

3.0 Alternatives Considered

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The alternatives developed for the Interstate 270 (I-270) Corridor Improvements Project are the result of detailed operational, safety, environmental analyses, and public and agency input.

This chapter highlights the alternatives development and screening process, discusses alternatives that were evaluated and removed from further consideration and summarizes the alternatives that are fully evaluated in the Environmental Impact Statement (EIS). The chapter also identifies the Preferred Alternative and explains the rationale for its selection based on ability to address the project's Purpose and Need. Additional detail on the alternatives evaluation and screening process can be found in Appendix B, *Alternatives Development Technical Report*. For more information on how the traffic analyses and transit, bicycle, and pedestrian improvements were incorporated into the alternatives screening process, please see Appendix E1, *Transportation Impacts*, Appendix E2, *Traffic Technical Report*, and Appendix D, *Transit, Bicycle, and Pedestrian Technical Report*.

3.1 Overview of Alternatives Development Process

The process began with a broad range of alternatives identified from operational and safety analyses, and stakeholder input, which also included a No Action Alternative. Alternatives were screened in two phases using criteria derived from the project's Purpose and Need.

Level 1 screening assessed each alternative's ability to meet the Purpose and Need and incorporated refinements based on stakeholder feedback and technical analysis. Alternatives that passed Level 1 advanced to Level 2, which applied more detailed performance-based evaluations to identify the most effective and feasible solutions.

Based on Level 2 results, two Build Alternatives were advanced for full analysis in the EIS:

- The Three General-Purpose Lanes Alternative
- The Two General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative

The Level 1 and Level 2 screening processes eliminated five alternatives that were not fully evaluated as part of this EIS. Information on the five alternatives eliminated is summarized in Section 3.7 and is detailed in Appendix B, *Alternatives Development Technical Report*.

3.2 No Action Alternative

The No Action Alternative represents a scenario in which no major improvements are made to the I-270 corridor beyond routine maintenance and currently programmed projects. The existing roadway configuration of two general-purpose lanes in each direction would remain unchanged. While the No Action Alternative does not meet the project’s Purpose and Need, it serves as a baseline for comparison with the Build Alternatives.

The No Action Alternative includes programmed roadway and transit improvement projects from the Denver Regional Council of Governments (DRCOG) 2050 Metro Vision Regional Transportation Plan and DRCOG’s travel demand model (DRCOG 2024). These projects, listed in Table 3-1, are included in the No Action Alternative and Build Alternatives for consistency in traffic modeling and design integration.

Additionally, increased Flatiron Flyer (FF5) bus service (30-minute peak headways, as defined in the Regional Transportation District’s [RTD] System Optimization Plan) has been included in all alternatives to reflect fiscally constrained regional transit commitments.

Table 3-1. Programmed Projects List

Programmed Improvement Project	Source	Project Description	Staging Period¹	Project Sponsor
New US 36 ² /I-270 Direct Connects Express Lane and General-Purpose Ramps	I-25 ³ /I-270/US 36 Express Lanes Direct Connects Interchange Development Plan (CDOT 2022)	New freeway “direct connects” at US-36	2030-2039	CDOT
New I-25/I-270 Direct Connects Express Lane and General-Purpose Ramps	I-25/I-270/US 36 Express Lanes Direct Connects Interchange Development Plan (CDOT 2022)	New freeway “direct connects” at I-25	2030-2039	CDOT
New I-270/I-70 ⁴ Direct Connect Express Lane Ramps	I-70 East Final Environmental Impact Statement and Section 4(f) Evaluation (CDOT 2016)	New freeway “direct connects” at I-70	2030-2039	CDOT
Vasquez 60th Avenue Intersection Improvements	Vasquez Boulevard Planning and Environmental Linkages Study (CDOT 2018) and Vasquez Boulevard, I-270 to 64th Avenue Environmental Assessment and Finding of No Significant Impacts (CDOT	Intersection Improvements	2020-2029	CDOT

¹Projects are listed individually in the 2050 MVRTP by construction completion period, or staging period, (2020-2029, 2030-2039 and 2040-2050). Air quality modeling is completed for the transportation networks containing these projects to demonstrate compliance with federal air quality conformity requirements for each staging period.

² United States Highway 36 (US 36)

³ Interstate 25 (I-25)

⁴ Interstate 70 (I-70)

Programmed Improvement Project	Source	Project Description	Staging Period ¹	Project Sponsor
	2024d) - Intersection improvements, including access and movement modifications			
Widen York Street from two to four Lanes from 58th Avenue to 88th Avenue	Adams County York Street Widening Project - Phase I is complete, Phase II will be complete in summer 2025, and Phase III is in final design. The York Street bridge is not included for widening and reconstruction as part of the Adams County Project.	Widen from 2 lanes to 4 lanes	2020-2029	Adams County
I-25, US 36 to 104th Avenue	I-25 (US 36 to 104th Avenue) Safety and Operations Improvement Study (in process)	Operational improvements and a new general-purpose lane	2040-2050	CDOT

The No Action Alternative cross sections, shown on Figure 3-1 and Figure 3-2, represent the typical roadway section on the I-270 corridor but do not capture variations such as bridges or auxiliary lanes.

Figure 3-1. No Action Alternative (West of Vasquez Boulevard)

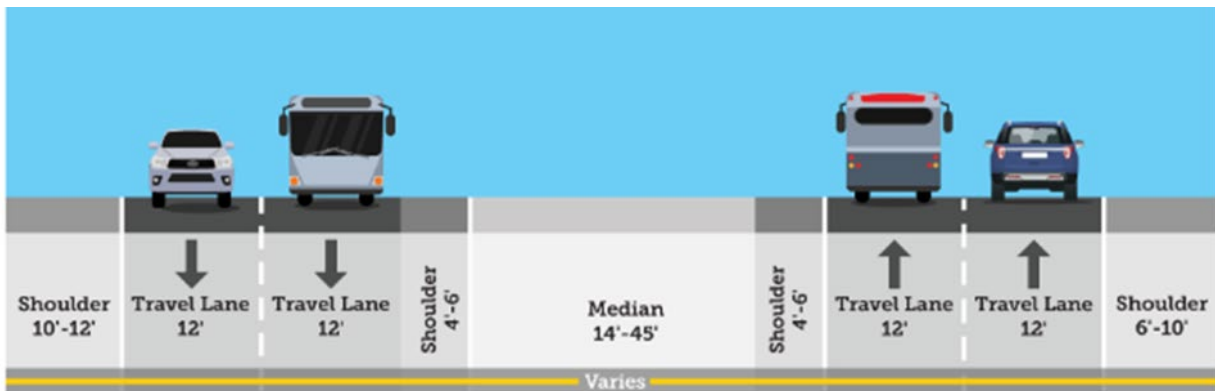
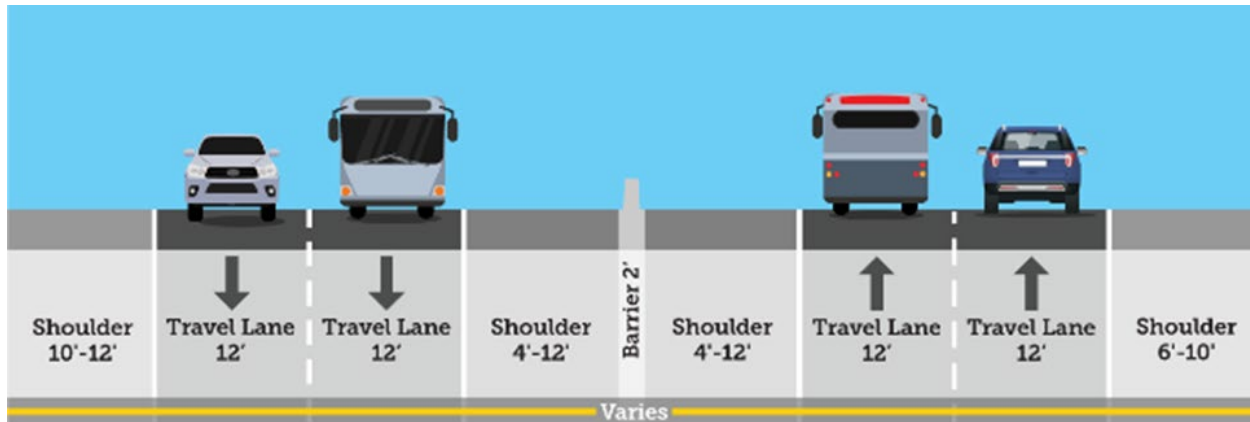


Figure 3-2. No Action Alternative (East of Vasquez Boulevard)



3.3 Build Alternatives

In addition to the No Action Alternative, there are two Build Alternatives that are fully evaluated in the EIS.

- The Three General-Purpose Lanes Alternative
- The Two General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative

Both Build Alternatives include similar corridor-wide improvements, including upgrades to the mainline, interchanges, bridges, pedestrian and bicycle facilities, and transit improvements. See Appendix C, *Alternatives Map Books*, for graphical representations of the Build Alternatives.

3.3.1 Improvements Included in Both Build Alternatives

Both the Three General-Purpose Lanes Alternative and the Two General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative include a shared set of improvements shown in Figure 3-3. These elements will be designed to meet current engineering standards and include:

3.3.1.1 Mainline Improvements

- Widening shoulders to meet current standards
- Restriping of the westbound I-270 to northbound I-25 off-ramp as a two lane exit ramp
- Adding emergency turnouts and turnarounds
- Adding one continuous auxiliary lane in each direction between the Interstate 76 (I-76) and Vasquez Boulevard on-ramps and off-ramps. A continuous auxiliary lane is an extra lane that runs between highway on-ramps and off-ramps, giving drivers more space to safely enter and exit without disrupting main traffic.

3.3.1.2 Interchange Improvements

- Adding a ramp to bring together vehicles coming from eastbound and westbound I-76 before merging onto eastbound I-270
- Separating the westbound I-270 York Street and I-76 off-ramps
- Improving the Vasquez Boulevard interchange design with improved westbound on-ramp acceleration lanes and the eastbound off-ramp deceleration lanes
- Improving the Quebec Street interchange ramp acceleration and deceleration lengths

3.3.1.3 Bridge Improvements

- Reconstructing bridges that are at, or will be reaching, the end of their useful life. Bridges carrying travel lanes on I-270 include widening to accommodate additional lanes, consistent with the corresponding Build Alternative.
 - Replacing the existing York Street bridge over I-270 to meet current bridge standards, accommodate an additional travel lane in each direction on York Street, include a 10-foot multi-use path and a 5-foot sidewalk, and enhance lighting
 - Replacing the existing I-270 bridges over the South Platte River Trail to meet current bridge standards, accommodate bicycle and pedestrian improvements on the South Platte River Trail, and enhance lighting
 - Replacing the existing I-270 bridges over the Burlington Ditch to meet current bridge standards, accommodate future bicycle and pedestrian improvements, and enhance lighting
 - Replacing the existing I-270 bridges over Brighton Boulevard to meet current bridge standards, accommodate bicycle and pedestrian improvements on Brighton Boulevard and future bicycle and pedestrian improvements by others, and enhance lighting
 - Replacing the existing I-270 bridges over East 60th Avenue and the BNSF Railway (BNSF) crossing to meet current bridge standards, accommodate future bicycle and pedestrian improvements, and enhance lighting
 - Replacing the existing I-270 bridges over East 56th Avenue to meet current bridge standards, accommodate bicycle and pedestrian improvements, and enhance lighting
 - Replacing the existing Vasquez Boulevard bridge over Sand Creek to meet current bridge standards and accommodate bicycle and pedestrian improvements

3.3.1.4 Bicycle and Pedestrian Improvements

- Improving the York Street I-270 ramp intersections with crosswalks, curb ramps, and pedestrian indicators at the ramp terminal traffic signals
- Adding a new 5-foot sidewalk on the west side and reconstructing a 6-foot sidewalk on the east side of Brighton Boulevard under I-270
- Reconstructing East 56th Avenue under I-270 and adding an on-street bicycle lane, a 10-foot multi-use path, and 6-foot sidewalk connecting to existing sidewalks
- Improving the intersection at East 56th Avenue and South Sandcreek Drive to include curb ramps, crosswalks, and lighting that meet current standards
- Improving the intersection at East 56th Avenue and Eudora Street to include curb ramps, crosswalks, and lighting that meet current standards

- Adding attached sidewalks on the west side of South Sandcreek Drive. The new sidewalks would be 8 feet wide from Quebec Street to East 47th Avenue Drive and 6 feet wide from East 47th Avenue Drive to East 49th Avenue, with a pedestrian crosswalk across East 47th Avenue Drive connecting the two segments
- Improving wayfinding signs at key locations, guiding bicyclists and pedestrians to the nearest RTD bus stops, major road connections, or distances to the next trailhead to avoid out-of-direction travel

3.3.1.5 Trail Improvements

- Reconfiguring the South Platte River Trail crossing under I-270 to improve bicycle and pedestrian visibility around tight curves and increase vertical clearance from the I-270 overpass
- Improving bicycle and pedestrian visibility on the Sand Creek Trail by straightening out tight curves, adding a center stripe, and enhancing lighting at the Vasquez Boulevard bridge over the Sand Creek Trail
- Adding a multi-use path with bicycle and pedestrian underpasses crossing under two free-flow interchange ramps on the east side of Vasquez Boulevard through the interchange with enhanced lighting
- Adding a multi-use path on the east and west sides of the Vasquez Boulevard bridge over Sand Creek, connecting users from the East 56th Avenue and Vasquez Boulevard intersection to a new connection to the Sand Creek Trail
- Adding a multi-use trail spur, connecting the proposed north-south Vasquez Boulevard multi-use trail to the East 56th Avenue and South Sandcreek Drive intersection
- Adding a multi-use path in the southeast corner of East 56th Avenue and South Sandcreek Drive
- Adding a 10-foot-wide bicycle and pedestrian overpass over I-270 and South Sandcreek Drive approximately halfway between East 56th Avenue and Quebec Street

3.3.1.6 Transit Improvements

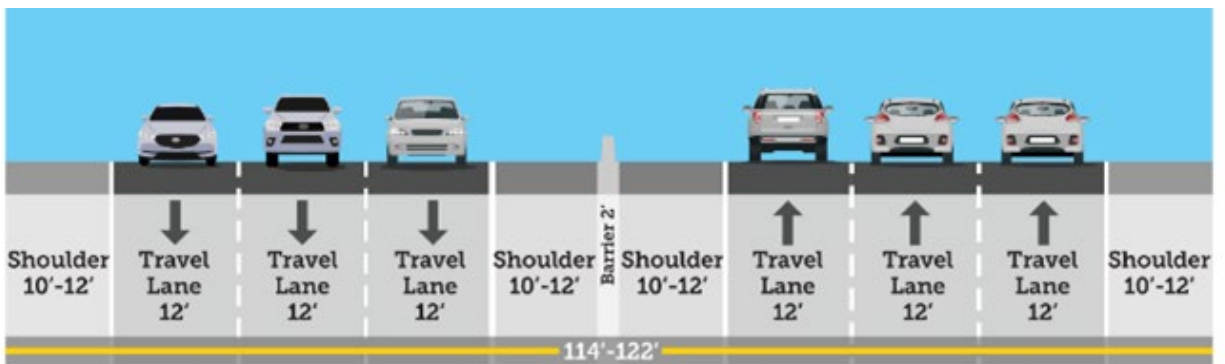
Adding four new bus stops with connecting sidewalks and curb ramps on Quebec Street and South Sandcreek Drive near the I-270/Quebec Street interchange to improve access to RTD routes 88 and 37.

Figure 3-3. Improvements Included in Both Build Alternatives


3.3.2 Three General-Purpose Lanes Alternative

In addition to the improvements discussed in Section 3.3.1, the Three General-Purpose Lanes Alternative would add one general-purpose travel lane in each direction, for a total of three general-purpose lanes in each direction through the corridor. Highway infrastructure would be reconstructed to accommodate the widened footprint and upgraded to current design standards. Transit service would remain in mixed traffic, with no dedicated facilities. The proposed Three General-Purpose Lanes cross section, shown in Figure 3-4, represents the typical roadway section on the I-270 corridor but does not capture variations such as bridges, auxiliary lanes, or sections with wider medians.

Figure 3-4. Three General-Purpose Lanes Alternative Cross Section

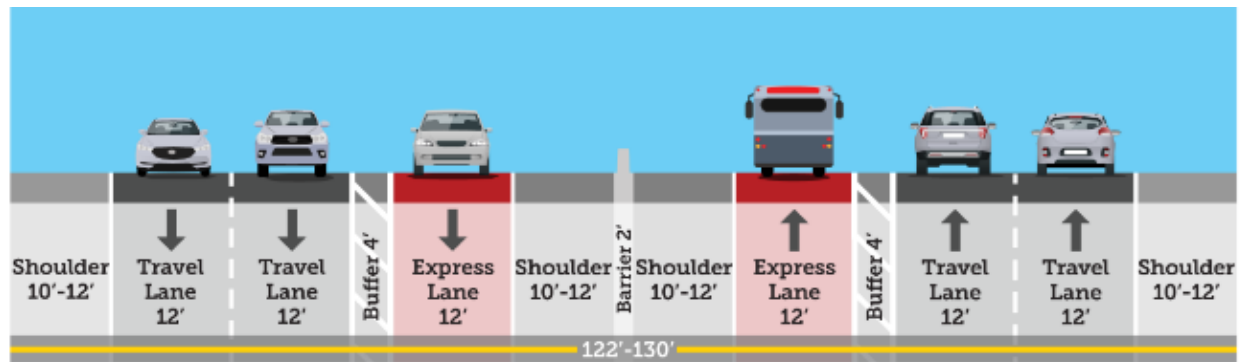


3.3.3 Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative

In addition to the improvements discussed in Section 3.3.1, this alternative would add one new travel lane in each direction that would operate as an Express Lane. The Express Lane would be available to public transit vehicles and high-occupancy vehicles (HOV3+), including carpools with three or more people, at no cost, and to all other vehicles and freight trucks that choose to pay a toll; these groups will collectively be referred to as Express Lane users throughout this document.

As with the Three General-Purpose Lanes Alternative, highway infrastructure would be reconstructed and upgraded to meet current design standards and accommodate the wider cross section. Figure 3-5 represents the typical roadway section on the I-270 corridor but does not capture variations such as bridges, auxiliary lanes, or sections with wider medians.

Figure 3-5. Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative Cross Section



3.4 Preliminary Identification of the Preferred Alternative

Based on this analysis, the Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) have preliminarily identified the Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative as the Preferred Alternative for the I-270 Corridor Improvements Project. This section describes how the Preferred Alternative meets the project needs and goal.

FHWA and CDOT will consider feedback provided during the EIS public review process before selecting a preferred alternative in the Record of Decision (ROD).

3.4.1 Need: Traveler Safety on the Corridor

The I-270 corridor has a documented history of crashes linked to congestion, sudden lane changes, and limited merging space. Both Build Alternatives would improve safety by adding lanes, extending ramps, and widening shoulders. However, the Preferred Alternative offers additional safety benefits:

- **Fewer sudden lane changes:** The Express Lane has clearly defined entry and exit points with solid-striped buffers that restrict lane changes to designated entry and exit zones, reducing unpredictable weaving that often leads to crashes.
- **Smoother traffic flow:** Dynamic pricing maintains steady speeds in the Express Lane, reducing stop-and-go conditions that increase congestion-related crash risks.
- **More predictable driving conditions:** Separating the Express Lane users from the general-purpose lanes reduces speed differences between fast and slow drivers, improving predictability and reducing severe crashes.
- **Proven results:** Data from the Colorado Transportation Investment Office (CTIO) show that enforcement tools and strategies, such as toll cameras and safety patrols have reduced crash rates on similar Express Lanes along I-70 and I-25.

Compared to the Three General-Purpose Lanes Alternative, the Preferred Alternative better supports the safety need by maintaining a free-flowing Express Lane with fewer merging conflicts and improved operational control.

3.4.2 Need: Travel Time and Reliability on the Corridor

Traffic congestion on I-270 causes frequent backups and unpredictable travel times, particularly during peak hours. The Preferred Alternative is designed to address these challenges by providing an Express Lane that maintains consistent speeds and improves corridor performance for all users. Specifically, the Preferred Alternative:

- **Maintains Reliable Speeds:** The Express Lane uses dynamic pricing to regulate vehicle entry, preventing congestion and keeping at least one lane flowing during peak periods.
- **Reduces lane-change conflicts:** Restricted Express Lane entry and exit points discourage weaving and help stabilize traffic flow and patterns.
- **Improves travel time predictability:** More consistent speeds and reduced travel time variability allow drivers to more accurately estimate trip duration.

General-purpose lanes are prone to stop-and-go conditions once they reach capacity. In contrast, an Express Lane is actively managed to avoid saturation and preserve operational efficiency. This creates a dependable option for all Express Lane users, while easing congestion in the adjacent general-purpose lanes. Compared to the Three General-Purpose Lanes Alternative, the Preferred Alternative performs better for travel time and reliability, especially during peak periods, with the Express Lane providing a consistent trip option during all times of day.

3.4.3 Need: Transit on the Corridor

Congestion on I-270 slows both personal vehicles and transit, causing delays and making bus schedules unreliable. RTD's FF5 is the only transit route along the corridor, but due to frequent traffic delays, RTD has issued an official route diversion to avoid I-270 congestion.

The Preferred Alternative supports transit performance by allowing buses to operate in the Express Lane, which maintains steady speeds using dynamic pricing and limited access points. This results in:

- **Priority access:** Buses can bypass congestion using the Express Lane, improving travel times and schedule reliability.
- **Improved rider experience:** More consistent and reliable transit service makes transit a dependable option for commuters and other riders.
- **Support for future growth:** Enhanced reliability that helps justify future transit service expansion.

In contrast, the Three General-Purpose Lanes Alternative does not give transit vehicles an advantage. Buses would still be stuck in the same traffic as everyone else, offering no improvement beyond what general traffic might experience.

3.4.4 Need: Bicycle and Pedestrian Connectivity Across I-270

Both Build Alternatives include the same set of comprehensive bicycle and pedestrian improvements to enhance connectivity across the I-270 corridor. These improvements address

long-standing gaps in the bicycle and pedestrian network by adding new facilities, improving existing sidewalks and trails, and enhancing lighting and wayfinding.

Key upgrades include a new pedestrian and bicycle overpass over I-270 between Quebec Street and Vasquez Boulevard, widened sidewalks and bike lanes along East 56th Avenue and Brighton Boulevard, and improved trail connections along the South Platte River and Sand Creek Greenway Trails. Several bridges will be reconstructed to meet current standards and accommodate wider paths, including York Street, Brighton Boulevard, and Vasquez Boulevard over Sand Creek.

These improvements were developed based on stakeholder input and regional planning goals and were included in both Build Alternatives to ensure they would be incorporated into the Preferred Alternative regardless of which alternative was selected. Because these elements are common to both Build Alternatives, they were not a differentiating factor in the selection of the Preferred Alternative.

3.4.5 Need: Freight Operations on the Corridor

I-270 is a designated freight corridor in Colorado's Primary Highway Freight System and Strategic Highway Network. It carries high volumes of truck traffic, including oversize/overweight loads and hazardous materials, connecting regional industrial hubs. Today, aging infrastructure and recurring congestion delay freight movement and reduce reliability.

Both Build Alternatives would improve ramps, shoulders, and pavement to help freight move more safely and efficiently. However, the Preferred Alternative provides greater freight benefits, including:

- **Reduced congestion:** The Express Lane manages traffic volumes more effectively, cutting delays in both the Express Lane and general-purpose lanes. Westbound truck travel times during peak periods are projected to be over 14 minutes faster in the Preferred Alternative than under the Three General-Purpose Lane Alternative.
- **Improved connectivity:** The Express Lane integrates seamlessly with existing and planned direct-access ramps at I-25/US 36 and I-70, minimizing lane shifts and helping trucks maintain steady speeds through major interchanges.
- **Fewer merge disruptions:** Unlike the Three General-Purpose Lane Alternative, which adds a third lane that must drop at corridor termini, the Preferred Alternative maintains lane continuity and avoids forced merges, improving flow and reducing delay, particularly for large trucks that require longer acceleration and merge distances.

These operational advantages make the Preferred Alternative better suited to support freight reliability, safety, and network consistency across the I-270 corridor.

The Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative offers the most effective long-term solution for supporting freight movement on I-270. The Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative is better aligned with the roads at both ends of I-270. It connects smoothly to existing and planned direct-access ramps, allowing vehicles, including freight, to enter and exit the

corridor without sudden lane shifts. This keeps traffic flowing steadily, especially near major interchanges like I-25/US 36 and I-70. In contrast, the Three General-Purpose Lanes Alternative adds a third lane, but it cannot continue all the way to either end. That third lane must merge back to two lanes at the ends of the corridor, creating bottlenecks that slow everyone down—especially large trucks, which take more time to merge and accelerate. By avoiding these lane drops, the Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative reduces congestion and delays, improving travel time and reliability for freight vehicles that depend on reliable and predictable travel times.

Furthermore, detailed modeling also reflects how the Express Lane improves freight vehicle speeds in all lanes and allows freight vehicles, which typically accelerate and decelerate more slowly, to avoid frequent stops and bottlenecks, making their trips more efficient and reliable.

3.4.6 Comparison of Potential Impacts to the Environment

Most environmental resources are projected to experience similar impacts under both Build Alternatives. Slight differences in impacts are projected for Air Quality, Water Quality, and Visual Resources. The following subsections summarize these differences and their relevance to the preliminary identification of the Preferred Alternative.

3.4.6.1 Air Quality

The detailed air quality analysis for both criteria pollutants and Mobile Source Air Toxics (MSATs) results show that the Preferred Alternative generally results in lower emissions than the Three General-Purpose Lanes Alternative, primarily due to reduced congestion and smoother traffic flow.

For criteria pollutants, emissions are either lower or the same (sulfur dioxide [SO₂]) under the Preferred Alternative. For priority MSATs, all but one (1,3-butadiene) are lower with the Preferred Alternative, while 1,3-butadiene levels remain the same between the alternatives.

3.4.6.2 Water Quality

Both Build Alternatives are expected to have similar water quality impacts; however, the Preferred Alternative would create a larger impervious surface area, 133 acres compared to 128 acres under the Three General-Purpose Lanes Alternative. This minor increase in impervious surface area is due to the additional 8-foot buffer required for the Express Lanes in the Preferred Alternative. Aside from this minor difference, all other water quality impacts are the same between Build Alternatives.

3.4.6.3 Visual Resources

Both Build Alternatives are expected to result in similar long-term visual changes, resulting from widening the highway, bridges, and interchanges. These changes would be most noticeable to drivers but would remain compatible with the visual character of the existing transportation corridor.

The Preferred Alternative would introduce more visual elements, including tolling infrastructure, like overhead signs and cameras. While these features increase visual complexity slightly, overall visual impacts remain comparable between the two Build Alternatives.

3.4.6.4 Right-of-Way

The existing right-of-way along the I-270 corridor is wide. The Build Alternatives require minor property acquisitions and easements. There is no difference between the Build Alternatives in terms of the amount of required proposed right-of-way.

3.4.6.5 Other Resources

There is very little or no difference between the build alternatives in terms of impacts to other resources. With mitigation, most project impacts can be avoided or minimized.

3.5 Capital Costs of the Build Alternatives

The Three General-Purpose Lanes Alternative is estimated to cost \$789 million, including remaining preconstruction and construction costs, as well as money spent to date on National Environmental Policy Act (NEPA) and other corridor improvements. The Preferred Alternative is estimated to cost \$806 million, approximately \$17 million more, and which also includes the remaining preconstruction and construction costs as well as money spent to date on NEPA and other corridor improvements. The cost difference is primarily due to the costs to design and construct the additional 8 feet for the Express Lane buffer area and the additional Intelligent Transportation Systems (ITS) and tolling equipment costs.

Although the Preferred Alternative requires a larger capital investment and increases total operating and maintenance costs, it also introduces a potential revenue stream through toll collection, which could support both capital and ongoing expenditures.

3.6 Project Financing Strategy and Relevance to Regional and Statewide Transportation Planning Processes

Construction of the I-270 Corridor Improvements Project will be supported through a combination of state and federal funding sources, including Strategic Colorado State Legislative - Senate Bill (SB)-1 funds, Federal Competitive Grants, the Statewide Bridge and Tunnel Enterprise (BTE), and CTIO.

CDOT anticipates approximately \$150 million in SB-1 funding will be allocated towards construction of I-270 Corridor Improvements. SB-1 funds designated for the I-270 project are included in CDOT's Vision for Colorado's Transportation System: Updated 10-Year Strategic Project Pipeline (September 2022), which identifies statewide transportation priorities. To maximize funding opportunities and ensure project delivery, CDOT is also actively pursuing Federal Discretionary Grants to supplement SB-1 contributions.

BTE finances, repairs, reconstructs, and replaces Designated Bridges as defined by SB 09-108 - Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER). BTE will fund nine of the 12 bridges being replaced along the corridor, including:

- Eastbound and westbound I-270 bridges over the South Platte River
- Eastbound and westbound I-270 bridges over the Burlington Ditch
- Westbound I-270 bridge over Brighton Boulevard/Union Pacific Railroad (UPRR)/BNSF
- Westbound I-270 bridge over East 60th Avenue and BNSF
- York Street bridge over I-270
- Westbound I-270 bridge over East 56th Avenue
- Vasquez Boulevard bridge over Sand Creek

FASTER created the Colorado High Performance Transportation Enterprise, now doing business as CTIO, in 2009 as an independent, government-owned business within CDOT. CTIO has the legal responsibility to aggressively seek out opportunities for innovative and efficient means of financing and delivering important surface transportation infrastructure projects in the state. It has the statutory power, among others, to impose tolls and other user fees, to issue bonds, and to enter contracts with public and private entities to facilitate Public-Private Partnerships. Because the Preferred Alternative includes Express Lanes, CDOT will also seek funding support from CTIO. CTIO is conducting a toll and revenue study for the I-270 corridor to determine the level of contribution Express Lane revenues could make toward construction, operation, and maintenance of the corridor.

Funding through CTIO would only be an option for the Preferred Alternative; CTIO funding would not be available for the Three General-Purpose Lanes Alternative.

3.7 Construction Phasing Strategy

The I-270 Corridor Improvements Project will be constructed in multiple phases to align with available funding and to prioritize the most critical infrastructure needs. CDOT has structured the phasing plan to ensure continuity of corridor operations while replacing aging infrastructure and minimizing long-term disruptions to users.

3.7.1 Phase 1: Critical Bridges

Phase 1 of construction will focus on the replacement of the corridor's most structurally and operationally deficient bridges. This phase addresses key structural deficiencies and supports future phases by advancing mainline segments to the selected preferred alternative footprint.

Phase 1 is fully funded through SB-1 and BTE. The scope of Phase 1 includes the full replacement of eight of the 12 bridges being replaced and reconstruction of two key segments of the I-270 mainline, which will be built to the full width of the Preferred Alternative.

Bridges included in Phase 1 (combination of SB-1 and BTE funding):

- Eastbound and westbound I-270 bridges over the South Platte River
- Eastbound and westbound I-270 bridges over the Burlington Ditch
- Eastbound and westbound I-270 bridges over Brighton Boulevard/UPRR/BNSF
- Eastbound and westbound I-270 bridges over East 60th Avenue and BNSF

Mainline roadway segments reconstructed to full width (SB-1 funding):

- Segment between the South Platte River and Burlington Ditch bridges

- Segment between the Brighton Boulevard/UPRR/BNSF bridges and 60th Avenue/BNSF bridges

3.7.2 Future Phases

CDOT anticipates that the full buildout of the I-270 Corridor Improvements Project will require no more than two additional phases beyond the Critical Bridges Phase and could be completed within five years of the start of construction, pending the timing of funds. The primary objective for Phase 2 will be to complete full replacement of the four remaining bridges and roadway infrastructure along the I-270 mainline including construction of the Vasquez Boulevard Interchange and the I-76 ramp improvements, contingent on future funding availability. These components are considered top priorities in the overall corridor plan and are necessary for achieving the full operational benefits of the project.

The goal is to complete the project as efficiently as possible while minimizing construction impacts. Depending on funding availability, a third phase may be required to complete non-mainline scope elements, such as improvements to Sandcreek Drive, and other associated project elements that do not directly impact the I-270 mainline capacity and operations.

This phased approach provides a clear path to delivering the full project scope while remaining responsive to funding availability and minimizing construction-related disruption.

3.8 Range of Alternatives

While the earlier sections of this chapter have focused on the detailed analysis of the two Build Alternatives that were selected for full evaluation in the EIS, this section provides important context for the broader range of alternatives initially considered during the alternatives development and screening process. Each subsection includes a brief description of the alternative. Additional details on the alternatives evaluated can be found in Appendix B, *Alternatives Development Technical Report*.

3.8.1 No Action Alternative

The No Action Alternative would maintain the existing highway configuration of two general-purpose travel lanes in each direction. Bridges and pavement would continue to be maintained and repaired, but underlying infrastructure deficiencies would remain.

The No Action Alternative includes existing, planned, and programmed roadway and transit improvements in the project area. These improvements are also part of the Build Alternatives considered and are defined by the DRCOG 2050 MVRTP (DRCOG 2024). The No Action Alternative does not meet the project's Purpose and Need, but it provides a baseline against which to compare the Build Alternatives and, therefore is fully analyzed in this document.

3.8.2 Bicycle, Pedestrian and Transit Enhancements Alternative

The Bicycle, Pedestrian, and Transit Enhancements Alternative focuses on improvements to bicycle, pedestrian, and transit connections in the community in lieu of additional highway capacity. It includes substantial ongoing maintenance and rehabilitation of existing highway

structures and pavement and retains the existing highway configuration of two general-purpose lanes in each direction.

3.8.3 Minimal Build Alternative

The Minimal Build Alternative does not add lane capacity to I-270 but rebuilds infrastructure, including replacing bridges that are reaching the end of their useful life and addressing pavement condition and subsurface settling. It also includes safety improvements, such as widening shoulders and redesigning the I-76, York Street, Vasquez Boulevard, and Quebec Street interchange on-ramps and off-ramps, to provide adequate acceleration and deceleration lanes to meet design standards. This alternative also includes bicycle, pedestrian, and transit enhancements.

3.8.4 Three General-Purpose Lanes Alternative

The Three General-Purpose Lanes Alternative includes the safety improvements and interchange reconfigurations included in the Minimal Build Alternative. It also adds one general-purpose travel lane in each direction, for a total of three general-purpose lanes in each direction through the corridor. It reconstructs other highway infrastructure to accommodate the widened highway footprint and modernize the existing infrastructure. This alternative also includes bicycle, pedestrian, and transit enhancements. Transit remains in the general-purpose lanes as service exists today.

3.8.5 Two General-Purpose Lanes and One Transit-Only Lane Alternative

The Two General-Purpose Lanes and One Transit-Only Lane Alternative includes the safety improvements and interchange reconfigurations included in the Minimal Build Alternative. It also adds one new transit-only travel lane in each direction through the corridor for a total of two general-purpose lanes and one transit-only lane in each direction through the corridor. It reconstructs other highway infrastructure to accommodate the widened highway footprint and modernize the existing infrastructure. All traffic other than transit vehicles use the two general-purpose lanes as they do today. This alternative also includes bicycle, pedestrian, and transit enhancements.

3.8.6 Two General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative (Preferred Alternative)

The Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative includes the safety improvements and interchange reconfigurations included in the Minimal Build Alternative. It also adds one new travel lane in each direction through the corridor. The new lane would be operated as an Express Lane. Transit vehicles and high-occupancy vehicles (3 or more people) could travel in the Express Lane, free of charge. Other travelers, including freight trucks, who choose to pay a toll could also use the new Express Lane. It reconstructs other highway infrastructure to accommodate the widened highway footprint and modernize the existing infrastructure. This alternative also includes bicycle, pedestrian, and transit enhancements.

3.8.7 Three General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative

The Three General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative includes the safety improvements and interchange reconfigurations included in the Minimal Build Alternative. It also adds two travel lanes in each direction: one general-purpose lane and one Express Lane for an overall configuration of three general-purpose lanes and one Express Lane in each direction through the corridor. Transit vehicles and high-occupancy vehicles (3 or more people) could travel in the Express Lane, free of charge. Other travelers, including freight trucks, who choose to pay a toll could also use the new Express Lane. It reconstructs other highway infrastructure to accommodate the widened highway footprint and modernize the existing infrastructure. This alternative also includes bicycle, pedestrian, and transit enhancements.

3.8.8 Two General-Purpose Lanes and Two Express Lanes That Accommodate Transit Alternative

The Two General-Purpose Lanes and Two Express Lanes that Accommodate Transit Alternative includes the safety improvements and interchange reconfigurations included in the Minimal Build Alternative. It also adds two new travel lanes in each direction. The two new lanes would be operated as Express Lanes. Transit vehicles and high-occupancy vehicles (3 or more people) could travel in the Express Lane, free of charge. Other travelers, including freight trucks, who choose to pay a toll could also use the new Express Lanes. It reconstructs other highway infrastructure to accommodate the widened highway footprint and modernize the existing infrastructure. This alternative also includes bicycle, pedestrian, and transit enhancements.

3.9 Alternatives Evaluation and Screening

This section includes a summary of the results of Level 1 and Level 2 Screening. Additional detail on the screening process can be found in Appendix B, *Alternatives Development Technical Report*.

This section documents the criteria, results and rationale behind the elimination or advancement of each alternative. This process explains the rationale for how the Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative and the Three General-Purpose Lanes Alternative emerged as the most viable options for addressing the project's Purpose and Need and goal.

3.9.1 Level 1 Screening

The Level 1 screening process included an initial evaluation to determine if each alternative has the potential to be responsive to the project's Purpose and Need. Level 1 screening evaluated whether each alternative had the potential to address at least two elements of the project's Purpose and Need. Alternatives that failed to meet this threshold were not advanced to Level 2 Screening. This step served as an initial filter to focus further analysis on

concepts with meaningful potential to address the Purpose and Need. Table 3-2 summarizes and highlights the results of the Level 1 screening. Additional detail on the Level 1 screening process and technical rationale for elimination is provided in Appendix B, *Alternatives Development Technical Report*.

Table 3-2. Level 1 Screening Results

Alternative	Responsive to Purpose and Need?	Retained for Further Analysis in Level 2 Screening?
No Action	No	Retained for comparison to Build Alternatives
Bicycle, Pedestrian, and Transit Enhancements	Partial - Alternative partially addresses project needs	Eliminated as a standalone alternative because it does not have the potential to meet the project's purpose and need. Elements of this alternative were included in the other Build Alternatives
Minimal Build	Pass - Alternative addresses the project needs	Retained
Three General-Purpose Lanes	Pass - Alternative addresses the project needs	Retained
Two General-Purpose Lanes and One Transit-Only Lane	Pass - Alternative addresses the project needs	Retained
Two General-Purpose Lanes and One Express Lane That Accommodates Transit	Pass - Alternative addresses the project needs	Retained
Three General-Purpose Lanes and One Express Lane That Accommodates Transit	Pass - Alternative addresses the project needs	Retained
Two General-Purpose Lanes and Two Express Lanes That Accommodate Transit	Pass - Alternative addresses the project needs	Retained

The No Action Alternative does not address the Purpose and Need. This alternative is retained in Level 1 Screening and fully evaluated in the EIS as a baseline for comparison with the Build Alternatives.

3.9.1.1 Alternatives Considered but Eliminated in Level 1 Screening

3.9.1.1.1 Bicycle, Pedestrian, and Transit Enhancements Alternative

The Bicycle, Pedestrian, and Transit Enhancements Alternative was eliminated during Level 1 screening because it did not address core Purpose and Need elements related to traffic congestion, travel time reliability, or freight operations. As a standalone option, it lacked the

ability to reduce vehicular delays or improve safety under peak demand and would not enhance transit speed or reliability.

While this alternative did not advance to Level 2 screening, its elements were developed in response to early stakeholder and agency input and directly shaped the bicycle, pedestrian and transit enhancements included in the Build Alternatives. Although the specific enhancements details were still being refined after Level 2 screening, the project team intended to deliver a comprehensive package of bicycle, pedestrian and transit connectivity improvements in the final Preferred Alternative, regardless of which alternatives advanced. During Level 2 screening, bicycle, pedestrian, and transit enhancements were assumed to be identical across all alternatives to ensure a consistent evaluation.

As a result, key improvements (e.g., a new pedestrian and bicycle overpass across I-270, enhanced crossings at Sand Creek and the South Platte River, upgraded sidewalks and paths, and improved wayfinding and RTD bus stop access) have been fully incorporated into both Build Alternatives to support bicycle, pedestrian and transit connectivity across the corridor.

Appendix B, *Alternatives Development Technical Report*, documents the full range of alternatives considered, summarizes stakeholder and agency input received during the alternatives development process, and details how specific bicycle, pedestrian, and transit enhancements were identified, refined, and integrated into the Build Alternatives.

3.9.2 Level 2 Screening

The Level 2 screening process used a comparative analysis of alternatives to identify the alternatives that best address the Purpose and Need and meet the project goal to minimize environmental and community impacts resulting from the project. Table 3-3 summarizes the results of the Level 2 screening, and the subsequent sections provide additional information about the comparative analysis of the alternatives for each screening criterion.

The Level 2 preliminary evaluation of alternatives applied high-level safety and operational analysis tools to assess alternative performance. The alternatives that advanced from Level 2 screening were subject to detailed modeling and full evaluation in the EIS. This detailed modeling helped the project team understand how each alternative's components function together to meet project needs. Section 3.3, Build Alternatives, summarizes the findings of this detailed evaluation and presents the most comprehensive assessment of each alternative's ability to meet the Purpose and Need. The Build Alternatives formed the basis for the project's environmental impact analyses.

Additional details about the alternatives evaluation process can be found in Appendix B, *Alternatives Development Technical Report*.

Table 3-3. Level 2 Screening Results

Alternative	Travel Safety (Reduce crashes)	Travel Time and Reliability (Improve travel time and reliability)	Transit on the Corridor (Improve transit speed)	Bicycle and Pedestrian Connectivity (Increase connectivity across I-270)	Freight Operations (Improve freight operations)	Natural and Human Environment (Minimize environmental and community impacts)	Recommendations
No Action	Low	Low	Low	Low	Low	High	Retained for comparison to Build Alternatives
Minimal Build	Low	Low	Low	Moderate	Low	High	Eliminated
Three General-Purpose Lanes	High	High	Moderate	Moderate	High	Moderate	Retained
Two General-Purpose Lanes and One Transit-Only Lane	Low	Low	High	Moderate	Low	Moderate	Eliminated
Two General-Purpose Lanes and One Express Lane That Accommodates Transit	High	High	High	Moderate	Moderate	Moderate	Retained
Three General-Purpose Lanes and One Express Lane That Accommodates Transit	Moderate	Moderate	High	Moderate	High	Low	Eliminated
Two General-Purpose Lanes and Two Express Lanes that Accommodate Transit	Moderate	Moderate	High	Moderate	Moderate	Low	Eliminated

3.9.2.1 Alternatives Considered but Eliminated in Level 2 Screening

3.9.2.1.1 Minimal Build Alternative

The Minimal Build Alternative focused on targeted safety and infrastructure maintenance improvements but did not add capacity or change corridor operations. As a result, this alternative:

- Failed to reduce congestion, resulting in continued operational breakdowns during peak periods
- Scored poorly on safety, as congestion-related crash patterns would persist without additional lanes or improved traffic flow
- Did not improve transit travel time or reliability, since buses would continue operating in general-purpose lanes
- Offered no benefits to freight, with continued bottlenecks near key interchanges

While it scored highest in the natural and human environment criterion due to its limited physical footprint, it ranked lowest or tied for lowest in five of six Level 2 criteria and was eliminated.

3.9.2.1.2 Two General-Purpose Lanes and One Transit-Only Lane Alternative

This alternative proposed maintaining two general-purpose lanes while dedicating a third lane to transit only. While it showed strong potential to improve transit operations, its overall performance was significantly weaker than other concepts:

- Safety remained unchanged, as the constrained general-purpose lanes would continue to generate merging and speed differential crashes
- Travel time and reliability for general traffic degraded, with fewer available lanes for the majority of vehicles
- Freight operations would worsen, as trucks were excluded from the transit lane and confined to fewer lanes

This alternative performed similarly to the Minimal Build and No Action Alternatives across key metrics and failed to demonstrate system-wide benefits. It was eliminated because other alternatives offered equal or better transit outcomes while improving overall corridor performance.

3.9.2.1.3 Three General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative

This eight-lane alternative added both a general-purpose lane and an Express Lane in each direction. It scored well on transit and freight performance, but had substantial drawbacks:

- Safety impacts increased due to the higher number of weaving and merge points, particularly in interchange areas
- Travel time benefits were marginal, as preliminary modeling showed diminishing returns beyond six lanes due to end-of-corridor bottlenecks (at I-25/US 36 and I-70)
- Environmental impacts were greater, with a wider footprint and more substantial impacts on adjacent land uses, resources, and drainage

This alternative was eliminated in Level 2 screening because other retained alternatives that also scored high on transit on the corridor and freight operations scored better on potential to reduce crashes, improving travel time and reliability, and minimizing the impact to the natural and human environment.

3.9.2.1.4 Two General-Purpose Lanes and Two Express Lanes That Accommodate Transit Alternative

Also an eight-lane concept, this alternative proposed two Express Lanes per direction alongside two general-purpose lanes. While it offered the greatest transit travel time improvements, it presented multiple tradeoffs:

- Safety concerns due to higher lane count, increased merge complexity, and speed differentials
- Moderate freight benefit, as Express Lanes are less advantageous for truck traffic given toll costs and limited access
- Only moderate congestion relief, with modeling showing that excess capacity would not be fully used under 2050 demand projections
- High environmental and right-of-way impacts, with one of the largest footprints of any alternative considered

This alternative was eliminated in Level 2 screening because other retained alternatives that also scored high on transit on the corridor and freight operations scored better on potential to reduce crashes, improving travel time and reliability, and minimizing the impact to the natural and human environment.

3.9.2.2 Alternatives Retained for Evaluation

3.9.2.2.1 No Action Alternative

The No Action Alternative does not reduce crashes or improve travel time and reliability. In addition, it would not improve transit or freight operations on the corridor. The alternative received a high score for the potential to minimize impact to the natural and human environment. This alternative is retained and fully evaluated in the EIS as a baseline for comparison with the Build Alternatives.

3.9.2.2.2 Three General-Purpose Lanes Alternative

The Three General-Purpose Lanes Alternative scored high on the potential to reduce crashes and improve travel time and reliability. Based on Level 2 screening, it was one of only two alternatives to score in the top tier for both criteria.

This alternative also scored high on the potential to improve freight operations, based on preliminary modeling that showed improved travel times and fewer bottlenecks for truck traffic, scoring better than all but one alternative in the Level 2 screening.

The alternative received a moderate score for transit operations. While it offers some improvement over the No Action Alternative, it does not provide a dedicated lane for transit and scored lower than alternatives with transit or Express Lane access.

The alternative received a moderate score for the potential to impact the natural and human environment due to the larger footprint associated with the additional lane, however, it scored better than all the eight-lane alternatives.

This alternative scored moderate to high across all Level 2 screening criteria and was retained for full evaluation in the EIS. The EIS evaluation included detailed modeling that assessed how its components function together to meet project needs.

3.9.2.2.3 Two General-Purpose Lanes and One Express Lane That Accommodates Transit Alternative

The Two General-Purpose Lanes and One Express Lane that Accommodates Transit Alternative also scored high for its potential to reduce crashes and improve travel time and reliability. Preliminary modeling indicated that the managed Express Lane would relieve pressure on the general-purpose lanes while maintaining consistent speeds and minimizing conflict points.

Also, the alternative scored high on the potential to improve transit speeds on the corridor. The alternative was one of four alternatives that scored high for these two criteria.

The alternative received a moderate ranking for improving freight operations, as preliminary analysis showed that alternatives that include Express Lanes are not expected to provide as much benefit to freight operations as alternatives that add general-purpose lanes.

The alternative received a moderate score for the potential to impact the natural and human environment due to the larger footprint associated with the additional lane; however, it scored better than all eight-lane alternatives.

The alternative scored moderate to high for all Level 2 screening criteria and was retained for full evaluation in the EIS. The full EIS evaluation included additional detailed modeling following Level 2 screening that better understands how the different elements of the alternative work together to meet the project needs.