

Attachment F

Project Cost Estimate Assumptions

April 2020



Cost Estimate Footnotes

The following sections summarize the cost assumptions used to estimate the price of different improvements on I-25 Central. Additional details about the different, stand-alone projects that were estimated and what was included in each are shown in Table 1 through Table 4.

Project Assumptions

- Limits of a project were drawn to allow for stand-alone projects which integrate into existing facilities. This provides for cost estimates which reflect full projects that could be constructed and operated without the need for additional improvements.
- It was assumed that if a bridge structure is impacted, the impacted span(s) would be replaced in full.
- It was assumed that existing I-25 pavement can be milled and overlain.
- Individual project costs include all reasonable features necessary to complete them as discreet projects and, as such, there are elements of those projects that are redundant (e.g., bridge replacement).
- Due to the redundant elements across individual projects, the total project cost is not additive.
- Individual projects may require additional improvements to connect into the surrounding ramps and mainline depending on what other projects have been done and the existing conditions at the time.
- Right-of-way costs were not included. ROW acquisition costs for corridor level alternatives were developed from an estimate of the impacted parcel area and a corresponding cost based on land use type – an appropriate level of estimation for a PEL study. Acquisition costs were not provided for any individual project as additional design and analysis would be required to determine limits of construction and any potential acquisition costs associated with the improvements.
- Railroad relocation costs and associated coordination were not included.

Quantity Assumptions

- Proposed asphaltic pavement was assumed to be 14 inches of hot mix asphalt for I-25 widening/realignment, on top of 6 inches of base course.
- Proposed asphaltic pavement was assumed to be 2 inches of hot mix asphalt for I-25 mill/overlay.
- Proposed concrete pavement was assumed to be 13 inches of Portland cement concrete where existing pavement is already concrete.
- Proposed asphaltic pavement was assumed to be 8 inches of hot mix asphalt for ramps and local streets, on top of 6 inches of base course.
- Walls were assumed to have an average pay height of 15 feet.
- Drainage was assumed to be a closed system of pipes including a new trunk line through the length of the project.
- Detour paving was estimated as equivalent lane miles to one of the directions of travel to accommodate construction phasing.
- New bridges are constructed to a length to accommodate future improvements (e.g. CD roads).

Cost Assumptions

- Unit cost assumptions were based on recent project data and CDOT Engineering Estimates and Market Analysis data collected between 2017 and 2019.
- Unit costs were developed in 2019 dollars.
- Bridge structure costs were divided into three tiers: Pedestrian Structures at \$150/square foot, Standard Structures at \$250/square foot, and Flyover/Complex Structures at \$375/square foot.
- Wall costs were set at an average of \$100/square foot due to the likely overestimation of wall height at 15 foot per wall over the wall's entire length.

Table 1. Cost Estimate Assumptions: North Segment (Colfax Avenue to 20th Street)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
Northbound Ramp Upgrades	\$10M to \$15M	\$120M to \$150M	\$65M to \$80M
	<ul style="list-style-type: none"> • Close the 17th Avenue ramps • Improve alignment of the northbound off-ramp to 23rd Avenue • Add an auxiliary lane and wall (in ultimate location) on northbound I-25 between 23rd Avenue and Speer Boulevard • Improve alignment on northbound off-ramp to Speer Boulevard • Improve alignment on northbound I-25 on-ramp from westbound Speer Boulevard • Removal of loops ramps, on-ramp, and off-ramp at Speer Boulevard • Add an auxiliary lane and wall (in ultimate location) between Speer Boulevard and 20th Street • Add a second lane to the northbound I-25 off-ramp to 20th Street. • Construct a new pedestrian bridge at 16th Street • Approximately 5,000 feet of project extent 	<ul style="list-style-type: none"> • Close the 17th Avenue ramps • New on-ramp bridge from Colfax Avenue to northbound I-25 over Walnut Street, the South Platte River, and walls • Northbound off-ramp/CD road and 17th Avenue connection ramps from Colfax Avenue to 20th Street • Close northbound off-ramp to 23rd Avenue • Construct a new 23rd Avenue bridge over I-25 • Construct a ramp connection from 23rd Avenue to Speer Boulevard • Construct new Speer Boulevard bridges over I-25 • Removal of loops ramps, on-ramp, and off-ramp at Speer Boulevard • Construct new 15th Street bridge over I-25 and the CD road to ultimate condition • Construct new pedestrian bridge at 16th Street • Approximately 10,000 feet of project extent 	<ul style="list-style-type: none"> • Close the 17th Avenue ramps • Construct a new off-ramp/CD road from 23rd Avenue to Speer Boulevard and to 20th Street • Removal of loops ramps, on-ramp, and off-ramp at Speer Boulevard • Construct new Speer Boulevard bridges over I-25 • Construct new Speer Boulevard alignment to accommodate managed lanes direct connection ramp • Construct new northbound on-ramp from Speer Boulevard to I-25 • Construct new Speer Boulevard to northbound I-25 on-ramp bridge over CD road • Approximately 6,000 feet of project extent

Table 1. Cost Estimate Assumptions: North Segment (Colfax Avenue to 20th Street)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
Southbound Ramp Upgrades	\$30M to \$40M	\$175M to \$210M	\$65M to \$80M
	<ul style="list-style-type: none"> • Close 17th Avenue on-ramp to southbound I-25 • Construct new alignment for the Speer Boulevard on-ramp to southbound I-25 • Construct new ramp and walls for the auxiliary lane from 20th Street to Speer Boulevard • Construct a new 15th Street bridge over I-25 • Construct new pedestrian bridge at 16th Street • Approximately 5,000 feet of project extent 	<ul style="list-style-type: none"> • Construct a CD road and new on/off-ramps to/from 20th Street, Speer Boulevard, 23rd Avenue, 17th Avenue, and Colfax Avenue • Construct new a bridge for the braided ramps near Colfax Avenue • Construct a new bridge for southbound CD road over Speer to southbound I-25 on-ramp • Construct a new 23rd Avenue bridge over I-25 • Construct new Speer Boulevard bridges over I-25 • Construct a new 15th Street bridge over I-25 • Construct a new pedestrian bridge at 16th Street • Approximately 10,000 feet of project extent 	<ul style="list-style-type: none"> • Close the 17th Avenue on-ramp to southbound I-25 • Construct an improved off-ramp to 17th Avenue • Construct new Speer Boulevard alignment to accommodate the managed lanes direct connection ramp • Construct new Speer Boulevard bridges over I-25 • Construct a new ramp and walls for the auxiliary lane from 20th Street to Speer Boulevard • Construct a new 15th Street bridge over I-25 • Construct new pedestrian bridge at 16th Street • Approximately 6,500 feet of project extent
Mainline Widening and Shoulder Improvements	\$175M to \$210M	\$175M to \$215M	\$205M to \$250M
	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 20th Street to Colfax Avenue • Construct walls to accommodate widening • Construct new bridge over the South Platte River and Walnut Street • Construct new 23rd Avenue bridge over I-25 • Approximately 8,500 feet of project extent 	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 20th Street to Colfax Avenue • Construct walls to accommodate widening • Construct new bridge over the South Platte River and Walnut Street • Construct new 23rd Avenue bridge over I-25 and future CD roads • Approximately 10,500 feet of project extent 	<ul style="list-style-type: none"> • Mill/overlay and widen mainline southbound I-25 from existing managed lanes north of 20th Street to Colfax Avenue • Full depth reconstruction and widen mainline northbound I-25 from existing managed lanes north of 20th Street to Colfax Avenue • Construct walls to accommodate widening • Construct new I-25 bridge over the South Platte River and Walnut Street • Construct new 23rd Avenue bridge over I-25 and future CD roads • Construct new managed lane direct connect ramps to Speer Boulevard • Approximately 10,500 feet of project extent

Table 1. Cost Estimate Assumptions: North Segment (Colfax Avenue to 20th Street)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
	\$65M to \$80M	\$80M to \$95M	\$125M to \$155M
Replace 23rd Avenue and Speer Boulevard Bridges	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 23rd Avenue to 15th Street • Construct new Speer Boulevard bridges over I-25 • Construct new Speer Boulevard alignment • Construct new northbound I-25 off- and on-ramp to Speer Boulevard • Construct new southbound I-25 off- and on-ramp to Speer Boulevard • Construct new northbound off- and on-ramp to 23rd Ave • Construct new southbound off- and on-ramp to 23rd Ave • Construct new bridge for I-25 southbound CD over southbound on-ramp • Removal of loops ramps, on-ramp, and off-ramp at Speer Boulevard • No improvements north of Speer ramps, so this maintains existing weave with 20th Ave in both directions. • Construct new 23rd Avenue bridge over I-25 • Approximately 3,500 feet of project extent 	<ul style="list-style-type: none"> • Mill/overlay and widen portion of mainline I-25 from 23rd Avenue to 15th Street • Construct northbound CD road from 23rd Avenue to Speer Boulevard on-ramp • Construct new Speer Boulevard bridges over I-25 • Construct new Speer Boulevard alignment • Construct new northbound I-25 off- and on-ramp to Speer Boulevard • Construct new southbound I-25 off- and on-ramp to Speer Boulevard • Construct new northbound off- and on-ramp to 23rd Ave • Construct new southbound off- and on-ramp to 23rd Ave • No improvements north of Speer ramps, so this maintains existing weave with 20th Ave in both directions. • Construct new 23rd Avenue bridge over I-25 • Approximately 3,500 feet of project extent 	<ul style="list-style-type: none"> • Mill/overlay and widen mainline southbound I-25 from 23rd Avenue to 15th Street • Full depth reconstruction and widen mainline northbound I-25 from 23rd Avenue to 15th Street • Construct new Speer Boulevard bridges over I-25 • Construct new Speer Boulevard alignment to accommodate managed lanes • Construct new northbound I-25 off- and on-ramp to Speer Boulevard • Construct new southbound I-25 off- and on-ramp to Speer Boulevard • Construct new northbound off- and on-ramp to 23rd Ave • Construct a new bridge for southbound CD road over Speer to southbound I-25 on-ramp • Construct a new bridge for northbound I-25 on-ramp over future northbound CD road • Construct a new bridge on Speer over future northbound CD road • Construct new 23rd Avenue bridge over I-25 • Approximately 3,500 feet of project extent

Table 2. Cost Estimate Assumptions: Central Segment (US 6/6th Avenue to Colfax Avenue)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
Northbound Ramp Upgrades	< \$5M	\$195M to \$240M	< \$5M
	<ul style="list-style-type: none"> • Close 8th Avenue off-ramp and on-ramp to northbound I-25 • Approximately 1,000 feet of project extent 	<ul style="list-style-type: none"> • Construct northbound CD road and the associated ramps from US 6/6th Avenue to Colfax Avenue • Reconstruct Yuma Street and surrounding neighborhood streets from Mulberry Place to 12th Avenue • Construct a new I-25 bridge over 13th Avenue to ultimate condition • Construct a new I-25 bridge over the RTD W-Line to ultimate condition • Construct a new Colfax Avenue bridge over I-25 to ultimate condition • Construct new Auraria Parkway to westbound Colfax Avenue and Auraria Parkway to southbound I-25 bridges • Approximately 6,000 feet of project extent 	<ul style="list-style-type: none"> • Close 8th Avenue off-ramp and on-ramp to northbound I-25 • Reconstruct Yuma Street and minor reconstruction on surrounding neighborhood streets • Approximately 1,000 feet of project extent
Southbound Ramp Upgrades	\$50M to \$60M	\$225M to \$275M	\$35M to \$40M
	<ul style="list-style-type: none"> • Close 8th Avenue off-ramp and on-ramp to northbound I-25 • Improve the alignment of the Colfax Avenue to southbound I-25 • Construct a new I-25 bridge over 13th Avenue bridge to ultimate condition • Construct a new I-25 bridge over the RTD W-Line to ultimate condition • Approximately 1,500 feet of project extent 	<ul style="list-style-type: none"> • Construct a southbound CD road and associated ramps from Colfax Avenue to 8th Avenue • Construct a new Colfax Avenue bridge over I-25 to ultimate condition • Construct new Auraria Parkway to westbound Colfax Avenue and Auraria Parkway to southbound I-25 bridges • Construct a new I-25 bridge over 13th Ave to ultimate condition • Construct new I-25 bridge over the RTD W-Line to ultimate condition • Construct new southbound CD bridge over 8th Avenue • Construct new southbound CD over southbound I-25 on-ramp • Approximately 6,000 feet of project extent 	<ul style="list-style-type: none"> • Construct new southbound I-25 on-ramps from Colfax Avenue and Auraria Parkway • Construct a new bridge for the Colfax Avenue/Auraria Parkway on-ramp over the RTD W-Line • Construct a new bridge for the Colfax Avenue/Auraria Parkway on-ramp over 13th Avenue • Widen the mainline freeway from 13th Avenue to US 6/6th Avenue to accommodate managed lanes • Construct a new southbound I-25 bridge over 8th Avenue • Improve the I-25 off-ramp to westbound US 6/6th Avenue • Approximately 5,500 feet of project extent

Table 2. Cost Estimate Assumptions: Central Segment (US 6/6th Avenue to Colfax Avenue)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
Mainline Widening and Shoulder Improvements	\$205M to \$250M	\$230M to \$280M	\$240M to \$295M
	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from RTD W-line bridge to US 6/6th Avenue • Full depth mainline I-25 reconstruction from RTD W-line bridge to Auraria Parkway • Construct walls to accommodate widening • Construct a new I-25 bridge over Walnut Street • Construct a new I-25 bridge over 13th Avenue to ultimate condition • Construct a new I-25 bridge over the RTD W-Line to ultimate condition • Construct a new I-25 bridge over 8th Avenue to ultimate condition • Approximately 6,000 feet of project extent 	<ul style="list-style-type: none"> • Full depth mainline I-25 reconstruction from US 6/6th Avenue to 13th Avenue • Mill/overlay and widen mainline I-25 from 13th Avenue to Auraria • Construct walls to accommodate widening • Construct a new I-25 bridge over Walnut Street • Construct a new Colfax Avenue bridge over I-25 • Construct a new I-25 bridge over 13th Avenue to ultimate condition • Construct a new I-25 bridge over the RTD W-Line to ultimate condition • Reconstruct Yuma Street and surrounding neighborhood streets from Mulberry Place to 12th Avenue • Construct a new I-25 bridge over 8th Avenue to ultimate condition • Approximately 6,000 feet of project extent 	<ul style="list-style-type: none"> • Full depth mainline I-25 reconstruction from US 6/6th Avenue to 13th Avenue • Mill/overlay and widen mainline I-25 from 13th Avenue to Auraria • Construct walls to accommodate widening • Construct a new I-25 bridge over Walnut Street • Construct a new Colfax Avenue bridge over I-25 • Construct a new I-25 bridge over 13th Avenue to ultimate condition • Construct a new I-25 bridge over the RTD W-Line to ultimate condition • Reconstruct Yuma Street and surrounding neighborhood streets from Mulberry Place to 12th Avenue • Construct a new I-25 bridge over 8th Avenue to ultimate condition • Approximately 6,000 feet of project extent

Table 3. Cost Estimate Assumptions: South Segment (Santa Fe Drive/US 85 to US 6/6th Avenue)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
Northbound Ramp Upgrades	\$0	\$8M to \$10M	<\$5M
	<ul style="list-style-type: none"> • No significant projects identified 	<ul style="list-style-type: none"> • Construct new northbound I-25 off-ramp to northbound CD road (buildout of ramp in the Central Segment would need to occur for this stand-alone project to be useable) • Approximately 1,500 feet of project extent 	<ul style="list-style-type: none"> • Construct new Kalamath Street/Alameda Avenue at Cedar Avenue on-ramp to northbound I-25 • Approximately 1,000 feet of project extent
Southbound Ramp Upgrades	\$0	\$130M to \$155M	\$0
	<ul style="list-style-type: none"> • No significant projects identified 	<ul style="list-style-type: none"> • Construct a southbound CD road/off-ramp to eastbound and westbound US 6/6th Ave • Construct new ramps from eastbound and westbound US 6/6th Ave to southbound I-25 • Construct a new bridge for the northbound I-25 off-ramp to westbound US6/6th Avenue over I-25 and CD Road • Construct a new US 6/6th Avenue bridge over I-25 • Construct a new bridge for the southbound I-25 on-ramp from westbound US 6/6th Avenue bridge over I-25 • Construct a new bridges over the BNSF Railway spur line • Construct a new bridge for the southbound I-25 on-ramp from eastbound US 6/6th Avenue over the southbound CD road • Approximately 4,500 feet of project extent <p><i>*As a stand-alone project, this was assumed to tie into existing I-25 as full realignment of mainline I-25 would be required for the connection to Santa Fe.</i></p>	<ul style="list-style-type: none"> • No significant projects identified

Table 3. Cost Estimate Assumptions: South Segment (Santa Fe Drive/US 85 to US 6/6th Avenue)

Project	Bring the Corridor to Standard	Collector/Distributor Roads and Braided Ramps	Managed Lanes
Mainline Widening and Shoulder Improvements	\$170M to \$205M	\$175M to \$215M	\$240M to \$295M
	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 8th Avenue to 3rd Avenue • Full depth mainline I-25 reconstruction from 3rd Avenue to Santa Fe flyover • Construct walls to accommodate widening • Construct a new bridge over I-25 for the northbound I-25 off-ramp to westbound US 6/6th Avenue • Construct a new US 6/6th Avenue bridge over I-25 • Construct a new bridges over the BNSF Railway spur line • Construct a new Alameda Avenue bridge over I-25 • Approximately 9,500 feet of project extent 	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 8th Avenue to 6th Avenue • Full depth mainline I-25 reconstruction from 6th Avenue to Santa Fe flyover • Construct walls to accommodate widening • Construct a new bridge over I-25 for the northbound I-25 off-ramp to westbound US6/6th Avenue • Construct a new US 6/6th Avenue bridge over I-25 • Construct a new I-25 bridges over the BNSF Railway spur line • Close the Kalamath Street/Alameda Avenue at Cedar Ave on-ramp to northbound I-25 • Construct a new Alameda Avenue bridge over I-25 • Approximately 9,500 feet of project extent 	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 8th Avenue to 3rd Avenue • Full depth reconstruction northbound mainline I-25 reconstruction from 6th Avenue to 8th Avenue • Full depth reconstruction mainline I-25 from 3rd Avenue to Santa Fe Drive/US 85 • Construct walls to accommodate widening • Construct a new bridge over I-25 for the northbound I-25 off-ramp to westbound US 6/6th Avenue • Construct a new US 6/6th Avenue bridge over I-25 • Construct a new bridges for I-25 over the BNSF Railway spur line • Close the Kalamath Street/Alameda Avenue at Cedar Avenue on-ramp to northbound I-25 • Construct a new I-25 bridge over Santa Fe Drive/US 85 • Approximately 11,500 feet of project extent

Table 4. Cost Estimate Assumptions for Individual Managed Lanes Projects

Project	Managed Lanes
Managed Lanes (20th Street to Speer Boulevard)	\$235M to \$285M
	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from existing managed lanes north of 20th Street to 23rd Avenue (portion of full depth reconstruction for northbound I-25 under Speer) • Construct walls to accommodate widening • Construct a new managed lane direct connect ramp to Speer Boulevard • Construct a new Speer Boulevard interchange • Construct a new ramp and walls for the auxiliary lane from 20th Street to Speer Boulevard • Construct a new 15th Street bridge over I-25 • Construct a new pedestrian bridge at 16th Street • Construct new Speer Boulevard bridges over I-25 • Construction new bridges for braids • Construct a new bridge over the CD road for the Speer Boulevard on-ramp to northbound I-25 • Approximately 7,000 feet of project extent and approximately 6,500 feet of mainline I-25

Table 4. Cost Estimate Assumptions for Individual Managed Lanes Projects

Project	Managed Lanes
Managed Lanes (US 6/6th Avenue to Speer Boulevard)	\$770M to \$940M
	<ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 23rd Avenue to US 6/6th Avenue (full depth reconstruction northbound from 6th Avenue to 13th Avenue and full depth reconstruction from Platte River to 23rd Avenue) • Construct walls to accommodate widening • Construct new northbound I-25 ramps to/from 23rd Avenue • Construct a new 23rd Avenue bridge over I-25 • Construct improved off-ramp to 17th Avenue • Close the 17th Avenue on-ramp to southbound I-25 and the 17th Avenue on-ramp to northbound I-25 • Close the 8th Avenue on-ramp to northbound I-25 • Construct new westbound US 6/6th Avenue off-ramps to northbound I-25 mainline and managed lanes • Construct new eastbound US 6/6th Avenue off-ramps to northbound I-25 mainline and managed lanes • Construct new northbound I-25 managed lane direct connect ramp from US 6/6th Avenue over 8th Avenue • Construct new on-ramps at Colfax Avenue and Auraria Parkway • Construct a new I-25 bridge over the South Platte River and Walnut Street • Construct a new bridge from Auraria Parkway to westbound Colfax Avenue over I-25 • Construct new bridge over I-25 for the Auraria Parkway to southbound I-25 on-ramp • Construct new bridges for the direct connect ramp from the northbound I-25 managed lane to Auraria Pkwy and Colfax Avenue • Construct a new bridge over the RTD W-Line, 13th Avenue and I-25 for direct connect ramp from Auraria Pkwy to the southbound I-25 managed lane • Construct a new bridge over the RTD W-Line for the Colfax Avenue/Auraria Parkway on-ramp to southbound I-25 • Construct a new bridge over 13th Avenue for the Colfax Avenue/Auraria Parkway on-ramp to southbound I-25 • Construct a new Colfax Avenue bridge over I-25 • Construct a new I-25 bridge over 13th Avenue • Construct a new I-25 bridge over the RTD W-Line • Reconstruct Yuma Street and surrounding neighborhood streets from Mulberry Place to 12th Avenue • Construct a new I-25 bridge over 8th Avenue • Construct a new bridge over 8th Avenue for the US 6/6th Avenue direct connect ramp to the northbound I-25 managed lanes. • Construct a new bridge over 8th Avenue for the US 6/6th Avenue on-ramp to northbound I-25 • Construct new bridge over I-25 for the eastbound US 6/6th Avenue on-ramp to northbound I-25 • Construct a new bridge over I-25 from westbound US 6/6th Avenue to northbound I-25 • Approximately 11,500 feet of project extent and approximately 11,000 feet of mainline I-25 mill/overlay

Table 4. Cost Estimate Assumptions for Individual Managed Lanes Projects

Project	Managed Lanes
Managed Lanes (Santa Fe Drive/US 85 to US 6/6th Avenue)	<p style="text-align: center;">\$220M to \$270M</p> <ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from 3rd Avenue to US 6/6th Avenue • Full depth reconstruction mainline I-25 from Santa Fe Drive/US 85 to 3rd Avenue • Construct walls to accommodate widening • Construct improved US 6/6th Avenue on-ramp to southbound I-25 • Construct a new US 6/6th Avenue bridge over I-25 • Construct a new I-25 bridges over the BNSF Railway spur line • Construct new Kalamath Street/Alameda Avenue at Cedar Avenue on-ramp to northbound I-25 • Construct a new I-25 bridge over Santa Fe Drive/US 85 • Approximately 9,500 feet of project extent and approximately 9,500 feet of mainline I-25
Managed Lanes direct connect to Colfax Avenue and Auraria Parkway	<p style="text-align: center;">\$295M to \$360M</p> <ul style="list-style-type: none"> • Mill/overlay and widen mainline I-25 from Auraria Parkway to 13th Avenue • Mill/overlay and widen southbound mainline I-25 from 13th Avenue to 8th Avenue • Full depth reconstruction of mainline I-25 northbound mainline I-25 from 13th Avenue to 8th Avenue • Construct new bridge over northbound I-25 and Colfax Avenue for the direct connect ramp from the northbound I-25 managed lane to Auraria Parkway • Construct a new bridge over northbound I-25 for the direct connect ramp from the northbound I-25 managed lane to Colfax Avenue • Construct new northbound I-25 off-ramp to Colfax Avenue • Construct new bridge over the RTD W-Line, 13th Avenue, and southbound I-25 for the direct connect ramp from Auraria Parkway to the southbound I-25 managed lane • Construct new ramps to allow the merging of traffic from Auraria Parkway and Colfax Avenue on-ramp to southbound I-25 • Construct a new bridges over the RTD W-Line for the Colfax Avenue/Auraria Parkway on-ramp to southbound I-25 • Construct new bridges over 13th Avenue for the Colfax Avenue/Auraria Parkway on-ramp to southbound I-25 • Construct a new Colfax Avenue bridge over I-25 • Construct a new I-25 bridge over 13th Avenue • Construct a new I-25 bridge over the RTD W-Line • Reconstruct Yuma Street and surrounding neighborhood streets from Mulberry Place to 12th Avenue • Close the I-25 southbound ramps to and from 8th Avenue • Approximately 5,500 feet of project extent and approximately 5,000 feet of mainline I-25

Table 4. Cost Estimate Assumptions for Individual Managed Lanes Projects

Project	Managed Lanes
Managed Lanes direct connect for eastbound/westbound US 6/6th Avenue to northbound I-25	\$250M to \$305M
	<ul style="list-style-type: none"> • Mill/overlay and widen southbound mainline I-25 from 11th Avenue to south of US 6/6th Avenue • Full depth reconstruction northbound mainline I-25 from 11th Avenue to south of US 6/6th Avenue • Reconstruct Yuma Street and surrounding neighborhood streets from Mulberry Place to 12th Avenue • Close the southbound ramps to and from 8th Avenue • Construct a new bridge for I-25 over 8th Avenue • Construct a new bridge over 8th Avenue for the US 6/6th Avenue on-ramp to northbound I-25 • Construct new bridges from westbound US 6/6th Avenue to northbound I-25 and the northbound I-25 managed lanes • Construct new bridges from eastbound US 6/6th Avenue northbound I-25 and the northbound I-25 managed lanes • Construct a new bridge over I-25 for the northbound I-25 off-ramp to westbound US 6/6th Avenue • Construct a new US 6/6th Avenue bridge over I-25 • Construct a new southbound I-25 off-ramp to eastbound US 6/6th Avenue • Approximately 5,500 feet of project extent and approximately 4,000 feet of mainline I-25

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