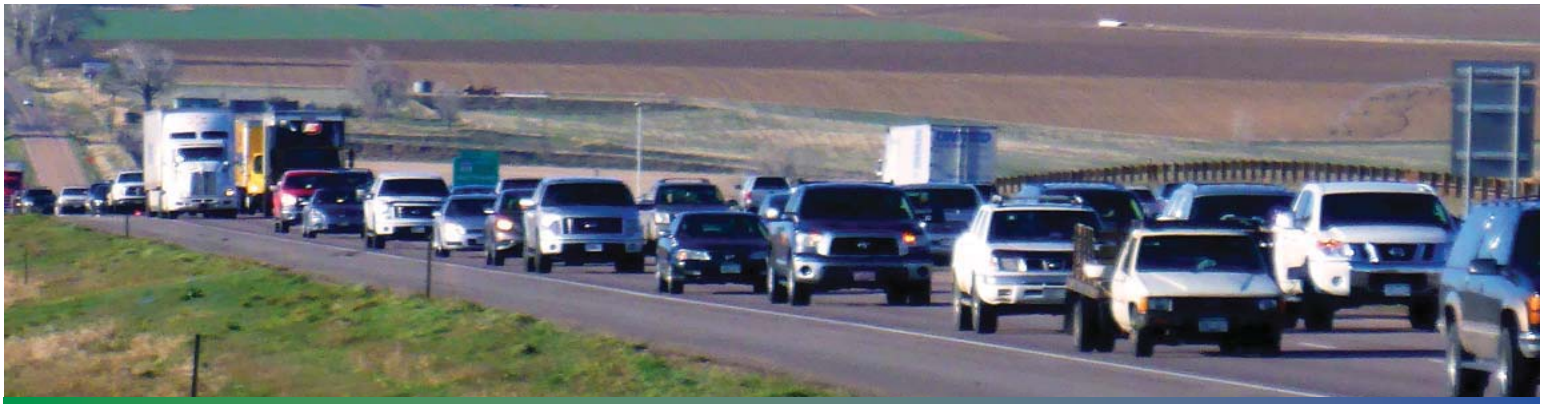


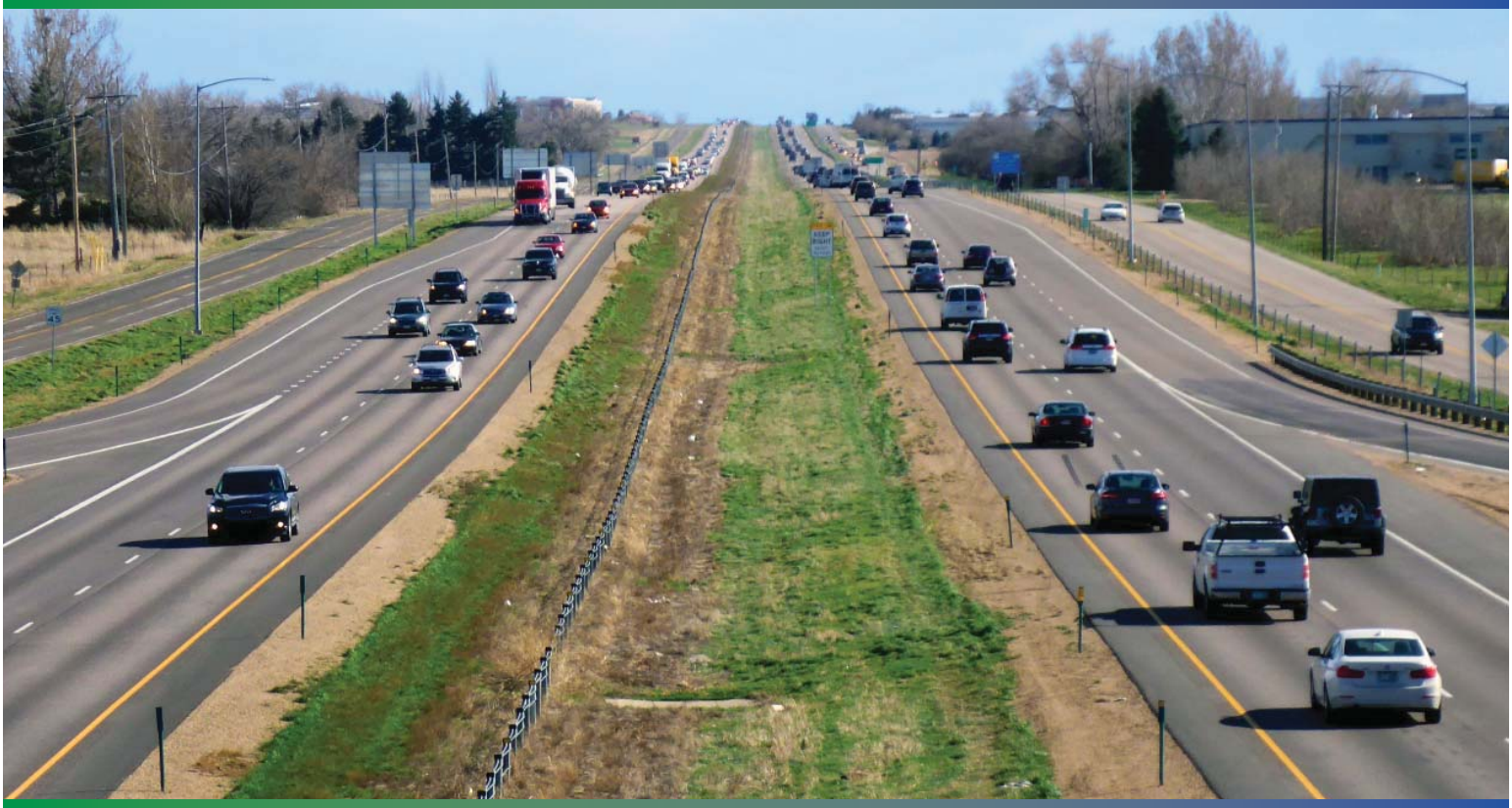
EXPRESS LANES | NORTH I-25

Johnstown to Fort Collins

NORTH I-25 EXPRESS LANES

Design-Build Position Paper

AUGUST 2016



PREPARED BY

COLORADO Department of Transportation

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1. Position Paper

The purpose of this position paper is request approval from the Chief Engineer to use Design Build Delivery method to procure final design and construction services for the North I-25 Construction project between SH 402 and SH 14. This paper will discuss

- Project Background including the Purpose and Need from the FEIS
- Project scope of work
- Project Goals
- Risk Allocation
- Results from the Project Delivery Selection Matrix
- Project Resources - CDOT Staffing
- Project Schedule, Budget and Next Steps.

2. Project Background

Northern Colorado has been experiencing unprecedented economic and population growth over the last decade. U.S. Census Bureau data shows Greeley and Fort Collins ranked among the top 15 fastest-growing metro areas in the nation from 2013 to 2014. Interstate 25 (I-25) serves as the primary north-south spine of the transportation system for travel between the communities in northern Colorado, between the Denver Metro area and northern Colorado as well as serving long distance travel and freight movement. The pressures of growth have resulted in considerable increases in travel demand on the corridor.

The North I-25 Corridor extends 61-miles from Denver, Colorado, north to the Fort Collins/Wellington area. In late 2003, an Environmental Impact Statement (EIS) was initiated for the North I-25 corridor. The EIS identified the grouped the needs for the project into the following four categories:

- Increased frequency and severity of crashes
- Increasing traffic congestion leading to mobility and accessibility problems
- Aging and functionally obsolete infrastructure
- Lack of modal alternatives

In 2011, a Final Environmental Impact Statement (FEIS) was completed for this corridor. The Preferred Alternative identified in the FEIS includes the widening of I-25 with general-purpose lanes and tolled express lanes (TELs), reconstruct or upgrades substandard interchanges, structures and frontage roads. These improvements are needed to enhance mobility, provide modal alternatives, correct geometric deficiencies, improve safety and accessibility, and replace aging and obsolete infrastructure. The Preferred Alternative for the entire corridor is expected to cost $2.18 billion (in 2009 dollars). The corridor improvements are being implemented in a phased approach as funding becomes available.

3. FEIS Purpose and Need

The purpose and need from the FEIS are listed below.

Purpose

The purpose of the project is to meet long-term travel needs between the Denver Metro Area and the rapidly growing population centers along the I-25 corridor north to the Fort Collins-Wellington area. To

meet long-term travel needs, the project must improve safety, mobility and accessibility, and provide modal alternatives and interrelationships.

Need For The Action

The need for the project can be summarized in the following four categories:

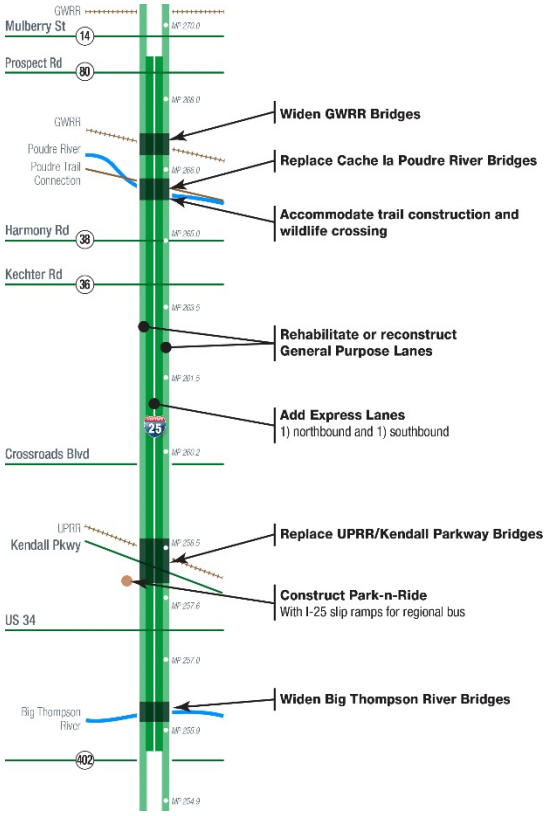
- Increased frequency and severity of crashes
- Increasing traffic congestion leading to mobility and accessibility problems
- Aging and functionally obsolete infrastructure
- Lack of modal alternatives

4. Project Description

The following describes the base configuration that will serve as the scope of work for the design build project. The project scope was generated to meet the purpose and need of the project defined by the EIS.

Safety and Mobility

- Increase capacity by adding one tolled express lane in each direction from SH 402 to SH 14 for 14 miles. The tolled express lanes will operate 24 hours a day, seven days a week.
- Provide a four-foot painted buffer to separate the tolled express lane from the general-purpose travel lanes.
- Improve safety by updating roadway geometry and widening the inside shoulder from four feet to 12 feet and the outside shoulder from 10 feet to 12 feet
- Install and integrate with the Colorado Transportation Management Center (CTMC) state-of-the-art tolling and Intelligent Transportation Systems (ITS) equipment



Address Aging Infrastructure

- Rehab or replace existing pavement as necessary to extend its useful life
- Replace or rehab bridges
  - Replace the Cache La Poudre River and UPRR Bridge
  - Widen the Big Thomson and Great Western Railroad Bridges.

Multimodal Improvements

- Build a new underpass at I-25 at Kendall Parkway to provide a local road connection. The underpass will improve vehicle, pedestrian, and bicycle access to a new Park-n-Ride.
- Build a new Park-n-Ride facility at Kendall Parkway with 200 parking spaces for car-poolers, bicycles storage and connections to regional and local bus transit. The Park-n-Ride will host

CDOT's new commuter bus service, "Bustang," which will provide service to Fort Collins and Denver.

- Build transit-only bus ramps to connect with the new Kendall Parkway Park-n-Ride. This express connection is expected to save 15 minutes for every bus trip using the dedicated ramps which, based on current service levels, represents a savings of 765 hours annually.

Regional Trail Connection & Wildlife Corridor

- The Cache la Poudre River Regional Trail is part of Governor Hickenlooper's "16 in 2016," which represents the state's 16 most important trail gaps. Replacing the Cache la Poudre River Bridge on I-25 the vertical profile will change to connect the Cache la Poudre River Regional Trail under I-25. The connection is literally the "last mile" that will bring the total regional trail length to over 34 miles. The trail connection will network 100 miles of additional trails.

Road X Elements

- The project has secured $2M to add Road X elements to the corridor.

5. Project Goals

On June 2, 2016, the project team met and developed the following goals for the project:

Improve mobility and traffic operations

Growth in Northern Colorado has diminished mobility on I-25. Congestion is experienced daily between Longmont and the north side of Fort Collins. This project will reduce congestion by enhancing and improving operations on the mainline and at interchanges. This project will increase capacity by adding an express lane. The express lane provides trip reliability for HOV, transit and SOVs that chose to pay a toll. This project should also improve capacity and operations in the general purpose lanes. In addition, the project will install emerging technology and innovation in the corridor (e.g. message boards, travel time, real time information, connected vehicles, infrastructure, etc), so road users can make informed decisions with regard to how to utilize the facilities and improve mobility.

Maximize the scope with the available fiscal resources

I-25 is a priority for CDOT and the North Front Range. The State of Colorado has limited funds for highway construction and maintenance. The most has to be done with the available funding to provide relief in the most problematic locations. In order to improve these problem areas for the traveling public sooner, the project team would like to find solutions to leverage the available funding to maximize overall mobility and the length of the EIS Preferred Alternative improvements constructed and within the project limits.

Provide a safe facility for the public as well as a safe work zone for construction and the travelling public

Safety is of paramount importance during construction and post construction. The proposed phasing should maximize safety refuges (shoulders), minimize traffic shifts and head to head traffic configurations during construction. The safety of the final design should meet or exceed current AASHTO policy on design. The safety of all users including first responders should be improved, while still allowing for safe passage of the travelling public during incidents.

Increase intermodal connections

CDOT wants this project to improve connectivity among transit, bicycles and pedestrians. The project should consider the connectivity of the transit, access to the managed lanes and stations through the

area of improvements. As a part of the intermodal improvements, this project will construct a new connection and Transit Center (Park n Ride) north of US-34 at Kendall Parkway for Bustang service and car-poolers. In addition, this project will improve connectivity for trail users. At a minimum a new trail connection on the Poudre River Trail will be added to improve bicycle commuter routes between communities west of I-25 to communities east of I-25 as outlined in the Governor's Colorado Pedals Project.

Ensure the longevity of the project (creating the most value out of the investment now, and building a high quality project)

This project will replace the aging infrastructure and accommodate the future build out of the FEIS Preferred Alternative. CDOT wants to maximize the infrastructure constructed with this project to be consistent and useable for completing the FEIS Preferred Alternative. To the extent possible CDOT wants the new facility to be out of the 100 year floodplain especially for any bridges over a floodplain that are replaced.

6. Risk Management

A risk register was developed for the project for the project. The table below lists our top 10 risks.

Table 1 Project Risk Allocation Matrix

Top Risks	Potential Cost Impact	Potential Schedule Impact
1. Results of tolling revenue study may not provide as much funding as planned.	Up To $25M	N/A
2. Changes to hydrology and floodplain mapping near Bid Thompson River Bridges may require full reconstruction of the interstate and frontage road bridges.	$25M	N/A
3. Existing pavement condition may require more rehabilitation or reconstruction than was originally planned.	$10M	6-9 Months
4. Existing condition of concrete box culverts may not be able to hold proposed median pavement and may need to be replaced.	$5M	6-9 Months
5. Right-of-way acquisition of historic/recreation properties along the corridor may impact construction phasing and costs.	$3M	6-9 Months
6. Utility relocations could delay construction schedule and be costly.	$3M	6-9 Months
7. Tolling/ITS integration and implementation with E-470 could cause delays to revenue collection.	$1M	1-3 Months
8. If Long Range Plan amendment is delayed it would could delay the ROD and procurement processes and therefore construction as well.	$5M	6-9 Months
9. ROD approval delays could impact procurement and construction schedule.	$3M	3-6 Months
10. Traffic analysis required for air quality conformance approval may be very time consuming, potentially delaying the project.	$3M	3-6 Months

7. Project Delivery Method Recommendation

The project team completed CDOT's project delivery selection matrix. After reviewing the project goals and risks, **the team has selected Design Build as the preferred delivery method**. The main benefits of selecting design build were:

a. **Maximize Scope:** CDOT wants to maximize scope for the available funds through the use of ARE's. The team would like to complete as much of the EIS preferred alternative as possible.

b. **Generate Competition and Innovation:** A design build project will allow contractors to compete to determine which team can give CDOT the most scope within our budget using innovative designs (Best Value).

c. **Flexibility in Scope:** The total funding is still not set. It is easier to adjust project scope and keep a design build project on schedule vs a traditional design bid build or CMGC. Other delivery methods that require complete designs which take more time and cost to adjust.

d. **Quality:** The design build selection process and subsequent contractor lead Quality Control program will provide a high quality final product.

8. Project Resources

The CDOT team will lead the effort, with consultant support to help craft the contract documents and meet the legal obligations, as well as criteria set forth in the CDOT Design-Build Manual.

Executive Oversight Committee (EOC)

The EOC provides overall policy guidance for the project and the Design-Build procurement process. Key decisions made by the EOC are:

- confirms the project goals;
- confirms the release of the Letters of Interest (LOIs);
- confirms the release of the Request for Qualifications (RFQ);
- confirms the Statement of Qualifications (SOQ) Evaluation Plan;
- confirms the short-listed firms;
- confirms the Proposal Evaluation Plan;
- approves the release of the RFP; and
- Presents the recommended apparent successful proposer to the Chief Engineer, who will ultimately make the final selection.

Project Leadership Team (PLT)

Region 4 has formed a strong PLT. They are responsible for the day-to-day management, coordination, and development of the project and the Design-Build procurement process. The PLT comprises members of CDOT, the consultant team, local agency funding partners, Design-Build procurement specialist and public involvement representatives. Since this project is a FHWA Project of Division Interest (PoDI) the FHWA is also represented on the PLT.

The PLT has final decision-making authority over the project's daily management and coordination activities. The PLT is responsible for the delivery and the development of the procurement documents, including but not limited to: LOIs, RFQs, short-list selection criteria, evaluation of SOQs ("short-listing"), RFP Documents (Books 1–4 and Reference Documents), Proposal evaluation criteria, Proposal

evaluations, recommendation to the EOC naming the apparent selected proposer, and debriefs of unsuccessful proposers.

The PLT oversees and directs the activities of the technical teams and incorporates their work products into the procurement documents. The PLT is responsible to ensure all parties involved in the project are aware of and have signed confidentiality agreements. The PLT reports directly to the PMT.

Consultant Support

In order to assist the above CDOT project team, consultant staff experienced in Design Build will be utilized to assist and recommend specific approaches for CDOT's consideration of the required design-build processes.

Consultant Team

Atkins Global is the lead consultant. Atkins has worked as both the Owner, and the Design-Build team, on design build projects. CDOT hopes to use this unique perspective to the development of this project. Atkins will partner with AECOM to deliver the project. ATKINS is currently responsible for I-25 from SH 392 to SH 14 and AECOM is responsible for I-25 between SH 402 and SH 392.

9. Design Build Schedule

The figure below illustrates the anticipated schedule for this project. Key milestones include:

- **CDOT Prepares for Procurement:** Complete in 2016
- **Procurement Process:** Q4 2016 - Q3 2017
- **Contracting:** 2017, Q3
- **Final Design and Construction**: 2017-2020

Figure 1 Schedule

10. Design Build Budget/Cost Estimate

The estimated budget is summarized below:

Table 2 Funding by Source

Funding Source	Amount	% of Total Cost
CDOT State Funds	$167M	66%
Formula Freight Funds (Federal)	$30M	12%
Private and Local Government Contributions	$25M	11%
USDOT Tiger Grant Award	$15M	11%
Total	**$237M**	**100%**

Table 3 Contributions from Project Partners

Private and Local Government Contributions	Amount
Town of Berthoud	$500K
City of Fort Collins	$2M
Town of Johnstown	$1M
Larimer County	$10M
City of Loveland	$2M
McWhinney (Private Developer)	$6M
Town of Timnath	$500K
Town of Windsor	$1M
Weld County	$2M
Total	**$25M**

Table 4 Funding Uses

Funding Uses	Amount
Final Design and Construction (Design Build Team)	$186M
Program Management (Procurement)	$4M
Right of Way	$12M
CDOT Indirects	$19.2M
Construction Management	$15.8M
Total	**$237M**

11. Quality Assessment

The Contractor shall be responsible for implementation and maintenance of an effective quality program to manage, control, document and assure all obligations of the Contractor comply with the requirements of the Contract Documents for the project. The QMP shall encompass all Work performed by the Contractors of all tiers and its overall Quality Assurance program, including at a minimum a Process Control Plan, Independent Contractor Quality Control Management Plan and a Design Quality Management Plan.

12. Document Control

CDOT will maintain an Aconex database of all incoming correspondence, and will track the status of each document, and whether a timely response has been delivered to the Design-Build Team. This database will the backbone of our document control system.

13. Co-Location

Co-location with the design-build contractor is anticipated for a project of this magnitude and scope.

14. Next Steps

1. Schedule and move forward with the Design-build project team formation.
2. Obtain formal Chief Engineer Approval to move forward with this Design-build project. This is according to “CDOT rules for Design-build Procurement”. **Need Immediately**.
3. Refine Base Configuration and project costs and generate ARE’s
4. Issue the Project LOI and RFQ
5. Short list the qualified design-build teams
6. Publish draft RFP for Industry review
7. Complete ROD
8. Issue the Final RFP
9. Select the winning design-build team
10. Design/build award and execution of the project