40	49.08	52.58	3.50	186	12	3	Low-cost safety upgrades
T2-10	084594H	Lenora St/BNSF Rail Line Overcrossing, Everett	Lenora St	PSRC	\$2,304,000	\$0	203	25.82	31.42	5.59	412	73	4	The project cost estimate appears very low for a grade separated crossing
T2-32	066377K	Park Road / BNSF Grade Separation, Spokane Valley	Park Road	SRTC	\$23,000,000	\$0	13	59.16	112.41	53.25	432	205	5	Addresses two problematic at-grade crossings
T2-13	396581U	Willis St (SR 516)/Union Pacific Railroad Grade Separation, Kent	Willis St	PSRC	\$26,500,000	\$0	24	53.67	114.43	60.75	436	232	6	Provides benefits to other nearby crossings
T2-25	085703M	Stewart Avenue East/66th Avenue East, Pierce County	66th Avenue	PSRC	\$4,000,000	\$0	125	34.50	43.20	8.70	460	93	7	Low-cost safety upgrades

Road-Rail Project Priorities														
Ranking based on Final Project Score (Difference) versus Total Project Costs. Cost / Benefit Displayed in a Cost per Point (lower number is better)														
Project ID	Crossing Number	Project Name	Street Name / Location	RTPO	Total Cost	Secured Funds	Original Crossing RANK	Original Crossing Total Score	Final Project Score (Total)	Final Project Score (Difference)	Project Cost / Benefit	Project Cost / Benefit	PROJECT RANKING	Comments / Notes
											Based on Diff Points & Total Costs (1)	Based on Total Points & Total Costs (2)		
T2-1	084464L	Division Street Crossing Safety & ADA Improvements, Cashmere	Division St	CDTC	\$1,500,000	\$0	129	34.24	36.24	2.00	750	41	8	Low-cost safety upgrades
T2-26	090117D	32nd Street/Russell, Washougal	32nd St/Russell	RTC	\$17,863,000	\$863,000	51	46.77	69.27	22.50	794	258	9	
T2-7	085640K	Willis St BNSF Grade Separation, Kent	Willis St (SR 516)	PSRC	\$61,000,000	\$0	8	60.99	131.83	70.84	861	463	10	
T2-28	084775M	Cook Road Reconstruction, Skagit County	Cook Rd	SCOG	\$15,500,000	\$0	80	41.09	53.40	12.32	1,258	290	11	
T2-33	084853S	Bell Road - SR 548, WSDOT		WCOG	\$13,400,000	\$550,000	116	35.11	45.02	9.91	1352	298	12	
T2-27	084759D	College Way Railroad Grade Separation, Mount Vernon	College Way-SR 538	SCOG	\$22,700,000	\$0	26	53.50	69.49	15.99	1,420	327	13	
T2-5	New	Edmonds Street Waterfront Connector, Edmonds	Edmonds Waterfront	PSRC	\$29,905,000	\$0	0	0.00	16.77	16.77	1,783	1,783	14	
T2-15	084646X	Grove Street RR Overcrossing, Marysville	Grove St	PSRC	\$21,540,000	\$1,000,000	123	34.57	46.17	11.60	1,857	467	15	
T2-14	396575R	S 212th St/Union Pacific Railroad Grade Separation, Kent	212th St	PSRC	\$33,000,000	\$0	69	42.63	56.08	13.45	2,453	588	16	
T2-16	396597R	8th St at UPRR crossing and Butte Ave SE intersection Signal, Sumner	8th St	PSRC	\$4,704,000	\$1,370,000	188	28.05	29.95	1.90	2,481	157	17	
T2-18	085583Y	S. Holgate St. Rail Crossing Improvements, Seattle	S Holgate St	PSRC	\$40,000,000	\$0	10	59.97	73.80	13.83	2,893	542	18	
T2-30	New	Railroad Overpass Project, Burlington	Gilkey Road	SCOG	\$17,000,000	\$0	0	0.00	5.57	5.57	3,050	3,050	19	
T2-11	084992M	East Everett Avenue / BNSF Overcrossing, Everett	Everett Area	PSRC	\$17,152,000	\$0	264	16.89	22.36	5.47	3,133	767	20	
T2-8	085625H	212th St BNSF RR Grade Separation, Kent	212th St	PSRC	\$66,000,000	\$0	11	59.67	79.32	19.66	3,358	832	21	
T2-9	New	SODO Rail Corridor Grade Separations, Seattle	South Downtown	PSRC	\$154,425,000	\$0	0	0.00	41.34	41.34	3,735	3,735	22	Project cost is very high
T2-2	065839V	Miller St Grade Separation, Wenatchee	N Miller St	CDTC	\$30,000,000	\$0	223	24.65	31.73	7.08	4,238	945	23	
T2-3	065831R	BNSF Wenatchee Switchyard Relocation, Wenatchee	Orondo St	CDTC	\$32,000,000	\$0	225	24.55	26.67	2.12	15,109	1,200	24	
T2-12	084605T	Chestnut St / Eclipse Mill Road Improvements from Pacific to 36th, Everett	Chestnut St	PSRC	\$4,288,000	\$0	238	22.19	22.19	0.00	0	193	25	Project is anticipated to provide little benefit based on the scoring methodology
T2-20	New	Pedestrian Overpass between Old Town Business District and Ruston Way, Tacoma	Tacoma Waterfront	PSRC	\$0	\$0	0	0.00	3.13	3.13	0	0	N/A	No project cost provided
T2-21	085392N	S 56th and Washington St, Tacoma	S 56th St	PSRC	\$0	\$0	245	20.71	23.08	2.37	0	0	N/A	No project cost provided
T2-22	085382H	Pine St and S Tacoma Way, Tacoma	Pine St	PSRC	\$0	\$0	291	11.04	14.62	3.58	0	0	N/A	No project cost provided
T2-23	085396R	S 74th St and S Tacoma Way, Tacoma	S 74th St	PSRC	\$0	\$0	283	14.19	16.51	2.32	0	0	N/A	No project cost provided
T2-4	New	Bridge Street Non-Motorized Grade Separation, Wenatchee	Bridge St	CDTC	\$4,000,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
T2-6	New	70th Avenue E Railroad Crossing, Fife	70th Ave E	PSRC	\$26,202,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
T2-29	New	Jones Road/John Liner Railroad Undercrossing, Sedro-Woolley	Jones Road	SCOG	\$7,700,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
T2-31	Rail Bridge	BNSF Rail Bridge over Skagit River, Burlington	East Whitmarsh Rd	SCOG	\$60,000,000	\$0	0	0.00	0.00	0.00	N/A	N/A	N/A	Does not improve an existing at-grade crossing
Total Costs					\$736,883,000	\$3,783,000								
TIER 3 Projects														
T3-10	084744N	SR 536/Kincaid near S 3rd Street, Mount Vernon	SR 536 - Kincaid	SCOG	\$0	\$0	6	61.70						
T3-18	065970L	Cheney Crossings Study	F St/Cheney-Spangle	SRTC	\$0	\$0	22	54.44						

Road-Rail Project Priorities														
Ranking based on Final Project Score (Difference) versus Total Project Costs. Cost / Benefit Displayed in a Cost per Point (lower number is better)														
Project ID	Crossing Number	Project Name	Street Name / Location	RTPO	Total Cost	Secured Funds	Original Crossing RANK	Original Crossing Total Score	Final Project Score (Total)	Final Project Score (Difference)	Project Cost / Benefit	Project Cost / Benefit	PROJECT RANKING	Comments / Notes
											Based on Diff Points & Total Costs (1)	Based on Total Points & Total Costs (2)		
T3-11	084766N	SR 20/Avon Ave near S Spruce St, Burlington	SR 20 - Avon	SCOG	\$0	\$0	23	54.43						
T3-15	662514H	Argonne Road, Millwood	Argonne Rd	SRTC	\$0	\$0	30	51.58						
T3-12	084765G	Fairhaven near Spruce St., Burlington	E Fairhaven Ave	SCOG	\$0	\$0	34	50.38						
T3-14	662519S	Pines Road at I-90, Spokane Valley	Pines Rd	SRTC	\$0	\$0	38	49.25						
T3-16	662503V	Mission Avenue, Spokane	Mission Ave	SRTC	\$0	\$0	46	47.56						
T3-13	084739S	Old 99/Blackburn Road near S 3rd Street, Mount Vernon	Old 99/Blackburn	SCOG	\$0	\$0	49	47.07						
T3-1	104572R	Fruitland Street, Kennewick	N Fruitland St	BFCOG	\$0	\$0	52	46.50						
T3-17	066240R	Harvard Road / BNSF Crossing, Spokane County	Harvard Rd	SRTC	\$26,000,000	\$0	55	45.96						
T3-19	066315M	Cheney Crossings Study	Pine St	SRTC	\$0	\$0	64	43.19						
T3-21	084806J	Cornwall Ave, Bellingham	Cornwall Avenue	WCOG	\$0	\$0	68	42.82						
T3-24	099190G	SR 22-Buena Way, Toppenish	SR 22-Buena Way	YVCOG	\$0	\$0	79	41.19						
T3-2	104568B	Edison/BNSF Grade Separation, Kennewick	N Edison St	BFCOG	\$0	\$0	81	41.04						
T3-20	065971T	Cheney Crossings Study	Cheney-Plaza Rd	SRTC	\$0	\$0	82	40.81						
T3-3	919073D	Kellogg Street, Kennewick	N Kellogg St	BFCOG	\$0	\$0	85	40.51						
T3-22	396920W	Wharf Street, Bellingham	Wharf Street	WCOG	\$0	\$0	102	37.40						
T3-4	104574E	Washington Street Corridor Improvements, Kennewick	N Washington St	BFCOG	\$149,500	\$0	132	33.74						
T3-6	090072Y	Beach Drive, Vancouver	Beach Drive	RTC	\$0	\$0	162	30.08						
T3-7	090112U	6th Street, Washougal	6th Street	RTC	\$0	\$0	176	29.03						
T3-25	099189M	BNSF/ E McDonald Rd, Track Circuitry, Toppenish	McDonald Rd E	YVCOG	\$0	\$0	191	27.42						
T3-5	0900385S	Bowles Road, Benton County	Bowles Rd 9713	BFCOG	\$0	\$0	197	27.08						
T3-8	092421N	NW 122nd Street, Vancouver	NW 122nd Street	RTC	\$0	\$0	210	25.43						
T3-9	090074M	SE Chelsea Avenue, Vancouver	SE Chelsea Avenue	RTC	\$0	\$0	221	24.85						
T3-26	099186S	Branch Road, Toppenish	E Branch Rd	YVCOG	\$0	\$0	280	14.37						
T3-27	099216G	White Swan Branch Line, Safety Upgrade, Harrah	Lateral A Rd	YVCOG	\$0	\$0	302	0.00						

MEMORANDUM

Date: June 6, 2018 **TG:** 1.15347.00

To: Brian Ziegler, Director, FMSIB

From: Jon Pascal, Project Manager, Transpo Group

cc: Road-Rail Advisory Committee Members

Subject: Summary of Road-Rail Conflict Projects

We have summarized the project and crossing information received from participating MPO/RTPOs. The information provided was part of requests made in December 2017 and February 2018 from FMSIB to the MPO/RTPO Coordinating Committee to obtain more information on potential projects that address road-rail conflicts in their respective jurisdictions. The specific request submitted to the MPO/RTPOs was the following:

The proviso requests FMSIB to “identify and recommend a statewide list of projects using a corridor-based approach.” Based on the Phase 1 list of conflict priorities, can you sort them into three tiers in your region:

- *Tier 1 – Projects that are in design and awaiting full construction funding*
- *Tier 2 – Projects that are planned and/or scoped but have not proceeded to engineering or design of any substantial kind.*
- *Tier 3 – A Road-Rail conflict ranked in the Top 100 from Phase 1 but for which no project has been studied, scoped, or identified in the regional plan for that location.*

Additional information was also requested by FMSIB including the definition of a corridor, more recent crossing data, and whether other crossings should be added to the list of Top 300.

Responses Received

A variety of responses were received from most of the MPO/RTPOs located throughout the state. Some responses contained detailed lists of projects or problematic crossings, where others contained little information about projects, either because not much information exists or the local agency was not able to respond in time to the request. A few RTPOS had few crossing problems in their jurisdiction, and therefore did not submit any projects. Table 1 lists the status of the responses as of June 5, 2018.

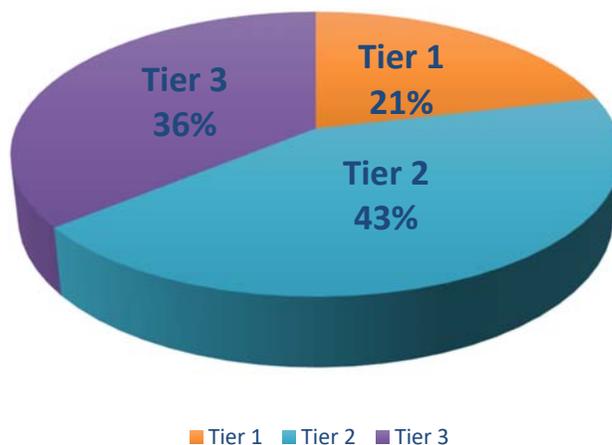
Table 1. MPO/RTPO Responses Received

MPO/RTPO	Abbreviation	Response Received?
Benton-Franklin Council of Governments	BFCOG	Yes
Chelan - Douglas Transportation Council	CDTC	Yes
Cowlitz-Wahkiakum Council of Governments	CWCOG	Yes
Palouse RTPO	PRTPO	No
Peninsula RTPO	PRTPO	No
Puget Sound Regional Council	PSRC	Yes
Quad-County RTPO	QRTPO	No
Skagit Council of Governments	SCOG	Yes
Southwest Washington Regional Transportation Council	SWTRO	Yes
Spokane Regional Transportation Council	SRTC	Yes
Thurston Regional Planning Council	TRPC	Yes
Whatcom Council of Governments	WCOG	Yes
Yakima Valley Conference of Governments	YVCOG	Yes

Summary of Projects

The projects or crossings submitted were categorized into the three Tiers, as requested. In general, almost half the projects were Tier 2 where a solution has been identified, but no design has been completed. Approximately 27 crossings were submitted for Tier 3, which means a local agency has identified the crossing as a problem, but no solution has been confirmed or identified. A total of 16 Tier 1 projects were submitted, which represent projects that are designed and are awaiting full construction funding. However, 10 of the 16 Tier 1 projects are fully funded and can likely be removed from the list.

Projects/Crossing by Tier



Tier 1 Projects

A total of 16 Tier 1 projects were submitted as listed in Table 2. Many of the projects appear to be grade separation solutions or contain some type of grade separated structure. The total estimated cost has been noted for each project, along with the amount of funding that has already been secured. A total of 10 projects have been fully funded and could likely be removed from the Tier 1 list.

In addition to the details noted in Table 2, other crossings were identified that may be impacted by the project, such as those crossings nearby that could either see reduced or increased conflicts. The crossings have been noted in the project database consistent with the intent of a corridor prioritization effort.

Table 2. Tier 1 List of Projects

Project ID	Project Name	Project Description	Street Name or Location	Crossing Number	Total Cost (Amount Funded) – in millions	RTPO
T1-1	Connell Rail Interchange Project, Connell	Relocates, reconfigures and improves a rail interchange where the Columbia Basin Railway (CBRW) intersects the BNSF mainline. In addition to adding capacity and improving freight movement, this investment will relocate the rail switch yard away from residential areas, school traffic patterns and emergency response routes.	Hawley St	Railroad	\$24.1 (\$10.0)	BFCG
T1-2	McKittrick Street Grade Separation, Wenatchee	Following the 2015 Sleepy Hollow wildfire that destroyed 70+ acres of industrial property in the area, the city completed a redevelopment plan that relocates access across BNSF from Hawley Street south one block to McKittrick Street. The project provides for grade separated access to the industrial uses along the river.	Hawley St	065840P	\$25.0 (\$0.0)	CDTC
T1-3	South 228th Union Pacific Grade Separation, Kent	Construct a grade separation of the Union Pacific Railroad mainline tracks at South 228th Street. The project will include the construction of a bridge; four-lane vehicle crossing; full-width paving; concrete curbs, gutters and sidewalks; bicycle facilities; street lighting; utilities and appurtenances. Expected to be completed in 2019.	S 228th St	396576X	\$40.1 (\$21.9)	PSRC
T1-4	I-5 @ SR 529 Interchange Improvements, Marysville	Complete the current half interchange by constructing a new I-5 NB off-ramp to SR 529 and new SB on-ramp from SR 529 to I-5. Provides another route to avoid the downtown rail crossing at 4th Avenue. Expected completion date in 2019. Fully funded.	I-5 & SR 529	084640G	\$84.4 (\$84.4)	PSRC
T1-5	Canyon Road Freight Corridor Improvements, Pioneer Way E to 52nd St E / 62nd Ave E, Pierce County	Extends the major arterial/NHS roadway to connect with the planned completion of SR-167, crossing over the BNSF railroad, Clarks Creek and the Puyallup River. The roadway will link the planned employment center in Frederickson with the Port of Tacoma and destinations northward (e.g. Seattle).	Puyallup Area	New	\$62.7 (\$22.4)	PSRC

T1-6	South Lander St Grade Separation, Seattle	Develop a grade separation of the roadway and the Burlington Northern mainline railroad tracks between 1st Ave S and 4th Ave S. Grade separation to accommodate bicycle, pedestrian, and transit users as well as general freight use. Expected completion date in 2020. Fully funded.	S Lander St	085584F	\$123.0 (123.0)	PSRC
T1-7	I-5/Mounts Rd to Thorne Ln Corridor Improvements, Lakewood and Dupont	Construct grade separation at the interchanges with Thorne Lane, Berkeley Street, and DuPont-Steilacoom Rd as part of the I-5 JBLM corridor improvements funded through Connecting Washington. Expected to be completed by 2023. The projects are fully funded.	Lakewood, JBLM, DuPont Area	Multiple	\$482.4 (\$482.4)	PSRC
T1-8	River S Bridge Replacement, Ridgefield	Replace the bridge accessing the River 'S' Unit of the Ridgefield National Wildlife Refuge with a new two-lane bridge that will grade separate the crossing of the BNSF mainline rail. Fully funded.	Wildlife Refuge Rd	092425R	\$8.6 (\$8.6)	RTC
T1-9	Pioneer St Rail Overpass, Port of Ridgefield	Extend Pioneer Street with an overpass providing a grade-separated crossing of the BNSF mainline rail and eliminating at-grade crossings at Division Street and Mill Street. Fully funded.	Port of Ridgefield	092428L	\$14.9 (\$14.9)	RTC
T1-10	SR 14/Bingen Point Access Improvements, Port of Klickitat	The project supports economic development and improves safety by providing a new grade separated crossing of BNSF's tracks between SR 14 and Bingen Point. Fully funded.	Maple St	090169V	\$22.9 (\$22.9)	RTC
T1-11	Riverside Dr / 4th St N Safety Improvements, Mount Vernon	Install new pedestrian gates, advanced warning devices, concrete railroad crossing systems, upgrade sidewalks, including realignment to reduce skew, and improve vertical curve of the roadway. Fully funded.	Riverside Dr	084758W	\$1.4 (\$1.4)	SCOG
T1-12	Barker Rd Overpass, Spokane Valley	New grade separation over BNSF rail line. Replaces an existing at-grade crossing and provides a roundabout at the intersection of Barker Road and Trent Avenue (SR 290). Completion of this project anticipates the closure of Flora Road. Fully funded.	Barker Rd	066244T	\$18.7 (\$25.0)	SRTC
T1-13	Pines Road / BNSF Grade Separation (SR27/SR290), Spokane Valley	Replaces an existing at-grade crossing with an underpass of BNSF's railroad tracks and provides a roundabout at the intersection of Pines Road and Trent Avenue (SR 290). Completion of this project anticipates the closure of University Road.	Pines Road-SR27	066367E	\$22.9 (\$2.0)	SRTC
T1-14	Birch Bay Lynden/Portal Way Signalization Project, Whatcom County	Safety improvements including advanced detection ½ mile either side of intersection; new bungalow; new RR signal standards, lights and gate arms; advanced RR warning lights in addition to standard warning lights; crossing upgrades involving 110 LF of new track, ties and ballast; inter-connect to the traffic signal; and pavement markings & signage. Fully funded.	Birch Bay – Lynden Road	084845A	\$3.9 (\$3.9)	WCOG

T1-15	F Street , Bellingham	Install quad gates for quiet zone implementation. Fully funded.	F Street	077846P	\$0.7 (\$0.7)	WCOG
T1-16	Regional Beltway Phase II , Union Gap	New grade separation over BNSF rail line as part of the WSDOT Connecting WA funded South Union Gap Interchange Project. Connects to future Beltway project that is 30% designed and has recently received funding to purchase ROW. Expected construction in mid-2020's.	New Crossing	N/A	\$17.9 (\$0.4)	YVCO G

Tier 2 Projects

A total of 34 Tier 2 projects were submitted and are listed in Table 3. While the projects include many grade separation projects, other solutions include signals, ITS, railroad switchyard relocation, pedestrian crossings, and at-grade crossing improvements. Most of the projects have little or no secured funding for construction or design.

Table 3. Tier 2 List of Projects

Project ID	Project Name	Project Description	Street Name / Location	Crossing Number	Total Cost (Amount Funded) – in millions	RTPO
T2-1	Division Street Crossing Safety & ADA Improvements , Cashmere	Construct ADA compliant railroad pedestrian/bike crossing surfaces, install a four-quadrant gate signal system with pedestrian gates, and update signs and markings.	Division St	084464L	\$1.5 (\$0.0)	CDTC
T2-2	Miller St Grade Separation , Wenatchee	One component of constructing a bypass corridor for SR 285, to connect downtown Wenatchee and the North Wenatchee waterfront district directly to the Olds Station industrial area and US 2.	N Miller St	065839V	\$30.0 (\$0.0)	CDTC
T2-3	BNSF Wenatchee Switchyard Relocation , Wenatchee	Relocating BNSF switchyards and operations outside city limits. Project is a substitute for two grade separations. Includes new railroad siding and train control and a maintenance and operations building.	Orondo St	065831R	\$32.0 (\$0.0)	CDTC
T2-4	Bridge Street Non-Motorized Grade Separation , Wenatchee	New pedestrian extension west from the existing Columbia River pedestrian bridge to connect with Wenatchee Avenue in the vicinity of Bridge Street.	Bridge St	New	\$4.0 (\$0.0)	CDTC
T2-5	Edmonds Street Waterfront Connector , Edmonds	One-lane roadway bridge spanning the railroad tracks to connect the police and fire stations directly to the waterfront, providing immediate access for emergency responders and emergency ferry off-load and on-load. Also provides multimodal pedestrian and bicycle access between downtown Edmonds and the waterfront area.	Edmonds Waterfront	New	\$29.9 (\$0.0)	PSRC
T2-6	70th Avenue E Railroad Crossing , Fife	Grade separated (4-lane) crossing of the Union Pacific Railroad tracks. Segments of 70th Avenue E, north and south of the railroad crossing have been improved to a 5-lane roadway.	70th Ave E	Multiple	\$26.2 (\$0.0)	PSRC

T2-7	Willis St BNSF Grade Separation, Kent	Construct grade separation at the BNSF Railway mainline tracks at Willis Street (SR 516). Provides a critical, grade-separated link through the commercial/industrial center of Kent. Links the valley warehouse/industrial center to SR 167 and I-5.	Willis St (SR 516)	085640K	\$61.0 (\$0.0)	PSRC
T2-8	212th St BNSF RR Grade Separation, Kent	Construct grade separation at the BNSF Railway mainline tracks at South 212th Street.	212th St	085625H	\$66.0 (\$0.0)	PSRC
T2-9	SODO Rail Corridor Grade Separations, Seattle	Develop a roadway grade separation over the Burlington Northern mainline to improve safety and accessibility within the SODO area. Candidate locations include current at-grade crossings between Royal Brougham Way to S Spokane St. Grade separation would accommodate multiple modes, including freight, bicycle, pedestrian, transit users.	South Downtown	New	\$154.4 (\$0.0)	PSRC
T2-10	Lenora St/BNSF Rail Line Overcrossing, Everett	This project will create a grade separated crossing and eliminate conflicts of vehicles and pedestrians. It will also improve a bottom out clearance on the vertical curve over the tracks.	Lenora St	084594H	\$2.3 (\$0.0)	PSRC
T2-11	East Everett Avenue / BNSF Overcrossing, Everett	Grade separation project.	Everett Area	084992M	\$17.2 (\$0.0)	PSRC
T2-12	Chestnut St / Eclipse Mill Road Improvements from Pacific to 36th, Everett	Crossing improvements and/or possible grade separation.	Chestnut St	084605T	\$4.3 (\$0.0)	PSRC
T2-13	Willis St (SR 516) Union Pacific Railroad Grade Separation, Kent	Grade separation project.	Willis St	396581U	\$26.5 (\$0.0)	PSRC
T2-14	S 212th St Union Pacific Railroad Grade Separation, Kent	Grade separation project.	212th St	396575R	\$33.0 (\$0.0)	PSRC
T2-15	Grove St RR Overcrossing, Marysville	Construct new Overcrossing that would span the Burlington Northern Santa Fe tracks from State Avenue to Cedar Avenue. The tracks impede the east-west flow of traffic into and through the downtown core, serving to compound the lack of sufficient traffic capacity between State Route 9 and Interstate 5. The project would alleviate congestion and increase overall east/west connectivity along key corridors.	Grove St	084646X	\$21.5 (\$1.0)	PSRC
T2-16	8th St at UPRR crossing and Butte Ave SE intersection Signal, Sumner	Widen the Stewart Road corridor and UP crossing from 2 lanes to 4 lanes. The widened roadway will require the RR signal infrastructure to be reset/relocated and additional concrete panels to be placed.	8th St	396597R	\$4.7 (\$1.4)	PSRC
T2-17	Zehnder Street BNSF Crossing at-grade improvements, Sumner	Study, design, and construct at-grade railroad crossing improvements to improve safety at the complex intersection of Zehnder Street between Pease Ave to Wood Ave.	Zehnder St	085680H	\$0.3 (\$0.0)	PSRC



T2-18	S. Holgate St. Rail Crossing Improvements, Seattle	Develop a nonmotorized grade separation over the Burlington Northern mainline tracks, plus operational tracks supporting AMTRAK and BNSF SIG Yard. S Holgate St is the designated location for the final leg of the Region's Mountains to Sound Greenway; the current at-grade location is a subject of notable concern for bicycle and pedestrian safety.	S Holgate St	085583Y	\$40.0 (\$0.0)	PSRC
T2-19	Railroad Crossing Delay Warning System, Seattle	Install real-time railroad crossing warning system with adaptive signals/advisory information to inform emergency response and general-purpose traffic operations in the SODO area. May include a pilot project to test alternate equipment and information systems.	South Downtown Seattle Crossings	Multiple	\$0.3 (\$0.0)	PSRC
T2-20	Pedestrian Overpass between Old Town Business District and Ruston Way, Tacoma	Grade separated pedestrian link over the rail lines	Tacoma Waterfront	New	-	PSRC
T2-21	S 56th and Washington St, Tacoma	Vertical separation of RR crossing and roadway	S 56th St	085392N	-	PSRC
T2-22	Pine St and S Tacoma Way, Tacoma	Vertical separation of RR crossing and roadway	Pine St	085382H	-	PSRC
T2-23	S 74th St and S Tacoma Way, Tacoma	Vertical separation of RR crossing and roadway	S 74th St	085396R	-	PSRC
T2-24	Steilacoom Ferry Lane Modification, Pierce County	Improve the efficiency and capacity of the existing Steilacoom Ferry queuing lanes. Drivers waiting in the queuing lanes for the Ferry must cross the RR main line to drive down the ramp onto the Ferry. Improvements would include improved signage and possibly other improvements.	Union Ave	085755E	\$0.7 (\$0.0)	PSRC
T2-25	Stewart Avenue East/66th Avenue East, Pierce County	Install a traffic signal at the intersection of Stewart Ave E and 66TH Ave E to improve safety and efficiency of the intersection and crossing. Traffic currently backs up on Stewart Ave E across the rail tracks waiting at the intersection of 66th Ave E. The traffic signal will be interconnected with the rail crossing along with detection to allow for train priority while reducing conflicts with the travelling public.	66th Ave E	085703M	\$4.0 (\$0.0)	PSRC
T2-26	32nd Street/Russell, Washougal	Washougal is currently working through an alternatives analysis for either an overpass at 27th Street or an underpass at 32nd Street. Once the alternatives analysis is completed, the actual project will be defined.	32nd St	090117D	\$17.9 (\$0.9)	RTC
T2-27	College Way Railroad Grade Separation, Mount Vernon	Grade-separated crossing over or under BNSF railroad line.	College Way-SR 538	084759D	\$22.7 (\$0.0)	SCOG
T2-28	Cook Road Reconstruction, Burlington	Grade-separated crossing over or under BNSF railroad line.	Cook Rd	084775M	\$15.5 (\$0.0)	SCOG
T2-29	Jones Road/John Liner Railroad Undercrossing, Sedro-Woolley	New BNSF undercrossing and new arterial from E Jones Road to John Liner Road.	Jones Rd	New	\$7.7 (\$0.0)	SCOG



T2-30	Railroad Overpass Project, Burlington	Construct overcrossing over BNSF rail tracks to connect east/west sides of city.	Gilkey Rd	New	\$17.0 (\$0.0)	SCOG
T2-31	BNSF Rail Bridge over Skagit River, Burlington	BNSF Skagit River Bridge Replacement for Flood Risk Reductions. Project would add additional set of railroad tracks over the river.	E Whitmarsh Rd	Rail Bridge	\$60.0 (\$0.0)	SCOG
T2-32	Park Road / BNSF Grade Separation, Spokane Valley	Identified as a top priority for grade separation in the Bridging the Valley plan that was completed in 2003. The study included a 10% designed solution. While the design is certainly dated, this is an important project that could potentially address four crossings. Completion of this project could include the closure of Vista Road.	Park Rd	066377K	\$23.0 (\$0.0)	SRTC
T2-33	Bell Rd-SR 548 Rail Grade Separation, Blaine	Construct overcrossing over BNSF rail tracks as part of improvements to the I-5 Exit 274 interchange and SR 548.	SR 548	084853S	\$13.4 (\$0.0)	WCOG
T2-34	East Aberdeen Mobility Improvements, Aberdeen	Improvements to SR 12 to provide improved access to adjoining commercial properties. Could result in four of seven at-grade crossings being closed.	East Aberdeen	Various	\$30.0 (\$0.0)	GHCOG

Tier 3 Projects

A total of 27 Tier 3 projects were submitted and are listed in Table 4. A majority of the crossings were located on the eastern side of the mountains in Tri-Cities, Spokane, and Yakima regions. Other crossings are in Skagit, Whatcom, and Clark Counties. All the crossings identified were included in the top 302 crossings evaluated as part of the Phase 1 study effort.

Table 4. Tier 3 List of Crossings to Study

Project ID	Crossing Location (City/County)	Street Name / Location	Crossing Number	Rank from Phase 1	RTPO
T3-1	Kennewick	N Fruitland St	104572R	52	BFCOG
T3-2	Kennewick	N Edison St	104568B	81	BFCOG
T3-3	Kennewick	N Kellogg St	919073D	85	BFCOG
T3-4	Kennewick	N Washington St	104574E	132	BFCOG
T3-5	Benton County	Bowles Rd 9713	0900385S	197	BFCOG
T3-6	Vancouver	Beach Dr	090072Y	162	RTC
T3-7	Washougal	6th St	090112U	176	RTC
T3-8	Vancouver	NW 122nd St	092421N	210	RTC
T3-9	Vancouver	SE Chelsea Ave	090074M	221	RTC
T3-10	Mount Vernon	SR 536 - Kincaid	084744N	6	SCOG
T3-11	Burlington	SR 20 - Avon	084766N	23	SCOG
T3-12	Burlington	E Fairhaven Ave	084765G	34	SCOG
T3-13	Mount Vernon	Old 99/Blackburn	084739S	49	SCOG
T3-14	Spokane Valley	Pines Rd	662519S	38	SRTC
T3-15	Millwood	Argonne Rd	662514H	30	SRTC
T3-16	Spokane	Mission Ave	662503V	46	SRTC
T3-17	Spokane County	Harvard Rd	066240R	55	SRTC
T3-18	Cheney	F Street/Cheney-Spangle	065970L	22	SRTC
T3-19	Cheney	Pine St	066315M	64	SRTC
T3-20	Cheney	Cheney-Plaza Rd	065971T	82	SRTC
T3-21	Bellingham	Cornwall Ave	084806J	68	WCOG
T3-22	Bellingham	Wharf St	396920W	102	WCOG
T3-24	Toppenish	SR 22-Buena Way	099190G	79	YVCOG
T3-25	Toppenish	McDonald Rd E	099189M	191	YVCOG
T3-26	Toppenish	E Branch Rd	099186S	280	YVCOG
T3-27	Harrah	Lateral A Rd	099216G	302	YVCOG

Project Prioritization

The project information will be utilized to prioritize the projects to provide a prioritized project list to the State Legislature.