

Regional North-South Travel Capacity Study

Technical Advisory Committee

Meeting #3 Agenda

Wednesday October 2, 2019 1:00 – 4:00 PM
 Richland Community Center - 500 Amon Park Drive

Agenda Topic	Time
Welcome and Introductions – Spencer Montgomery J-U-B Engineer <ul style="list-style-type: none"> • Introductions (Name, Representing) • Goals of the meeting 	1:00– 1:10
Review of Alternative Scoring – Caroline Mellor, The Langdon Group <ul style="list-style-type: none"> • Results of Weighting of Criteria • Results of Scoring of 9 Criteria 	1:10 – 1:50
<i>BREAK</i>	1:50 – 2:00
Public Involvement – Bryant Kuechle/Caroline Mellor, <i>The Langdon Group</i> <ul style="list-style-type: none"> • Draft Survey • Open House – discuss dates, location and format 	2:00 – 2:15
Next Steps and Wrap-up – Spencer Montgomery <ul style="list-style-type: none"> • Any general questions/comments? • What to expect after the Open House • Thank you all for participation, thoughts, feedback 	2:15 - 2:30

Regional North-South Travel Capacity Study

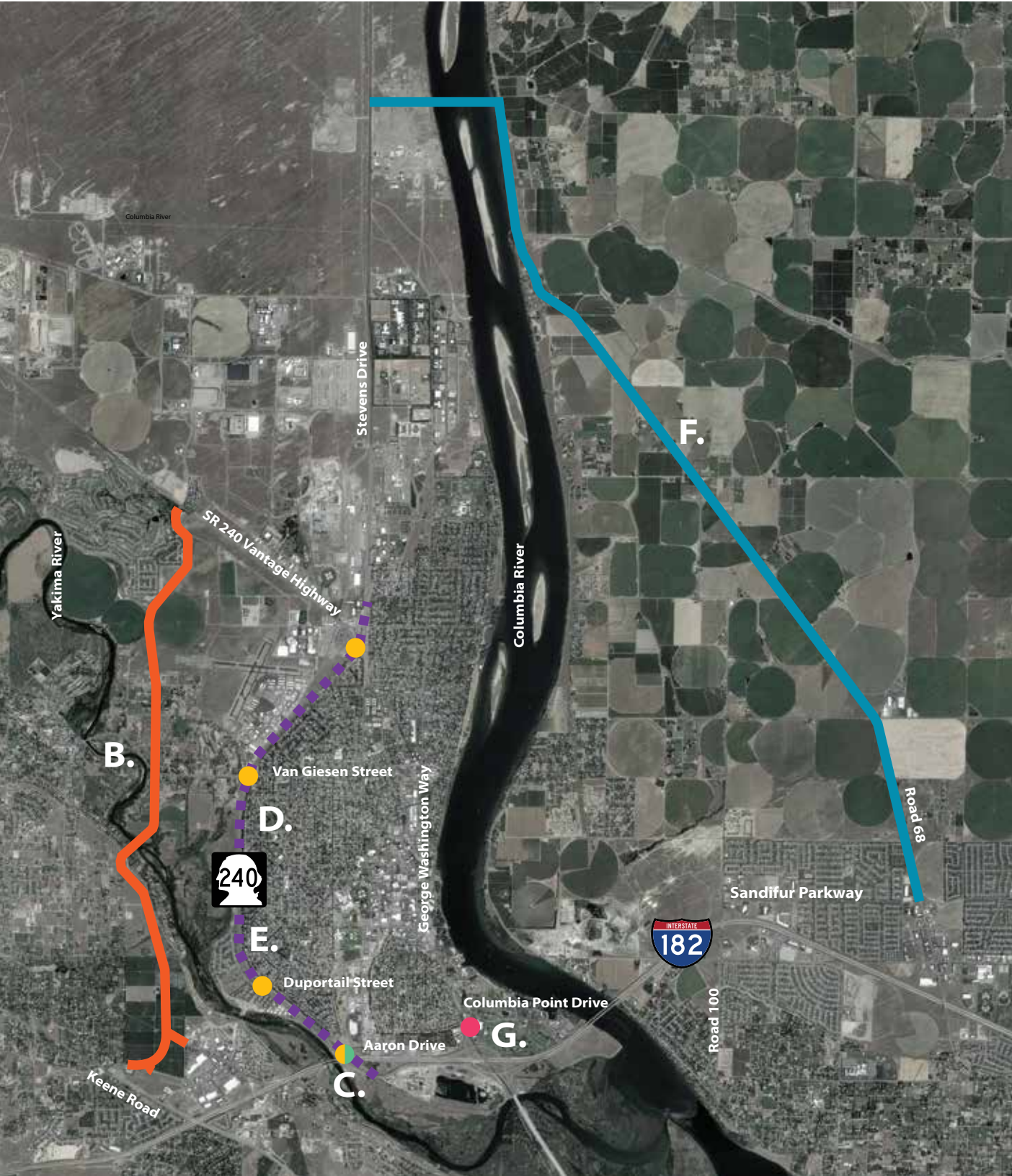
Summary of Criteria Weighting

Criterion	Criteria Weight
North-South Delay Reduced	4
Side Street Delay Reduced	2
Travel Time Savings for Origin-Destination Pairs	5
Cost	5
Ease of Implementation	4
Safety	10
Human Impacts	6
Environmental Impacts	4
Negatively Impacts Future HOV	3

Regional North-South Travel Capacity Study

Alternatives Evaluated Cost (millions)

A. No-Build No changes to current road system.	\$ -
B. Kingsgate Way Extension Extend Kingsgate Way south from SR 240 to Keene Road.	\$ 83.4
C. Aaron Drive/SR 240/I-182 Interchange Improvements Southbound through traffic will no longer stop at the signal.	\$ 29.9
D. SR 240- By-Pass Grade Separation Elimination of traffic signals on 240 By-Pass.	\$ 132.3
E. Widen SR 240 Southbound Add one additional lane to SB SR 240 from north of Vantage Hwy to I-182.	\$ 25.1
F. North Richland Bridge Build the proposed North Richland Bridge, includes a new four lane East-West Road about 1.25 miles North of Horn Rapids Road. Bridge would then go East across the Columbia River to Columbia River Road; Columbia River Road/ Road 68 widened South to Sandifur Parkway.	\$ 270- 450
G. George Washington Way/Columbia Point Drive Intersection Improvements Add lanes and reconfigure the intersection.	\$ 12



Regional North-South Travel Capacity Study

North-South Delay

Criterion Inputs (North-South Delay in Hours at Study Intersections)	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
N-S Delay at SR 240/ Jadwin Avenue/Stevens Drive	72	70	132	17	56	50	72
N-S Delay at SR 240/ Van Giesen Street	83	81	85	27	78	56	83
N-S Delay at SR 240/ Duportail Street	194	163	212	10	257	76	194
N-S Delay at SR 240/ Aaron Drive	273	212	4	5	245	155	273
N-S Delay at George Washington Way/Columbia Point Drive	232	232	232	159	159	172	39
Total Hours of North-South Delay at 5 study intersections	853	758	664	217	794	509	660
Percentage of Highest Delay	100%	89%	78%	25%	93%	60%	77%
TOTAL SCORE	0.0	1.5	3.0	10.0	0.9	5.4	3.0

Points assigned based on straightline interpolation between highest and lowest delay.

Regional North-South Travel Capacity Study

Side Street Delay

Criterion Inputs (Side Street Delay in Hours at Study Intersections)	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
E-W Delay at SR 240/ Jadwin Avenue/Stevens Drive	27	25	10	9	26	22	27
E-W Delay at SR 240/ Van Giesen Street	55	60	55	22	48	41	55
E-W Delay at SR 240/ Duportail Street	115	107	115	26	118	83	115
E-W Delay at SR 240/ Aaron Drive	145	127	3	4	88	73	145
E-W Delay at George Washington Way/Columbia Point Drive	18	18	18	18	18	16	15
Total Hours of East-West Delay at 5 study intersections	361	337	201	79	299	235	357
Percentage of Highest Delay	100%	93%	56%	22%	83%	65%	99%
TOTAL SCORE	0.0	0.8	5.7	10.0	2.2	4.5	0.1

Points assigned based on straightline interpolation between highest and lowest delay.

Regional North-South Travel Capacity Study

Travel Time Savings for Origin Destination Pairs

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Combined Travel Time in Hours	1505	1173	1294	1099	1319	694	1492
Percentage of Highest Travel Time	100%	78%	86%	73%	88%	46%	99%
TOTAL SCORE	0.0	4.1	2.6	5.0	2.3	10.0	0.2

Points assigned based on straightline interpolation between highest and lowest travel time.

Regional North-South Travel Capacity Study

Cost

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Cost	\$ -	\$ 83,379,000	\$ 29,850,000	\$ 132,316,000	\$ 25,132,000	\$ 270,000,000	\$ 11,986,000
Percentage of Highest Cost	0%	31%	11%	49%	9%	100%	4%
TOTAL SCORE	10.0	6.9	8.9	5.1	9.1	0.0	9.6

The North Richland Bridge Alternative is estimated to have a range of costs between \$270 Million - \$450 million depending on bridge type and number of piers. Points assigned based on straightline interpolation between highest and lowest cost.

Regional North-South Travel Capacity Study

Ease of Implementation

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Ability to Phase	2.5	2.5	2.5	2.5	0.5	0.1	2.5
Fundability	2.5	1.0	1.5	0.5	1.5	0.1	2.5
Property Acquisition	2.5	0.1	2.5	1.0	2.0	0.1	1.5
Environmental/Approval Processes	2.5	0.5	2.5	1.5	2.0	0.1	1.5
TOTAL SCORE	10.0	4.1	9.0	5.5	6.0	0.4	8.0

Ability to Phase: 1 point for each possible phase up to 2.5, or full points if phasing not needed.

Fundability: 2.5 - .5 for every 5 years for funding a large phase + .5 if additional local sources (developer or locally controlled federal sources could complete a phase)

Property Acquisition: 0 - 2.5 depending on magnitude.

Environmental/Approval Processes: 0 - 2.5 depending on magnitude.

Regional North-South Travel Capacity Study

Safety

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Thru/Left Turn Vehicular Conflicts	16,892,303	16,155,378	15,588,501	4,598,825	19,489,173	14,322,598	16,348,603
Percentage of Highest # of Conflicts	87%	83%	80%	24%	100%	73%	84%
Conflicts Score (up to 5)	0.9	1.1	1.3	5.0	0.0	1.7	1.1
Bicycle/Pedestrian Safety (3)	0.0	1.0	0.0	3.0	0.0	0.5	1.5
Alternate Route Provided (2)	0.0	2.0	0.0	0.0	0.0	0.5	0.0
TOTAL SCORE	0.9	4.1	1.3	8.0	0.0	2.7	2.6

Conflict Score is 5 points assigned with straightline interpolation between lowest and highest number of combined through and left turning vehicular conflicts.

Bicycle/Pedestrian Safety up to 3 points.

Alternate route provided up to 2 points.

Safety benefits derived from reduced congestion are considered accounted for in other criteria that consider delay savings.

Regional North-South Travel Capacity Study

Human Impacts

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Environmental Justice	1.0	1.5	2.5	2.0	2.5	1.0	2.0
Noise	1.0	0.5	2.0	1.5	1.0	0.5	2.0
Right-of Way Impacts	2.5	0.5	2.5	1.0	1.5	0.5	1.0
Construction Impacts	2.5	1.5	2.0	0.5	1.0	0.5	0.5
TOTAL SCORE	7.0	4.0	9.0	5.0	6.0	2.5	5.5

Environmental Justice: 0 - 2.5 depending on magnitude. Considers improved bike/ped crossing for Alt G.

Noise: 0 - 2.5 depending on magnitude of the number and proximity of receptors. Reduced train noise for Alt D. Opportunity for noise walls when improving existing corridors, but not new/rural corridors.

Right-of-Way Acquisition: 0 - 2.5 depending on magnitude of impact to homes and businesses.

Construction Impacts: 0 - 2.5 depending on magnitude of impact.

Air Quality and travel delay impacts are considered to be accounted for under other criteria.

Regional North-South Travel Capacity Study

Environmental Impacts

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Wetlands	2.0	0.5	2.0	2.0	2.0	0.5	2.0
Cultural/Archeological Impacts	2.0	1.0	2.0	2.0	2.0	1.0	2.0
Parks	2.0	1.5	2.0	2.0	2.0	1.5	2.0
Endangered Species	2.0	1.0	2.0	2.0	2.0	1.0	2.0
Unstable Soils	2.0	1.0	2.0	2.0	2.0	1.0	2.0
TOTAL SCORE	10.0	5.0	10.0	10.0	10.0	5.0	10.0

0 - 2 points for each category depending on the magnitude of likely impacts. Relative scoring between all alternatives, most impacts received lowest score, least impacts received highest score.

Regional North-South Travel Capacity Study

Negatively Impacts Future High Occupancy Vehicle Lanes

Criterion Inputs	Alternative						
	A	B	C	D	E	F	G
	No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Drive Intersection Improvements
Uses up available Right-of-Way, or would require conversion of existing lanes	2.0	10.0	8.0	8.0	5.0	10.0	10.0
TOTAL SCORE	2.0	10.0	8.0	8.0	5.0	10.0	10.0

0 - 10 points depending on the magnitude of likely impacts. Relative scoring between all alternatives, most impacts received lowest score, least impacts received highest score.

Regional North-South Travel Capacity Study

Alternative Evaluation Scoring Results

Criterion	Criteria Weight	Alternative													
		A		B		C		D		E		F		G	
		No-Build	Kingsgate Way Extension	Aaron Drive/ SR240/I-182 Interchange Improvements	SR 240 Grade Separation	Widen SR 240 Southbound	North Richland Bridge	George Washington Way/Columbia Point Intersection Improvements	Raw	Wt.	Raw	Wt.	Raw	Wt.	Raw
North-South Delay Reduced	4	0.0	0.0	1.5	6.0	3.0	12.0	10.0	40.0	0.9	3.6	5.4	21.6	3.0	12.0
Side Street Delay Reduced	2	0.0	0.0	0.8	1.6	5.7	11.4	10.0	20.0	2.2	4.4	4.5	9.0	0.1	0.2
Travel Time Savings for Origin-Destination Pairs	5	0.0	0.0	4.1	20.5	2.6	13.0	5.0	25.0	2.3	11.5	10.0	50.0	0.2	1.0
Cost	5	10.0	50.0	6.9	34.5	8.9	44.5	5.1	25.5	9.1	45.5	0.0	0.0	9.6	48.0
Ease of Implementation	4	10.0	40.0	4.1	16.4	9.0	36.0	5.5	22.0	6.0	24.0	0.4	1.6	8.0	32.0
Safety	10	0.9	9.0	4.1	41.0	1.3	13.0	8.0	80.0	0.0	0.0	2.7	27.0	2.6	26.0
Human Impacts	6	7.0	42.0	4.0	24.0	9.0	54.0	5.0	30.0	6.0	36.0	2.5	15.0	5.5	33.0
Environmental Impacts	4	10.0	40.0	5.0	20.0	10.0	40.0	10.0	40.0	10.0	40.0	5.0	20.0	10.0	40.0
Negatively Impacts Future HOV	3	2.0	6.0	10.0	30.0	8.0	24.0	8.0	24.0	5.0	15.0	10.0	30.0	10.0	30.0
TOTAL SCORE		39.9	187	40.5	194	57.5	248	66.6	307	41.5	180	40.5	174	49.0	222
ALTERNATIVE RANK		3	4	7	5	2	2	1	1	5	6	6	7	4	3

Regional North – South Travel Capacity Study

Ranking of Alternatives

1. SR 240 Grade Separation
2. Aaron Drive Interchange
3. George Washington Way Intersection Improvements
4. Kingsgate Way Extension
5. No Build
6. Widen SR 240 Southbound
7. North Richland Bridge

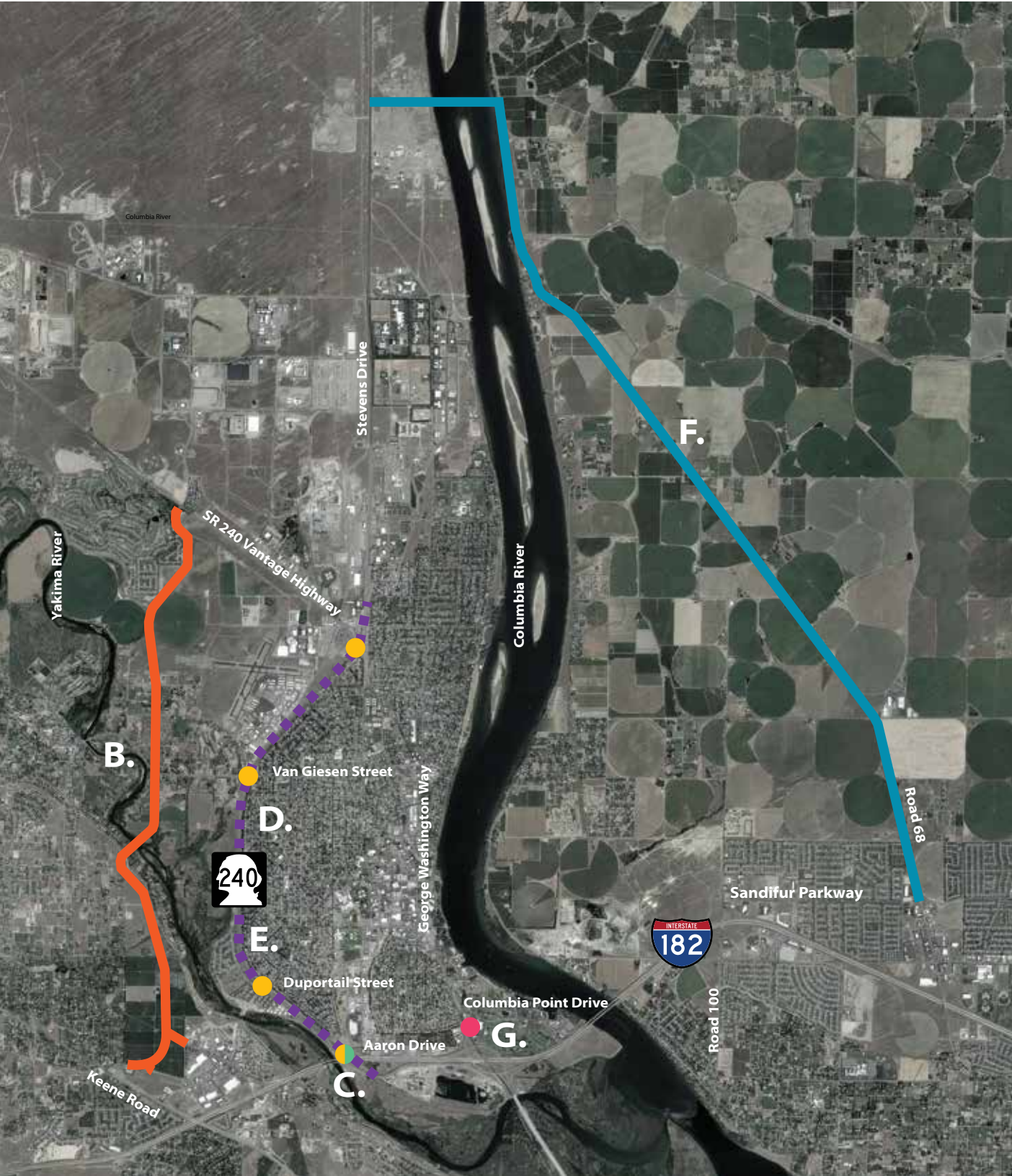
Recommendation:

- Take these results to the public open house for feedback on the rankings.
- Pursue SR 240 Grade Separation as a long-term solution.
- Implementation of the SR 240 Grade Separation would be phased over time beginning with the Aaron Drive Interchange.

Regional North-South Travel Capacity Study

Alternatives Evaluated Cost (millions)

A. No-Build No changes to current road system.	\$ -
B. Kingsgate Way Extension Extend Kingsgate Way south from SR 240 to Keene Road.	\$ 83.4
C. Aaron Drive/SR 240/I-182 Interchange Improvements Southbound through traffic will no longer stop at the signal.	\$ 29.9
D. SR 240- By-Pass Grade Separation Elimination of traffic signals on 240 By-Pass.	\$ 132.3
E. Widen SR 240 Southbound Add one additional lane to SB SR 240 from north of Vantage Hwy to I-182.	\$ 25.1
F. North Richland Bridge Build the proposed North Richland Bridge, includes a new four lane East-West Road about 1.25 miles North of Horn Rapids Road. Bridge would then go East across the Columbia River to Columbia River Road; Columbia River Road/ Road 68 widened South to Sandifur Parkway.	\$ 270- 450
G. George Washington Way/Columbia Point Drive Intersection Improvements Add lanes and reconfigure the intersection.	\$ 12



Draft Survey - Regional North-South Capacity Study

Draft Introductory Language:

The Cities of Richland and West Richland, Benton County, and the Washington State Department of Transportation (WSDOT) are studying regional north-south travel capacity with the ultimate goal of increasing mobility and reducing travel delay both locally and regionally. These agencies think this is an important issue because of existing congestion and anticipated community growth that will increase congestion in the future.

Your input will help determine the alternatives that will best serve the needs of the Tri-Cities communities. If you previously provided input to the WSDOT SR 240 – Richland Corridor Improvements Study, this follow-up study and survey builds upon those results and will take us one step closer toward determining and prioritizing potential solutions to reduce north-south congestion through Richland.

More information about the Regional North-South Travel Capacity Study can be found on the [project website](#).

Draft Questions:

1. Which best describes your typical mode of travel?
 - a. Personal vehicle
 - b. Ridesharing in a personal vehicle
 - c. Ridesharing in a Ben Franklin Transit sponsored vanpool
 - d. Ben Franklin Transit bus ride
 - e. Bicycle
 - f. Walk

2. Which best describes your use of the SR240 Bypass Highway?
 - a. Commuting from outside of Richland
 - b. Commuting from within Richland
 - c. Local trips for my work or business
 - d. Local personal business trips such as shopping, recreating, visiting friends
 - e. I don't typically use the SR240 Bypass Highway

3. Which best describes your use of George Washington Way?
 - a. Commuting from outside of Richland
 - b. Commuting from within Richland
 - c. Local trips for my work or business
 - d. Local personal business trips such as shopping, recreating, visiting friends
 - e. I don't typically use George Washington Way

4. What is most important to you regarding your travel?
 - a. Efficient vehicle movement north and south through Richland
 - b. Efficient vehicle movement east or west across the SR240 Bypass Highway
 - c. Efficient ridesharing options
 - d. Improved non-motorized travel

5. If you use George Washington Way, do you typically use it as a pass-through route for commuting or do you make stops for shopping or business needs? Please pick one option.
 - a. Commuting only
 - b. I stop for shopping or business – A few times a month
 - c. I stop for shopping or business – 3-4 days/ week
 - d. I stop for shopping or business – 1-2 days/ week
 - e. I stop for shopping or business – daily

6. Which of these alternatives do you believe would best serve your travel needs? Please pick one.
 - a. No-Build
 - b. Kingsgate Way Extension south from SR 240 to Keene Road
 - c. Aaron Drive/SR 240/I-182 Interchange Improvements
 - d. SR 240- By-Pass Interchanges at Aaron Drive, Duportail Street, Van Giesen Street, and Jadwin Avenue/ Stevens Drive
 - e. Add one additional lane to Southbound SR 240 from north of Vantage Hwy to I-182
 - f. North Richland Bridge
 - g. George Washington Way/Columbia Point Intersection Improvements

7. Which of these alternatives do you believe would provide the greatest or most needed safety improvement? Please pick one.
 - a. No-Build
 - b. Kingsgate Way Extension south from SR 240 to Keene Road
 - c. Aaron Drive/SR 240/I-182 Interchange Improvements
 - d. SR 240- By-Pass Interchange at Aaron Drive, Duportail Street, Van Giesen Street and Jadwin Avenue/Stevens Drive
 - e. Add one additional lane to Southbound SR 240 from north of Vantage Hwy to I-182
 - f. North Richland Bridge
 - g. George Washington Way/Columbia Point Intersection Improvements

8. Which alternative(s), if any, do you believe would be INEFFECTIVE in relieving congestion and/or addressing safety concerns? You may pick 0 or more than 1.
 - a. No-Build
 - b. Kingsgate Way Extension south from SR 240 to Keene Road
 - c. Aaron Drive/SR 240/I-182 Interchange Improvements
 - d. SR 240- By-Pass Interchange at Aaron Drive, Duportail Street, Van Giesen Street and Jadwin Avenue/Stevens Drive

- e. Add one additional lane to Southbound SR 240 from north of Vantage Hwy to I-182
 - f. North Richland Bridge
 - g. George Washington Way/Columbia Point Intersection Improvements
9. If a lane on SR240 was restricted for high occupancy vehicles, meaning a vehicle with two or more passengers, could you change your travel arrangements to utilize this lane to save travel time?
- a. Yes
 - b. No
10. Since it could take 20 years or longer to get funding and construct either a fully grade separated SR 240 By-Pass (without traffic signals) or the North Richland Bridge, and it is unlikely that the region would do both, which do you think is a better alternative? Please pick one option.
- a. SR 240 By-Pass Fully Grade Separated – No Traffic Signals
 - b. North Richland Bridge
11. Is there anything else that you think is important for the project team to consider when recommending alternatives to increase travel capacity along the North-South corridor? [text box]
12. If you would like to be notified of the outcome of this Study, please leave your email address [text box]

Regional North-South Travel Capacity Study

Technical Advisory Committee Criteria Weighting Results

Criterion	BFCOG		Richland Fire		WSDOT		Bike Tri-Cities		Chamber of Commerce		Public Works		Combined CAC (from Normalized)		Percent of Total	Combined TAC (from Raw)	
	Raw Score	Normalized	Raw Score	Normalized	Raw Score	Normalized	Raw Score	Normalized	Raw Score	Normalized	Raw Score	Normalized	Total Normalized	Normalized		Total Raw Score	Normalized
North-South Delay Reduced	2	1	6	3	7	3	4	2	12	6	5	4.2	19	3.9	9.4	36	4.0
Side Street Delay Reduced	1	1	3	1	2	1	7	3	1	1	4	3.3	10	2.1	5.1	18	2.0
Travel Time Savings for Origin-Destination Pairs	5	4	2	1	24	10	0	0	5	3	5	4.2	22	4.5	10.9	41	4.6
Cost	7	5	12	5	5	2	1	0	20	10	3	2.5	25	5.0	12.1	48	5.4
Ease of Implementation	8	6	1	0	3	1	8	4	3	2	7	5.8	19	3.8	9.2	30	3.4
Safety	14	10	24	10	6	3	21	10	12	6	12	10	49	10.0	24.2	89	10.0
Human Impacts	9	6	10	4	1	0	17	8	17	9	2	1.7	29	5.9	14.3	56	6.3
Environmental Impacts	7	5	5	2	0	0	15	7	6	3	1	0.8	18	3.6	8.7	34	3.8
Negatively Impacts Future HOV	0	0	0	0	4	2	16	8	0	0	3	2.5	13	2.6	6.3	23	2.6
Total	53		63		52		89		76		42		203	41.4	100%	375	
Maximum	14		24		24		21		20		12		49	10		89	

Delay Calculations at 5 study Intersections for each Alternative

	NB			SB			EB			WB			Total Volume
	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	
EXISTING CONDITIONS	TOTALS			Northbound Delay 411			Southbound Delay 180			Conflicts 9069210			
SR 240/Aaron	0	340	320	80	2675	536	0	0	0	445	435	70	4901
Average delay (seconds)	0	15	2	86	144	0	0	0	0	236	391	391	1264
Delay in Hours	0	1	0	2	107	0	0	0	0	29	47	8	194
North-South Delay													110
East - West Delay													84
Thru & left Conflicts	175143			1163625			0			0			1338768
SR 240/Duportail	100	1185	195	30	2970	255	105	120	120	250	100	25	5455
Average delay (seconds)	89	12	12	47	114	114	82	256	256	268	72	72	1394
Delay in Hours	2	4	1	0	94	8	2	9	9	19	2	0	150
North-South Delay													110
East - West Delay													41
Thru & left Conflicts	296131			949418			29917			10500			1285966
SR 240/Van Giesen	475	550	205	75	2585	440	100	250	340	190	380	25	5616
Average delay (seconds)	88	9	9	89	25	2	69	105	0	85	70	70	619
Delay in Hours	12	1	0	2	18	0	2	7	0	4	7	0	55
North-South Delay													34
East - West Delay													22
Thru & left Conflicts	388088			2856425			47500			37961			3329974
SR 240/Jadwin/Stevens	225	330	110	595	2420	105	60	220	530	85	135	130	4945
Average delay (seconds)	21	35	4	61	58	24	102	61	26	85	53	5	534
Delay in Hours	1	3	0	10	39	1	2	4	4	2	2	0	68
North-South Delay													54
East - West Delay													13
Thru & left Conflicts	313524			1403485			18663			8117			1743789
George Washington Way/Col Pt	248	1348	279	174	2447	34	32	76	307	400	55	89	5489
Average delay (seconds)	104	30	3	116	114	108	116	105	69	86	88	6	944
Delay in Hours	7	11	0	6	77	1	1	2	6	10	1	0	123
North-South Delay													103
East - West Delay													20
Thru & left Conflicts	411140			927413			30400			1760			1370713
Alt A - 2040 No-Build	TOTALS			Northbound Delay 853			Southbound Delay 361			Conflicts 16892303			
SR 240/Aaron	0	355	310	95	2750	490	0	0	0	590	550	100	5240
Average delay (seconds)	0	25	3	117	350	0	0	0	0	356	479	479	1807
Delay in Hours	0	2	0	3	267	0	0	0	0	58	73	13	418
North-South Delay													273
East - West Delay													145
Thru & left Conflicts	229172			1511254			0			0			1740427
SR 240/Duportail	260	1655	270	40	2875	765	375	490	240	220	510	45	7746
Average delay (seconds)	336	24	3	75	195	9	124	367	28	588	103	1	1853
Delay in Hours	24	11	0	1	155	2	13	50	2	36	15	0	309
North-South Delay													194
East - West Delay													115
Thru & left Conflicts	#####			3622280			107887			191443			5643343
SR 240/Van Giesen	615	1030	290	80	2765	545	195	285	465	235	415	40	6960
Average delay (seconds)	196	9	9	118	56	5	116	229	1	247	111	111	1207
Delay in Hours	33	3	1	3	43	1	6	18	0	16	13	1	137
North-South Delay													83
East - West Delay													55
Thru & left Conflicts	803863			3636392			67006			80758			4588020
SR 240/Jadwin/Stevens	420	700	190	690	2690	130	95	270	610	105	175	205	6279
Average delay (seconds)	38	40	5	125	47	7	179	91	50	107	76	13	776
Delay in Hours	4	8	0	24	35	0	5	7	8	3	4	1	99
North-South Delay													72
East - West Delay													27
Thru & left Conflicts	794168			2327484			28248			16612			3166512
George Washington Way/Col Pt	280	1570	310	190	2740	40	40	80	340	490	70	110	6260
Average delay (seconds)	175	41	5	59	255	255	87	87	37	77	75	5	1157
Delay in Hours	14	18	0	3	194	3	1	2	4	10	1	0	251
North-South Delay													232
East - West Delay													18
Thru & left Conflicts	533800			1178200			39200			2800			1754000
Alt B - Kingsgate Way Extension	TOTALS			Northbound Delay 758			Southbound Delay 337			Conflicts 16155378			
SR 240/Aaron	0	355	310	95	2660	490	0	0	0	590	485	135	5120
Average delay (seconds)	0	25	3	117	279	0	1	1	1	356	398	398	1579
Delay in Hours	0	2	0	3	206	0	0	0	0	58	54	15	339
North-South Delay													212
East - West Delay													127
Thru & left Conflicts	206222			1290100			0			0			1496322
SR 240/Duportail	260	1605	270	40	2825	685	305	490	200	220	475	45	7420
Average delay (seconds)	336	24	3	73	160	6	90	367	25	588	92	1	1764
Delay in Hours	24	11	0	1	125	1	8	50	1	36	12	0	270
North-South Delay													163
East - West Delay													107
Thru & left Conflicts	#####			3460443			107887			144875			5327060
SR 240/Van Giesen	650	875	295	80	2600	425	240	315	535	235	480	40	6770
Average delay (seconds)	164	8	8	124	64	3	182	189	1	247	107	107	1203
Delay in Hours	30	2	1	3	46	0	12	17	0	16	14	1	142
North-South Delay													81
East - West Delay													60
Thru & left Conflicts	765693			3757000			74060			115200			4711952
SR 240/Jadwin/Stevens	345	665	190	690	2615	130	95	270	400	105	175	205	5884
Average delay (seconds)	38	40	5	125	47	7	179	91	50	107	76	13	776

Delay in Hours	4	7	0	24	34	0	5	7	6	3	4	1	94
North-South Delay													70
East - West Delay													25
Thru & left Conflicts		754712		2066472			28248			16612			2866044
George Washington Way/Col Pt	280	1570	310	190	2740	40	40	80	340	490	70	110	6260
Average delay (seconds)	175	41	5	59	255	255	87	87	37	77	75	5	1157
Delay in Hours	14	18	0	3	194	3	1	2	4	10	1	0	251
North-South Delay													232
East - West Delay													18
Thru & left Conflicts		533800		1178200			39200			2800			1754000
Alt C - Aaron Drive Interchange	TOTALS			Northbound Delay	664		Southbound Delay	201		Conflicts			15588501
SR 240/Aaron	0	355	310	95	2895	490	0	0	0	445	550	100	5241
Average delay (seconds)	13	7	7	19	14	19	0	0	0	13	8	8	106
Delay in Hours	0	1	1	0	0	3	0	0	0	2	1	0	7
North-South Delay													4.2
East - West Delay													3
Thru & left Conflicts		229172		0			0			0			229172
SR 240/Duportail	260	1655	270	40	2985	765	375	490	240	360	510	45	7996
Average delay (seconds)	339	22	5	102	210	8	131	367	28	367	92	1	1670
Delay in Hours	24	10	0	1	174	2	14	50	2	37	13	0	327
North-South Delay													212
East - West Delay													115
Thru & left Conflicts		#####		3760832			176508			191443			5850796
SR 240/Van Giesen	615	1030	290	80	2765	545	195	285	465	235	415	40	6960
Average delay (seconds)	179	23	23	112	56	6	116	229	1	247	111	111	1212
Delay in Hours	30	6	2	3	43	1	6	18	0	16	13	1	139
North-South Delay													85
East - West Delay													55
Thru & left Conflicts		803863		3636392			67006			80758			4588020
SR 240/Jadwin/Stevens	420	700	190	690	2690	130	95	270	610	105	175	205	6279
Average delay (seconds)	107	76	13	179	91	51	100	21	8	79	40	5	769
Delay in Hours	13	15	1	34	68	2	3	2	1	2	2	0	142
North-South Delay													132
East - West Delay	107	76	13	179	91	51	100	21	8	79	40	5	10
Thru & left Conflicts		794168		2327484			28248			16612			3166512
George Washington Way/Col Pt	280	1570	310	190	2740	40	40	80	340	490	70	110	6260
Average delay (seconds)	175	41	5	59	255	255	87	87	37	77	75	5	1157
Delay in Hours	14	18	0	3	194	3	1	2	4	10	1	0	251
North-South Delay													232
East - West Delay													18
Thru & left Conflicts		533800		1178200			39200			2800			1754000
Alt D - SR 240 Grade Separation	TOTALS			Northbound Delay	217		Southbound Delay	79		Conflicts			4598825
SR 240/Aaron	0	420	310	95	2890	540	0	0	0	530	575	100	5460
Average delay (seconds)	13	7	7	20	15	19	0	0	0	16	10	10	116
Delay in Hours	0	1	1	1	0	3	0	0	0	2	2	0	9
North-South Delay													4.8
East - West Delay													4
Thru & left Conflicts		281400		1661750			0			0			1943150
SR 240/Duportail NB ramps	260	0	270	0	0	0	310	580	0	0	990	45	2455
Average delay (seconds)	38	0	3	0	0	0	54	9	0	0	23	1	128
Delay in Hours	3	0	0	0	0	0	5	1	0	0	6	0	15
North-South Delay													4.3
East - West Delay													12.1
Thru & left Conflicts		0		0			0			306900			306900
SR 240/Duportail SB ramps	0	0	0	90	0	715	0	800	240	380	870	0	3095
Average delay (seconds)	0	0	0	27	0	23	0	21	4	53	18	0	145
Delay in Hours	0	0	0	1	0	4	0	5	0	6	4	0	20
North-South Delay													5.4
East - West Delay													13.6
Thru & left Conflicts		0		0			0	304000		0			304000
SR 240/Van Giesen NB ramps	650	0	280	0	0	0	235	470	0	0	775	40	2450
Average delay (seconds)	31	0	5	0	0	0	38	9	0	0	30	50	164
Delay in Hours	6	0	0	0	0	0	3	1	0	0	6	1	17
North-South Delay													14.9
East - West Delay													10.3
Thru & left Conflicts		0		0			0			182125			182125
SR 240/Van Giesen SB ramps	0	0	0	165	0	545	0	540	510	310	1115	0	3185
Average delay (seconds)	0	0	0	25	0	71	0	26	6	4	49	0	180
Delay in Hours	0	0	0	1	0	11	0	4	1	0	15	0	32
North-South Delay													12.2
East - West Delay													11.4
Thru & left Conflicts		0		0			0	167400		0			167400
SR 240/Jadwin/Stevens NB ramps	420	0	150	0	0	0	95	960	0	0	225	190	2040
Average delay (seconds)	12	0	9	0	0	0	20	29	0	0	9	9	88
Delay in Hours	1	0	0	0	0	0	1	8	0	0	1	0	11
North-South Delay													8.2
East - West Delay													3.7
Thru & left Conflicts		0		0			0			21375			21375
SR 240/Jadwin/Stevens SB ramps	0	0	0	690	0	130	0	365	640	75	595	0	2495
Average delay (seconds)	0	0	0	16	0	2	0	15	5	19	55	0	112
Delay in Hours	0	0	0	3	0	0	0	1	1	0	9	0	15
North-South Delay													8.6
East - West Delay													5.4
Thru & left Conflicts		0		0			0	27375		0			27375
George Washington Way/Col Pt	280	1570	310	190	2490	40	40	80	300	490	70	110	5970
Average delay (seconds)	296	39	4	75	163	163	87	87	42	77	75	5	1111

Delay in Hours	23	17	0	4	112	2	1	2	3	10	1	0	177
North-South Delay													159
East - West Delay													18
Thru & left Conflicts		533800			1070700			39200			2800		1646500

Alt E - Widen SR 240 Southbound	TOTALS	Northbound Delay					794	Southbound Delay					299	Conflicts	19489173
SR 240/Aaron	0	355	310	95	3640	490	0	0	0	540	550	100	6081		
Average delay (seconds)	0	66	6	20	234	0	0	0	0	138	371	371	1206		
Delay in Hours	0	7	1	1	237	0	0	0	0	21	57	10	332		
North-South Delay													245		
East - West Delay													88		
Thru & left Conflicts		229172			2000543			0		0			2229715		

SR 240/Duportail	260	1655	270	40	3705	765	375	490	325	195	510	45	8635
Average delay (seconds)	378	23	6	99	210	7	150	351	32	695	100	1	2050
Delay in Hours	27	11	0	1	216	1	16	48	3	38	14	0	375
North-South Delay													257
East - West Delay													118
Thru & left Conflicts		#####			4667967			95608		191443			6676752

SR 240/Van Giesen	615	1030	290	80	3295	545	195	285	650	295	415	40	7735
Average delay (seconds)	136	24	24	42	48	5	102	204	1	190	88	88	951
Delay in Hours	23	7	2	1	44	1	6	16	0	16	10	1	126
North-South Delay													78
East - West Delay													48
Thru & left Conflicts		803863			4333485			84075		80758			5302182

SR 240/Jadwin/Stevens	420	700	190	690	3235	130	95	270	610	90	175	205	6809
Average delay (seconds)	68	19	2	38	41	4	191	85	48	102	73	13	683
Delay in Hours	8	4	0	7	37	0	5	6	8	3	4	1	83
North-South Delay													56
East - West Delay													26
Thru & left Conflicts		794168			2798925			24319		16612			3634025

George Washington Way/Col Pt	280	1570	310	190	2490	40	40	80	300	490	70	110	5970
Average delay (seconds)	296	39	4	75	163	163	87	87	42	77	75	5	1111
Delay in Hours	23	17	0	4	112	2	1	2	3	10	1	0	177
North-South Delay													159
East - West Delay													18
Thru & left Conflicts		533800			1070700			39200		2800			1646500

Alt F - North Richland Bridge	TOTALS	Northbound Delay					509	Southbound Delay					235	Conflicts	14322598
SR 240/Aaron	0	355	310	95	2520	520	0	0	0	500	550	80	4930		
Average delay (seconds)	0	66	6	18	211	0	0	0	0	100	339	339	1080		
Delay in Hours	0	7	1	0	148	0	0	0	0	14	52	8	229		
North-South Delay													155		
East - West Delay													73		
Thru & left Conflicts		229172			1384991			0		0			1614164		

SR 240/Duportail	240	1175	270	40	2635	785	410	490	325	175	510	30	7085
Average delay (seconds)	252	21	5	105	67	7	143	269	30	287	94	0	1280
Delay in Hours	17	7	0	1	49	1	16	37	3	14	13	0	159
North-South Delay													76
East - West Delay													83
Thru & left Conflicts		#####			3268122			85802		209090			4785591

SR 240/Van Giesen	570	615	290	80	2370	590	265	285	550	295	415	90	6415
Average delay (seconds)	81	21	21	104	52	8	102	127	1	123	95	95	827
Delay in Hours	13	4	2	2	34	1	8	10	0	10	11	2	97
North-South Delay													56
East - West Delay													41
Thru & left Conflicts		479846			3010278			84075		110017			3684216

SR 240/Jadwin/Stevens	420	440	190	690	2410	130	95	270	540	110	175	275	5744
Average delay (seconds)	84	54	15	29	41	4	84	85	34	96	82	17	624
Delay in Hours	10	7	1	6	27	0	2	6	5	3	4	1	72
North-South Delay													50
East - West Delay													22
Thru & left Conflicts		499358			2085135			29724		16612			2630828

George Washington Way/Col Pt	280	1570	310	190	2400	40	40	80	220	490	70	110	5800
Average delay (seconds)	125	39	4	71	208	208	87	87	18	77	75	5	1002
Delay in Hours	10	17	0	4	139	2	1	2	1	10	1	0	188
North-South Delay													172
East - West Delay													16
Thru & left Conflicts		533800			1032000			39200		2800			1607800

Alt G - GW Way/Columbia Pt Dr	TOTALS	Northbound Delay					660	Southbound Delay					357	Conflicts	16348603
SR 240/Aaron	0	355	310	95	2750	490	0	0	0	590	550	100	5240		
Average delay (seconds)	0	25	3	117	350	0	0	0	0	356	479	479	1807		
Delay in Hours	0	2	0	3	267	0	0	0	0	58	73	13	418		
North-South Delay													273		
East - West Delay													145		
Thru & left Conflicts		229172			1511254			0		0			1740427		

SR 240/Duportail	260	1655	270	40	2875	765	375	490	240	220	510	45	7746
Average delay (seconds)	336	24	3	75	195	9	124	367	28	588	103	1	1853
Delay in Hours	24	11	0	1	155	2	13	50	2	36	15	0	309
North-South Delay													194
East - West Delay													115
Thru & left Conflicts		#####			3622280			107887		191443			5643343

SR 240/Van Giesen	615	1030	290	80	2765	545	195	285	465	235	415	40	6960
Average delay (seconds)	196	9	9	118	56	5	116	229	1	247	111	111	1207
Delay in Hours	33	3	1	3	43	1	6	18	0	16	13	1	137
North-South Delay													83
East - West Delay													55
Thru & left Conflicts		803863			3636392			67006		80758			4588020

SR 240/Jadwin/Stevens	420	700	190	690	2690	130	95	270	610	105	175	205	6279
Average delay (seconds)	38	40	5	125	47	7	179	91	50	107	76	13	776
Delay in Hours	4	8	0	24	35	0	5	7	8	3	4	1	99
North-South Delay													72
East - West Delay													27
Thru & left Conflicts	794168		2327484				28248			16612			3166512
GW Way/Col Pt north "T"	0	1610	390	190	2780	0	0	0	0	560	0	110	5640
Average delay (seconds)	0	15	6	53	15	0	0	0	0	55	0	6	149
Delay in Hours	0	7	1	3	11	0	0	0	0	9	0	0	30
North-South Delay													21
East - West Delay													9
Thru & left Conflicts	305900		0				0			0			305900
GW Way/South "T"	280	1880	0	0	3230	110	120	0	340	0	0	0	5960
Average delay (seconds)	60	6	0	0	11	4	65	0	39	0	0	0	184
Delay in Hours	5	3	0	0	10	0	2	0	4	0	0	0	24
North-South Delay													18
East - West Delay													6
Thru & left Conflicts	0		904400				0			0			904400

EXISTING CONDITIONS	TOTALS	North-South Delay	410.6	East-West Delay	179.7	Conflicts	9,069,210
Alt A - 2040 No-Build	TOTALS	North-South Delay	853.3	East-West Delay	360.6	Conflicts	16,892,303
Alt B - Kingsgate Way Extension	TOTALS	North-South Delay	757.7	East-West Delay	337.2	Conflicts	16,155,378
Alt C - Aaron Drive Interchange	TOTALS	North-South Delay	664.4	East-West Delay	201.4	Conflicts	15,588,501
Alt D - SR 240 Grade Separation	TOTALS	North-South Delay	217.1	East-West Delay	79.1	Conflicts	4,598,825
Alt E - Widen SR 240 Southbound	TOTALS	North-South Delay	794.1	East-West Delay	298.8	Conflicts	19,489,173
Alt F - North Richland Bridge	TOTALS	North-South Delay	508.7	East-West Delay	235.0	Conflicts	14,322,598
Alt G - GW Way/Columbia Pt Dr	TOTALS	North-South Delay	660.4	East-West Delay	356.7	Conflicts	16,348,603