Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
272	Project Wide	All third parties	Replace tub girders with WF girders (and optimize bent spacing)	>\$10M	Jerry Dorn	Feng Han	N	Propose 150'-160' span lengths. Currently at 130'. Shipping lengths are longer for WF girders. Include deck including overhangs. Explore 3 girders spans in lieu of 4 girders.
301	Project Wide	Cities	Reduce or eliminate garage screening	\$5M-\$10M	Sam Burch	Yvonne Olson		Use Architectural elements in lieu of screening
273	Project Wide	ST	Lengthen spans by reduction in frequency requirements of the DCM.	\$1M-\$5M	Jerry Dorn	Feng Han	N	Could be either tub or WF P/C girders
275	Project Wide	ST	Eliminate the 5 foot walkway behind the top of walls	>\$10M	Mike Coward	Ryan McKelvy	Y	Walkway requested by ST Ops, so deviation from Ops required.  Decreases environmental mitigation. Most transit agencies do not have this
278	L300	WSDOT	Aerial guideway north of MLT station in median to LTC, crossing Scriber Creek on a similar alignment.	>\$10M	Dale Cerney	Erik Finley	Y	Decreases environmental mitigation Accommodate a median station with ped bridge @ 220th. Will require ST Board direction to change the alignment Constractor Estimate of \$40M
469	Project Wide	Cities / WSDOT	Reduce landscaping scope by 50%	>\$10M	Brian Elrod	Yvonne Olson		Estiamted Const Cost Savings \$15M
NEW2	Project Wide		Extract Parking Garages from contracts and issue as stand-alone design-build contracts.	TBD		Ginger Ferguson	N	
289	Project Wide	ST	Use standard fasteners in lieu of HRDF.	\$1M-\$5M	Dale Cerney	Ryan McKelvy	N	
295	L200		Elimination of Hi Rail access at 120th. Currently located on floating slab and the site requires 8 feet of fill to get to grade. Another potential Hi Rail to eliminate is at 185th. The track centers are wider than 15'-9" and will require a wider panel.	\$1M-\$5M	Justin Matthews	Ryan McKelvy	N	
10	Project Wide	Cities	Eliminate one of the two elevators for each garage	\$1M-\$5M	Sam Burch	Yvonne Olson	N	Redundancy needed by Ops for ADA response requirements. Maybe prep for a future elevator, with shaft, but no installation?
325	All	Cities	Where ridership allows, use single loaded platforms (One lobby and one set of VT).	\$1M-\$5M	Sam Burch	Yvonne Olson		Could possibly design station so additional VT could be added in the future.
335	145th, MLT, LTC	Cities	Eliminate metal ceiling under platforms at stations.	\$1M-\$5M	Sam Burch	Yvonne Olson		Will require additional bird deterrent measures.
345	Project Wide	Cities / WSDOT / ST	Use large diameter pipes for detention in lieu of underground vaults.	\$1M-\$5M	Brett Hess	Paul Riemann	N	
348	L300	ST	Eliminate the 220th Double Cross-over for the future 220th Station, not programed in ST 3.	\$1M-\$5M	Dale Cerney	Ryan McKelvy	N	
347	L300	ST	Relocate the 212th TPSS to a better site at the end of 54th (end of Hall Lake)	\$1M-\$5M	Justin Matthews	Ryan McKelvy	N	
313	LTC	Lynnwood	Move crossover south of LTC station, slide station north, and eliminate crossing of 44th.	\$5M-\$10M	Maryam Hakimian	Erik Finley		
302	185th	Shoreline	Move 185th parking garage to east side of freeway.	\$5M-\$10M	Sam Burch	Yvonne Olson		Eliminates need for most or all work west of freeway and on 185th bridge.
353	Project Wide	ST	Re-evaluate Electrical OH crossings vs # of outages vs contractor requested height vs. outages.	\$1M-\$5M	Stephanie Kirby	Mike Motil	N	Requires construction input for Cost / Benefit analysis. May reduce ROW costs

PRINTED: 7/18/2017 1 of 15

Item#	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
370	Project Wide	ST	Tighter curves into and out of stations to reduce split track	\$1M-\$5M	Dale Cerney	Ryan McKelvy	N	Reduced speed into and out of station
373	Project Wide	ST	REDUCE ST WALL SEISMIC CRITERIA TO MATCH WSDOT SEISMIC CRITERIA	\$1M-\$5M	Jerry Dorn	Feng Han	N	1. REDUCES STRUCTURE COST DUE TO REDUCED SEISMIC FORCE. 2. ALLOWS USE OF WSDOT STANDARD PLAN DESIGNS, FOR WHICH BIDDERS HAVE ALREADY DEVELOPED FORMS, ETC.
387	Project Wide	WSDOT	Allow shotcrete facing on soil nail walls.	\$1M-\$5M	Jerry Dorn	Feng Han	N	Depends on what architectural finish WSDOT wants. C-755 @ 144th St has a fininsh that was accepted by WSDOT previously
NEW1	L300	MLT	New approach to temporary parking at MLT. Others purchase, ST leases. Or??	TBD		Rod Kempkes	N	
403	Project Wide		Items currently required to be designed by contractor (soil nail walls, noise wall, dewatering, waterproofing, ground improvements, Geotechnical Baseline Report)	\$1M-\$5M	Jim Schettler	Joel Theodore		Currently these scopes are to be designed by Contractor. It would be a cost and huge time savings to have the designer complete some or all of these tasks. Saves redundancies of design cost. Confirm cost savings to project. There may not be savings but more risk mitigation. Estimated @ \$4M
411			Change topsoil cross-section to location specific. Currently 2ft Jobwide. Saves on excavation and installation quantities.	\$1M-\$5M	Justin Matthews	Erik Finley		Estiamted savings @ \$3,000,000
416			More simple column shape (round)	\$1M-\$5M	Jerry Dorn	Feng Han		
NEW3	L300	LVNNWOOD	Avoid widening of 200th and purchase of properties along 200th.	\$1M - \$5M	TBD	Erik Finley	N	~\$30M in property / relocation savings in addition to direct costs.
441	Project Wide	Cities	Decorative formed metal - Reduce Quantity at Stations and Garages	\$1M-\$5M	Sam Burch	Yvonne Olson		Will need requirement waiver from Cities
298	Project Wide	Shoreline/Lynnwood	Allow compact stalls in garage to reduce garage size.	\$1M-\$5M	Sam Burch	Yvonne Olson		Could reduce either width or length of stalls to reduce size.
276	Project Wide		Reduce shaft tolerance between column and drilled shaft, reduce delta from 3 ft to 2 ft Place risk on contractor to accept	\$1M-\$5M	Jerry Dorn	Mike Motil	N	Reduction of drilled shafts by 1 foot diameter.
292	Project Wide	ST	Reduce track centers.	\$1M-\$5M	Dale Cerney	Ryan McKelvy	N	Include step around center OCS pole. Maintain Ctr OCS Poles
28	L200	Shoreline MIT	The City of Shoreline has developed a draft codeamendment that adopts NFPA130 with amendments, one of which requires full sprinkler coverage at stations, including at platforms.	\$1M-\$5M	Sam Burch	Jimmy Lassiter	N	From DDL. NFPA 130 applies to underground station. Should not apply to aerial station.
333	All	Cities	Reduce platform width by reducing # of escalators/stairs and having up and down at two different locations.	\$1M-\$5M	Sam Burch	Yvonne Olson		Would reduce the cost at the station and the guideway approaches on each end.
51	Project Wide	Cities	Eliminate cul-de-sacs	\$1M-\$5M	Jeff Schutt	Jon Jordan	N	Negotiations wth Cities
100	L300		Work with City of Lynnwood to accept leaving the piped stream as is (no significant damage confirmed by video inspection, no impacts from garage footprint) and not construct modified watercourse	\$1M-\$5M	Sam Burch	Erik Finley	N	

PRINTED: 7/18/2017 2 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
283	L200	Seattle	Do not widen 5th between 130th and 145th (Seattle)	\$1M-\$5M	Jeff Schutt	Jon Jordan	N	Widening would have environmental impacts Const cost NOT included presently Assumes no major utility relocations
305	Project Wide	Cities	Remove public restrooms	\$1M-\$5M	Sam Burch	Yvonne Olson		Cost is based upon self-cleaning restrooms.
342	L200	Cities	Do not underground Electrical Distribution	\$1M-\$5M	Jeff Schutt	Rex Wong	N	Predominantly for Shoreline and SCL (Seattle)
50	Project Wide	Cities	Eliminate or reduce at-grade standpipes	\$1M-\$5M	Jim Schettler	Jimmy Lassiter	N	Requires acceptance from Fire Marshals
374	Project Wide	ST	ALLOW ECCENTRIC TIEBACK POCKETS ON SOLDIER PILES.	\$1M-\$5M	Jerry Dorn	Feng Han	N	1. LESS PILE FABRICATION. 2. MORE EFFICIENT PILE SIZES. REQUIRES WSDOT CONCURRENCE. Tied to #275
389	Project Wide	ST	Review Negotiated Support Services (NSS) to ensure no duplication of Direct Costs (dewatering, traffic control, etc.).	>\$10M	Tony Morris	Joel Theodore	N	Further study required.
87	Project Wide	Cities	Consider a reduction in the public art program for each station	\$5M-\$10M	Sam Burch	Yvonne Olson		Reduce from 2% to 1%
270	Project Wide	Environmental	Limit maximum temporary impacts of wetland to less than 2 years.	\$5M-\$10M	Christina Martinez	Karin Ertl	Y	Decreases environmental mitigation. Confirm costs and if this is a net reduction to the project cost
286	L200	Shoreline	Revised drainage criteria for Thornton Creek basis results in small drainage facilities	\$5M-\$10M	Brett Hess	Jon Jordan	N	Revised drainage criteria came after the 60% submittal.
68	Project Wide	KC Metro / CT	Ask KCM and CT to pay the costs for the bus loops, bus stops, bus layover, SWIFT station. Previously not in the program for 145 <sup>th</sup> , 185th and LTC.	\$5M-\$10M	NA	Jon Jordan / Erik Finley	N	As an example, Northgate Station had a cost sharing agreement with KCM
371	Project Wide	ST	Complete soil investigations and improve foundation recommendations	\$5M-\$10M	Jerry Dorn	Sean Shin	N	
285	L200	Shoreline	Apply revised existing conditions drainage criteria in all of Shoreline, similar to Thornton Creek basin.	\$1M-\$5M	Brett Hess	Jon Jordan	Maybe	
316	LTC	LVNNWAAA	Remove underground HOV access to LTC garage and have HOV parking in lot north of bus area.	\$1M-\$5M	Maryam Hakimian	Erik Finley		
404			Change vaults to ponds where ROW takes allow for it.	\$1M-\$5M	Brett Hess	Ryan McKelvy		
343	L300	Lynnwood	Since the LTC garage misses the site storm water pipe / stream. Do not touch or replace the pipe with a stream, but provide for the future compatibility for a stream when laying out the site.	\$1M-\$5M	Maryam Hakimian	Erik Finley	Y	
5	Project Wide		Adopt 62-ft standard structural bay sizes for ALL Parking	\$1M-\$5M	Sam Burch	Yvonne Olson		Work with City of Shoreline to come to agreement on stall/isle widths. (4/13) Required deviation and will not pursue This is the industry standard. Modify framing to be congruent with conventional forming systems for parking garages
14	Project Wide		Change specification to allow to drill and epoxy rebar for the aerial guideway plinth rebar. Saves time and money (in terms of access and ease of constructability)	\$1M-\$5M	Jerry Dorn	Feng Han	N	(1/25) - need to determine if the cost benefit is there. Possible constructability issue. Following up with Steve G. (2/22) From Jeff - Not allowed by Sound Transit and not proposed by H J. JD (4/13) - further study - Rebar reconfigured to improve constructability, will continue to push. (6/5) - Owner Changed from JG to Steve Clayton. Design input is needed for discussion and decision.

PRINTED: 7/18/2017

3 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
72	Project Wide	All third narties	Reduce the number of replacement trees. Get AHJ concurrence to utilize a lesser mitigation ratio.	\$1M-\$5M	Brian Elrod	Fred Wilhelm	Y	Requires discussions and agreement with AHJ's
81	Project Wide	ST	Eliminate impervious surfaces at ST facilities and related WQ and flow control facilities and replace with LID pervious pavers.	\$1M-\$5M	Brett Hess	Ryan McKelvy	N	Currently evaluating to do this at MLT
97	L300	Lynnwood	Ask City of Lynnwood to share in the costs of the pedestrian promenade and the proposed regional storm water feature (Stream daylight)	\$1M-\$5M	Sam Burch	Joel Theodore		
274	L200	WSDOT	Move guideway parallel to I-5 and maximize aerial configuration.	\$1M-\$5M	Dale Cerney	Joel Theodore	Y	o ROW - ROM >\$10M 115th to 125th & shift west: NW, Road Ends, Drainage, ROW, Utilities, floating slab, OH electrical o 145th and 155th aerial guideway — / o 155th to 170th — aerial guideway west into I-5 Decreases environmental mitigation. Include investigation for encroaching within the 94' and 84; compatibility lines. Evaluate for select areas only
277	Project Wide	ST	Raises the track profile to increase the length of aerial guideway to not require so much Civil, N&V, environmental or ROW construction.	\$1M-\$5M	Dale Cerney	Ryan McKelvy	Y	Decreases environmental mitigation. Consider at select areas
287	L300	Mountlake Terrace	Eliminate temporary parking facility at MLT station, and use existing parking lots and shuttles.	\$1M-\$5M	Maryam Hakimian	Erik Finley	Maybe	Signed agreement that is already executed b y ST Board and MLT City council
288	L300	WSDOT	Re-look at MLT station adjacent to I-5	\$1M-\$5M	Rich Johnson	Erik Finley	N	Coupled with center-running guideway north of here
293	Project Wide	ST	Design all curves to minimum / absolute minimum, instead of lowering design speeds.	\$1M-\$5M	Dale Cerney	Ryan McKelvy	Maybe	Shorten long span structures (crossing I-5). Reduces amount of transition structure at Stations.
299	Lynnwood	Lynnwood	Add surface parking at LTC and reduce garage size.	\$1M-\$5M	Sam Burch	Erik Finley		
304	185th	Shoreline	Design 185th Station as an at grade station rather than raising site.	\$1M-\$5M	Sam Burch	Jon Jordan		Bring access off of 8th and don't build up site. Maintain crossing under 185th.
308	LTC	Lynnwood	Lower Guideway and Station @ LTC	\$1M-\$5M	Maryam Hakimian	Erik Finley		Reduces materials and VT for a significant length of guideway
310	Project Wide	oreline/Mountlake Terra	Reduce canopies back to minimum area required by calculation.	\$1M-\$5M	Sam Burch	Yvonne Olson		Canopies were extended at the direction of Sound Transit to the elevators to provide greater weather protection.
324	All	Cities	Use up only escalators and stairs for downward movements.	\$1M-\$5M	Sam Burch	Yvonne Olson		DCM suggests this configuration for heights under 30'. Public stairs could drive wider platform if required to be 72"

PRINTED: 7/18/2017 4 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
338	MLT	Mountlake Terrace	Move MLT Station north so it does not straddle 236th.	\$1M-\$5M	Rich Johnson	Ryan McKelvy		Eliminates below grade construction, wall and fill south of 236th, utilities etc. crossing 236th, access road to south area. Tied to #293 to make this idea work
344	Project Wide	Cities / WSDOT	Co-mingle ST with 3rd party drainage vaults	\$1M-\$5M	Brett Hess	Paul Riemann	N	Potential ROW savings
355	L200	Shoreline	Eliminate roadway improvements in the vicinity of 185th (including as far south as 180th) by using an aerial guideway and / or moving the guideway to the west.	\$1M-\$5M	Jeff Schutt	Jon Jordan	N	Requires additions study of feasibility for aerial, covered under move guideway west.
356	L200	Shoreline	Minimize impact to Metro-base wall, by aerial alignment to the west of the wall in WSDOT ROW/	\$1M-\$5M	Jerry Dorn	Jon Jordan	N	Requires more analysis to assess Cost / Benefit
357	L200	ST	Provide an aerial guideway over 1st and 174th to avoid ROW takes and street improvements.	\$1M-\$5M	Jerry Dorn	Jon Jordan	N	Requires more analysis to assess Cost / Benefit
358	Project Wide	ST	Move drainage vaults below the guideway.	\$1M-\$5M	Brett Hess	Paul Riemann	N	Significant decrease on ROW
359	L200	ST	Provide aerial guideway at the 155th Fire Station to minimize civil, utilities and environmental impacts.	\$1M-\$5M	Jeff Schutt	Jon Jordan	N	
375	Project Wide	ST	ALLOW USE OF WIRE FACE MSE WALLS	\$1M-\$5M	Jerry Dorn	Sean Shin	N	POTENTIALLY SLIGHTLY LOWER COST THAN PRECAST PANEL FACE MSE WALLS. Looks like a Gabion Wall Confirm costs for savings
384	Project Wide	ST	On aerial guideway, use less-expensive reflective noise wall panels where possible (requires updated analysis)	\$1M-\$5M	Thom Bergen	Shankar Rajaram	N	lincreases noise. Need to challenge DCM. Need additional analysis
386	Project Wide	ST	Eliminate temporary replacement highway noise walls, and revise construction sequence so that existing walls are taken down in small sections (rather than all at once), and for short periods of time prior to replacement.  Negotiate with AHJs.	\$1M-\$5M	Jeff S./Rich J.	Mike Motil	N	Eliminates temporary walls. Assume reduction of 1/2 . Need to look for construction sequencing that would be useful.
388	Project Wide	ST	Perform additional Subsurface Utility Engineering (potholes)	\$1M-\$5M	Stephanie Kirby	Rex Wong	N	Need to evaluate how much we should spend now to avoid costs in construction
401			Allow the use of plastic/composite pre-manufactured noise walls	\$1M-\$5M	Thom Bergen	Shankar Rajaram	N	ST Guideway noise walls.
409			Combined drainage vaults where available	\$1M-\$5M	Brett Hess	Ryan McKelvy		
410			Aerial Dispersion	\$1M-\$5M	Brett Hess	Ryan McKelvy		
412			Renegotiate with City of Seattle and Shoreline to reduce scope of roadwork rebuild requirements at cul-du-sac/dead end streets	\$1M-\$5M	Justin Matthews	Jon Jordan		
413			Do not build trail for Shoreline, instead deed the property to Shoreline.	\$1M-\$5M	Justin Matthews	Jon Jordan		
421	Project Wide		Change drain piping on structures to FRP (all)	\$1M-\$5M	Jim Schettler	Paul Riemann		
423	L200		Change CIP to MSE where available - down to 4ft height (2ft exposed)	\$1M-\$5M	Jerry Dorn	Feng Han		Accepted. Will be incorporated into final design.

PRINTED: 7/18/2017 5 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
424	Project Wide		Integrate a foundation into MSE wall coping to allow for precast noise walls to be bolted into place.	\$1M-\$5M	Jerry Dorn	Feng Han		Accepted. Will be incorporated into final design.
425			Investigate precast MSE coping options from suppliers	\$1M-\$5M	Jerry Dorn	Feng Han		Accepted. Optional CJ will be incorporated into final design that allows for the use of precast.
426	Project Wide		Investigate the use of T-Walls	\$1M-\$5M	Jerry Dorn	Feng Han		·
427	Project Wide		Reduce size and increase spacing of vertical elements on Soil Nail Walls	\$1M-\$5M	Jerry Dorn	Feng Han		Accepted. Will be incorporated into final design.
433	Project Wide		Reduce the number of spare parts	\$1M-\$5M	NA	Joel Theodore		Need concurrence from Paul Denison
451	Project Wide		Landscape Establishment changed from LS plug to percent of contract based on years of establishment - Change spec and put into ST scope to manage	\$1M-\$5M	Brian Elrod	Yvonne Olson	N	Estiamted cost savings of \$2,500,000
456	L300		Reduce 50% of drainage vaults with more infiltration	\$1M-\$5M	Brett Hess	Paul Riemann		6 vaults added since PE design; If 50% reduction = \$5M
460	L300	Project Wide	Modify QC spec to broaden coverage of inspectors	\$1M-\$5M	NA	Mike Motil		NSS - @L300 Estimated savings of \$2M
461	L300		Modify Safety/Security spec to reduce security guards at access points	\$1M-\$5M	NA	Mike Motil		Estimated at \$3M
464	Project Wide		Eliminate ballast mat	\$1M-\$5M	Thom Bergen	Shankar Rajaram		Confirm costs for both L200 and L300 @ \$2.5M
479	Project Wide		Eliminate chases at platforms (Mechanical and Electrical)	\$1M-\$5M	Sam Burch	Yvonne Olson		Runs chase up the columns (exposed) or walls.
4			At 145th & 185th, eliminate the lobby structure, canopy roofing and incorporate it within the parking structure or make similar to Lynnwood layout	\$500K-\$1M	Sam Burch	Yvonne Olson		Confirm if DUPLICATE? Requires DCM deviation. (2/22) - not incorporated into 60%. Could get revisited at 90%. Follow-up with JT ASAP so design decision can be made early. (4/13) Not likely due to city variance and requires deviation. Joel to get back on reasoning. (6/5) - K Marashi (H J): This would make sense from the structural point of view, but there may be architectural or aesthetic concerns, and it would be relatively impactful to design to make such a change leading into the 90% submittal. From parking point of view, this option would reduce stalls by one or two per floor.
57	Project Wide	Cities	Increase the spacing between FLS access points (decrease the #)	\$500K-\$1M	Jim Schettler	Jimmy Lassiter	N	Requires acceptance from Fire Marshals
79	Project Wide	ST	Eliminate areas where ST may want additional barrier beyond what is required by WSDOT criteria in order to protect the guideway from errant vehicles. Eliminate areas where ST may want additional barrier, beyond what WSDOT requires, to protect the guideway from errant vehicles.  Approximately 5,000 LF of additional barrier in L200. Ballpark cost for this additional protection is \$650,000.	\$500K-\$1M	Bill James	Jon Jordan / Erik Finley	N	
83	Project Wide	Cities / WSDOT	Plant only the required number of trees that are required for mitigation outside the station areas. Reduces the number of trees to acquire and reduces plant establishment costs  Consider a reduction of glazing throughout the Station	\$500K-\$1M	Brian Elrod	Yvonne Olson		
86	Project Wide	Cities	areas	\$500K-\$1M	Sam Burch	Yvonne Olson	N	

PRINTED: 7/18/2017 6 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
91	L200	ST	The movable point frog at 145 <sup>th</sup> can be replaced with a flange-bearing RBM frog and a rubber mat underneath the track. This could save more than \$0.5M in special Trackwork cost and also reduce the maintenance cost.	\$500K-\$1M	Thom Bergen	Shankar Rajaram		
136	Project Wide	51	Review w/ Ops/Maint if it is more cost effective to have ST Facilities perform maintenance work between contract Acceptance and revenue service (N160 bid \$10,000 to \$50,000/month)	\$500K-\$1M	NA	John Weston	N	Interim care and custody including preventative maintenance
280	Project Wide	ST	Aerial guideway changes from typical simple span units to pinned, three span units.	\$500K-\$1M	Jerry Dorn	Feng Han	Υ	Lengthen spans, reduce diaphragm work.  Decreases environmental mitigation
281	L200	ST	Eliminate floating slab at Latvian Church by not saving the caretaker house	\$500K-\$1M	Jeff Schutt	Jon Jordan	N	
297	Project Wide	Metro/CT/City	Reduce transit footprint on station sites to reduce station overall footprint.	\$500K-\$1M	Sam Burch	Jon Jordan / Erik Finley		
300	Project Wide	Shoreline/Lynnwood	Allow columns to encroach to parking stalls to reduce garage size.	\$500K-\$1M	Sam Burch	Yvonne Olson		Would reduce bay length
306	Project Wide	Cities	Make public restrooms standard construction rather than self-cleaning.	\$500K-\$1M	Sam Burch	Yvonne Olson		Mutually exclusive with remove public restrooms
309	Project Wide	Cities	Remove fire sprinklers from station canopies.	\$500K-\$1M	Sam Burch	Jimmy Lassiter		Sprinklers in the canopies are a requirement imposed by the cities. Not used elsewhere on the system.
314	LTC	Lynnwood	Do not pursue LEED at LTC Station	\$500K-\$1M	Maryam Hakimian	Erik Finley		Assumes 1%+ of construction cost
315	LTC	Lynnwood	Do not install PV at LTC garage	\$500K-\$1M	Maryam Hakimian	Erik Finley		Further Study, In Sustainability Report
322	All	Cities	Remove redundant elevators	\$500K-\$1M	Sam Burch	Yvonne Olson		Stations have two elevators. In many cases these elevators serve the same spaces (Same plaza and platform).
327	All	Cities	Use concrete finish at platforms rather than tile.	\$500K-\$1M	Sam Burch	Yvonne Olson		
328	All	Cities	Simplify canopy architectural design to utilize standard shapes.	\$500K-\$1M	Sam Burch	Yvonne Olson		
329	145th, 185th, MLT	oreline/Mountlake Terra	Eliminate silva cells for trees.	\$500K-\$1M	Brian Elrod	Yvonne Olson		
331	All	Shoreline/Lynnwood	Allow exposed conduit in the garages.	\$500K-\$1M	Sam Burch	Yvonne Olson		
332	All	Shoreline/Lynnwood	If conduit is exposed, make slabs thinner in garages.	\$500K-\$1M	Sam Burch	Feng Han		
337	185th	Shoreline	Move 185th station ancillary building so it is completely off of the guideway and supported at grade.	\$500K-\$1M	Sam Burch	Yvonne Olson		This may necessitate maintaining
349	L300	ST	Move the MLT TPSS to the south side of the Station	\$500K-\$1M	Rich Johnson	Julie Marshall	N	Mutually exclusive with moving the station north of 236th
354	L200	Shoreline	Provide provision (conduits) for pedestrian lighting between 145th and 185th parallel to the guideway.	\$500K-\$1M	Jeff Schutt	Jon Jordan	N	~52@ \$15K each
362	L300	WSDOT	Cross I5 at sharper angle to reduce long span	\$500K-\$1M	Dale Cerney	Ryan McKelvy	N	Will increase impacts to RCA

PRINTED: 7/18/2017 7 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
376	Project Wide	ST	REDUCE DEPTH OF TRACK DRAINAGE	\$500K-\$1M	Brett Hess	Paul Riemann	N	CURRENT DEPTH RESULTS IN DEEP RETAINING WALL FOOTINGS AND MORE EXCAVATION.
383	Project Wide	ST	Consider "enhanced" ballast mat instead of floating slab track, e.g., double mat with extra ballast (this is risky)	\$500K-\$1M	Thom Bergen	Shankar Rajaram	N	
385	Project Wide	ST	Eliminate/reduce AP noise walls though the Gateway property (but make guideway "AP-ready") – not obligated to mitigate for future development	\$500K-\$1M	Rich Johnson	Shankar Rajaram	N	
397			Temp filling of wetlands - focus construction timing to reduce in lieu fees (<1 year). Wetland WSH2, PWSH3, SWSH4, PWSE5)	\$500K-\$1M	Christina Martinez	Karin Ertl	Y	This is L200 likely savings. Same global issue applicable to L300
398	L200	Seattle	Reword spec to allow removal of wetland soils to eliminate the need for trestle at certain locations	\$500K-\$1M	Christina Martinez	Karin Ertl	Y	Estiamted savings could be \$1.5M
400	L200		Allow the use of James Keogh Park for storage yard (saves on outside yard rental at SCL)	\$500K-\$1M	NA	Jon Evans	Y	Is this a City of Shoreline or 4F issue? Negotiate for free rent from Shoreline Est \$1.35M
405			Investigate use of pervious pavements to offset amount of water to be treated/stored	\$500k-\$1M	Brett Hess	Ryan McKelvy		
407			PVC/HDPE instead of RCP for Drainage	\$500k-\$1M	Brett Hess	Ryan McKelvy		
422	Project Wide		Move to a simpler and consistent (barrier/gravity style) track wall design.	\$500K-\$1M	Dale Cerney	Ryan McKelvy		Accepted. Will be incorporated into final design.
430	Project Wide		Change soil nail wall fascia from CIP to decorative shotcrete (work with WSDOT to allow)	\$500k-\$1M	Jerry Dorn	Yvonne Olson		requires WSDOT approval
431			Verify that the height of MSE walls has been maximized before switching to structure	\$500k-\$1M	Jerry Dorn	Feng Han		
453	Project Wide	Cities	Review tree mitigation scope and re-negotiate with stakeholders	\$500K-\$1M	Brian Elrod	Yvonne Olson		
455	L300	НЈ	Modify concrete thermal control spec to narrow the elements requiring thermal control	\$500K-\$1M	Jerry Dorn	Feng Han		Estiamted at \$1M
2			Reduce lower level waterproofing at basement levels due to low water tables	<\$500k	Sam Burch	Sean Shin	N	(2/22) - Confirm water table. Consider where appropriate. (4/13) -Joel to review details of this proposals (6/5) K Marashi (H J): Below grade waterproofing of occupied spaces are not for water tables per se, but to protect water leaks during wet season when ground is saturated. However, we will exercise due diligence in limits of application (DCM 31.3.3D)
29	L200		King County Transit Division has requested a bus operator comfort station to serve drivers who use the 145th Station. Proximity to bus zone/layover is important to them	<\$500k	Sam Burch	Yvonne Olson	N	From DDL
64	L200	Shoreline	Consider alternative material for the guardrail, art at 185 <sup>th</sup> , bike cage screening, <del>and parking garage screening</del> (Bok system)	<\$500k	Sam Burch	Yvonne Olson	N	
65	Project Wide	Cities	Plain round columns for the guideway structure	<\$500k	Jerry Dorn	Yvonne Olson	N	Once forms are built, cost savings will be in the form manufacturing  Aesthetics issue
66	L200	Shoreline	Ask City of Shoreline to waive requirement for canopies over pedestrian areas (asking for canopy to connect the garage and the station to the bridge covered canopy).	<\$500k	Sam Burch	Jon Jordan	N	Requires negotiation with Shoreline

PRINTED: 7/18/2017 8 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
96	L300	Lynnwood	Reduce the height of the LTC Station by 3' lower to eliminate the pedestrian plaza stairs and ramps. Ask the City of Lynnwood to agree to 3' lower guideway height over 44 <sup>th</sup> .	<\$500k	Sam Burch	Joel Theodore		
99	L300	Lynnwood	Eliminate most planter strips in the surface parking at Lynnwood Transit Center. They're not there now, and TC users like to be able to pull forward through parking spots when there's no vehicle in front.	<\$500k	Sam Burch	Erik Finley		
108	Project Wide	WSDOT	Request less stringent tree mitigation ratios from WSDOT for impacts within their ROW	<\$500k	Brian Elrod	Fred Wilhelm	N	
116	Project Wide	ST	Reduce Rail installation temperature. Right now the temperature drop is too big causing extra rail stress and force.	<\$500k	Dale Cerney	Xiangdong Han	N	
118	Project Wide	ST	Eliminate required hydrophobic concrete at exposed deck	<\$500k	Sam Burch	Feng Han		(DCM 31.3.8K)
124	Project Wide	ST	Optimize garage shear wall length.	<\$500k	Sam Burch	Feng Han		
125	Project Wide	ST	Optimize station and garage foundation size. Revisit building settlement requirement (1.33") in earthquake event. Design screening, glazing, glasses, vertical transportation according to the structure non collapse criteria.	<\$500k	Sam Burch	Sean Shin		Increased settlement will have consequences to the super structure. Which will cost more for structural and architectural elements. Will need to be studied further. Outside of industry standard.
139	Project Wide	ST	Reduce the number of ETELS along the guideway to only points of egress and/or maintenance ingress	<\$500k	Mike Coward	Julie Marshall		
141	L300	ST	Locate the LTC TPSS closer to the guideway to reduce cost of long feeder cables	<\$500k	Sam Burch	Erik Finley		
240	L300	Lynnwood	Place column in middle of 44th to eliminate spliced tubs	<\$500k	Jerry Dorn	Erik Finley	N	
279	Project Wide	ST	Eliminate ballast bridges	<\$500K	Jerry Dorn	Feng Han	N	
291	Project Wide	ST	Reduce sub-ballast depth from 8 inches to 6 inches.	<\$500K	Joe Hachey	Ryan McKelvy	N	This is pretty standard for most agencies around the country, as 8 inches is mainly for freight rail.
294	Project Wide	ST	Change the design of the I-5 crossing to use absolute minimums. Could potentially reduce curve lengths and reduce the long span length.	<\$500K	Dale Cerney	Ryan McKelvy	N	
296	Project Wide	ST	Elimination of pre-fabricated insulated joints and high strength rail at said joints.	<\$500К	Dale Cerney	Ryan McKelvy	N	
303	185th	Shoreline	Remove pedestrian canopy on 185th St. Bridge.	<\$500K	Jeff Schutt	Jon Jordan		
307	MLT/LTC	ountlake Terrace/Lynnwo	Reduce Exit Stair width at MLT and LTC	<\$500K	Sam Burch	Yvonne Olson		Stairs are currently 96". Could be reduced to around 70"

PRINTED: 7/18/2017 9 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
311	145th	Shoreline	Make 145th Station Kiss-and-Ride loop for traffic only and remove provisions for public gathering	<\$500K	Sam Burch	Yvonne Olson		The drop of space was converted to a dual use area that could be closed and used as a public gathering space based on a request from Shoreline.  Cost not in 60% construction cost estimate
312	All	Cities	Simplify plaza paving	<\$500K	Sam Burch	Yvonne Olson		
317	145th	Shoreline	Move bike cage inside garage and eliminate a separate structure.	<\$500K	Sam Burch	Yvonne Olson		
318	145th	Shoreline	Move trash enclosures inside of station/garage rather than as stand alone structures.	<\$500K	Sam Burch	Yvonne Olson		Would require dumpsters to be moved more than 10'. Eliminates need for separate structure with separate drainage to sanitary and a primed trap.
319	All	Cities	Change emergency exit stairs to be open (no roof or screening)	<\$500K	Sam Burch	Yvonne Olson		
320	All	Cities	Try to relocate systems devices to reduce or eliminate need for comm closets.	<\$500K	Sam Burch	Yvonne Olson		
321	AII	Cities	Reduce or eliminate transit driver restrooms, or share with ST staff restroom.	<\$500K	Sam Burch	Yvonne Olson		
323	All	Cities	Remove floor drains where not required by code.	<\$500K	Sam Burch	Yvonne Olson		
326	All	Cities	Revise public stair construction from steel stringer and precast treads to all concrete.	<\$500К	Sam Burch	Feng Han		Our understanding is that
330	145th	Shoreline	Change glazed Sound Wall at plaza of 145th station to less expensive material.	<\$500K	Sam Burch	Yvonne Olson		Glazing was used to provide light under guideway and improve visibility during daytime.
334	All	Cities	Reduce station lighting levels from DCM requirements to code required minimums.	<\$500K	Sam Burch	Ben McNutt		
336	185th	Shoreline	At 185th Station eliminate north service access and provide service access through south side.	<\$500K	Sam Burch	Jon Jordan		Would decrease ROW Would require reconfiguration of bus loop and/or ped drop off area.
339	LTC	Lynnwood	Move LTC Garage VT core into garage structure.	<\$500К	Maryam Hakimian	Yvonne Olson		Reduces cladding/glazing and structure. Will take up parking stalls and put patrons closer to vehicle travel way.
350	L300	ST	Eliminate the L200 200th stormwater vault and enlarge the L300 pond.	<\$500K	Bill Hickey	Paul Riemann	N	
352	L200	ST	Change Universal Cross over to double cross-over.	<\$500K	Dale Cerney	Ryan McKelvy	N	reduces RCA impacts

PRINTED: 7/18/2017 10 of 15

	1		T	<u> </u>				
Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
365	L300	Lynnwood	Lower Lynnwood Station to minimum clearance over 44th	<\$500K	Maryam Hakimian	Erik Finley	N	
367	Project Wide	ST	Use galvanized steel instead of High performance coatings for guideway	<\$500K	Jerry Dorn	Feng Han	N	
368	Project Wide	ST	Eliminate architectural treatment of columns and top of column reveal	<\$500K	Jerry Dorn	Yvonne Olson	N	
377	Project Wide	ST	ELIMINATE WALLS W-R21-1-L AND W-R21-2-L	<\$500K	Justin Matthews	Ryan McKelvy	N	ACCORDING TO KEITH IRELAND, THE MAIN PURPOSE OF THIS WALL IS TO PROVIDE A TEMPORARY PATH TO A FLYER STOP THAT WILL BE ELIMINATED BY THE GUIDEWAY CONSTRUCTION.
380	Project Wide	ST	Raise profile grade to eliminate barriers along I5	<\$500K	Justin Matthews	Ryan McKelvy	N	Raise profile so barrier height wall on I5 side and reduce wall height on side away from I5
382	Project Wide	ST	Break up floating slab at Latvian church into two smaller slabs (one for LL107 & 108 and the other for LL116 & 117, ballast mat okay for LL104).	<\$500K	Dale Cerney	Ryan McKelvy	N	
390	Project Wide	ST	Eliminate Early Work (Mini MACC) packages	<\$500k	Stephanie Kirby	Rex Wong	N	Premium was not included in the 60% estimate
391	LTC	ST	Eliminate noise walls at the LTC station. Already confirmed by analysis.	<\$500K	Maryam Hakimian	Erik Finley	N	
429			Combine track drainage and wall drainage for MSE fills (other walls too if possible)	<\$500K	Brett Hess	Paul Riemann		Accepted. Will be incorporated into final design where available. Estiamted cost savings of \$250k-\$500k
432	Project Wide		Use regular weight concrete for floating slabs when possible	<\$500k	Jerry Dorn	Shankar Rajaram		Designer and GC/CM estimate vary
436	Project Wide		Allow the use of cut-in (bolted) IJ's vs. Plugs	<\$500k	Jerry Dorn	Julie Marshall		
438	Project Wide		Eliminate rail grinding from each L200 and L300 contract and have Sound Transit contract directly after completion of L800.	<\$500k	NA	Joel Theodore		Saves civil contractor mobilization for rail grinding operations
442	Project Wide	Cities	Terra Cotta wall panels added - Change material to decorative CMU	<\$500k	Sam Burch	Yvonne Olson		\$85-\$95/SF for cladding ; estiamted cost savings of \$50k-\$100k
444	Project Wide	Cities	Decorative metal railing - Reduce Quantity	<\$500k	Sam Burch	Yvonne Olson		depending on style; Estimated cost savings of \$50k-\$100k
484	L200		Eliminate Acoustical Wall Panels at platform of 185 <sup>th</sup> Station.	<\$500K	Thom Bergen	Shankar Rajaram		Below grade station; Estimated Construction cost \$140K
1	L200		At 185th, separate soil retaining wall from building to reduce lateral pressures off side of		Sam Burch	Feng Han (ST)	N	(4/13) - Joel to check and verify, but not likely to be implemented. (6/5) K Marashi (H/J): Lateral soil loading is no longer an issue with the revised 185th shorter plan layout and the lowest level eliminated. However a temporary construction soil nail wall may be constructed to support excavation during construction. Declined? Recommed NO GO
13	Project Wide		Use precast stay-in-place deck forms on superstructure					working out the details to get this incorporated into design. (1/25) Schedule impact greater than cost. (2/22) Continuous discussions on this item. (4/13) - Structural Engineer is questioning the precast and needs Jonathan to work with detailed template for justification. (6/5) - Need decisions made ASAP, for 90%, on where precast can be used and where it cannot be used. (Between tubs, over tubs) The concern is reflective cracking.  If wide flange is used ILO tubs, eliminates the need for this idea
20			Develop a more cost effective girder/superstructure restraint system. Reduces cost and schedule.					(12/29) - Declined, already most cost effective system is being used.
			Tayatemi. Reduces cost and schedule.			l	I	

PRINTED: 7/18/2017 11 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
21			Use of Ridgecrest Park as a project yard. Eliminate the need for outside rental of yard. Potential community benefit.					Savings would be not renting another yard along the alignment quoted as 5 acres x \$5k/acre month. (12/29) - Currently in the 60% design, but is pending the city for final decision. Potential mitigations could be requested. FTA Approval as well. recommend NO GO
26			Consider combining construction package into one.	TBD				
30	L200		Design Policy Memorandum-Seismic Widening: This new WSDOT policy may require a full retrofit of the 185th Street Bridge.					From DDL. Design accomodated a non-widened 185th bridge
55	L200	ST	Seek ST3 funding for crossover south of 130 <sup>th</sup> station	\$1M - \$5M			N	Estimated cost savings of \$1M - \$5M
58	Project Wide	All third parties	Reduce/Eliminate 3 <sup>rd</sup> party directed design alternatives					This is more of a cost mitigation policy issue
59	Project Wide	All third parties	Construct permanent noise walls in lieu of temporary noise walls					Confirm cost savings - recommend NO GO
62	Project Wide	ST	Conduct a parcel-by-parcel review of planned ROW take; propose alternative approaches that may reduce full takes.		Mike Coward	Jon Jordan / Erik Finley		No savings in construction. There will be project ROW savings. Recommend review after revised project configuration is agreed
63	Project Wide	ST	Provide incentives for cities to partner and help reduce cost; for example, if the city can help us reduce cost by \$10M we will increase their access allowance by \$1M.	TBD		Jon Jordan / Erik Finley		Strategic negotiations with Cities will help reduce significantly design and construction costs for LLE project (e.g., cladding, cul-desacs, lighting, undergrounding of power, trail, temp parking, stream restoration, access enhancements, 5th ave widening, stair widths, restrooms, bus layover). Estimated cost savings >\$10 Million
67	L200	Shoreline	Ask the City of Shoreline to share in the cost for the covered walkway on the 185 <sup>th</sup> bridge (references 19 above)	TBD		Jon Jordan	N	Requires negotiation with Shoreline. Estimated savings <500k
71	L300	Lynnwood	Ask the City of Lynnwood to allow a 20% reduction in parking spaces considering that we are improving bus connections with CT, and work with the city to incentivize residents to carpool, bus, and bike to the station.	TBD		Erik Finley	Y	Reduction in parking spaces will require revising the ROD
73	Project Wide	ST	Hold a VE workshop with all parties (designers, ST, AHJ's, KCM, CT, WSDOT) to collectively agree on the VE list	TBD				
76	Project Wide	ST	Charge for parking in the parking garages and surface lots	TBD				
77	Project Wide	ST	Ask GC/CM to quantify if there is a cost benefit to adding time to the schedule.	>\$10M		Rod Kempkes		Allow 4 years for building the guideway than 3 years alloted currently
80	L200	ST / RWD / Shoreline?	Do a 'work around' for Ronald Wastewater District unpermitted overflow discharge into WSDOT ROW at 185 <sup>th</sup> St. where the guideway interrupts the overflow pipe. One option is to install a syphon. Ballpark cost avoided in contributing to a gravity line or pump station is in the millions.	TBD	Stephanie Kirby	Rex Wong	N	Could cost the LLE project if this is not done
82	Project Wide	ST	Develop a "Hot Spot" roll plot of the alignment to identify the sections and locations that are more costly than others.		Jeff Schutt / Rich Johnson	Jon Jordan / Erik Finley		Cost heat map of alignment to help focus on cost saving alternatives

PRINTED: 7/18/2017 12 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
84	Project Wide	WSDOT	Reconsider the WSDOT surplus concept and lease instead of purchasing 145 <sup>th</sup> Station Area, 185 <sup>th</sup> Garage area, LTC and at-grade portions of L200 and L300	TBD				Does not affect construction cost. Greg Sancewich to esimate cost savings for LLE project
93	Project Wide	ST	Consider a joint development for the parking garages. Sell developer rights and have a developer provide/build the parking garages.	TBD		Sloan (TOD)	N	Could be savings to construction cost.
94	L300	MLT / Lynnwood	Change the alignment to locate the MLT and Lynnwood stations at grade. Eliminating the station buildings, which would not require restrooms, exit stairs, MEP, etc.					Recommend NO GO. Savings >\$10 million
95	L300	Lynnwood	Ask the City of Lynnwood to allow 8-1/2' wide parking stalls in the parking garage and surface parking lots to reduce the size/height of the parking garage		Sam Burch	Yvonne Olson		No construction savings, addresses parking count stall deficit
98	L200	ST	LL176.1 was designated as a Full Take but it is no longer needed for the project. Stop the acquisition process.	\$500K-\$1M				Done. Not a construction cost
101	L300	ST	Engage ST3 project to acquire northern Edmonds Schol District (ESD) property near Alderwood Mall along I-5 for future constr staging, and utilize it to move ESD busses there during LLE construction.	TBD	NA	Rod Kempkes	Y	Relocation of busses require a cost add to the estimate (estimated at 1 -5 million).  Currently not included in the 60% estimate.
105	L200	Shoreline	Do not build right-turn pocket lane at the WB NE 145 <sup>th</sup> St, just east of 5 <sup>th</sup> Ave NE – avoid impacts to existing SPU pump house and pipings					Recommmend NO _GO. Traffic studies require a right turn pocket
109	L200	Shoreline / Seattle	Move 145 <sup>th</sup> station south into Seattle city limits				Υ	Does not appear to save money
117	Project Wide	WSDOT	Eliminate the protection of existing WSDOT bridges, since we already provide 3 <sup>rd</sup> guard rail and it is on straight alignment		Jerry Dorn	Feng Han		Recommend No GO. Will need WSDOT to agree for savings of <500k
131	L200	ST	Use deep foundation for 145 <sup>th</sup> station building structure, instead of ground improvement for whole station. Deal with differential settlement between station and bus area.					Will cost more money
137	L300	ST	Keep parking program at LTC at or below the 1900 stalls with no temporary addition for Ops. It's unlikely that there will be any time separation btwn when Federal Way and LLE are operational.					No cost savings as this will increase the project budget. Recommend NO GO
138	L300	MLT	Revisit idea of HASCO acquisition of 8 properties on 59 <sup>th</sup> PI W. for post ST construction development and transit parking partnering with the City and LLE no cost use during construction.	TBD		Greg Sancewich		\$8M in property acquistion savings
271	Project Wide	All third parties	Replace tub girders with WF girders (same bent spacing)		Jerry Dorn	Feng Han	N	Estimated cost savings at \$5-10 million
282	Project Wide	WSDOT	Do not perform WSDOT Fish Passage Concept Study	\$0	Christina M.	Joel Theodore (ST)	Y	Save Design Cost only.

PRINTED: 7/18/2017 13 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
284	L200	ST	Delete the 130th cross-over and stair tower.		Dale Cerney	Ryan McKelvy	N	Look at eliminate the double cross-over north of 145th Street station while keep the 130th cross-over) Allows for reduction in grade / height of guideway north Estimated Cost Savings of \$1- \$5M
290	Project Wide	ST	Reduce ballast depth from 12 inches to 9 inches.		Dale C.		N	This is pretty standard for most agencies around the country, as 12 inches is mainly for freight rail. Estimated Cost Savings of <\$500K
340	LTC	LVNNWOOD	Don't relocate scriber creek trail along southwest side of LTC site.		Maryam H.	Erik Finley		Estimated Cost Savings of <\$500K
341	All		Remove division of labor issues between station and parking garages that result in duplicate maintenance spaces.		-	Joel Theodore (ST)		Estimated Cost Savings of \$1M - \$5M
346	Project Wide	Cities / WSDOT	Revisit aerial dispersion		Brett H.	Paul Rieman	N	Not likely permittable. Could save \$5M-\$10M
351	L300	ST	Move the FD connection at the county line to a location that is more easily built.		Stephanie K.	Jimmy Lassiter	N	
360	L200	Seattle	Eliminate overheight vehicle corridor at 130th				N	Reduce column height by 4' through 130th and north. (~\$100K)
361	L200		Realign off ramp at 145th to eliminate long span				N	shorten span to eliminate long span Estimated Cost Savings of <\$500K
363	Project Wide		Go all aerial structure				Y	Considered in ideas above Reduce footprint, reduce sound wall impact, reduce r/w, use consistent structure type, move closer to I5, reduce drainage
364	L200	Snoreline/ ST	Eliminate 145th or 185th Station & Garage and make provision for future station.	\$40-\$50M	Jeff S		N	Considered in idea above. Estimated savings at \$50 million.
366	L300	Lynnwood	Place column in middle of 44th to eliminate spliced tubs				N	Estimated Cost Savings of <\$500K
369	Stations	ST	Use side platform station				N	Eliminate split track approaches Requires additional study
372	Project Wide	ST	Adjust overexcavation amount, lower fixed cost but higher risk during construction		Joe H.		N	Estimated Cost Savings of \$1M - \$5M
379	L200		Maintain water system connection charge credits for station sites by completing lot line adjustments and maintaining inactive water service accounts.	\$500K-\$1M	Stephanie K.	Rex Wong (ST)	N	Further study required.
381	Project Wide	I V Permitting agencies	Designate ballast track on grade as pervious surface for drainage.			Paul Riemann (ST)	Y	Eliminate drainage collection and storage. Material for sub-ballast is considered pervious. Design the sub-base to infiltrate. Estimated Cost Savings of \$5M - \$10M
392	Project Wide	ST	Reduce parking garage capacity - update basis of design to support determination				Y	Estiamted savings at \$5M-\$10M
393	Project Wide	31	Allocate costs for a portion of station site transit improvements to transit partners	\$5M-\$10M	NA	Joel Theodore (ST)	N	
394	L200	Shoreline	Do not agree to widen 185th undercrossing by 5 feet to accommodate amenity zone (this work is not in 60% estimate)	\$500K-\$1M	Jeff S.		N	Pre-emptive, not in current scope. Estimated savings of \$500K - \$1M
395	L200	Snoreline	Do not enhance 195th Pedestrian Bridge (don't replace more fencing, paint bridge, etc.)	<\$500K	Jeff S.		N	Pre-emptive, not in current scope. Estimated savings of <\$500K
396			Instruct design team to use "design-build" philosophy instead of conservative design		Jim Schettler			Estimated savings of \$1M-\$5M

PRINTED: 7/18/2017 14 of 15

Item #	Segment	Jurisdiction (3rd Party)	Proposal/Concept	WAG Construction Cost (Direct)	HJ Lead Assigned	ST Co-Lead Assigned	Environmental Impact (Y/N)	NOTES
414			Eliminate/reduce 12' diameter drilled shafts by using permanent casing and/or more reinforcing steel		Jerry Dorn	Feng Han		WSDOT policy does not allow use of casing as part of structural system; Estimated Cost Savings of \$1M- \$5M
437	Project Wide		Go to Owner furnished rail materials (Special trackwork)		NA			Will save the contractor mark-ups. Typically done for schedule issues. Not significant savngs
443			Terra Cotta wall panels added - Eliminate CMU interior wall and have free standing framed exterior wall.					\$10-\$12/sf reduction for eliminating CMU; Estimated Cost Savings of \$20K
448	L200		Defer construction of 185th garage until adequate funding exists	\$20M-\$25M	NA	Rod Kempkes	Υ	Estimated Construction Cost Savings of \$20M - \$25M; Duplicative of ID #364 - defer both garage and station.
452			Owner supplied trees					Not much cost savings
459	L300		Modify Bridge G horizontal geomtery to use precast tubs			Ryan McKelvy		Cannot do unless you shorten the crossing. Tied to #293. No savings if use PC Girders  Estiamted at \$3M
472			Allow the use of precast deck panels along all stretches of aerial guideway					I girders will mitigate the requirement for stay in place forms. Revisit if I girders are not incorporated. Potential savings 1-5 million
473			Change spec to allow for continuous flight auger drilling method (soldier pile/secant walls)					Previous ST Link projects had this declined. Revisit if additional cost savings still desired
476			Have N180 contractor procure and rough in special trackwork at N180/L200 interface					Savings only to LLE project as costs gets deferred to NGL project
478	Project Wide		Push back on WABO certification on steel fabrication. Allows more competition					Estimated cost savings at \$200k-\$500k
480	L200		Add 130th St Station to L200 contract.					No cost savings to ST
482	Project Wide		Structural steel framed garages in lieu of concrete					Not a cost savings.
483	L200		Eliminate CIP wall custom formliner of Western Red Cedar trees annular rings at the cellular level (145 <sup>th</sup> Garage)					Potential \$50 k savings

					Cumulative Totals		
_		ROM \$ Range	Number of Proposals	% of Total Proposals	Max	# of Proposals	
	GO	>\$10M	5	2%	\$15,000,000	5	
	GO	\$5M-\$10M	8	3%	\$33,500,000	13	
-	GO	\$1M-\$5M	77	32%	\$189,000,000	90	
	GO	\$500K-\$1M	38	16%	\$268,500,000	128	
	GO	<\$500k	51	21%	\$387,000,000	179	
ı	Policy		24	10%			

16%

243

179

PRINTED: 7/18/2017 15 of 15