










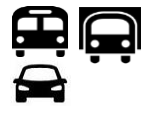




















West Seattle Bridge / Duwamish Waterway Project List









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 ¹	Funding Source	Benefit/Cost	Whitepaper section				Priority Level	Page #	
						T	NM	IM&T	I			B&MO
	1	Red bus lane on West Seattle Bridge: Paint existing bus lane red to more clearly designate the bus lane and potentially reduce violations.	\$200,000	TBD		v					1	12
	2	Seattle Transit Benefit District (TBD) 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 feasibility studies 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	Incident Management: List of recommended SPD and SDOT operational, training and tow truck response improvements 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	Install Intelligent Transportation System (ITS) equipment including Bluetooth readers and dynamic message signs (DMS) along the S Spokane Street corridor between Airport Way and Port of Seattle terminals 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 provide early warning and coordination of bridge openings should there be a traffic incident in progress.	TBD	Existing SDOT budget				v	v		1	29
	7	Conduct value engineering of S Lander Street grade separation project (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 sequencing of Swing Bridge opening functions. 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	Enhanced at-grade crossing – Alki Trail connections at five-way intersection (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	Two-Way Columbia Street Project: 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	Interim Pathways Transit Improvements 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	4th Ave S Transit improvements including bus lane extension and revised signage on 4th Avenue	\$1.1 million	Currently unfunded		v					2	13
	13	Delridge Way Rapid Ride transit improvements – bus lane extension, curb bulbs, review parking restrictions	\$3.3. million	Levy / grants		v					2	14
	14	Water Taxi service expansion – 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	Expansion of Water Taxi shuttle service area and parking 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	Arterial paving of S Spokane Street Lower Roadways east of Swing Bridge	\$1.92 million	Existing SDOT budget	\$\$\$		v			1	-
	17	A pilot project to determine the feasibility of installing freight-only lanes on Lower Spokane Street ; 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 real-time information and adaptive signal timing at signalized intersections adjacent to major east-west railroad crossings 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 bicycle/pedestrian connection : 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	Alaskan Way – All-day BAT Lanes , both directions	Included City of Seattle Waterfront Program	N/A	\$\$\$	v					1	14
	21	4th Avenue connection to Spokane Street : direct ramp connection from 4th Avenue to the Spokane Street Viaduct.	\$27 million	Currently unfunded	\$\$\$\$	v					1	14
	22	Camera enforcement of West Seattle bus lane	Requires legislative authority	Currently unfunded	\$\$\$\$	v					3	15
	23	Identify a second grade-separated crossing of Burlington Northern Santa Fe (BNSF) mainline railroad tracks between S Atlantic and S Spokane streets in addition to S Lander.	\$500,000	Currently unfunded	\$\$				v		3	-
	24	Construct a 4-lane grade-separated roadway with bicycle and pedestrian facilities across S Lander Street between 1st and 4th avenues 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	Elevated Crossing from existing Terminal 5 overpass to Alki Trail	\$150-\$350,000 for further analysis	Currently unfunded	\$\$		v				3	19
	26	Sound Transit 3 package : 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 Terminal 18 “only” lane for west bound vehicles on the lower Spokane Street 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.