

VE PROPOSAL SUMMARY TABLE

PROPOSAL NO.	VE PROPOSAL DESCRIPTION	REVIEW BOARD COMMENTS	DISPOSITION OF VE PROPOSAL	INTERNAL RECOMMENDATIONS BY STAFF	VE PROPOSED COST SAVINGS	EA IMPACTS
Potential Environmental Assessment Impacts (Miscellaneous)						
P01-019	Eliminate the Tennyson pedestrian bridge	Item will most likely be included in the \$5 million allotment for CCD Parks	Table for Further Study Needs further discussion with stakeholders	REJECT		Minor Impact
P01-022	Eliminate all park pedestrian bridges	Item will most likely be included in the \$5 million allotment for CCD Parks Denver supports solution	Table for Further Study	REJECT Proposal - Maintain all ped bridges; City/County of Denver has agreed to fund one-half the cost of the 4 ped structures in the park and open area using a portion of the \$5 million park/open space budget allocation.	\$1,000,000	Minor Impact
P01-009	Increase operating headways on this line from 5 minute headways to 7.5 minutes	By increasing the headways, the ridership modeling may reduce the ridership numbers below FTA threshold approval.	Table for Further Study	REJECT		
P01-004	Consider future spur or line extension to Federal Center Station	RTD will not eliminate the station, but a spur could be on the outer limits of an acceptable proposal. A challenge to incorporate, due to stakeholder concerns. Requires EA evaluation.	Table for Further Study	REJECT		
Potential Environmental Assessment Impacts (Operations)						
P01-005	Defer construction of the four stations that are not directly associated with a park and ride facility.	All four non park-n-Ride stations will not be eliminated, although the elimination of Knox and Lamar stations are being tabled for further study. Local Government concerns; impacts EIS/ROD or requires EA evaluation as a minimum	Table for Further Study	REJECT		Moderate Impact
Potential Environmental Assessment Impacts (Alignment)						
P01-003	Only install single track from Federal Center Station to JeffCo "End of Line."	A likely candidate for acceptance for both single track including guideway structures and system elements. This has the best potential to meet present cost containment challenges with no impacts to EIS/ROD; need to address in EA Acceptance from Jeffco, Golden, GSA, Lakewood and CDOT	Table for Further Study	YES, with a passing siding at Red Rocks and building single track bridges and guideway – preserve ROW for second track. Initial cost savings understated.	\$33,000,000	Minor Impact
P02-008	Realign EOL tail tracks and station along east side of Johnson Road	Potential for Local Government Concern; requires EA evaluation	Table for Further Study	REJECT		Moderate Impact

PROPOSAL NO.	VE PROPOSAL DESCRIPTION	REVIEW BOARD COMMENTS	DISPOSITION OF VE PROPOSAL	INTERNAL RECOMMENDATIONS BY STAFF	VE PROPOSED COST SAVINGS	EA IMPACTS
P02-038	Depress the LRT alignment under Wadsworth rather than flying over	Evaluate the actual impacts, take in consideration utilities, drainage, Lakewood Lateral and Fire, Life/Safety; would minimize visual impact of MSE walls	Table for Further Study Needs further discussion with stakeholders	REJECT		Minor Impact
Major Decisions (Structures)						
P02-025	Change proposed structure type from post-tension CIP arch to Con Span precast arches.	This is an evaluation of a new bridge design at Federal Blvd. Need ongoing discussions with Denver and UDFCD	Accepted with Modifications	YES, with modifications on structure type.	\$3,000,000	Minor Impact
P02-040	Replace arches at the proposed Federal bridge with five vertical columns	Part of the present design alternatives for the bridge. See PO2-025 as well.	Accepted with Modifications	See above PO2-025.		Minor Impact
P01-068	Build privacy/noise fences on property line in lieu of noise walls along guideway limits	On going analysis of the N&V report. Requires public to accept privacy fences. Limited to areas of moderate impacts. Noise Consultant to evaluate.	Table for Further Study Needs further discussion with stakeholders and public outreach.	YES, need board approval of OPT-OUT policy. This allows privacy fences to be built in lieu of noise walls where property owners agree.	\$2,000,000	Minor Impact
Major Decisions (Operations)						
P01-008	Eliminate redundant platforms, where they occur, at the at-grade stations.	Requires design evaluation for access and egress.	Table for Further Study	YES, but dependent on redesign costs and actual cost savings	\$2,000,000	No Impact
Major Decisions (Alignment)						
P01-091	Jack and bore tunnel under I-70 with two separate bores	Under review as part of accepting single track to JeffCo. See PO1-003 as well. Close coordination with CDOT needed.	Accepted with Modifications	YES, but just one bore	\$3,000,000	Minor Impact
P01-021	Move walkways from out board on bridges to the center.	Part of VE for bridge design. Will confirm with Fire, Life, Safety Committee	Table for Further Study	YES	\$1,000,000	No impact
Minor Decisions (Miscellaneous)						
P01-012	Recycle excess on-site excavation material, in lieu of purchased materials, into structural backfill locations, such as MSE Wall fill and MSE Wall subgrade replacement.	Requires further geotech analysis	Accepted with Modifications	YES, this is being evaluated by design consultants	\$7,800,000	No Impact

PROPOSAL NO.	VE PROPOSAL DESCRIPTION	REVIEW BOARD COMMENTS	DISPOSITION OF VE PROPOSAL	INTERNAL RECOMMENDATIONS BY STAFF	VE PROPOSED COST SAVINGS	EA IMPACTS
P04-005	Reduce bike path structural section, or as combined idea P04-006, defer the structural section completely within the RTD right-of-way for the Cities to pay for and construct later.	Requires a look at materials and design. Proposal would change the bike paths from concrete to asphalt or other less expensive material	Table for Further Study	Maintain concrete bike paths. City/County of Denver has agreed to fund the upgrade from asphalt to concrete within CCD.	TBD	No Impact
P01-054	Use alternative materials for sound walls	TBD through the Noise & Vibration study and mitigation alternatives. Options for alternative materials to be discussed further with stakeholders and the public.	Table for Further Study	YES, this is being evaluated by design consultants.	\$1,200,000	Minor Impact
P03-008	Utilize the inside are of the Federal Center loop as a deposit site for excess embankment material	Saves on wall height, works for future DFC development, needs explanation to DFC	Accepted	YES	\$1,000,000	Minor Impact
P01-034	Reduce Ballast Requirements	Study with regard to soil stability and use of geotech mat.	Accept with Modifications	YES	\$900,000	No Impact
P01-031	Reduce the minimum curve radius limits for utilization of restraining rail from 500 ft to 300 ft.	Under review for design criteria modification, and safety.	Table for Further Study	REJECT		No Impact
P01-029	Reduce minimum curve radius limit for utilization of precurved and premium (head-hardened) rail from 500 ft to 300 ft.	Safety and Operations review.	Table for Further Study	REJECT		No Impact
P01-101	RTD should consider pre-purchase rail for this project. To maximize the savings considering purchasing the entire rail needed for FasTracks at one time.	Under consideration and analysis.	Accepted	YES, will need LONP; need to consider concrete ties, rail fasteners as well.	\$400,000	No Impact
Minor Decisions (Structures)						
P01-011	Change the drainage design for MSE walls incorporating the use of an impervious membrane and drain system above the MSE wall fill	DEA and DTCCG looking at alternative materials and methods.	Table for Further Study	YES, this is being evaluated by design consultants	\$4,100,000	No Impact
P01-020	Use highest concrete strength practical for precast concrete bridge elements	Is part of basic structure design.	Accepted	YES	\$600,000	No Impact
P01-053	Reduce height of concrete parapet on bridges and use steel handrail.	Design team will keep to minimum and look at other guard rail alternatives. Alternatives to be discussed with Stakeholders and public as options are identified.	Accepted	YES, unless needed as a sound wall	\$150,000	No Impact
P01-069	Simplify the Ballast Wall Design	Depends on N&V analysis and safety and security input.	Table for Further Study	YES	\$1,500,000	No Impact

PROPOSAL NO.	VE PROPOSAL DESCRIPTION	REVIEW BOARD COMMENTS	DISPOSITION OF VE PROPOSAL	INTERNAL RECOMMENDATIONS BY STAFF	VE PROPOSED COST SAVINGS	EA IMPACTS
P02-026	Provide deeper girders more widely spaced at Dry Gulch Bridge East and West	Design team evaluating based on economy of design.	Table for Further Study	YES, this is being evaluated by design consultants	\$30,000	No Impact
Minor Decisions (Systems)						
P01-059	Lengthen Track Circuits -Reduce Boundary Blocks.	Track circuits are based on grade, line of sight and speed. FRSC to study impacts to system, and validate cost savings	Table for Further Study	YES, this will lengthen the signal headway from 130 to 180 seconds and Operations will agree to eliminate broken rail protection -costs savings are estimated at \$1.6 million.	\$1,600,000	No Impact
P01-025	Use on board cab aspect signaling instead of intermediate wayside signals.	Systems and operations to review; retrofitting existing fleet could be cost prohibitive	Table for Further Study	REJECT		No Impact
P01-028	Use Vital processors to perform logic at grade crossings instead of vital relays.		Accepted	YES, already being done	\$0	No Impact
P01-033	Defer CCTV Cameras Until Homeland Security or Other Funds Can be Obtained.	Review cameras locations and number with RTD's Safety Manager; include in the project but evaluate number and location of cameras	Accept with Modifications	Yes with modifications; reduce number of cameras to no more than was provided on TREX.	See staff recommendation 17.	Minor Impact
P01-032	Relocate the TPSS at Indiana street from a lot adjacent to the guideway to under the Indiana Street structure. VE item modified to consider deletion of substation with single track proposal.	Systems and Property Acquisition to evaluate	Table for Further Study	YES, single track operations may eliminate this substation completely - estimated cost savings \$2 million. Need confirmation by FRSC.	\$2,000,000	No Impact
P01-081	Eliminate or modify the pocket track at the Federal Center to better reflect operations activities	Dependent on Single Track to JeffCo analysis	Table for Further Study	REJECT		Minor Impact
P01-060	Defer construction of the Auraria wye and make the connection off the tangent track.	Operations and track design to analyze	Table for Further Study	REJECT	See staff recommendation 20	Minor Impact
Minor Decisions (Operations)						
P01-013	Move JeffCo Interlocking from the tail tracks to the front of the station.	Operations and Maintenance of Way to review along with single track operations.	Table for Further Study	YES, with a modified 3 track stub end arrangement.	\$1,500,000	No Impact
P02-048	Eliminate pocket track at Lakewood Gulch.	Require for West Corridor Operations.	Accepted	YES, operations have agreed to eliminate and just have a double crossover.	\$600,000	No Impact
P01-030	Redesign tangent diamonds, at the Auraria Wye Area, as standard diamond layouts.	Operations and safety review.	Accept with Modification	YES, this is being evaluated by design consultants	\$100,000	No Impact

PROPOSAL NO.	VE PROPOSAL DESCRIPTION	REVIEW BOARD COMMENTS	DISPOSITION OF VE PROPOSAL	INTERNAL RECOMMENDATIONS BY STAFF	VE PROPOSED COST SAVINGS	EA IMPACTS
Minor Decisions (Alignment)						
P01-073	Shift Federal Blvd Station Pocket Track 175' east to get off Lakewood Gulch Bridge	Track design and operations to review.	Table for Further Study	REJECT	See PO2-048 above	No Impact
P01-002	Remove future "Ghost" Station at 8th Avenue	Supported by RTD	Accepted	YES	\$90,000	No Impact
1	Leave Sheridan at-grade; build LRT over roadway	4M (save prop acquisition, single span not three span bridge. Minimize approach walls) Continue to work through concerns with Denver and Community regarding safety, access and development opportunities	Table for Further study	YES;	\$7,000,000 Use up to \$500,000 of savings to address access and safety issues.	Minor impact
2	Build only 3 car stations	Supported by RTD	Table for Further Study	YES	\$1,800,000	No Impact
3	Eliminate duct bank encasement	Supported by RTD	Table for Further Study	YES, provide concrete cap only	\$3,500,000	No Impact
4	Denver Federal Center Slope grading - no walls	Supported by RTD and GSA	Table for Further Study	YES	\$3,700,000	Minor Impact
5	Reduce linear footage of ornamental railing	Supported by RTD, Denver Details on specifics will be further discussed with stakeholders and public.	Table for Further Study	YES	\$2,200,000	No Impact
6	Weathering steel some bridges; eliminates painting (Platte Eldridge CML)	Supported by RTD	Table for Further Study	YES	\$600,000	No Impact
7	Design Build, CML, Platte, Federal Blvd and Eldridge Bridges	Minimizes risk and allows the contractor to start early and open more continuous linear feet of track work for construction. Risk mitigation.	Table for Further Study	REJECT		No Impact, but will change CDOT permitting requirements
8	Eliminate steel casing at drilled caissons	Dependant on final geotechnical recommendations	Table for Further Study	YES, this is being evaluated by design consultants	\$500,000	No Impact
9	DFC acquisition deal	RTD only purchases what is needed for bus loop/bays and kiss-a-ride/transition plaza. Plan for DBOM parking structure with developer	Table for Further Study	No firm decision or developer option		No Impact
10	Change copper OHC to bronze	Need to discuss with Operations	Table for Further Study	REJECT		No Impact
11	Consider changes to drainage criteria	Change design criteria from 100 year storm – supported by RTD to reduce the scale of drainage improvements upstream of Federal Blvd.; no changes downstream.	Table for Further Study	YES, this is being evaluated by design consultants	\$4,000,000	Moderate Impact;
12	Reduce duct bank conduit from 4-4" to 2-4"	Supported by RTD	Table for Further Study	YES	Cost savings included in Staff Proposal No. 3	No Impact

PROPOSAL NO.	VE PROPOSAL DESCRIPTION	REVIEW BOARD COMMENTS	DISPOSITION OF VE PROPOSAL	INTERNAL RECOMMENDATIONS BY STAFF	VE PROPOSED COST SAVINGS	EA IMPACTS
13	Eliminate hardware for cameras	Put out as bid option.	Table for Further Study	REJECT		Minor Impact
14	Eliminate hardware for VMS		Table for Further Study	YES	See Staff 17	No Impact
15	Eliminate hardware for emergency telephones		Table for Further Study	YES	See Staff 17	No impact
16	Modify track alignment at north end of relocated Auraria West Station—eliminate two turnouts and 150ft of track			REJECT in lieu of Staff 19	TBD	No impact
17	Defer Communication Systems except for CCTV with quantities similar to TREX standard.	Put out as bid option.	Table for Further Study	Cameras will remain, cost savings are being re-evaluated	\$14,000,000	
18	Reduce markup on Systems Work	Option to remove from CM/GC scope and bid separately	Table for Further Study	YES	\$7,000,000	No Impact
19	Consider two tracks thru Auraria West station and maintain existing connection to CPV.	Need to discuss with Operations	Table for Further Study	Need to refine and evaluate cost savings.	TBD	Minor Impact
20	Consider salvage value for rail to offset demolition costs for removal of existing trackwork.	Need to decide whether to salvage or reuse as yard track.	Table for Further Study	If used as salvage, will offset cost of demolition.	TBD	No Impact
21	Move walkways to center and narrow at-grade alignment envelope.	Need to discuss with Safety and Operations	Table for Further Study	YES, evaluate cost savings	TBD	No Impact
22	Evaluate materials for shelter designs and number of light fixtures in station areas.	Need to discuss with UDC and stakeholders	Table for further study	Evaluate cost savings	TBD	No Impact
TOTAL ESTIMATED COST SAVINGS					\$113 M - ??	

DRAFT