










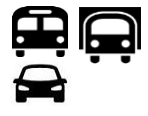




















# West Seattle Bridge / Duwamish Waterway Project List









KEY				BENEFIT/COST			
<i>Acronym</i>	<i>Whitepaper Title (Author)</i>		= pedestrian/bicycle		= low	\$	= below \$100,000
T/NM	= Transit and Non-Motorized (Candida Lorenzana)		= transit		= medium	\$\$	= \$100,101 to \$1M
IM&T	= Incident Management and Traffic (Ron Borowski)		= truck		= high	\$\$\$	= above \$1M to \$10M
I	= Infrastructure Investments (Tony Mazzella)		= general purpose		= bridge operations	\$\$\$\$	= above \$10M
B&MO	= Swing Bridge and Marine Operations (John Buswell)						

## Early Start (initiate in 0-12 months):





Type/Benefit	#	Project	Cost Estimate <sup>1</sup>	Funding Source	Benefit/Cost	Whitepaper section				Priority Level	Page #	
						T	NM	IM&T	I			B&MO
	1	<b>Red bus lane on West Seattle Bridge:</b> Paint existing bus lane red to more clearly designate the bus lane and potentially reduce violations.	\$200,000	TBD		v					1	12
	2	<b>Seattle Transit Benefit District (TBD)</b> Transit Service Investments – Improvements to frequency and reliability on Rapid Ride C and Routes 21, 55, 60, 120 (2015). Restructure C Line to originate from South Lake Union instead of Ballard for improved reliability and access to employment centers (March 2016)	Improvements Included in STBD annual \$40 million investment	STBD		v					1	12
	3	Various <b>feasibility studies</b> to determine operational and design improvements to increase safety and mobility on the Upper Bridge. Refer to whitepaper for detailed descriptions.	\$200,000	Currently unfunded				v			2	9
	4	<b>Incident Management:</b> List of recommended SPD and SDOT <b>operational, training and tow truck response improvements</b> for enhanced incident management through corridor and throughout the city. - Economic analysis to determine the cost benefit of oncall tow truck Refer to whitepaper for detailed descriptions of improvements.	TBD by SDOT/SPD	Refer to draft consultant study, <i>Transportation Incident Management in Seattle: Observations and Recommendations</i> (Sam Schwartz Engineering and TransSafe Consulting, July 2015)				v			1	10
	5	<b>Install Intelligent Transportation System (ITS) equipment</b> including Bluetooth readers and dynamic message signs (DMS) along the <b>S Spokane Street corridor between Airport Way and Port of Seattle terminals</b> to collect and display real-time travel-time information to truck drivers and the general traveling public.	\$665,000 - \$1 million depending on final scope (e.g. \$335,000 for the DMS)	Levy & future grants				v			1	21
	6	Coordinate with working vessel operators that are frequent users of the Swing Bridge to understand their planned sailing times. This will allow us to develop a relationship that will <b>provide early warning and coordination of bridge openings</b> should there be a traffic incident in progress.	TBD	Existing SDOT budget				v	v		1	29
	7	<b>Conduct value engineering of S Lander Street grade separation project</b> (4-lane grade-separated roadway with bicycle and pedestrian facilities across S Lander Street between 1st and 4th avenues).	\$7 million	State		v			v		1	15, 23
	8	Change operations <b>sequencing of Swing Bridge opening functions.</b> Maintain overall safety, but reduce some consecutive movements and make them concurrent. This will reduce the opening length of time reducing vehicle delay.	\$25,000	Existing SDOT budget					v		2	29
	9	<b>Enhanced at-grade crossing – Alki Trail connections at five-way intersection</b> (Delridge Way SW/Chelan Ave SW/SW Spokane Street/W Marginal Way SW and Port of Seattle Terminal 5).	\$300-\$500,000	Current SDOT budget			v				1	18

## Short Term (1-3 years):







Type/Benefit	#	Project	Cost Estimate	Funding Source	Benefit/Cost	Whitepaper section				Priority Level	Page #	
						T	NM	IM&T	I			B&MO
	10	<b>Two-Way Columbia Street Project:</b> Improvements to convert Columbia Street to two-way allowing for Business Access and Transit (BAT) lanes in both directions from 1st to 3rd Avenue.	\$6-7.5 million	Metro		v					1	13
	11	<b>Interim Pathways Transit Improvements</b> on 4th Avenue S / 1st Avenue S and 1st Avenue / Columbia Street: Improvements such as re-channelization, parking removal, right turn improvements, queue jumps and a bus-only turn lane will allow transit to move faster and more reliable in the 9-15 month period after SR99 tunnel opens but Alaskan Way is not available.	\$275,000	Currently unfunded		v					1	13
	12	<b>4th Ave S Transit improvements</b> including bus lane extension and revised signage on 4th Avenue	\$1.1 million	Currently unfunded		v					2	13
	13	<b>Delridge Way Rapid Ride</b> transit improvements – bus lane extension, curb bulbs, review parking restrictions	\$3.3. million	Levy / grants		v					2	14
	14	<b>Water Taxi service expansion</b> – Support King County Marine Division to explore the expansion of service to allow for a two-boat schedule with service every 15 minutes instead of every 30 minutes	\$450,000 annually	King County Marine Division		v					2	14

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**Short Term (1-3 years):**

	15	<b>Expansion of Water Taxi shuttle service area and parking</b> near water taxi dock (only necessary with water taxi service expansion).	Requires work by Metro and SDOT to evaluate shuttle service and parking.	Currently unfunded	\$\$\$	v				2	14
	16	<b>Arterial paving of S Spokane Street Lower Roadways</b> east of Swing Bridge	\$1.92 million	Existing SDOT budget	\$\$\$		v			1	-
	17	A pilot project to determine the feasibility of installing <b>freight-only lanes on Lower Spokane Street</b> ; and if deemed feasible, would implement modifications to roadway channelization, install traffic signal and signing modifications and provide detection and variable message signs.	Feasibility Study: \$200,000 Implementation: \$4 million	Currently unfunded	\$\$\$		v	v		2	22
	18	Installation of video detection, blank-out message signs that display <b>real-time information and adaptive signal timing at signalized intersections adjacent to major east-west railroad crossings</b> to alert travelers to impending train crossings and duration of street closing to reduce delay, traffic queuing and alert emergency responders.	\$435 - \$500,000	\$100,000 – Grant secured	\$\$			v		1	22

**Mid-Term (4-6 years):**

Type	#	Project	Cost Estimate	Funding Source	Benefit/Cost	Whitepaper section				Priority Level	Page #	
						T	NM	IM&T	I			B&MO
	19	W Marginal Way <b>bicycle/pedestrian connection</b> : creates an all ages and abilities connection from West Seattle trail and Duwamish trail to Alki Trail that eliminates the need for cyclists to navigate the existing five-way intersection	\$600k-\$1.3 million	Currently unfunded	\$\$\$		v				2	18
	20	<b>Alaskan Way – All-day BAT Lanes</b> , both directions	Included City of Seattle Waterfront Program	N/A	\$\$\$	v					1	14
	21	<b>4th Avenue connection to Spokane Street</b> : direct ramp connection from 4th Avenue to the Spokane Street Viaduct.	\$27 million	Currently unfunded	\$\$\$\$	v					1	14
	22	<b>Camera enforcement</b> of West Seattle bus lane	Requires legislative authority	Currently unfunded	\$\$\$\$	v					3	15
	23	Identify a <b>second grade-separated crossing of Burlington Northern Santa Fe (BNSF) mainline railroad tracks between S Atlantic and S Spokane streets</b> in addition to S Lander.	\$500,000	Currently unfunded	\$\$				v		3	-
	24	Construct a <b>4-lane grade-separated roadway with bicycle and pedestrian facilities across S Lander Street between 1st and 4th avenues</b> and close S Holgate Street so as to eliminate delay for motorists and pedestrian due to frequency of train crossings.	\$150 million	Levy (\$20 million), State (\$7 million secured), other partners	\$\$\$\$		v	v	v		1	15, 23

**Long Term (7 to 10 years):**

Type	#	Project	Cost Estimate*	Funding Source	Benefit/Cost	Whitepaper section				Priority Level	Page #	
						T	NM	IM&T	I			B&MO
	25	<b>Elevated Crossing</b> from existing Terminal 5 overpass to Alki Trail	\$150-\$350,000 for further analysis	Currently unfunded	\$\$		v				3	19
	26	<b>Sound Transit 3 package</b> : West Seattle to Downtown light rail and Early Implementation bus improvements	Possible inclusion in ST3 package	Sound Transit	\$\$\$\$	v			v		1	15, 24
	27	Work with the Port of Seattle to build a <b>Terminal 18 “only” lane for west bound vehicles on the lower Spokane Street</b> roadway. This will eliminate the current situation where trucks are lined up and stopped blocking general purpose vehicles from traveling west bound between E. Marginal Way and the Swing Bridge.	\$30 million	TBD	\$\$\$\$					v	1	-

\* All cost estimates are planning-level only and will require additional refinement. Estimates do not include anticipated annual operations and maintenance costs.