Appendix I: Scoping Documents

Final Agency Coordination Plan (including the Notice of Intent)

Purpose and Need Final Technical Report

Range of Alternatives Final Technical Report

Draft Alternatives Evaluation Technical Report

Draft Alternatives Evaluation Criteria

Final Agency Coordination Plan (including the Notice of Intent)

Final Agency Coordination Plan

I-35 Capital Express Central Project
I-35 from US 290 East to US 290 West/SH 71

Texas Department of Transportation, Austin District

CSJ Number(s): 0015-13-388

March 2021

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-9-2019, and executed by FHWA and TxDOT.

Table of Contents

Purpose of the Coordination Plan

In accordance with 23 U.S. Code § 139(g), the Texas Department of Transportation (TxDOT) (as lead agency) has prepared this coordination plan for the proposed I-35 Capital Express Central Project in Austin, Texas. This plan is intended to establish a schedule and process for coordinating public and agency participation and comment during the environmental review process. The coordination plan is developed early in the environmental and planning process. It will be adjusted and updated as input is received from cooperating and participating agencies, and as the complexity of potential environmental issues is revealed.

Project Description

Project Location

The proposed project would construct two, non-tolled, managed lanes in each direction along I-35 from US 290 East to US 290 West/SH 71 for a total distance of approximately 8 miles, including additional flyovers at I-35/US 290 East, in Austin, Texas in Travis County.

Existing Roadway

Existing I-35 from US 290 East to US 290 West/SH 71 is located within an urban area with adjacent commercial, residential, institutional, governmental, and parks/open space properties. Within the proposed project limits, I-35 is an access-controlled interstate highway. Beginning at the southern limit, US 290 West/SH 71, the roadway typically has three to four, 12-foot-wide mainlanes (concrete barrier separated) with 4- to 12-foot-wide inside shoulders, 10- or 12-foot-wide outside shoulders, and two to three, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. From Lady Bird Lake to 15th Street, I-35 generally includes three, 12-foot-wide mainlanes in each direction with auxiliary lanes between some of the ramps. North of 15th Street, the roadway has 4 mainlanes in each direction and includes the upper/lower deck split just north of MLK Jr. Boulevard with a continuation of the upper decks to north of Airport Boulevard. From Airport Boulevard to US 290 East, I-35 includes 4 barrier-separated mainlanes in each direction. The roadway in this section typically has 2- to 6-foot-wide inside shoulders, 10-foot-wide outside shoulders, and two to four, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. Sidewalks exist in most, but not all, locations throughout the project area and shared-use paths are located within the project area in downtown Austin, defined as between MLK Jr. Boulevard and Holly Street. Drainage along the roadway (mainlanes and frontage roads) is provided by storm sewer networks and some open ditches. The existing right of way (ROW) width is typically 200 to 350 feet but is wider at the interchanges. Existing permanent drainage easements are located at creek crossings. The posted speed limit along I-35 in the proposed project area is 60 mph on the mainlanes and 35 to 50 mph on the frontage roads.

Purpose and Need

The proposed project is needed because I-35 between US 290 East and US 290 West/SH 71 does not adequately accommodate current and future travel demand and does not meet

current federal and state design standards, which has resulted in safety and operational deficiencies, which can impact crash rates and peak period travel times for all users, including emergency response vehicles and transit. The purpose of the proposed project is to improve this critical local, regional, national, and international thoroughfare by enhancing safety within the corridor; addressing demand by prioritizing the movement of people, goods and services through and across the corridor; improving operational efficiency; and creating a more dependable and consistent route for the traveling public including bicyclists and pedestrians, emergency responders, and transit.

Project History

Beginning as far back as the 1980s, the Texas Department of Transportation (TxDOT) recognized the need to upgrade I-35 through the region to provide improved mobility. Listed here are major events in the project's evolution illustrating how the project progressed to where it is today

2011: The I-35 Corridor Advisory Committee released the My35 Plan. The TxDOT Austin District, in coordination with the City of Austin and other partners, launched the Mobility35 program, also known as the I-35 Capital Area Improvement Program (CAIP), which focuses on improvements to I-35 in Williamson, Travis, and Hays counties.

2013: TxDOT released the I-35 CAIP Corridor Implementation Plan for Travis County, which identified various improvements for I-35, including adding lane capacity.

2013—2014: The Downtown Stakeholder Working Group, composed of local governmental entities and community stakeholders, convened for ten monthly meetings and two data digs to evaluate concepts for I-35 in downtown Austin between MLK Jr. Boulevard and Holly Street.

2014: TxDOT initiated the I-35 Future Transportation Corridor (FTC) Planning and Environmental Linkages Study (PEL). The PEL provided opportunities to bring together transportation planning and environmental considerations early in the planning process, which would be integrated into the National Environmental Policy Act (NEPA) process as the project was developed.

2014–2015: TxDOT hosted five Decks Neighborhood Workshops for the I-35 "decks area", defined as from Airport Boulevard to MLK Jr. Boulevard. Representatives from multiple neighborhoods, the University of Texas (UT), and Catellus, the master developer for the Mueller neighborhood, participated in the workshops.

2016–2017: Following the recommendations presented in the PEL to move forward with adding managed lanes in each direction, TxDOT hosted open house meetings and virtual open houses for the three projects in the study area, which extended from FM 1431 to SH 45SE. The projects at that time were called North16 (from RM 1431 to US 183), Central7 (from US 183 to Riverside Drive), and South10 (from Lady Bird Lake to SH 45SE).

January 2020: TxDOT hosted the I-35 Capital Express Central Design Charrette to solicit input from stakeholders regarding previous concepts that were developed and to seek additional input to be considered during the development of further build alternatives. More than 30

concepts were proposed over the course of the charrette. Design charrette participants included TxDOT personnel, Mobility35 General Engineering Consultant staff, representatives from the City of Austin Transportation Department, Central Texas Regional Mobility Authority, CapMetro, CAMPO, FHWA, UT Austin, and Downtown Austin Alliance.

Building upon all the previous efforts to improve I-35, the Environmental Impact Statement (EIS) for the I-35 Capital Express Central Project will evaluate a range of alternatives, including "No-action" (the no-build alternative) and build alternatives. Possible build alternatives include lowered sections of managed and mainlanes. Each build alternative would include various operational and safety enhancements that optimize the roadway footprint, and would reconstruct ramps, bridges, and intersections; improve frontage roads; enhance bicycle and pedestrian accommodations; accommodate transit routes; and additional flyovers at I-35/US 290 East. The EIS will analyze potential direct, indirect, and cumulative impacts from construction and operation of proposed improvements including, but not limited to, the following transportation impacts: air quality and noise impacts; water quality impacts including storm water runoff; impacts to waters of the United States including wetlands; impacts to floodplains; impacts to historic and archeological resources; impacts to threatened and endangered species; socioeconomic impacts including environmental justice communities; impacts to and/or potential displacements of land use, vegetation, residents, and businesses; and impacts to aesthetic and visual resources.

Projected Cost of Project

In early 2020, the I-35 Capital Express Central Project was partially funded with a $560 million allocation of the estimated $4.9 billion construction cost. On April 30, 2020, the Texas Transportation Commission approved an amendment to the 2020 Unified Transportation Program (UTP), a 10-year plan to guide transportation project development, that allocated an additional $3.4 billion of funding to the I-35 Capital Express Central Project. In April 2020, the CAMPO Transportation Policy Board approved reallocating $633 million in funding to the I-35 Capital Express Central Project. The remaining $307 million was allocated to the project in the 2021 UTP. This project is currently fully funded in the 2021 UTP ($4.9 billion). Tolling is not currently a funding option and tolled lanes are not currently under consideration.

Agency Roles and Responsibility

Lead Agency

TxDOT will serve as the lead agency for the proposed project. The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding (MOU) dated December 9, 2019, and executed by the Federal Highway Administration (FHWA) and TxDOT. TxDOT will develop the environmental documents in accordance with 23 CFR 771 and 40 CFR 1500-1508.

The lead agency will:

- Identify and involve cooperating and participating agencies in the environmental review process;
- Develop coordination plans;
- Solicit input from the public and agencies on the project's purpose and need;
- Finalize the purpose and need statement;
- Provide opportunities for the public and agencies to provide input on refined alternatives and methodologies and level of detail for analyzing alternatives;
- Ensure environmental commitments are completed; and
- Manage the environmental review process and assist in addressing/resolving any potential issues.

Cooperating Agencies

Cooperating agencies are federal agencies that have either jurisdiction by law regarding aspect(s) of the proposed project or special expertise pertaining to the proposed project. TxDOT, as the lead agency, invited potential cooperating agencies to participate. Cooperating agencies assist in the preparation, coordination, and review of the EIS. If a federal agency chooses to decline the invitation to become a cooperating agency, the agency's response letter (electronic or hard copy) must state that the agency has no jurisdiction or authority with respect to the project, has no expertise or information relevant to the project, or does not intend to submit comments on the project. If the federal agency's response does not state the agency's position in these terms, the agency should be treated as a participating agency. An agency invited to be a cooperating agency can also voluntarily elect to be a participating agency instead by stating their intent in the response. See Appendix A for copies of the cooperating agency invitation letters.

Participating Agencies

Federal, state, tribal, regional, and local government agencies that may have an interest in the project were invited to serve as participating agencies. Appendix A contains copies of the invitation letters to participating agencies.

The roles and responsibilities of participating agencies include, but are not limited to:

- Participating in the scoping process;
- Participating in the National Environmental Policy Act (NEPA) process with regard to development of the purpose and need statement, range of alternatives and methodologies and level of detail for analyzing alternatives; and
- Identifying and providing early input on issues of concern regarding the project's potential impacts to human or natural environment.

Accepting a role as a participating agency does not imply that an agency supports the project

or has jurisdiction or special expertise with respect to the evaluation of the project. Table 1 summarizes the roles and responsibilities of cooperating and participating agencies identified to date.

Table 1: Cooperating and Participating Agencies

Agency	Roles		Agency Response (as of Mar. 1, 2021)	Responsibility
	Cooperating (Invited)	Participating (Invited)		(need input from agencies about their roles and responsibilities)
Federal Transit Administration		X	Accept	Provide input and technical assistance on project impacts to transit.
U.S. Army Corps of Engineers	X		Accept	Ensure compliance with Section 404 of the Clean Water Act.
U.S. Department of Agriculture, Natural Resources Conservation Service	X			Ensure compliance with 7 CFR 658: Farmland Protection Policy Act, 7 CFR 657: Prime and Unique Farmlands.
U.S. Department of Housing and Urban Development	X		Decline	Ensure compliance with 24 CFR Part 50 – "Protection and Enhancement of Environmental Quality" and the Housing and Urban Development Amendment Act of 1974.
U.S. Environmental Protection Agency	X		Accept	Ensure compliance with Clean Air Act Amendments (CAAA) and with hazardous materials regulations.

Agency	Roles		Agency Response (as of Mar. 1, 2021)	Responsibility
	Cooperating (Invited)	Participating (Invited)		(need input from agencies about their roles and responsibilities)
U.S. Fish and Wildlife Service	X		Decline	Provide input on potential threatened and endangered species, designated critical habitat(s), and potential impacts to wildlife refuges within the study area. Ensure compliance with Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the U.S. Fish and Wildlife Coordination Act.
National Park Service	X		Accept	Provide input and technical assistance on Section 6(f) resources.
Caddo Nation of Oklahoma	X			Protection of Tribal rights, lands, and cultural materials. Consulting parties under Section 106 of the National Historic Preservation Act.
Mescalero Apache Tribe	X			
Apache Tribe of Oklahoma	X			
Tonkawa Tribe of Indians of Oklahoma	X			
Kiowa Indian Tribe of Oklahoma	X			
Comanche Nation of Oklahoma	X			
Alabama-Coushatta Tribe of Texas	X			
Seminole Nation of Oklahoma	X			

Agency	Roles		Agency Response (as of Mar. 1, 2021)	Responsibility
	Cooperating (Invited)	Participating (Invited)		(need input from agencies about their roles and responsibilities)
Wichita and Affiliated Tribes	X			
Texas Commission on Environmental Quality		X		Ensure compliance with Section 401 of the Clean Water Act and with state surface water quality standards. Evaluate Texas Pollutant Discharge Elimination System permits. Assist EPA to determine conformity of air quality plans. Provide input on hazardous material sites.
Texas Department of Housing and Community Affairs		X		Ensure compliance with 24 CFR Part 50 – "Protection and Enhancement of Environmental Quality" and the Housing and Urban Development Amendment Act of 1974.
State Historic Preservation Officer/Texas Historical Commission		X		Determine Section 106 of the National Historic Preservation Act compliance and eligibility, ensure compliance with the Texas Antiquities Code and with the TxDOT/THC/SHPO programmatic agreement, consult on the Section 4(f) of the Department of Transportation Act of 1966 process, and coordinate cultural resource consultations.

Agency	Roles		Agency Response (as of Mar. 1, 2021)	Responsibility
	Cooperating (Invited)	Participating (Invited)		(need input from agencies about their roles and responsibilities)
Texas Parks and Wildlife Department		X	Accept	Provide input on potential threatened and endangered species and habitat that could be impacted in the project area. Provide input on parks and other public properties that could be impacted in the project area.
Lower Colorado River Authority		X	Decline	Provide input on the potential to impact the Lower Colorado River.
Capital Area Metropolitan Planning Organization		X	Accept	Provide input on the potential to impact or benefit CAMPO area mobility.
Central Texas Regional Mobility Authority		X	Accept	Provide input on the project's potential to impact or benefit regional connectivity.
Travis County		X	Accept	Provide input on the potential to impact or benefit Travis County.
Williamson County		X		Provide input on the potential to impact or benefit Williamson County.
Hays County		X		Provide input on the potential to impact or benefit Hays County.
City of Austin		X	Accept	Provide input on City of Austin project preferences and preferred outcomes.
Capital Metropolitan Transportation Authority		X	Accept	Provide input on the potential to incorporate transit or other transportation modes in the proposed project.

Agency	Roles		Agency Response (as of Mar. 1, 2021)	Responsibility
	Cooperating (Invited)	Participating (Invited)		(need input from agencies about their roles and responsibilities)
The University of Texas at Austin		X	Accept	Provide input on the potential to impact the University of Texas campus.

Project Coordination

Agency Coordination

TxDOT will facilitate the agency coordination process by scheduling agency scoping meetings to ensure meaningful participation during the project development process. Table 2 identifies key agency coordination points throughout the project development and NEPA process. This list does not preclude additional coordination opportunities with these agencies during the EIS process.

Table 2: Agency Coordination

Agency Coordination Point	Timeframe
Publication of Notice of Intent (NOI)* in the Federal Register	Aug. 12, 2020
Publication of NOI in *Austin-American Statesman* (English) and *El Mundo* (Spanish)	Aug. 20, 2020
Agency Scoping Meeting #1: Cooperating and participating agencies are presented, and comments are solicited on the draft coordination plan and schedule, draft purpose and need, and draft range of alternatives.	Nov. 12, 2020
Agency Scoping Meeting #2: Cooperating and participating agencies are presented, and comments are solicited on the draft purpose and need, draft range of alternatives and draft methodologies and level of detail for analyzing alternatives.	Mar. 10, 2021
Notice of Availability and Draft EIS Circulation	Fall 2022
Combined Final EIS/Record of Decision	Summer 2023

NOTE: *A copy of the published NOI is included as Appendix B.

Public Involvement and Stakeholder Outreach

Given the local and regional importance of the proposed I-35 Capital Express Central project, the public involvement activities planned for the proposed project include a comprehensive public involvement program designed to proactively engage and encourage participation of all interested stakeholders. A Public Involvement Plan (PIP) is included in

this coordination plan as Appendix C. The PIP will be periodically updated to reflect ongoing public involvement and input. Additionally, issues specific to this project may require adjustments to the PIP to address communication needs identified during public outreach efforts.

Key public involvement and stakeholder outreach efforts that will be undertaken throughout the project development and NEPA process include:

- development of a project webpage;
- mailed and emailed notifications to stakeholders;
- public meetings, including scoping meetings, open houses, and workshops; and
- a public hearing.

Additional information about public involvement activities can be found in Appendix C: Public Involvement Plan.

Project Milestones

Project Milestones

Major milestones and general timeframes are identified in Table 3. It is the intent of the lead agency to develop a schedule reflective of these milestones.

Table 3: Major Project Milestones

Milestone	Timeframe
Publication of NOI in Federal Register	Aug. 12, 2020
Publication of NOI in *Austin-American Statesman* (English) and *El Mundo* (Spanish)	Aug. 20, 2020
Develop draft purpose and need	Summer/Fall 2020
Develop range of alternatives	Summer/Fall 2020
Agency and Public Scoping Meeting #1	Nov. 12, 2020
Refine purpose and need; refine range of alternatives and develop methodologies and level of detail for analyzing alternatives.	Winter 2021
Agency and Public Scoping Meeting #2	Mar. 10, 2021/Mar. 11, 2021
Refine purpose and need; alternatives and methodologies and level of detail for analyzing alternatives.	Winter 2021 – Summer 2021

Milestone	Timeframe
Public meeting to identify alternatives to be analyzed in Draft EIS.	Summer 2021
Draft EIS preparation and identification of preferred alternative and potential environmental impacts.	Summer 2021 – Summer 2022
Notice of Availability and Draft EIS circulation	Fall 2022
Public hearing presenting Draft EIS and preferred alternative	Fall 2022
Final EIS preparation	Fall 2022 – Summer 2023
Combined Final EIS and Record of Decision	Summer 2023

Revision History

Table 4. Revision History

Effective Date	Reason for and Description of Change
November 2020	Draft shared with agencies and the public with a request for comments.
March 2021	Added Federal Transit Agency and the Texas Department of Housing and Community Affairs as participating agencies; updated the purpose and need for the project.

Appendix A

Cooperating and Participating Agency Invitation Letters

TxDOT sent letters to all the agencies listed in Table 1 of this Coordination Plan, which invited them to be cooperating or participating agencies in the development of the I-35 Capital Express Central EIS. Two example letters are included in this appendix, one for cooperating agencies and one for participating agencies.

Texas Department of Transportation

125 EAST 11TH STREET, AUSTIN, TEXAS 78701-2483 | 512.463.8588 | WWW.TXDOT.GOV

Mr. Salvador Salinas
Regional Conservationist – Central
U.S. Department of Agriculture, Natural Resources Conservation Service
14th and Independence Ave., SW, Room 5204-S
Washington, DC 20250

CSJ: 0015-13-388

September 14, 2020

Re: Invitation to become a Cooperating Agency on the proposed Texas Department of Transportation project along Interstate Highway 35 (I-35) from US Highway 290 (US 290) East to US 290 West/State Highway 71 (SH 71) in Travis County, Texas

Dear Mr. Salvador Salinas:

The Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for a proposed transportation project along I-35 from US 290 East to US 290 West/SH 71 including direct connectors at I-35/US 290 East, referred to as the I-35 Capital Express Central Project. The proposed project is located in the central region of the Austin metropolitan area, in Travis County, Texas, for a distance of approximately 8 miles along I-35. The objectives of the I-35 improvements, as currently defined, are to manage and reduce congestion and improve operational efficiency; provide more reliable travel times; enhance safety; and create a more dependable and consistent route for transit, emergency responders, and other motorists traveling this major interstate. Additional information regarding the proposed project can be found in the enclosed Notice of Intent (NOI).

Your agency has been identified as one that may have an interest in the proposed project due to the potential effects to the natural and/or human environment, and input from your agency may be required for the proposed project. TxDOT respectfully requests your agency's participation as a Cooperating Agency in the preparation of the Draft EIS and Final EIS, in accordance with 40 Code of Federal Regulations 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of NEPA. As a Cooperating Agency, your special expertise permits you, as requested by the Lead Agency, TxDOT, to develop information and prepare environmental analyses for the EIS.

Your agency may also choose to participate in the proposed project as a Participating Agency. Pursuant to Title 23 U.S. Code, Chapter 1, Section 139, Participating Agencies are similar to Cooperating Agencies, but have a lesser degree of authority, responsibility, and involvement in the environmental review process.

As a Cooperating Agency, responsibilities include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the project include the following:

- Providing meaningful and early input on the coordination plan, the purpose and need, the range of alternatives, and the methodologies and level of detail for analyzing alternatives.
- Participating in coordination meetings and joint field reviews as appropriate.

- Providing timely review and comment on environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

An agency and public scoping meeting are planned for later this year. Event details are still being determined.

Please respond to TxDOT in writing, by mail or e-mail, with an acceptance or declination of the invitation within 30 days of the date of this letter. If your agency declines, the response should state your reason for declining either invitation. If you choose to decline, please specifically state in your response that your agency:

(a) Has no jurisdiction or authority with respect to the proposed project;
(b) Has no expertise or information relevant to the proposed project; or
(c) Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss the project in more detail or our agencies' respective roles and responsibilities during preparation of this EIS, please contact:

Tricia Bruck-Hoyt, PMP, AICP
Mobility35 Program/TxDOT Austin District
7901 North I-35
Austin, Texas 78753
(512) 832-7256
Tbruck-c@txdot.gov

Thank you for your cooperation and interest in this proposed project.

Sincerely,

Carlos Swonke
Carlos Swonke (Sep 15, 2020 14:24 CDT)

Carlos Swonke
Director of Environmental Affairs

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding (MOU) dated December 9, 2019, and executed by the Federal Highway Administration (FHWA) and TxDOT. The MOU assigns to TxDOT FHWA responsibilities under the National Environmental Policy Act (NEPA) and other environmental laws. Therefore, TxDOT is initiating this EIS in TxDOT's role as the lead federal agency under the MOU between TxDOT and the FHWA.

Texas Department of Transportation

125 EAST 11TH STREET, AUSTIN, TEXAS 78701-2483 | 512.463.8588 | WWW.TXDOT.GOV

Mr. Ashby Johnson
Executive Director
Capital Area Metropolitan Planning Organization
3300 N. IH-35, Suite 630
Austin, TX 78705

CSJ: 0015-13-388

September 14, 2020

Re: Invitation to become a Participating Agency on the proposed Texas Department of Transportation project along Interstate Highway 35 (I-35) from US Highway 290 (US 290) East to US 290 West/State Highway 71 (SH 71) in Travis County, Texas

Dear Mr. Ashby Johnson:

The Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for a proposed transportation project along I-35 from US 290 East to US 290 West/SH 71 including direct connectors at I-35/US 290 East, referred to as the I-35 Capital Express Central Project. The proposed project is located in the central region of the Austin metropolitan area, in Travis County, Texas, for a distance of approximately 8 miles along I-35. The objectives of the I-35 improvements, as currently defined, are to manage and reduce congestion and improve operational efficiency; provide more reliable travel times; enhance safety; and create a more dependable and consistent route for transit, emergency responders, and other motorists traveling this major interstate. Additional information regarding the proposed project can be found in the enclosed Notice of Intent (NOI).

With this letter, we extend your agency an invitation to become a Participating Agency with TxDOT in the development of the EIS for the I-35 Capital Express Central Project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Pursuant to Title 23 U.S. Code, Chapter 1, Section 139, Participating Agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the project include the following:

- Providing meaningful and early input on the coordination plan, the purpose and need, the range of alternatives, and the methodologies and level of detail for analyzing alternatives.
- Using this process to address any environmental issues of concern to your agency.

An agency and public scoping meeting are planned for later this year. Event details are still being determined.

Please respond to TxDOT in writing, by mail or e-mail, with an acceptance or declination of the invitation within 30 days of the date of this letter. If you have any questions or would like to discuss the project in more detail or our agencies' respective roles and responsibilities during preparation of this EIS, please contact:

Tricia Bruck-Hoyt, PMP, AICP
Mobility35 Program/TxDOT Austin District
7901 North I-35
Austin, Texas 78753
(512) 832-7256
tbruck-c@txdot.gov

Thank you for your cooperation and interest in this proposed project.

Sincerely,

Carlos Swonke
Carlos Swonke (Sep 15, 2020 14:24 CDT)

Carlos Swonke
Director of Environmental Affairs

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding (MOU) dated December 9, 2019, and executed by Federal Highway Administration's (FHWA) and TxDOT. The MOU assigns to TxDOT the FHWA's responsibilities under the National Environmental Policy Act (NEPA) and other environmental laws. Therefore, TxDOT is initiating this EIS in TxDOT's role as the lead federal agency under the MOU between TxDOT and the FHWA.

Appendix B

Notice of Intent

caution alerts that provide timely attention-getting cues to the flightcrew through at least two different senses by a combination of aural, visual, or tactile indications. Specifically, the petitioner is proposing to provide an amber indication for course deviation from a prescribed path, without a second sense or aural alert during Category II Instrument Approach Operations on its Model GVII–G500 and GVII–G600 airplanes.

[FR Doc. 2020–17583 Filed 8–11–20; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Travis County, Texas

AGENCY: Texas Department of Transportation (TxDOT), Federal Highway Administration (FHWA), Department of Transportation.

ACTION: Federal Notice of Intent to prepare an Environmental Impact Statement (EIS).

SUMMARY: The FHWA, on behalf of TxDOT, is issuing this notice to advise the public that an EIS will be prepared for a proposed transportation project to construct two non-tolled managed lanes in each direction along Interstate Highway 35 (I–35) from US Highway 290 (US 290) East to US 290 West/State Highway (SH) 71, and add direct connectors at I–35/US 290 East, in Austin, Travis County, Texas (referred to as the Capital Express Central Project).

FOR FURTHER INFORMATION CONTACT: Adam Kaliszewski, P.E., Transportation Engineer, TxDOT Austin District, 7901 N I–35, Austin, TX 78753; Phone: (512) 832–7183; Email: *adam.kaliszewski@txdot.gov.*

SUPPLEMENTARY INFORMATION: The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

TxDOT will prepare an EIS for proposed improvements to I–35 through the city of Austin, Texas. The project is anticipated to be approximately 8 miles long on I–35, from US 290 East to US 290 West/SH 71.

The EIS will evaluate a range of build alternatives and a no-build alternative. Possible alternatives include lowered sections of managed and general purpose lanes. Each build alternative would include various operational and safety enhancements that optimize the roadway footprint, and would reconstruct ramps, bridges, and intersections; improve frontage roads; enhance bicycle and pedestrian accommodations; accommodate transit routes; and add direct connectors at I–35/US 290 East.

TxDOT will issue a single Final Environmental Impact Statement and Record of Decision document pursuant to 23 U.S.C. 139(n)(2), unless TxDOT determines statutory criteria or practicability considerations preclude issuance of a combined document.

In accordance with 23 U.S.C. 139, cooperating agencies, participating agencies, and the public will be given an opportunity for continued input on project development. A public scoping meeting is planned for Fall/Winter 2020. Event details are still being determined. An agency scoping meeting will also be held with participating and cooperating agencies. The agency and public scoping meetings will provide an opportunity for the participating/cooperating agencies and public to review and comment on the draft coordination plan, the schedule, and the project purpose and need, as well as providing the opportunity to discuss the range of alternatives and methodologies and level of detail for analyzing alternatives. In addition to the agency and public scoping meetings, public meetings and comprehensive stakeholder engagement will take place and a public hearing will be held. Public notice will be given of the time and place of the meetings and hearing.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction.)

Michael T. Leary,

Director, Planning and Program Development, Federal Highway Administration.

[FR Doc. 2020–17574 Filed 8–11–20; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Motor Carrier Safety Administration

[Docket No. FMCSA–1999–6480; FMCSA–2006–24015; FMCSA–2006–24783; FMCSA–2008–0106; FMCSA–2010–0082; FMCSA–2010–0114; FMCSA–2011–0379; FMCSA–2012–0104; FMCSA–2012–0159; FMCSA–2014–0002; FMCSA–2014–0003; FMCSA–2014–0005; FMCSA–2014–0007; FMCSA–2015–0348; FMCSA–2016–0027; FMCSA–2016–0028; FMCSA–2016–0029; FMCSA–2016–0030; FMCSA–2018–0012; FMCSA–2018–0014]

Qualification of Drivers; Exemption Applications; Vision

AGENCY: Federal Motor Carrier Safety Administration (FMCSA), DOT.

ACTION: Notice of final disposition.

SUMMARY: FMCSA announces its decision to renew exemptions for 32 individuals from the vision requirement in the Federal Motor Carrier Safety Regulations (FMCSRs) for interstate commercial motor vehicle (CMV) drivers. The exemptions enable these individuals to continue to operate CMVs in interstate commerce without meeting the vision requirement in one eye.

DATES: Each group of renewed exemptions were applicable on the dates stated in the discussions below and will expire on the dates provided below.

FOR FURTHER INFORMATION CONTACT: Ms. Christine A. Hydock, Chief, Medical Programs Division, (202) 366–4001, *fmcsamedical@dot.gov,* FMCSA, Department of Transportation, 1200 New Jersey Avenue SE, Room W64–224, Washington, DC 20590–0001. Office hours are from 8:30 a.m. to 5 p.m., ET, Monday through Friday, except Federal holidays. If you have questions regarding viewing or submitting material to the docket, contact Docket Operations, (202) 366–9826.

SUPPLEMENTARY INFORMATION:

I. Public Participation

A. Viewing Documents and Comments

To view comments, as well as any documents mentioned in this notice as being available in the docket, go to *http://www.regulations.gov.* Insert the docket number, FMCSA–1999–6480; FMCSA–2006–24015; FMCSA–2006–24783; FMCSA–2008–0106; FMCSA–2010–0082; FMCSA–2010–0114; FMCSA–2011–0379; FMCSA–2012–0104; FMCSA–2012–0159; FMCSA–2014–0002; FMCSA–2014–0003; FMCSA–2014–0005; FMCSA–2014–0007; FMCSA–2015–0348; FMCSA–2016–0027; FMCSA–2016–0028;

Appendix C

Public Involvement Plan

Final Public Involvement Plan

I-35 Capital Express Central Project
I-35 from US 290 East to US 290 West/SH 71

Texas Department of Transportation, Austin District

CSJ Number(s): 0015-13-388

March 2021

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-9-2019, and executed by FHWA and TxDOT.

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1.1 Introduction

I-35 through the Austin region is home to four of the 100 most congested roadway segments, according to the Texas A&M Transportation Institute's "100 Most Congested Roadways in Texas Summary Report" published in 2020. Number 1 is I-35 from US 290E to SH 71, #12: I-35 from SH 71 to Slaughter Lane, #45: I-35 from Slaughter Lane to SH 45SE, and #70: I-35 from Parmer Lane to US 290E (available at https://static.tti.tamu.edu/tti.tamu.edu/documents/TTI-2020-9.pdf).

The I-35 Capital Express Program is part of the Mobility35 Program and comprises 28 miles of I-35 in Travis County. The I-35 Capital Express Program is made up of three, stand-alone projects — North, Central, and South. The I-35 Capital Express Central Project proposes to add two, non-tolled managed lanes in each direction along I-35 from US 290 East to SH 71/Ben White Boulevard and additional flyovers at I-35/US 290 East.

Development of this Public Involvement Plan (PIP) has been informed by Texas Department of Transportation (TxDOT) objectives and goals for public engagement, National Environmental Policy Act requirements, industry best practices and feedback from key stakeholders.

1.2 Vision and Objectives

The vision, objectives and goals for communication and community outreach for I-35 Capital Express Central Project mirror those of the Mobility35 Program. Informative, timely and concise communication is essential for building trust and relationships among the community's numerous and varied stakeholders. Below are the eight key objectives that are part of TxDOT's public involvement policy as well as its vision statement.

1.2.1 Vision

A trustworthy and proactive outreach approach that engages stakeholders and provides relevant and timely information.

1.2.2 Objectives

1. Ensure continued adherence to all regulatory guidelines and policies in compliance with federal and state law and sound public involvement practice;
2. Solicit and encourage proactive public involvement that can be fully integrated into the planning process and incorporated in the various planning activities;
3. Provide opportunities for accurate and timely information on which Texas residents can rely;
4. Establish and maintain TxDOT's reputation as a trusted source of information;
5. Proactively seek early and continuing public input and involvement and be responsive to inquiries and suggestions;

6. Listen to stakeholders when comments are provided and be responsive and accountable to all stakeholders;
7. Energetically adhere to or exceed all applicable TxDOT, state and federal public participation requirements for planning and project implementation; and
8. Use multiple methods to explain TxDOT's processes, priorities and procedures so that the public will have a solid foundation on which to make requests, inquires and suggestions.

1.3 Key Stakeholder Groups and Issues

TxDOT's vision is to be "a forward-thinking leader delivering mobility, enabling economic opportunity, and enhancing quality of life for all Texans." By virtue of its mission, TxDOT must understand the unique needs and concerns of the community affected by and interested in the I-35 Capital Express Central Project to effectively communicate, provide meaningful engagement opportunities and build trust.

The general stakeholder list developed for the I-35 Capital Express Central Project contains a broad cross-section of audiences with a variety of interests. The list reflects the one developed for the overall Mobility35 Program and adds to it based on the unique stakeholders of the I-35 Capital Express Central Project. The following are the key stakeholder groups and their potential issues or areas of concern. Identifying these groups and issues supports the use of the communication tools and tactics identified in Section 1.4 and ensures the engagement of each group in a way that is informed by their potential issues or areas of interest. It also supports the development of informational materials that are relevant to each group. Finally, the groups will be used to update and build out the stakeholder database.

Key Audience	Potential issues/areas of interest
Commuters/Traveling Public	▪ Alternate route information ▪ Expectations for traffic reductions ▪ Impacts to travel lane widths ▪ Change in driving conditions ▪ Impacts to travel time and routes during and after construction ▪ Where and when construction impacts will occur and the ability to choose and utilize an alternate route
Consultants	▪ Engineering/design opportunities
Contractors	▪ MBE/WBE and DBE/HUB opportunities ▪ Opportunities to bid on work

Key Audience	Potential issues/areas of interest
Corridor Businesses/Industries	▪ Construction-related impacts to business operations (e.g., noise, visual, lighting impacts) ▪ Driveway access ▪ Ease of access to businesses for patrons and employees ▪ Increased travel times for the delivery and shipping of goods ▪ Potential property acquisition
Corridor Property Owners	▪ Driveway consolidations/access ▪ Impacts on future development potential ▪ Historic preservation/historic neighborhoods ▪ Permanent impacts to access, ROW, or easements ▪ Temporary and permanent construction-related impacts to businesses or residences, including the acquisition of necessary easements or rights of way
Elected Officials	▪ Construction-related impacts to constituents ▪ Coordination with parallel programs and planning efforts ▪ Efficient use of public resources ▪ Expectation that work will be completed on time and on budget ▪ Funding ▪ Impacts and changes to agency practices, procedures and processes including changes related to development and implementation of construction contracts, oversight, and approval and authorization processes ▪ Responsiveness of project team to constituents ▪ Transparency and public involvement opportunities
Environmental	▪ Air Emissions ▪ Bike/Ped ▪ Erosion control; dust ▪ Threatened and endangered species ▪ Archeological and historic properties ▪ Transit ▪ Water quality
Experts/Industry Analysts and Publications	▪ Unique design and construction approaches ▪ Large-scale highway infrastructure projects ▪ Innovative program management approaches ▪ Alternative delivery of projects ▪ Impacts on the national highway network ▪ Measured success of program implementation

Key Audience	Potential issues/areas of interest
General Public	▪ Construction delays and long-term construction ▪ Construction updates (real-time information from their preferred sources) ▪ Equity and inclusivity of the project development process and outcomes ▪ Expectation for traffic reductions ▪ Expectation that work will be completed on time and on budget ▪ Funding (taxpayer dollars) ▪ Project benefits ▪ Transparency and public involvement opportunities (and outreach fatigue)
Government Agencies (local, regional, state and federal)	▪ Competing goals or priorities ▪ Construction-related impacts to emergency services and other public services within the agency's jurisdiction ▪ Coordination with other planning and construction initiatives ▪ Historic preservation ▪ Cross-agency coordination ▪ Community cohesion ▪ Funding opportunities ▪ Impacts on schools and school districts ▪ Observance of regulations and jurisdictions
Healthcare	▪ Air quality ▪ Construction-related impacts, such as noise and dust ▪ People experiencing homelessness ▪ Improving active transportation ▪ Water quality
Internal TxDOT Employees	▪ Funding ▪ Impacts and changes to agency practices, procedures and processes ▪ Updates on project and program progress
Land Use Advocacy	▪ Affordable and mixed-use housing developments ▪ Connectivity ▪ Density ▪ Development potential ▪ Funding ▪ Placemaking
Media (as communication resource to the public)	▪ Construction impacts ▪ Construction progress ▪ Deviations from scope, schedule, and budget ▪ Regular updates ▪ Timely and important program-related information ▪ Timely and accurate information ▪ Incident/crashes in the work zone

Key Audience	Potential issues/areas of interest
Neighbors & Neighborhoods	▪ Air quality ▪ Access from their neighborhoods ▪ Changes to neighborhoods ▪ Historic neighborhoods/historic properties ▪ Neighborhood street traffic ▪ Noise ▪ Permanent impacts to access, ROW, or easements ▪ Safety
Pedestrians & Bicyclists	▪ Accessibility for mobility and visually impaired individuals ▪ ADA compliant sidewalks and/or shared-use paths ▪ Bicycle Master Plan priorities as they relate to I-35 ▪ Bicycle network connections ▪ Connectivity across I-35 (quantity and quality) ▪ Placemaking ▪ Safe access to transit stops ▪ Separation of bicycle/pedestrian infrastructure from vehicular infrastructure ▪ Sidewalk Master Plan priorities as they relate to I-35 ▪ Sidewalk network connections ▪ Trees/shading ▪ Urban Trails Master Plan priorities as they relate to I-35
Schools & School Districts	▪ Access to and from schools (all modes) during and after construction ▪ Air and noise pollution during construction and with enhanced capacity ▪ Impacts on access
Special Interest Groups	▪ Impacts on/opportunities for their particular constituencies
Tourism & Leisure	▪ Construction impacts including increased travel times, noise, air pollution, lane closures ▪ Impacts to special events, conventions, local tourist spots, etc. ▪ Inconveniences to tourists and visitors
Transit	▪ Bike/Ped improvements ▪ Connectivity ▪ East-west connectivity ▪ Managed land use and access ▪ Park n Ride opportunities ▪ Transit-only infrastructure contingent upon local funding participation

Key Audience	Potential issues/areas of interest
Underserved/ Underrepresented Populations	▪ Accessibility of public engagement and input opportunities ▪ Bicyclists/Pedestrians ▪ Connectivity ▪ Environmental Justice ▪ Economic opportunity/access to employment centers ▪ Health ▪ Availability of information in multiple languages and formats, including the use of interpreters ▪ See Neighbors & Neighborhoods ▪ Transit
Universities & Colleges	▪ Construction-related impacts ▪ Event-related traffic ▪ Partnership opportunities ▪ Transit
Utilities	▪ Drainage ▪ Leveraging funds ▪ Opportunities for initial installation of utility assets ▪ Relocation of assets (cables, lines, etc.) ▪ Service interruptions

1.4 Communication Tools and Tactics

The tools are the means and methods by which outreach (communications out) and engagement (communications in) efforts are made. The tactics are strategic approaches to conducting these efforts. The communication tools and tactics identified in this section should be viewed as a menu of options to communicate and engage with public stakeholders.

- Project Website
  TxDOT has established a dynamic and engaging website for the I-35 Capital Express Central Project at www.My35CapEx.com. The website will provide accessible, up-to-date project information, meeting materials, environmental documents and contact information, among other elements. It may also support digital engagement mechanisms. All outreach materials will encourage stakeholders to visit the website for more information.
- Notice of Intent
  TxDOT published a Notice of Intent (NOI) in the Federal Register on August 12, 2020, and in two local newspapers, the *Austin American-Statesman* and *El Mundo,* on August 20, 2020.
- Scoping Meetings
  TxDOT will host scoping meetings for the public and agencies. Scoping is an open process, involving the public and other federal, state and local agencies, conducted to

identify the major and important issues for consideration during the development of an Environmental Impact Statement (EIS).

- **Public Meetings/Open Houses**
  TxDOT will host public meetings/open houses. Public meetings include informative and interactive exhibits that are colorful and easy to understand. Date and times will be decided based in part on community and stakeholder feedback regarding availability. TxDOT will comply with the requirements in TxDOT's Environmental Compliance Toolkits and Section 106 of the National Historic Preservation Act consultation procedures for public meetings.
- **Targeted Outreach to Vulnerable Populations**
  TxDOT will use a variety of notifications about public input opportunities and will provide presentations to neighborhood and civic organizations to ensure project information is relayed in a clear, accessible format and questions are answered. As part of the Community Impacts Assessment, TxDOT will engage organizations and direct representatives of the following populations:
    - Minority populations
    - Low-income populations
    - People with limited English proficiency
    - Elderly populations
    - Children
    - People with disabilities
- **Public Hearing**
  TxDOT will host a public hearing. Public hearings provide the public with a venue and opportunity to hear and see information regarding a proposed project. Public hearings serve to encourage and solicit public comment on the location, design and environmental analyses of a project. The project team will comply with the guidance in TxDOT's Environmental Compliance Toolkits for hosting public hearings. The notice for a public hearing may be combined with the Notice of Availability of the Draft EIS.
- **Workshops**
  TxDOT will host workshops to encourage community members, including underrepresented and culturally-specific groups, to provide substantive input regarding how they would want the future roadway to look and function within their communities and environmental surroundings. Workshops may be focused on specific topics as determined by public input, such as bicycle and pedestrian improvements, historic preservation, transit improvements or ramping. They may also be location-specific, such as a focus on the decks area, located along I-35 between approximately Airport Boulevard and MLK Jr. Boulevard.

- **Noise Workshops**
  TxDOT may host a noise workshop. The FHWA's regulation on highway traffic noise requires that TxDOT conduct a noise study when building new highways or changing or expanding existing ones. Noise abatement measures will be considered based on the findings of the study. A workshop would provide owners of adjacent properties an opportunity to learn about the study and vote on any proposed adjacent noise abatement measures.
- **Working Groups**
  TxDOT has established an I-35 Capital Express Central Project Cross-Agency Working Group (CAG). The intent of the CAG is to invite diverse perspectives to the evaluation of concepts, enhance transparency and enable shared agency understanding of design decisions. Membership includes TxDOT (including area offices), the City of Austin Transportation Department, Capital Metro, the Central Texas Regional Mobility Authority (CTRMA), the Capital Area Metropolitan Planning Organization (CAMPO), the Federal Highway Administration (FHWA) in a design-only capacity, the University of Texas and the Downtown Austin Alliance (DAA).
- **Agency and Organization Coordination**
  In addition to developing and leading the CAG, TxDOT will provide updates to partnering transportation agencies and governments in the region and multiple cities throughout the corridor. Updates may be provided as a formal presentation during a public meeting, the interagency meeting of the region's five primary transportation agencies, or one-on-one meetings with the agencies and organizations.
- **Executive Leadership Updates**
  TxDOT will evaluate a plan for providing updates and collecting feedback from agency executives.
- **Elected Official & Community Leader Briefings**
  TxDOT will coordinate meetings with elected officials to provide program and project information and answer questions. TxDOT will maintain a list of elected public officials, individuals and affected interest groups that have expressed an interest in the project. TxDOT will provide a Notice of Availability as part of the EIS to these groups.
- **Meetings with Stakeholders**
  TxDOT will coordinate meetings with stakeholders, including corridor neighbors, businesses and community organizations. Outreach will be inclusive of project proponents and opponents.
- **Interactive surveys and comment forms**
  TxDOT may use digital surveys, developed using Metroquest or other software, to collect feedback on priorities, specific design alternatives or other issues where feedback can affect the project outcome. The team may also use online comment forms as part of open houses or to collect feedback.

- **Public meeting notifications**
  TxDOT will follow the guidance and comply with the requirements for public meeting notifications described in TxDOT's Environmental Compliance Toolkits. Notifications will include, but not be limited to:
    - Display ads (full-color and attractive to readers)
    - Direct mail invitations
    - Electronic and social media, including e-newsletters, website, Twitter, use of third-party communication devices, etc.
    - Targeted media relations
    - Portable Changeable Message Signs
- **Stakeholder Database**
  TxDOT will maintain a database of stakeholders interested in receiving updates about the I-35 Capital Express Central project. The database will include residents, businesses, neighborhood groups, elected officials, professional membership organizations and other stakeholders. The project team will grow the database by offering meeting and event attendees the option to sign up for updates. Visitors to the www.My35CapEx.com website will also have the opportunity to sign up for email updates.

  Email Updates
  TxDOT will provide regular email updates to the full stakeholder database or segments of the database. TxDOT has created a unique email address for the program, My35CapEx@txdot.gov, and the account will be monitored by the project team. Inquiries will be responded to promptly. TxDOT has established a dedicated project email address to be used to gather official comments during public meetings. The email is CapExCentral@txdot.gov.
- **Notice of Availability**
  TxDOT will provide a notice of availability (NOA) to inform the public and NOA recipient that the Draft EIS is available for review. The NOA will be published on TxDOT's website, and copies of the NOA will be provided to CAMPO; affected units of federal, state and local government; and other interested stakeholders. The NOA will also be published in the Federal Register and will be accompanied by a 45-day comment period for the Draft EIS. TxDOT will comply with all requirements for publication and dissemination of the NOA described in TxDOT's Environmental Compliance Toolkits.
- **Media**
  TxDOT will promote the widespread dissemination of information by engaging reporters and soliciting media coverage, distributing news releases, coordinating news conferences and special events, and arranging meetings with editorial boards.

Information provided to the media will correspond with opportunities throughout the program.

- **Social Media**
  The I-35 Capital Express Central Project will use the TxDOT Austin District's existing Facebook and Twitter accounts to provide up-to-date program and project information.
- **Program Hotline**
  TxDOT maintains a 24-hour telephone hotline at (512) 366-3229 for the Mobility35 Program answered during business hours. Outside of business hours, stakeholders will have the ability to leave messages. The hotline makes it possible for program and project team members to respond promptly to comments and questions. Like the email hotline, communications will be documented. Messages may be recorded in English and Spanish, and a bilingual project team member will be available to return phone calls to Spanish-speaking stakeholders.
- **Project Phone Number**
  TxDOT has established a dedicated project phone number where the public can reach a project team member to answer questions. The number is (512) 832-7357.
- **Information Distribution via Third Party Groups and Organizations**
  TxDOT will conduct outreach to community leaders who can share information via their communication networks. The team may utilize third party groups and organizations to help distribute information via websites and email networks. These could include newsletters and email blasts distributed by the City of Austin (e.g. Mobility Newsletter) and other impacted municipalities, Capital Metro, chambers of commerce, neighborhood groups, religious institutions, etc. Specific opportunities can be identified when stakeholder meetings, briefings and other outreach activities take place.
- **Language Access**
  Communication and community engagement materials should be provided in English and Spanish as often as possible. Additionally, TxDOT should have bilingual staff available at public open house events and seek partnership opportunities with local civic organizations that represent diverse stakeholder groups to assist with outreach efforts.
- **Demographic Data**
  Whenever possible, TxDOT will ask meeting participants and survey-takers to voluntarily provide demographic data, including age, race/ethnicity, ZIP code, etc. This information will be used to assess public involvement compared with overall demographics for the city and county to ensure a wide cross-section of people are participating.

1.5 Public Engagement Timeline

Figure 1.5.1 depicts the estimated timeline for communication and community engagement activities for the I-35 Capital Express Central project. This timeline is subject to change.

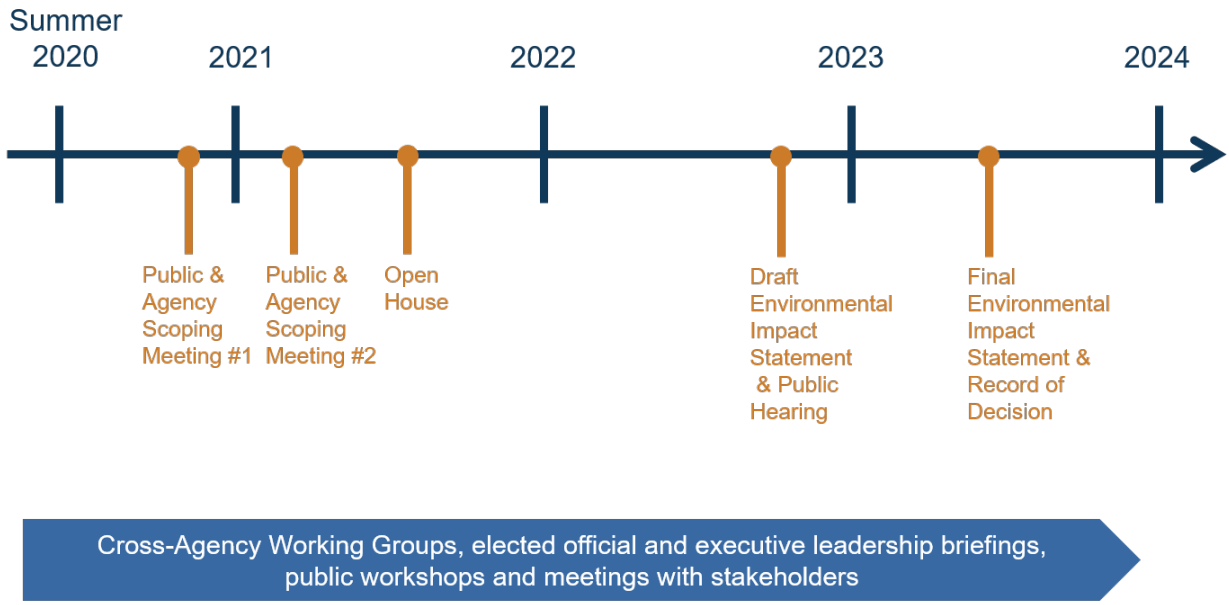

Figure 1.5.1 Public Engagement Timeline

Purpose and Need Final Technical Report

Purpose and Need
Final Technical Report

I-35 Capital Express Central Project
I-35 from US 290 East to US 290 West/SH 71

Texas Department of Transportation, Austin District

CSJ Number(s): 0015-13-388

March 2021

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-9-2019, and executed by FHWA and TxDOT.

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1. Introduction

The Texas Department of Transportation (TxDOT) proposes to construct improvements to Interstate Highway 35 (I-35) from US Highway 290 (US 290) East to US 290 West/State Highway (SH) 71, and add direct connectors at I-35/US 290 East, in Austin, Travis County, Texas (referred to as the I-35 Capital Express Central project). The proposed project measures approximately 8 miles.

I-35 has been the north-south transportation backbone of personal, business and freight transportation in Texas since 1962. It connects Central Texas to the rest of the United States, Mexico and Canada, serving as a major thoroughfare for inter- and intrastate traffic. I-35 is critical to local, state and national security, economic vitality and overall mobility. Many Texans are familiar with I-35 as a local route for their work commute and other personal travel.

The existing I-35 study limits from US 290 East to US 290 West/SH 71 are located in an urban area with adjacent commercial, residential, institutional, governmental, and parks/open space properties. Within the proposed project limits, I-35 is an access-controlled interstate highway. Beginning at the southern limit, US 290 West/SH 71, the roadway typically has three to four, 12-foot-wide mainlanes (concrete barrier-separated) with 4- to 12-foot-wide inside shoulders, 10- or 12-foot-wide outside shoulders, and two to three, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. From Lady Bird Lake to 15th Street, I-35 generally includes three 12-foot-wide mainlanes in each direction with auxiliary lanes between some of the ramps. North of 15th Street, the roadway has four mainlanes in each direction and includes the upper/lower deck split just north of MLK Jr. Boulevard with a continuation of the upper decks to north of Airport Boulevard. From Airport Boulevard to US 290 East, I-35 includes four barrier-separated mainlanes in each direction. The roadway here typically has 2- to 6-foot-wide inside shoulders, 10-foot-wide outside shoulders, and two to four, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. Sidewalks exist in most, but not all locations throughout the project area, and shared-use paths are located within the project area in "downtown" Austin, defined as between MLK Jr. Boulevard and Holly Street. Drainage along the roadway (mainlanes and frontage roads) is provided by storm sewer networks and some open ditches. The existing right of way (ROW) width is typically 200 to 350 feet but is wider at the interchanges. Existing permanent drainage easements are located at creek crossings. The posted speed limit along I-35 in the proposed project area is 60 mph on the mainlanes and 35 to 50 mph on the frontage roads.

2. Need for the Proposed Project

The proposed project is needed because I-35 between US 290 East and US 290 West/SH 71 does not adequately accommodate current and future travel demand and does not meet current federal and state design standards, which has resulted in safety and operational deficiencies and can impact crash rates and peak period travel times for all users, including emergency response vehicles and transit.

2.1 Design Standards

Because I-35 within the project limits was designed under old standards and has been retrofitted over time, it does not meet current roadway design standards based on TxDOT's *Roadway Design Manual* (TxDOT 2020), their *Hydraulic Design Manual* (TxDOT 2019), American Association of State Highway and Transportation Officials' *A Policy on Geometric Design of Highways and Streets* (AASHTO 2018), and the *Texas Manual of Uniform Traffic Control Devices* (TxDOT 2011). There is a need to improve design

deficiencies along I-35 within the project limits, including narrow lane widths, nonexistent or narrow shoulders, low vertical clearances, substandard horizontal and vertical geometry, and outdated drainage systems.

Ingress and egress to I-35 is hindered by closely-spaced ramps, narrow lane widths, and narrow or nonexistent shoulders, which could contribute to slow traffic and collisions. For example, the existing lower lanes on I-35 between Airport Boulevard and Manor Road do not have inside shoulders. When collisions occur on ramps and narrow lanes, travelers may be delayed without the opportunity to bypass the collision, resulting in reduced traffic flow. There is a need to add auxiliary lanes and revise ramp geometry and spacing according to current design standards to improve traffic operations along the corridor.

Multiple bridges within the project limits are under the current standard height requirements: the mainlane underpasses through the upper deck area, between Airport Boulevard and MLK Jr. Boulevard, have vertical clearances that vary from 13.25 to 15.25 feet; the underpasses through the downtown area have vertical clearances of less than 15 feet; the southbound mainlane underpass beneath Cesar Chavez Street has a vertical clearance of 14 feet, and the bridge has evidence of vehicle strikes. There is a need to increase vertical clearance for underpasses to current design standards to improve overall safety and operations for this heavily traveled area.

Substandard horizontal and vertical geometry along the project limits does not meet optimum design speeds and can result in compromised driver's sight distance and reduced traffic flow. Additionally, there is a need to upgrade the storm drainage system and evaluate the existing systems with respect to new rainfall data contained in the *National Oceanic and Atmospheric Administration Atlas 14* (Perica et al. 2018) which could reduce areas of flooding and improve overall driver safety.

2.2 Crash Data/Safety

To analyze safety within the project limits, crash data from years 2013 through 2018 were obtained from the TxDOT *Crash Records Information System* (TxDOT 2020a). A total of 6,747 crashes were reported during the six-year period, with 58% of the crashes occurring on the mainlanes, 40% on the frontage roads, and 2% on the ramps and connectors of the system. Figure 1 shows the crash rates within the project limits compared to the average for urban Interstate facilities in Texas. Overall, the project limits experienced a total of 17 crashes per year on average over the six-year period. This increase is mostly due to the increase in mainlane traffic congestion from year to year. Over the six-year period, the project limits have an average crash rate of 190.09 crashes per 100 million VMT and is consistently higher than the statewide average.

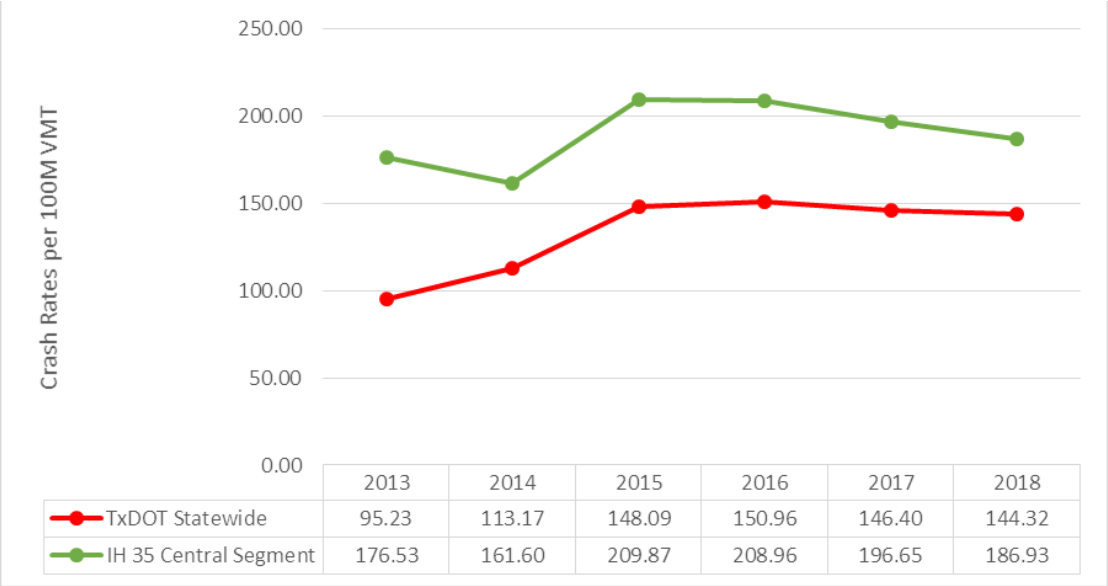


Figure 1 Capital Express Central Crash Rates per 100M VMT

Sources: TxDOT 2020a; TxDOT 2020b

Table 1 shows crash severity data within the project limits using the KABCO injury scale (FHWA 2012), which categorizes injuries by level of severity, as defined in Table 1. Of the 6,747 KABCO injury scale crashes recorded within the project limits between 2013 and 2018, there were 27 (0.4%) fatality crashes (K), 180 (2.7%) incapacitating injury crashes (A), 1,357 (20.1%) non-incapacitating injury crashes (B), 1,639 (24.3%) possible injury crashes (C), 3,436 (50.9%) non-injury crashes (O), and an additional 108 (1.6%) crashes with no reported severity.

Table 1: Capital Express Central Crash Severity Summary

Year	Fatal Crashes (K*)	Severe Incapacitating Crashes (A*)	Moderate Non-Incapacitating Crashes (B*)	Minor Possible Injury Crashes (C*)	No Fatality or Injury Crashes (O*)	Unknown Severity Crashes	Total Crashes
2013	2	32	252	247	484	19	1,036
2014	2	22	214	234	432	6	910
2015	2	35	239	327	617	21	1,241
2016	11	28	218	333	659	23	1,272
2017	3	26	224	243	653	19	1,168
2018	7	37	210	255	591	20	1,120
Avg/Yr	5	30	226	273	573	18	1,125
Totals	27	180	1,357	1,639	3,436	108	**6,747**
%	0.4%	2.7%	20.1%	24.3%	50.9%	1.6%	

Source: TxDOT 2020a; FHWA 2012

*KABCO Injury Scale = "K" – Fatal injuries including deaths which occur within 30 days following an injury in a motor vehicle crash. "A" – Severe injuries including skull fractures, internal injuries, broken or distorted limbs, unconsciousness, severe lacerations, severe burns, and unable to leave the scene without assistance. "B" – Moderate injuries including viable injuries such as a "lump" on the head, abrasions, and minor lacerations. "C" – Minor injuries including hysteria, nausea, momentary unconsciousness, and complaint of pain without visible signs of injury. "O" – Property damage only.

Table 2 shows crash type, including bicycle and pedestrian accidents. The data indicates that of the 6,747 total recorded crashes within the project limits, there were:

- 2,134 (31.6 percent) rear end crashes
- 2,067 (30.6 percent) same direction crashes other (not sideswipes or rear ends)
- 830 (12.3 percent) single vehicle fixed object/overturn/turning
- 737 (10.9 percent) angle/other crashes
- 724 (10.7 percent) sideswipe crashes
- 163 (2.4 percent) opposite direction crashes
- 92 (1.4 percent) single vehicle pedestrian/bicycle crashes

Of the 92 crashes involving a pedestrian or cyclist, 35 (38 percent) of them occurred between 7th Street and Cesar Chavez Street. Twenty-eight of these 35 crashes within this section of the project limits occurred at intersections.

Table 2: Capital Express Central Crash Type Summary

	Single Vehicle (Fixed Object / Overturn / Turning)	Single Vehicle (Pedestrian / Bicycle)	2+ Same Direction (Sideswipe)	2+ Same Direction (Rear End)	2+ Same Direction (Other)	2+ Opposite Direction	2+ Angle/ Other	Total
2013	156	16	116	281	326	34	107	1,036
2014	128	13	81	271	290	26	101	910
2015	168	12	120	399	377	29	136	1,241
2016	132	22	152	398	409	23	136	1,272
2017	118	12	139	384	352	21	142	1,168
2018	128	17	116	401	313	30	115	1,120
Avg/Yr	138	15	121	356	345	27	123	1,125
Totals	830	92	724	2,134	2,067	163	737	6,747
%	12.3%	1.4%	10.7%	31.6%	30.6%	2.4%	10.9%	

Source: TxDOT 2020a

Additionally, four mainlane crashes (one fatal, two serious injury) in which the contributing factor was "pedestrian failed to yield Right-of-Way to vehicle" occurred just north of the 51st Street interchange during the six-year study period. All four crashes occurred between 10:00 PM and 2:00 AM. No physical barriers to prevent pedestrians from walking onto the highway exist at this location. Pedestrian access to travel across I-35 at this location is limited. There is a need for preventing potential crashes involving pedestrians by investigating appropriate crash reduction options.

2.3 *Travel Demand*

2.3.1 Traffic Congestion and Operational Deficiencies

I-35 within Travis County is located in a heavily urbanized area that consistently ranks within the "Top 3 Most Congested Roadways in Texas." It is currently ranked #1, as measured by Texas Transportation Institute (TTI), and is among the roadways with the highest annual congestion costs, at more than $200M (TTI 2020). Due to existing north-south travel demand and the limited number of alternative parallel controlled-access routes through Austin, I-35 is presently subject to severe traffic congestion for substantial periods of time each day. As population and employment growth continue, current congestion levels along I-35 are anticipated to worsen. The annual average daily traffic (AADT) for the portion of I-35 between US 290 East and US 290 West/SH 71 was 207,215 vehicles per day (vpd) in 2019 (TxDOT 2019a). By 2045, traffic is expected to reach 303,700 vpd, an increase of approximately 47% over 2019, according to traffic projections based on TxDOT-approved 2030 and 2050 AADT forecasts.

Population increases have occurred over the last several decades within the city of Austin, Austin-Round Rock Metropolitan Statistical Area (Austin-Round Rock MSA), and Travis County, with all three areas more than doubling in population between 1980 and 2010 (Table 3). Subsequently, 10-year growth rates for Austin and Travis County were significantly higher than 10-year growth rates at the state level, except for the city of Austin's 2000-2010 growth rate, which was slightly less than the state average. Population forecasts for the regions surrounding the study area (Table 4) predict continued growth for the city of Austin and Travis County through 2045.

Table 3: Historical Population Data

Jurisdiction	1980[1]	1990[1]	2000[2]	2010[2]
State of Texas	14,229,191	16,986,510	20,851,820	25,145,561
Austin-Round Rock MSA	536,688	781,572	1,249,763	1,716,289
Travis County	419,573	576,407	812,280	1,024,266
City of Austin	345,890	465,622	656,562	790,390

Sources: [1]Texas Demographic Center 2020; [2]USCB 2000 and 2010 (Tables SF1, DP1)

Table 4: Population Forecasts

Jurisdiction	2018	Projected 2045	Projected Percent Change
State of Texas[1]	27,885,195	43,866,965	+74.5%
Travis County[1]	1,203,166	1,884,155	+84.0%
City of Austin[2]	935,755	1,367,879	+73.1%

Sources: [1]Texas Demographic Center 2020; [2]City of Austin 2017

Table 5: CAMPO Employment Forecast

Region/Year	2015	2045	Projected Percent Change
Travis County	600,322	1,199,239	+99.7%
CAMPO Region	988,712	2,367,070	+139.4%

Source: CAMPO 2020
Note: The CAMPO Region includes Bastrop, Burnet, Caldwell, Hays, Travis and Williamson Counties.

Table 5 illustrates the forecast for employment in the CAMPO counties from 2015 to 2045. The Austin metropolitan area added 22,700 net new jobs, or 2.1%, in the 12 months ending in March 2019, according to releases of preliminary payroll jobs numbers by the Texas Workforce Commission (TWC) and the U.S. Bureau of Labor Statistics (BLS) (Kerr 2019). Austin's 2.1% growth makes it the 16th highest growth rate among the 50 largest metro areas during the March 2018-2019 year. According to the Capital Area Metropolitan Planning Organization (CAMPO) Baseline 2045 Demographic Forecast (CAMPO 2020), the CAMPO region anticipates an additional 2.7 million in population and over one million new jobs by 2045 (over the baseline year of 2015). Employment in the Austin-Round Rock MSA increased nearly 31% between 2007 and 2017. The region's most highly concentrated industries primarily include technology and administration (Texas Comptroller 2018). All population and employment resources analyzed identified the continued growth of the Austin metropolitan area now and in the future.

There is a need to improve the project corridor and increase capacity based on the projected population growth, employment, and travel demand increases. In addition, the projected population increases in the region will further the need for improvements to the bicycle and pedestrian accommodations throughout the corridor.

2.3.2 Travel Time

I-35 is the only interstate highway connecting Mexico, the United States, and Canada through the central part of the United States and is one of two north-south interstate highways traversing Texas. According to the American Transportation Research Institute (ATRI) American Highway Users Alliance 2015 study "Unclogging America's Arteries Prescriptions for Healthier Highways" (ATRI 2015), the portion of I-35 in downtown Austin ranks number 10 on the list of top bottleneck highways in the country. The study estimates that the "annual total delays from this bottleneck amount to 3 million hours at a lost value of time of about $73 million a year."

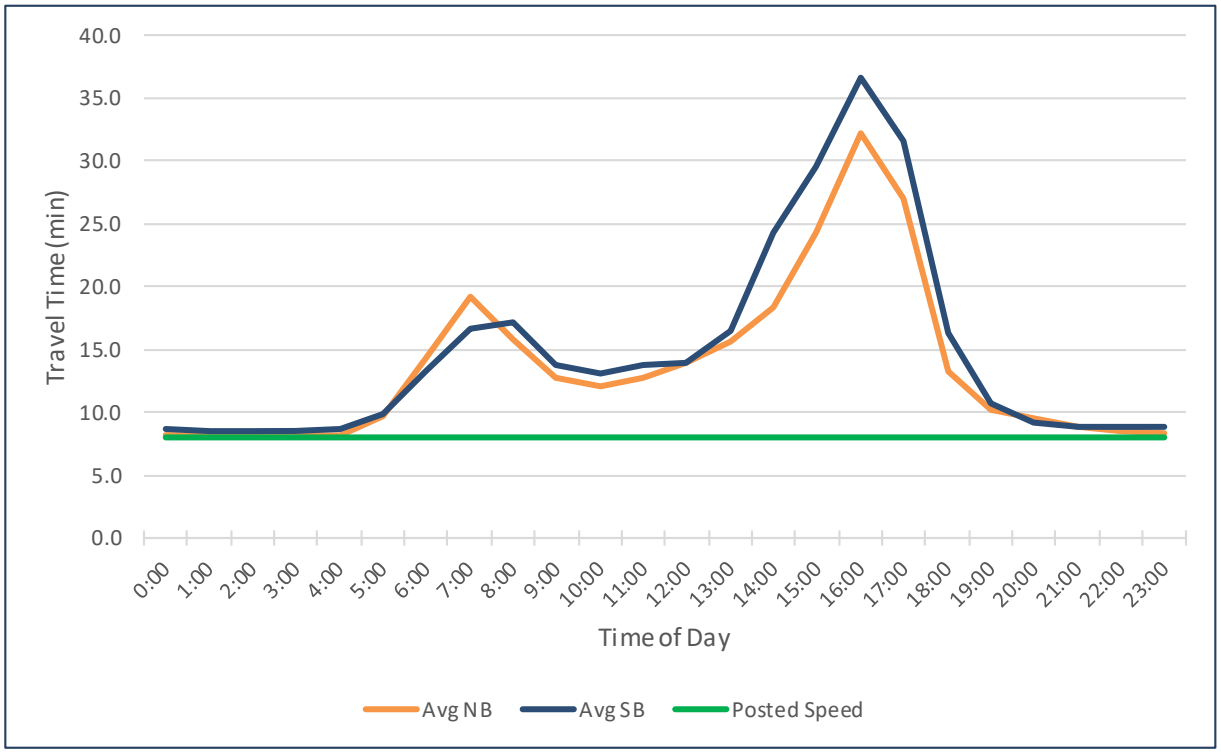
Travel times were collected for the project limits for the year 2019 INRIX data provided by TXDOT, and projected for the years 2025 and 2045 based on traffic microsimulation models for the corridor. Table 4 shows the existing (2019) AM and PM peak hour travel times, and 2025 and 2045 forecasts along I-35, between US 290 East and US 290 West/SH 71. Peak hours are defined as 7:30 AM to 8:30 AM, and 4:30 PM to 5:30 PM. As Table 6 shows, based on the current projections (2025 and 2045), mobility within the project limits in the near future will become unmanageable without substantive improvements. Figure 2 provides a comparison of corridor travel time at the posted speed limit with actual (2019) travel times throughout a typical weekday.

Table 6: Current and Projected Travel Times on I-35 from US 290 East to US 290 West/SH 71

	2019		2025		2045	
Direction	AM Peak Hour (7:30 AM to 8:30 AM) (mins)	PM Peak Hour (4:30 PM to 5:30 PM) (mins)	AM Peak Hour (7:30 AM to 8:30 AM) (mins)	PM Peak Hour (4:30 PM to 5:30 PM) (mins)	AM Peak Hour (7:30 AM to 8:30 AM) (mins)	PM Peak Hour (4:30 PM to 5:30 PM) (mins)
NB	19.2	32.2	19.8	131.6	33.6	223.2
SB	16.6	36.6	16.4	78.3	19.5	208.6

Note: Travel time data for 2019 was obtained from TxDOT, INRIX. Travel time data for 2025 and 2045 were calculated using traffic microsimulation model projections.

Figure 2: Capital Express Central Existing (2019) Travel Times During a Typical Weekday



Note: Travel time data for 2019 was obtained from TxDOT/INRIX

According to Figure 2, a one-way trip traversing the project area should take approximately 8 minutes, northbound or southbound. Currently, travel within the project limits on a typical weekday takes between approximately 20 minutes in the morning peak period (approximately 6 AM to 9 AM) traveling northbound, and about 17 minutes traveling southbound. In the evening peak period (approximately 1PM to 6PM), the average trip rises to 32 minutes traveling northbound and over 36 minutes traveling southbound. Based on these current estimates, the average commuter's daily round-trip within the project limits can take nearly an hour of time in traffic, more with crashes. The measured current travel times show that the facility has reduced mobility during a majority of the day---not just during the peak

hours of 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM---demonstrating the need to increase capacity.

2.4 Bicycle and Pedestrian Plans

According to the City of Austin's *Bicycle Master Plan* (City of Austin 2014), updated in 2019, approximately three-quarters of the streets that cross this corridor have been identified as being in the Bicycle Priority Network. Per the Bicycle Plan, the City of Austin will use guidance from the National Association of City Transportation Officials, *Urban Bikeway Design Guideline* for the selection of bicycle accommodations that meet an all ages and abilities level of comfort (NATCO 2014). The existing bicycle paths for most cross streets is either a shared lane or a wide curb lane. There is a need to provide safer and more continuous accommodations for bicyclists and pedestrians. TxDOT will also comply with federal guidelines, including AASHTO's *Guide for the Development of Bicycle Facilities* (AASHTO 2012); *Guide for the Planning, Design, and Operation of Pedestrian Facilities* (AASHTO 2004); and the United States Access Board *Public Rights-of-Way Accessibility Guidelines* (United States Access Board 2011).

3. Purpose of the Proposed Project

The purpose of the proposed project is to improve this critical local, regional, national, and international thoroughfare by enhancing safety within the corridor; addressing demand by prioritizing the movement of people, goods, and services through and across the corridor; improving operational efficiency; and creating a more dependable and consistent route for the traveling public including bicyclists, pedestrians, emergency responders, and transit.

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Range of Alternatives Final Technical Report

Range of Alternatives
Final Technical Report

I-35 Capital Express Central Project
I-35 from US 290 East to US 290 West/SH 71

Texas Department of Transportation, Austin District

CSJ Number(s): 0015-13-388

March 2021

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-9-2019, and executed by FHWA and TxDOT.

Table of Contents

Introduction and Existing Roadway

Interstate Highway 35 (I-35) within Travis County is located in a heavily urbanized corridor that consistently ranks within the Top 3 Most Congested Roadways in Texas. It is currently ranked #1, as measured by Texas Transportation Institute (TTI), and is among roadways with the highest annual congestion costs at more than $200M (TTI 2020). The proposed action, called the I-35 Capital Express Central Project, would construct two managed lanes in each direction along I-35 from US Highway 290 (US 290) East to US 290 West/State Highway (SH) 71 for a total distance of approximately 8 miles, including additional direct connectors at I-35/US 290 East, in Austin, Texas in Travis County.

The existing I-35 roadway from US 290 East to US 290 West/SH 71 is located in an urban area with adjacent commercial, residential, institutional, governmental, and parks/open space properties. Within the proposed project limits, I-35 is an access-controlled interstate highway. Beginning at the southern limit, US 290 West/SH 71, the roadway typically has three to four, 12-foot-wide mainlanes (concrete barrier-separated) with 4- to 12-foot-wide inside shoulders, 10- or 12-foot-wide outside shoulders, and two to three, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. From Lady Bird Lake to 15th Street, I-35 generally includes three 12-foot-wide mainlanes in each direction with auxiliary lanes between some of the ramps. North of 15th Street, the roadway has four mainlanes in each direction and includes the upper/lower deck split just north of MLK Jr. Boulevard with a continuation of the upper decks to north of Airport Boulevard. From Airport Boulevard to US 290 East, I-35 includes four barrier-separated mainlanes in each direction. The roadway here typically has 2- to 6-foot-wide inside shoulders, 10-foot-wide outside shoulders, and two to four, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. Sidewalks exist in most, but not all, locations throughout the project area and shared-use paths are located within the project area in “downtown” Austin, defined as between MLK Jr. Boulevard and Holly Street. Drainage along the roadway (mainlanes and frontage roads) is provided by storm sewer networks and some open ditches. The existing right of way (ROW) width is typically 200 to 350 feet but is wider at the interchanges. Existing permanent drainage easements are located at creek crossings. The posted speed limit along I-35 in the proposed project area is 60 mph on the mainlanes and 35 to 50 mph on the frontage roads.

The "range of alternatives" refers to the alternatives discussed in environmental documents. It includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them (40 Code of Federal Regulations [C.F.R.] §1502.14). Reasonable alternatives are those that are “technically and economically practicable or feasible, and meet the purpose and need for the proposed action” (40 C.F.R. § 1502.14). All reasonable alternatives and a no-build alterative will be evaluated in the Environmental Impact Statement (EIS) for the proposed project.

Purpose and Need

The proposed project is needed because I-35 between US 290 East and US 290 West/SH 71 does not adequately accommodate current and future travel demand and does not meet current federal and state design standards, which has resulted in safety and operational deficiencies and can impact crash

rates and peak period travel times for all users, including emergency response vehicles and transit.

The purpose of the proposed project is to improve this critical local, regional, national, and international thoroughfare by enhancing safety within the corridor; addressing demand by prioritizing the movement of people, goods, and services through and across the corridor; improving operational efficiency; and creating a more dependable and consistent route for the traveling public, including bicyclists and pedestrians, emergency responders, and transit.

Project History

Beginning as far back as the 1980s, the Texas Department of Transportation (TxDOT) recognized the need to upgrade I-35 through the region to provide improved mobility. Listed here are major events in the project's evolution illustrating how the project progressed to where it is today.

2011: The I-35 Corridor Advisory Committee released the My35 Plan. The TxDOT Austin District, in coordination with the City of Austin and other partners, launched the Mobility35 program, also known as the I-35 Capital Area Improvement Program (CAIP), which focuses on improvements to I-35 in Williamson, Travis, and Hays counties.

2013: TxDOT released the I-35 CAIP Corridor Implementation Plan for Travis County, which identified various improvements for I-35, including adding lane capacity.

2013–2014: The Downtown Stakeholder Working Group, composed of local governmental entities and community stakeholders, convened for ten monthly meetings and two data digs to evaluate concepts for I-35 in downtown Austin between MLK Jr. Boulevard and Holly Street. The Working Group considered two concepts for downtown: one that would add one managed lane in each direction of I-35 and elevate the southbound mainlanes over Cesar Chavez Street while retaining the current elevated configuration through downtown; and another that would also add one managed lane in each direction of I-35 while lowering the mainlanes of the roadway below ground from approximately 12th Street to south of Cesar Chavez Street. The group strongly recommended the latter option of lowering the mainlanes and voiced support for placing "lids", or "caps", on the mainlanes where feasible (TxDOT 2014).

2014: TxDOT initiated the I-35 Future Transportation Corridor (FTC) Planning and Environmental Linkages Study (PEL) (TxDOT 2014a) which resulted in the concept of adding one tolled managed lane in each direction of I-35 from SH 45 North to SH 45 Southeast. The PEL provided opportunities to bring together transportation planning and environmental considerations early in the planning process, which would be integrated into the National Environmental Policy Act (NEPA) process as the project was developed. The goal of the PEL was to develop a purpose and need, determine lane type/mode choice for the corridor, and determine segments of independent utility for future NEPA studies. Agency and stakeholder meetings were held throughout the study, where representatives from TxDOT, Federal Highway Administration (FHWA), the City of Austin and Capital Area Metropolitan Planning Organization (CAMPO) collaborated on the PEL effort. TxDOT also coordinated with Capital Metro Transportation Authority (CapMetro) to discuss their interests in the I-35 corridor and to get input on potential transit access points. Three rounds of public meetings were held to provide citizens information about the

study's progress and to solicit input about the purpose and need, the range of alternatives, recommended lane type alternatives, and segments of independent utility for the FTC.

The PEL studied several alternatives, including: a rail lane, general purpose lanes, freight-only lanes, managed express toll lanes, managed transit-only lanes, non-tolled managed high occupancy vehicle (HOV) lanes, and tolled managed through lanes. Of those, the tolled managed lane alternatives (except for the "managed freight-only" and "managed through lane" alternatives) best met the purpose and need — specifically, "to create a more dependable and consistent route for transit, emergency responders, and other motorists." The general purpose lane alternative did not meet the purpose and need because it would not provide more reliable travel times due to the overloaded system utilizing the added capacity. In addition, transit and emergency vehicles would not be able to rely on the corridor as a consistent route for emergency response. The second, detailed analysis, concluded that a managed lane FTC would increase average speeds through the corridor while providing an improved level of service compared to the other alternatives. The study then recommended that the managed express/toll lane and managed express/toll lane with transit alternatives should be included in the CAMPO 2040 Regional Transportation Plan and were the best alternatives to move forward for further NEPA analysis, along with the no-build. From here, it was determined HOV managed lanes were the next best alternative to meet the Purpose and Need.

2014–2015: TxDOT hosted five Decks Neighborhood Workshops for the I-35 "decks area", defined as from Airport Boulevard to MLK Jr. Boulevard, and to discuss the addition of one managed lane in each direction. Representatives from multiple neighborhoods, the University of Texas (UT), and Catellus, the master developer for the Mueller neighborhood, participated in the workshops. The workshops focused on the desire to remove the decks, concern about super streets concepts, neighborhood cut-through traffic, access to local businesses and neighborhoods, traffic noise, and exit configuration.

2016–2017: Following the recommendations presented in the PEL to move forward with adding managed lanes in each direction, TxDOT hosted open house meetings and virtual open houses for the three projects in the study area, which extended from FM 1431 to SH 45SE. The projects at that time were called North16 (from RM 1431 to US 183), Central7 (from US 183 to Riverside Drive), and South10 (from Lady Bird Lake to SH 45SE). These alternatives centered around adding one tolled lane in each direction along I-35. TxDOT hosted a public open house on Sept. 20, 2016 for the I-35 Central7 project where the public considered two alternatives: a managed lane build alternative (one tolled managed lane in each direction along I-35), which included direct transit access to the managed lanes with two design options in downtown Austin and a no-build alternative. The two design options within downtown Austin were: (1) elevate the southbound mainlanes and managed lanes over Cesar Chavez Street while retaining the current elevated configuration through downtown, and (2) lower the mainlanes and managed lanes below ground from approximately 12th Street to south of Cesar Chavez Street. TxDOT received more than 2,500 comments in person and online about the Central7 project. Feedback themes included connectivity and ease of movement along and across I-35, preference for lowered option, concern about traffic noise, support for tolled managed lanes, and support for integrating the CapMetro rail/transit line into project design.

As studies have progressed on I-35 between US 290 East and US 290 West/SH 71, TxDOT identified a need for more than one managed lane in each direction. Further study revealed that two lanes in each direction would allow for better operational performance, reliability, and safety. The additional capacity would provide for better incident management capabilities resulting from the second lane that could be used to maneuver around incidents and/or obstacles and provide better emergency response access. The additional lanes would also improve operations at ingress and egress locations. Therefore, two managed lanes in each direction are currently being considered in the EIS process.

January 2020: TxDOT hosted the I-35 Capital Express Central Design Charrette to solicit input from stakeholders regarding previous concepts that were developed and to seek additional input to be considered during the development of further build alternatives, including the addition of two managed lanes in each direction. More than 30 concepts were proposed over the course of the charrette. Design charrette participants included TxDOT personnel, Mobility35 General Engineering Consultant staff, representatives from the City of Austin Transportation Department, Central Texas Regional Mobility Authority, CapMetro, CAMPO, FHWA, UT Austin, and Downtown Austin Alliance. The access-controlled frontage road system, a design option currently being studied, resulted from this collaboration.

April 2020: In early 2020, the I-35 Capital Express Central Project was partially funded with a $560 million allocation of the estimated $4.9 billion construction cost. On April 30, 2020, the Texas Transportation Commission approved an amendment to the 2020 Unified Transportation Program (UTP), a 10-year plan to guide transportation project development, that allocated an additional $3.4 billion of funding to the I-35 Capital Express Central Project. In April 2020, the CAMPO Transportation Policy Board approved reallocating $633 million in funding to the I-35 Capital Express Central Project. The remaining $307 million was allocated to the project in the 2021 UTP. This project is currently fully funded in the UTP ($4.9 billion). Tolling is not currently a funding option and tolled lanes are not currently under consideration (TxDOT 2021).

Range of Alternatives

Possible build alternatives for the I-35 Capital Express Central Project include three alternatives, which start with the above assumptions, including: adding two non-tolled managed lanes in each direction, removing the upper decks on I-35 (between Airport Boulevard and MLK Jr. Boulevard), and lowering I-35 through downtown (between MLK Jr. Boulevard and Holly Street). Moreover, because we are now in a non-tolled environment under the 2021 UTP, the current project is considering HOV, two or more (2+) occupants, which meets the eligibility requirement for this project. Each alternative would also add direct connectors at I-35 and US 290 East to enhance mobility at this high-volume interchange, and to facilitate the transition of one managed lane to/from US 290 and one managed lane to/from I-35 to the north. The first alternative would construct lowered mainlanes and tunneled managed lanes between Airport Boulevard and MLK Jr. Boulevard, and between Riverside Drive and Oltorf Street. Tunneled lanes are defined as being two levels below the frontage roads and cross streets, and one level below mainlanes; and lowered lanes are defined as one level below frontage roads and cross streets and at the same level as mainlanes. The second build alternative would construct lowered mainlanes and lowered managed lanes between Airport Boulevard and Cesar Chavez Street, and between Riverside Drive and Oltorf Street. The third alternative would be similar to Alternative 2, but

with managed lanes that overpass Airport Boulevard, at approximately the same elevation as the existing upper decks, and at Woodland Avenue, at the same elevation as the existing mainlanes. All build alternatives would include: removing the upper deck in each direction from Airport Boulevard to Martin Luther King Jr. Boulevard; reconstructing the bridge across Lady Bird Lake; improving bicycle and pedestrian paths; accommodating current and future CapMetro routes; on-site and off-site drainage facilities. All the build alternatives are being evaluated for their ability to accommodate locally funded enhancements, which could include deck plazas or caps. Potential design options currently being considered for all build alternatives include: a downtown bypass system; an access-controlled frontage road system; local enhancements including a downtown boulevard concept; and direct transit access at Riverside Drive and Dean Keaton Street. Table 1 below describes the alternatives.

Although it does not meet the need and purpose of the project, the no-build alternative is still an option and will be carried forward, through the EIS as a baseline for comparison. At the end of the EIS process, if the no-build alternative is the selected alternative, I-35 within the project limits, from US 290 East to US 290 West/SH 71, would continue to exist as it does today and would continue to receive standard, routine maintenance. By 2045, I-35 traffic within the project limits is expected to reach 303,700 vehicles per day, an increase of approximately 47 percent over 2019, according to traffic projections based on TxDOT-approved 2030 and 2050 AADT forecasts, and safety and mobility would continue to decline as population increases. In addition, if the no-build alternative is selected, the proposed bicycle/pedestrian facilities would not be constructed.

Table 1. Range of Alternatives

Alternative	Description
No Build	Standard, routine maintenance
Build 1 Managed Lanes Tunnel Section	Two tunneled managed lanes* and lowered mainlanes in each direction with additional flyovers at I-35 and US 290 East. *Tunnel = two levels below frontage roads and cross streets and one level below mainlanes* ** Only northbound managed lanes tunneled through downtown*
Build 2 Managed Lanes Lowered Section	Two lowered managed lanes and lowered mainlanes in each direction with additional flyovers at I-35 and US 290 East. *Lowered = one level below frontage roads and cross streets and same level as mainlanes*
Build 3 Managed Lanes Lowered Section, Modified at Airport Boulevard and Woodland Avenue.	Two lowered managed lanes and lowered mainlanes in each direction with additional flyovers at I-35 and US 290 East. Managed lane overpasses at Airport Boulevard and Woodland Avenue.

Evaluation of Alternatives

The draft alternatives evaluation criteria will be used to compare the alternatives (Build Alternatives and the No Build Alternative) ability to meet the project purpose and need; high-level engineering criteria such as constructability, right of way needs, complexity of utility relocation and preliminary project costs; and an evaluation of environmental resources. The results of this alternatives evaluation will be presented in an open house later in 2021. After this evaluation, reasonable alternatives will be identified for further evaluation to be carried forward in the Draft Environmental Impact Statement. In the Draft Environmental Impact Statement, further evaluation will be conducted involving a detailed analysis of each Build Alternative as compared to the No Build Alternative. The preferred alternative, including the environmental analyses of project alternatives, will be presented to the public at the Public Hearing.

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Draft Alternatives Evaluation Technical Report

Draft Alternatives Evaluation Technical Report

I-35 Capital Express Central Project
I-35 from US 290 East to US 290 West/SH 71

Texas Department of Transportation, Austin District

CSJ Number: 0015-13-388

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1 Introduction and Existing Roadway

Interstate Highway 35 (I-35) within Travis County is located in a heavily urbanized corridor that consistently ranks within the Top 3 Most Congested Roadways in Texas. It is currently ranked #1, as measured by Texas A&M Transportation Institute (TTI) and is among roadways with the highest annual congestion costs at more than $200M (TTI 2020). The proposed action, called the I-35 Capital Express Central Project, would construct two managed lanes in each direction along I-35 from US Highway 290 (US 290) East to US 290 West/State Highway (SH) 71 for a total distance of approximately 8 miles, including additional direct connectors at I-35/US 290 East, in Austin, Texas in Travis County.

The existing I-35 roadway from US 290 East to US 290 West/SH 71 is located in an urban area with adjacent commercial, residential, institutional, governmental, and parks/open space properties. Within the proposed project limits, I-35 is an access-controlled interstate highway. Beginning at the southern limit, US 290 West/SH 71, the roadway typically has three to four, 12-foot-wide mainlanes (concrete barrier-separated) with 4- to 12-foot-wide inside shoulders, 10- or 12-foot-wide outside shoulders, and two to three, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. From Lady Bird Lake to 15th Street, I-35 generally includes three 12-foot-wide mainlanes in each direction with auxiliary lanes between some of the ramps. North of 15th Street, the roadway has four mainlanes in each direction and includes the upper/lower deck split just north of MLK Jr. Boulevard with a continuation of the upper decks to north of Airport Boulevard. From Airport Boulevard to US 290 East, I-35 includes four barrier-separated mainlanes in each direction. The roadway here typically has 2- to 6-foot-wide inside shoulders, 10-foot-wide outside shoulders, and two to four, 11- or 12-foot-wide frontage road lanes with curb and gutter in each direction. Sidewalks exist in most, but not all locations throughout the project area and shared-use paths (SUP) are located within the project area in “downtown” Austin, defined as between MLK Jr. Boulevard and Holly Street. Drainage along the roadway (mainlanes and frontage roads) is provided by storm sewer networks and some open ditches. The existing right of way (ROW) width is typically 200 to 350 feet but is wider at the interchanges. Existing permanent drainage easements are located at creek crossings. The posted speed limit along I-35 in the proposed project area is 60 mph on the mainlanes and 35 to 50 mph on the frontage roads.

1.1 Purpose and Need

The proposed project is needed because I-35 between US 290 East and US 290 West/SH 71 does not adequately accommodate current and future travel demand and does not meet current federal and state design standards, which has resulted in safety and operational deficiencies and can impact crash rates and peak period travel times for all users, including emergency response vehicles and transit.

The purpose of the proposed project is to improve this critical local, regional, national, and international thoroughfare by enhancing safety within the corridor; addressing demand by prioritizing the movement of people, goods, and services through and across the corridor; improving operational efficiency; and creating a more dependable and consistent route for the traveling public, including bicyclists and pedestrians, emergency responders, and transit.

2 Range of Alternatives

2.1 TxDOT Proposed Build Alternatives

Following more than a decade of study, evaluations, and public involvement with community and stakeholder input, the Texas Department of Transportation (TxDOT) has put forward three build alternatives for the I-35 Capital Express Central Project for consideration. All three alternatives would add two non-tolled managed lanes in each direction, removing the upper decks on I-35 (between Airport Boulevard and MLK Jr. Boulevard), and lowering I-35 through downtown (between MLK Jr. Boulevard and Holly Street). Each alternative would also add direct connectors at I-35 and US 290 East to enhance mobility at this high-volume interchange, and to facilitate the transition of one managed lane to/from US 290 and one managed lane to/from I-35 to the north. Alternative 1 would construct lowered mainlanes and tunneled managed lanes between Airport Boulevard and MLK Jr. Boulevard, and between Riverside Drive and Oltorf Street. Tunneled lanes are defined as being two levels below the frontage roads and cross streets, and one level below mainlanes; and lowered lanes are defined as one level below frontage roads and cross streets and at the same level as mainlanes. Alternative 2 would construct lowered mainlanes and lowered managed lanes between Airport Boulevard and Cesar Chavez Street, and between Riverside Drive and Oltorf Street. Alternative 3 would be similar to Alternative 2, but with managed lanes that overpass Airport Boulevard, at approximately the same elevation as the existing upper decks, and at Woodland Avenue, at the same elevation as the existing mainlanes.

All three proposed build alternatives would include: removing the upper deck in each direction from Airport Boulevard to MLK Jr. Boulevard; reconstructing the bridge across Lady Bird Lake; improving bicycle and pedestrian paths; accommodating current and future Capital Metro routes; and on-site and off-site drainage facilities. All of the alternatives are being evaluated for their ability to accommodate locally funded enhancements, which could include deck plazas or caps, as well as direct transit access at Riverside Drive and East Dean Keaton Street. Table 1 below describes these alternatives. Because we are currently in a non-tolled environment under the 2021 Unified Transportation Plan (TxDOT 2021) the current project is considering HOV (High Occupancy Vehicle)-two or more (2+) occupants for the managed lanes, which meets the eligibility requirement for this project.

2.2 Community Concepts

Several concepts for the I-35 Capital Express Central Project were proposed by community groups, including Reconnect Austin, Rethink 35, and the Downtown Austin Alliance (DAA)/Urban Land Institute (ULI). TxDOT requested that TTI conduct an independent evaluation of these concepts. TTI is an independent agency of the State of Texas that provides research for transportation projects, problems, and challenges. They reviewed elements of the community concepts that are currently incorporated or could be reasonably incorporated in the TxDOT-proposed build alternatives as well as those elements that are not incorporated, and whether the community concepts are feasible as standalone alternatives (TTI 2021). This report can be found on https://my35capex.com.

2.2.1 Reconnect Austin

The Reconnect Austin concept proposes to depress the highway and cover it with a six-lane boulevard throughout the entire section from MLK Jr. Boulevard to Holly Street. This design would support a number of strategies designed to humanize the city around the corridor. On the surface level, the urban boulevard would replace the highway, functioning to reconnect downtown with East Austin, which could increase east-west connectivity. Moving the boulevard into the middle of the ROW would provide reclaimed land on the edge of the existing TxDOT ROW. The proposal envisions that reclaimed land could allow construction of offices, shops, markets, and housing, which, as taxable land, would generate revenue. Creating more downtown housing could help eliminate the commutes of some of downtown Austin's workers if they could move close to their jobs, and within the authority of the City of Austin, some of that housing could be built as affordable housing. The design includes flood control, noise mitigation, and air cleaning features. Removing high-speed roads from the surface, the proposal aims to bring down the number of roadway injuries and fatalities, making walkable new districts safer for pedestrians and other vulnerable road users.

Many elements of the Reconnect Austin concept are feasible and the concept, as coded in the travel demand model, performs reasonably well. With a mainlane freeway option and collector-distributor roads or intersection bypass lanes and connecting ramps providing access to downtown, the Capitol area and the University of Texas area, the boulevard functions similar to the frontage roads in the TxDOT build alternatives. From a travel demand modeling perspective, the Reconnect Austin concept provides similar capacity elements, but causes higher vehicle traffic on the east Austin street network than the TxDOT build alternatives.

The Reconnect Austin elements that fail the feasibility test are those related to the funding contribution and redevelopment of the land between the boulevard and the existing ROW line. The Reconnect Austin concept is premised on the idea that the roadway ROW is narrower than the existing facility and the land between the boulevard and the existing ROW line would be sold by TxDOT. A full cap over the tunneled mainlanes allows the frontage roads to shift in and create a boulevard. The reclaimed land could be sold to private developers to create tax base or the City of Austin may purchase it for any number of purposes. However, there have been many new developments adjacent to the frontage road since the original Reconnect proposal was conceived, and these appear to have removed a significant amount of the possible development space. These new developments are unlikely to be vacated, demolished and developed in the timeframe when TxDOT could realize a return on selling or leasing any reclaimed land resulting from depressing and narrowing the roadway. In addition, any large building redevelopment over the freeway mainlanes and collector-distributor roads would require structural supports to be installed during the initial construction for buildings not yet planned, designed, or funded. These supports could also conflict with the spatial requirements of roadway off-ramps. The coordination in timing and responsibility seem not only daunting, but outside TxDOT's mission and authority.

In addition to the costs associated with acquiring properties and access, the costs for the cap itself may be prohibitively expensive. The cap would require approximately 30 acres of coverage. Using the example costs from Southern Gateway Cap of $350-450 per square foot, this equates to

$457,380,000 - $522,720,000. Nevertheless, although most of Reconnect Austin's concept goals of a boulevard with redeveloped land is outside TxDOT's scope and purpose and need for this project, some of these goals can be accommodated within the TxDOT build alternatives through ongoing partnership with the appropriate agencies.

2.2.2 Rethink35

The design Rethink35 proposes is a conversion of the central section of I-35 to an urban boulevard. Future hopes for the corridor include a rail line to points north or south of Austin. The proposal is very conceptual, with few details; the authors anticipate the concept will change as it undergoes evaluation and a public involvement process. There is no plan to sink high-speed roads underground, as in Reconnect Austin. Rather, the idea is that traffic will slow as it approaches the boulevard section and speed up again as it leaves, to the north and south of downtown. Cross streets connecting East Austin to the downtown area will provide east-west connectivity options and reintegrate East Austin into the fabric of the city.

Rethink35 seeks to dramatically reshape not only the I-35 corridor, but travel patterns and modes across the region. Eliminating the high-capacity corridor through the spine of central Austin and replacing it with a six-lane boulevard would provide new development space and reduce north-south traffic volume and noise levels in the existing I-35 corridor. The purchase of access rights and available land for development would be similar to those from Reconnect Austin. Although the physical rebuilding of I-35 into a boulevard with wide sidewalks, accommodations for transit, bicycles and pedestrians can be done, the traffic impacts to the surrounding streets and delays it would cause to through traffic make it unlikely that such a concept would meet the transportation needs of an interstate highway. The travel demand model results show that the Rethink35 concept would likely reduce traffic on I-35 and improve the environment directly around the envisioned project but congestion problems would be pushed to city streets. Further, this conceptual design would not adequately accommodate the needs of commuters from the suburbs to the major regional employment centers. It is also difficult to examine the effect of such a large change in the transportation network, because the ripple effects would extend far beyond vehicle and person travel.

In the near- and medium-term, the central Austin trip destinations – the University of Texas, the Capitol complex and other government agencies, offices, shops, hotels, restaurants, entertainment venues – would continue to pull vehicles, freight and people to the area. With no I-35 freeway capacity, the models indicate that portions of these trips would shift to MoPac, SH 71, US 290 and US 183. The remainder of those trips would shift to the street network through the neighborhoods east and west of I-35 to get to downtown Austin. In the longer-term it is likely that the changing trip destinations and the transportation network would create a different balance point. The *2013 Mobility Investment Priorities* (TTI 2013) report examined the traffic conditions that would exist on I-35 in 2035 if there were no improvements beyond those that were funded at the time. With no additional changes to either the transportation system or to trip patterns, an evening commute trip on I-35 from downtown to Round Rock that took 45 minutes in 2011 was estimated to take 2.5 hours in 2035. A much more likely scenario is that the jobs and population will grow differently across the region in response to long

travel times between the Austin suburbs and downtown Austin. Some people will move closer to their existing job, others will move their job closer to their home. And because of our COVID-19 pandemic experience, we also know that some workers with flexibility will choose to not commute every day.

2.2.3 Downtown Austin Alliance/Urban Land Institute

The DAA/ULI vision for revamping I-35 is best described as a set of planning and design recommendations tied to a set of desired outcomes. The report does not include a detailed plan or technical designs but does propose a number of foundational design elements including a narrower ROW than what TxDOT proposes (246 feet rather than 360); depressed mainlanes; three caps and eight stitches or pedestrian bridges along the entire project length; and frontage roads overhanging the mainlanes that are designed as low speed urban boulevards with both travel and parking lanes, and traffic calming devices like speed cushions.

The DAA/ULI concept employs design concepts known as caps and stitches that are possible because of the lowered mainlanes. In the case of I-35 a cap would be a large deck that runs north to south over I-35 but is not continuous, as proposed in the Reconnect Austin concept; instead caps are considered at multiple locations. The caps are connected by stitches. Stitches are wide bridges that would run east-west over the highway. Stitches over I-35 would include travel lanes and protected paths, at a minimum. Stitches may also include landscaping, and additional buffers to enhance place making. The frontage roads could be connected with caps in some locations. In sections where entrance or exit ramps are required between the freeway and the frontage roads, the cap would not be built, and the frontage roads would be farther apart. The DAA/ULI report included a set of principles supporting its overarching theme, which is to build and implement a robust planning and design process informed by specific policies of mobility, health, equity, and aesthetic integration. That process should enable a co-creation of a vision between government and representative community members.

DAA/ULI concept is not as dramatically different from the TxDOT build alternatives as are Rethink35 and Reconnect Austin. It envisions a narrower I-35 corridor than the TxDOT build alternatives, one with frontage roads that overhang the freeway mainlanes. This could allow space for non-TxDOT agencies to fund and build caps over the space between the mainlanes. The caps could include parks or low-intensity (one-or-two-stories) buildings. The “tucked in” frontage roads would have 30 mph speed limits to reduce negative traffic effects of vehicles and could provide space for wide sidewalks, shade trees and other pedestrian-scale amenities. With this collaboration from other funding partners, the DAA/ULI concept could be achieved. The difficulty with overhanging the frontage roads over the mainlanes is that it does not allow for entry and exit ramps to move traffic between downtown and the freeway mainlanes. About two city blocks of space is required to create a ramp from the lowered freeway to the surface frontage road, and the cap development could not exist on top of these ramps. Even more distance might be needed to move the frontage roads from their overhanging location to one that allows the ramps to change levels. The DAA/ULI concept is feasible for short distances where entry and exit ramps are not needed but a continuous cap would not be possible if the design intention is to move traffic from surface streets to the freeway mainlanes.

The DAA/ULI report proposes 11 acres of caps and 2 acres of stitches. Applying the same costs range

of $350-$400 per square foot, the costs for this is between $198,198,000 and $226,512,00. The report goes on to calculate operations and maintenance costs over 30 years for a total of capital and operations and maintenance of $313 million over 30 years (vii). The DAA/ULI report suggests that $171 million of this funding can be realized through a tax increment finance district with additional funding from federal sources. There is still a significant funding gap, along with possible funding sources.

2.3 Alternatives Feasible for Screening

TTI's analysis of the community concepts shows that, while none of the three concepts described above are feasible as standalone alternatives, much of what these separate entities are proposing is already included in or has recently been added to the TxDOT build alternatives, including:

- Lowered travel lanes.
- More than 15 widened east-west crossings, including a new crossing at 5th Street for all users; and new pedestrian crossings at Cap Metro Red Line/Future Gold Line south of Airport Boulevard, and between 51st Street and US 290 E.
- Bicycle and pedestrian enhancements including 20-foot buffers and 10-foot shared-use paths.
- Low design speeds on frontage roads.
- Enhanced person-carrying capacity along the corridor by providing a reliable route for transit in managed lanes.

Based on TTI recommendations, TxDOT is studying additional community enhancements such as frontage road relocation concepts, which will be presented at an upcoming public involvement opportunity. The build alternatives carried forward for evaluation by the criteria described in Section 3 below, include the TxDOT-proposed build alternatives 1, 2 and 3, along with elements of the community concepts, as described in the list above. The three build alternatives are described in Table 1.

Table 1. Community-Enhanced Alternatives to be Evaluated and Screened

Alternative	Description
No Build	Standard, routine maintenance
Build Alternative 1 - Managed Lanes Tunnel Section *Tunnel = two levels below frontage roads and cross streets and one level below mainlanes*	Two tunneled managed lanes* and lowered mainlanes in each direction with additional flyovers at I-35 and US 290 East and additional enhancements as listed in Section 2.3. ** Only northbound managed lanes tunneled through downtown*

Build Alternative 2 - Managed Lanes Lowered Section *Lowered = one level below frontage roads and cross streets and same level as mainlanes*	Two lowered managed lanes* and lowered mainlanes in each direction with additional flyovers at I-35 and US 290 East and additional enhancements as listed in Section 2.3. **Following coordination with the City of Austin, short, tunneled sections may be included at select locations in order to accommodate deck caps and mitigate ROW/displacement impacts.*
Build Alternative 3 – Managed Lanes Lowered Section, Modified at Airport Boulevard and Woodland Avenue	Two lowered managed lanes* and lowered mainlanes in each direction with additional flyovers at I-35 and US 290 East and additional enhancements as listed in Section 2.3. Managed lane overpasses at Airport Boulevard and Woodland Avenue. **Following coordination with the City of Austin, short, tunneled sections may be included at select locations in order to accommodate deck caps and mitigate ROW/displacement impacts.*

3 Alternatives Evaluation and Screening

The alternatives evaluation criteria were used to compare the three build alternatives' and the no build alternative's ability to meet the project purpose and need; high-level engineering criteria such as constructability, ROW needs, complexity of utility relocation and preliminary project costs; and an evaluation of environmental resource impacts. The criteria evaluated as many quantifiable impacts as possible, such as the acres of ROW required, travel times, number of potential displacements, number of historic resources affected, and acres of park impacts for each alternative. Each criterion is discussed below, along with the parameters within which it was evaluated. After this evaluation, reasonable alternatives were identified for further evaluation to be carried forward in the Draft Environmental Impact Statement (DEIS). For the DEIS, additional study will be conducted involving a detailed analysis of each proposed build alternative as compared to the no build.

3.1 Criteria Evaluated for the Purpose and Need

Each alternative was evaluated for its ability to meet the purpose and need. Criteria within this group include enhancing safety, addressing demand, and creating a more dependable travel route, as detailed below.

3.1.1 Enhancing Safety within the Corridor

Criterion 1: Aligned with TxDOT's Road to Zero Initiative and City of Austin's Vision Zero Initiative

Each alternative was evaluated for its ability to support TxDOT's mission to cut traffic fatalities in half by 2035 and then entirely by 2050 through its Road to Zero initiative (TxDOT 2021), and to support the City's mission to eliminate traffic deaths and serious injuries on Austin streets through its Vision Zero initiative (City of Austin 2016a).

All three build alternatives align with TxDOT's and City of Austin's missions to reduce/eliminate traffic

deaths. They also all address the *Texas Strategic Highway Safety Plan's* Pedestrian Safety (TxDOT 2017) emphasis area by providing SUPs that improve the pedestrian network (strategy number 4 in the emphasis area: "Improve pedestrian networks") and reconstructing diamond intersections to improve visibility of pedestrians at crossing locations (strategy number 3 in the emphasis area: "Improve pedestrian visibility at crossing locations"). The three build alternatives all address the *Austin Strategic Mobility Plan's* (ASMP) (City of Austin 2019) Designing for Safety Policy 2 ("Minimize the potential for conflicts between transportation network users") by providing SUPs that separate bicyclists and pedestrians from vehicular traffic and Designing for Safety Policy 4 ("Improve the ability of all transportation users to see and be seen") by reconstructing diamond intersections to improve visibility of pedestrians. Differences among the alternatives are provided below.

No Build – The no build alternative does not provide improvements that reduce/eliminate traffic deaths and does not align with TxDOT's Road to Zero Initiative and/or the City of Austin's Vision Zero Initiative.

Alternative 1 – Alternative 1 aligns with both initiatives and also provides wider shoulders in spot locations compared to Alternatives 2 and 3, resulting in a slightly greater reduction in fatal and injury crashes. Predictive safety analysis shows 35% fewer fatal and injury crashes in 2030 compared to the no build.

Alternative 2 – Alternative 2 aligns with both initiatives. Predictive safety analysis shows 34% fewer fatal and injury crashes in 2030 compared to no build.

Alternative 3 – Alternative 3 aligns with both initiatives. Predictive safety analysis shows 32% fewer fatal and injury crashes in 2030 compared to no build.

Criterion 2: Aligned with Additional Local Plans

Each alternative was evaluated for its ability to align with or be consistent with local plans. By developing and improving highway, pedestrian/bicycle, and ADA infrastructure, the project is generally in alignment with the following local plans: ASMP, *City of Austin Street Design Guide, Downtown Austin Plan, Parks Department Long-Range Master Plan, Strategic Direction 2023 Plan, Imagine Austin Comprehensive Plan, Sidewalk Master Plan and ADA* (Americans with Disabilities) *Transition Plan Update, Bicycle Master Plan,* and *Capital Area Metropolitan Planning Organization* (CAMPO) - *Regional Transportation Plan.*

All three build alternatives allow opportunities to improve alignment or consistency with local plans. For instance, the project's main additional capacity improvement, which is to provide managed HOV/transit lanes, addresses *Austin Strategic Direction 2023's* stated strategy of "encourage use of sustainable modes of transportation and discourage driving alone [. . .]." Coordination with local and regional agencies (such as the Austin Transportation Department and Capital Metro) is ongoing, thus aligning with the ASMP's Collaboration Policy 1 ("collaborate with internal departments, regional partners, and outside agencies"). All build alternatives would comply with many design aspects of the City of Austin's *Street Design Guide,* their *Sidewalk Master Plan and ADA Transition Plan Update,* and their *Bicycle Master Plan.* The *Imagine Austin Comprehensive Plan* lists the My35 Project as a "related city initiative" that supports its goal to "invest in new and reinvest in existing infrastructure to support

a compact and connected city through a planning-driven capital improvements program." The project aligns with the *Downtown Austin Plan's* goals of developing a multi-modal transportation system that improves access to and mobility within downtown and investing in downtown infrastructure by making utility and drainage improvements that support positive and sustainable development. The project also aligns with the *Parks Department Long-Range Master Plan's* goal to implement the *Sidewalk Plan/ADA Transition Plan Update* for areas of need adjacent to parks and improve mobility around and between parks and nearby activity areas. The I-35 Capital Express Central Project is currently listed in CAMPO's Transportation Improvement Program (TIP). Each plan can be examined online and is listed in the references section of this report. The no build alternative does not improve alignment with local plans.

Criterion 3: Improves Emergency Response Time for EMS, Police, Fire, and Hospitals

Each alternative was evaluated for its ability to correct geometric deficiencies, upgrade the facility to current standards, serve as a reliable route for emergency response organizations, and provide detours during accidents. Alternatives were scored within the range of High, Medium or Low, where High = more reliable response times and Low = delayed response times.

No Build – The no build alternative scores low as it resulted in the longest response times due to congestion, unreliable travel times, and narrow shoulder widths, which hinder the ability of emergency vehicles to maneuver along the facility.

Alternative 1 – Alternative 1 scored medium, as it resulted in response times that are shorter than the no build response times, but longer than those for Alternatives 2 and 3. Managed lanes (two lanes in each direction) improve reliability for emergency vehicles, but the managed lanes tunnel in Alternative 1, which extends along the project for 8.25 miles (in section), limits access to cross streets and requires interaction with the mainlanes for movement to/from the frontage roads. Wider shoulder widths improve emergency vehicles' maneuverability.

Alternatives 2 and 3 – Alternatives 2 and 3 both scored high, as they resulted in shorter response times than Alternative 1. For both of these alternatives, managed lanes (4) improve reliability for emergency vehicles since they are located at the same level as the mainlanes (not tunneled). Alternatives 2 and 3 both allow direct and continuous emergency access across the striped boundaries separating mainlanes from the managed lanes and improve access to cross streets. Further, direct access from the managed lanes to the frontage roads is provided near major regional health care facilities (e.g., southbound egress to 15th Street at Dell Seton Medical Center at The University of Texas, southbound egress to 32nd Street at St. David's Medical Center). Wider shoulder widths improve emergency vehicles' maneuverability.

Criterion 4: Emergency Egress Requirements

Each alternative was evaluated for its ability to provide emergency egress. Tunnels will require detailed evaluations and additional design elements to meet fire and life safety code requirements. Each alternative was scored within the range of High, Medium or Low, where High = fewer requirements for emergency egress and Low = more requirements for emergency egress.

No Build – The no build alternative scored high, as there are no additional requirements for

emergency egress based on current design standards.

Alternative 1 – Alternative 1 scored low, as it has the most emergency access requirements due to the proposed tunnel. Total tunnel miles proposed in this alternative is 8.25 continuous lane miles. Tunnel emergency egress requirements include but are not limited to:

- Distance to exit shall not exceed 1,000 feet
- Exits include:
  - Portals
  - Stairs to grade
  - Doors to non-incident roadway
  - Egress corridor
- Emergency lighting, including "Distance to Exit" photoluminescent signs
- Provisions for firefighting at exits

Alternatives 2 and 3 – Alternatives 2 and 3 both scored high as they do not have additional requirements for emergency egress. Existing shoulders, ramps, collector-distributor roads and frontage roads along the corridor provide egress in case of an emergency. No tunneled sections are currently proposed in either of these alternatives; however, following coordination with the City of Austin, short, tunneled sections may be included at select locations in order to accommodate deck caps and mitigate ROW/displacement impacts.

Criterion 5: Reduction in Fatalities and Injury Crashes

Each alternative was evaluated for its potential for fatal and injury crash reductions on mainlanes, managed lanes, ramps, and frontage road intersections using Interactive Highway Safety Design Model software. The software implements *Highway Safety Manual* methods to predict crashes on roadways based on regression models developed using historic crash data from similar sites.

No Build – N/A (Evaluation is based on percent change from no build alternative.)

Alternative 1 – Predictive safety analysis shows a 35 percent reduction in fatalities and injury crashes in 2030 compared to the no build. Alternative 1 provides wider shoulders in spot locations compared to the other two build alternatives, resulting in a slightly greater fatal/injury crash reduction.

Alternative 2 – Predictive safety analysis shows a 34 percent reduction in fatalities and injury crashes in 2030 compared to no build.

Alternative 3 – Predictive safety analysis shows a 32 percent reduction in fatalities and injury crashes in 2030 compared to no build.

3.1.2 Addressing Demand by Prioritizing the Movement of People, Goods, and Services through and across the Corridor; and Improving Operational Efficiency

Criterion 1: Mainlane Travel Time

Each alternative was evaluated for its travel time along the I-35 mainlanes in comparison to the no build. Traffic microsimulation using Vissim software provides year 2030 p.m. peak hour mainlane travel times along the I-35 Capital Express Central project limits under each alternative. The results

are a comparison of averages of northbound and southbound travel times between US 290E and US 290W/SH 71.

Vissim models of a.m. peak periods (6:30 – 9:30) and p.m. peak periods (3:30 – 6:30) along I-35 were constructed and calibrated to existing (2019) field volume and travel time conditions. The models include all I-35 mainlanes, ramps, frontage roads, and interchanges and major cross streets. Vissim is a traffic microsimulation software, modeling individual entities (automobiles, heavy vehicles, transit, pedestrians, bicycles, signals) within the study network. The 2030 p.m. peak period Vissim models are based on the existing (2019) p.m. peak model, incorporating traffic volume forecasts and the proposed alternative geometries. The 2030 p.m. peak period represents the most congested portion of a typical weekday along I-35 in the approximate opening year of the project.

No Build - N/A (Evaluation is based on percent change from no build alternative.)

Alternative 1 – Traffic microsimulation shows mainlane travel time decrease of 47% during the 2030 p.m. peak hour compared to the no build travel times.

Alternative 2 – Traffic microsimulation shows mainlane travel time decrease of 50% during the 2030 p.m. peak hour compared to the no build travel times.

Alternative 3 – Traffic microsimulation shows mainlane travel time decrease of 39% during the 2030 p.m. peak hour compared to the no build travel times.

Criterion 2: Managed Lane Travel Time

Each alternative was evaluated for its travel time along the proposed I-35 managed lanes in comparison to the no build. Traffic microsimulation using Vissim software provides year 2030 p.m. peak hour managed lane travel times along the I-35 Capital Express Central project limits under each build alternative. The results are an average of northbound and southbound managed lane travel times between US 290E and US 290W/SH 71.

Vissim models of a.m. (6:30 – 9:30) and p.m. (3:30 – 6:30) peak periods along I-35 were constructed and calibrated to existing (2019) field volume and travel time conditions. The models include all I-35 mainlanes, ramps, frontage roads, and interchanges and major cross streets. The 2030 p.m. peak period Vissim models are based on the existing (2019) p.m. peak model, incorporating traffic volume forecasts and the proposed alternative geometries. The 2030 p.m. peak period represents the most congested portion of a typical weekday along I-35 in the approximate opening year of the project.

No Build – N/A (No managed lanes are provided with the no build alternative.)

Alternative 1 – Traffic microsimulation shows managed lane travel times of 9 minutes in the 2030 p.m. peak hour.

Alternative 2 – Traffic microsimulation shows managed lane travel times of 8 minutes in the 2030 p.m. peak hour.

Alternative 3 – Traffic microsimulation shows managed lane travel times of 9 minutes in the 2030 p.m. peak hour.

Criterion 3: Person-carrying Capacity along Mainlanes and Managed Lanes, Including Vehicles and Transit

Each alternative was evaluated for its total mainlane and managed lane person-carrying capacity. The mainlane person-carrying capacity at a given point along the corridor was calculated based on basic freeway and transit capacity estimates for each alternative per the below methodology and assumptions. I-35 frontage roads, ramps, collector-distributors, and direct connectors were not considered as part of the analysis, as those facilities' main functions are to connect I-35 mainlanes and managed lanes with other facilities and adjacent developments rather than provide true travel capacity. The evaluation provides a high-level, theoretical assessment of alternatives and does not consider the effects of signal timing, access/ramping, and other operational details.

For the no build alternative, person-carrying capacity was based on the following assumptions:

- Lane vehicular capacity calculated using:
    - Base free-flow speed based on 60 mph design speed
    - Lane width adjustment
    - Right-side lateral clearance adjustment
    - Total ramp density
    - Conversion from passenger cars per hour per lane to vehicles per hour per lane based on:
        - Peak-Hour Factor (PHF) (0.98)
        - Heavy vehicle adjustment factor (based on classification counts showing an AM/PM peak period average of approximately 6% heavy vehicles in traffic stream)
- Lane corridor vehicular capacity multiplied by vehicle occupancy (based on 2019 count and available Austin-area demographics) to calculate person-carrying lane capacity
- Person-carrying lane capacity applied to 6 mainlanes through corridor (analysis excludes auxiliary lanes and non-through lanes) to determine total corridor person-carrying capacity

For the build alternatives, person-carrying capacity was based on the following assumptions:

- Mainlane facility person-carrying capacity calculated as above
- Managed lane vehicular capacity calculated using:
    - Base free-flow speed based on 60 mph design speed
    - Lane width adjustment
    - Right-side lateral clearance adjustment
    - Total ramp density
    - Conversion from passenger cars per hour per lane to vehicles per hour per lane based on:
        - PHF (0.98)
        - Heavy vehicle adjustment factor (based on assumed bus headways and Park & Ride locations, resulting in 6 buses per hour in the managed lanes)
    - Proportion of HOV/transit traffic mix based on assumed maximum bus headway
    - Lane corridor bus capacity multiplied by typical bus capacity to calculate transit person-

carrying lane capacity
    - Lane corridor HOV capacity multiplied by assumed HOV occupancy to calculate HOV person-carrying lane capacity
    - Lane corridor managed lane person-carrying capacity is the sum of transit and HOV person-carrying lane capacity
    - Person-carrying lane capacity applied to 4 managed lanes through corridor (analysis excludes auxiliary lanes and non-through lanes) to determine total managed lane corridor person-carrying capacity
- Total person-carrying capacity for each build alternative is the sum of mainlane and managed lane person-carrying capacities.

No Build – Person-carrying capacity of 6 mainlanes is approximately 13,455 people per hour.

Alternative 1 – Person-carrying capacity of 6 mainlanes and 4 managed lanes for Alternative 1 is approximately 33,860 people per hour—a 152% increase compared to the no build person-carrying capacity. Alternative 1 provides slightly higher theoretical capacity compared to the other two build alternatives due to lower managed lane ramp density and greater mainlane and managed lane width (12 feet compared to 11 feet provided in Alternatives 2 and 3).

Alternative 2 – Person-carrying capacity of 6 mainlanes and 4 managed lanes under Alternative 2 is approximately 33,695 people per hour—a 150% increase compared to the no build person-carrying capacity.

Alternative 3 – Person-carrying capacity of 6 mainlanes and 4 managed lanes under Alternative 3 is approximately 33,695 people per hour—a 150% increase compared to the no build person-carrying capacity.

Criterion 4: Travel Demand along Adjacent Transportation Roadway Network

Each alternative was evaluated based on its travel demand patterns/traffic volumes along major (Mopac Expressway, US 183) and minor (downtown arterials) parallel facilities (excluding I-35 mainlanes, ramps, frontage roads, and collector-distributors). The CAMPO 2045 travel demand model (TDM), a 6-county regional model of existing and future transportation demand based on population and employment demographics, was modified for the project and provided daily vehicle-miles traveled (VMT) output of a subarea bounded by Mopac, US 183, SH 71, and US 183. The TDM was developed at a macroscopic level and does not explicitly consider the impacts of signal timing, weaving/lane changing, and other operational details.

No Build – 14,600,820 daily VMT are forecasted within the subarea under no build conditions.

Alternative 1 – 14,370,965 daily VMT are forecasted within the subarea under Alternative 1 conditions, providing a 1.6% decrease compared to the no build VMT. Alternative 1 daily VMT is slightly lower on adjacent arterials parallel to I-35 compared to VMTs of Alternatives 2 and 3, likely due to additional mainlane ramp access provided in Alternative 1.

Alternative 2 – 14,396,516 daily VMT are forecasted within the subarea under Alternative 2 conditions, providing a 1.4% decrease compared to the no build VMT. Alternative 2 daily VMT

are slightly higher on adjacent arterials parallel to I-35 compared to VMT of Alternative 1.

Alternative 3 – 14,404,688 daily VMT are forecasted within the subarea under Alternative 3 conditions, providing a 1.3% decrease compared to the no build VMT. Alternative 3 daily VMT are slightly higher on adjacent arterials parallel to I-35 compared to VMT of Alternative 1 and Alternative 2.

Criterion 5: Annual Cost of Travel

Each alternative was evaluated based on the I-35 (mainlanes and managed lanes) total corridor travel time and associated societal costs. The CAMPO 2045 TDM was modified for the project and provided daily vehicle-hours traveled (VHT) output of all vehicles traveling along the I-35 mainlanes and managed lanes within the project area. The daily VHT was then converted into annual cost of travel based on assumed value of time ($30.54 in 2021 USD) and number of days per year realizing this travel time (250 workdays).

No Build – Year 2045 network delays cost $564 million.

Alternative 1 – Year 2045 network delays cost $530 million, providing a 6.0% decrease compared to the no build costs. Alternative 1 travel costs are slightly higher than costs of Alternatives 2 and 3 due to increased congestion on I-35 mainlanes.

Alternative 2 – Year 2045 network delays cost $497 million, providing an 11.8% decrease compared to the no build costs.

Alternative 3 – Year 2045 network delays cost $497 million, providing an 11.8% decrease compared to the no build costs.

3.1.3 Creating a more dependable and consistent route for the traveling public including bicyclists, pedestrians, emergency responders, and transit.

Criterion 1*:* Improves East-West Connectivity

Each alternative was evaluated on its ability to provide enhanced vehicular, bicycle and pedestrian crossings. Each alternative was scored within the range of High, Medium or Low, where High = more connectivity and Low = less connectivity.

The no build alternative scored low because many current east-west connections do not provide bicycle facilities and only minimal pedestrian facilities and amenities. All three build alternatives scored high, as they all provide opportunities for additional east-west crossings for vehicles, pedestrians, and bicycles. East-west crossings will also be widened and enhanced for bicycles and pedestrians for all build alternatives.

Criterion 2: Accommodates Capital Metro's Service Plan at East-West Crossings

Each alternative was evaluated for its ability to accommodate Capital Metro's Project Connect proposed light rail system at east-west crossings. All three build alternatives accommodate Capital Metro's Service Plan for the proposed Blue Line at the east-west crossing at Riverside Drive and to provide a grade separation (with mainlanes, ramps, and frontage roads) of the Red Line at Airport

Boulevard and 4th Street. The no build alternative does not accommodate Capital Metro's Service Plan.

Criterion 3: Improves Facilities for Disabled Populations

Each alternative was evaluated for its ability to conform with the Americans with Disabilities Act (ADA) as well as with the Texas Department of Licensing and Regulation (TDLR) *Texas Accessibility Standards* (TDLR 2012).

Alternatives were scored within the range of High, Medium or Low, where High = enhanced improvements and Low = no improvements at all. All three build alternatives scored high, as they conform to both ADA and TDLR requirements. SUP and intersection geometric and signal design for all three build alternatives conform to latest ADA requirements. Reconstruction of sidewalk segments along the I-35 Capital Express Central Project are prioritized in the *City of Austin Sidewalk Master Plan and ADA Transition Plan Update* (City of Austin 2016) from low to very high need depending on location. Pedestrian facilities, including sidewalks, SUPs, and curb ramps will be reconstructed in accordance with the Architectural and Transportation Barriers Compliance Board (Access Board) draft document entitled *Accessibility Guidelines for Pedestrian Facilities in Public Right-of-Way* (PROWAG), published in 2011. Alternatives 1, 2, and 3 will all meet the requirements set forth in PROWAG for ADA-compliance. The no build alternative scored low since many existing pedestrian facilities on I-35 are not in compliance with the ADA.

3.2 Criteria Evaluated for Feasibility, Design, and Engineering

Criterion 1: Constructability Risk

Alternatives were evaluated for their construction duration and construction staging/sequencing complexity. Highway constructability is defined as providing the required space to safely build the highway while:

1. Maintaining an equal number of through lanes as the existing facility during all phases of construction.
2. Maintaining access to local roadway network.
3. Limiting the cost of temporary facilities required to maintain through lanes and local access.
4. Limiting the overall duration of construction.

Alternatives were scored within the range of High, Medium or Low, where High based on these four conditions, where High = higher risk (alternative meets fewer conditions) and Low = lower risk (alternative meets more conditions). All three build alternatives are likely to require drainage tunnels which will further complicate constructability and increase construction duration.

No Build – N/A

Alternative 1 has high constructability challenges due to limited space and the proposed multilevel infrastructure. The existing I-35 highway has three through lanes from US 290 at the northern project limits to SH 71 at the southern project limits. These through lanes are augmented with an auxiliary lane creating a fourth lane between on/off ramps.

Alternative 1 would vertically stack the managed lanes, mainlanes, and frontage road lanes,

creating three distinct levels. The managed lanes would be on the bottom level within a cut and cover tunnel. Cut and cover is the oldest method of tunneling and involves digging a trench, constructing a tunnel, and returning the surface to its original state. It is a disruptive technique, but it is usually the most economical method of tunnel construction. In one location due to limited ROW and environmentally sensitive areas, the managed lanes tunnel would be constructed using a bored construction method where the tunnel is built by opening up a portal and digging horizontally, thus causing less surface disturbance. The mainlanes would be above the managed lanes supported by another cut and cover tunnel. The mainlanes would connect to the frontage roads above through a series of ramps. The frontage roads would remain at ground elevation supported by the tunnels below and would connect to the local roadway network.

The two cut and cover tunnels would use a central foundation located in the middle of existing I-35. This central foundation would need to be constructed in the first phase of construction in order to build all subsequent phases. This would require phase one traffic to be squeezed into less than half the footprint of the existing I-35 facility. This would reduce the number of through lanes in the northbound direction to two lanes for multiple years during construction or require an expensive two-mile-long temporary bridge that would be demolished later during the construction project.

Maintenance of local access during construction would be restricted as the proposed frontage roads would be located above the tunnel structures. The outside support foundations for the mainlanes tunnel and its connecting ramps would be directly below the existing frontage road. The frontage road construction would need to be broken up into longitudinal sections: each frontage road section would be temporarily closed sequentially one after another impacting the limited through-capacity the frontage roads provide. Access to the adjacent properties would be provided either by a temporary frontage road requiring additional ROW or long traffic detours using the Austin street network by way of opened sections of frontage road.

At least an eight-year construction duration is anticipated for Alternative 1, based on construction cost, complexity, and the construction phasing described above.

Alternative 2 poses medium constructability challenges featuring a single stretch of frontage roads bridged over mainlanes between Manor Road and 38 ½ Street. Proposed ROW for Alternative 2 would allow for construction of two levels versus three levels required by Alternative 1. The frontage roads would remain at the existing ground level providing the connectivity to the local roadway network. The managed lanes and mainlanes would be lowered in an open-air corridor with ramps to the frontage roads. The construction could be broken up into five phases, building in order from east to west: phase 1 - northbound frontage road, phase 2 - northbound mainlanes, phase 3 - managed lanes, phase 4 - southbound mainlanes; phase 5 - southbound frontage road. This would allow the highway to be safely constructed while maintaining an equal number of through lanes as the existing facility during all phases of construction.

Only between Manor Road and 38 ½ Street would the northbound and southbound frontage

roads be temporarily closed. This stretch of the northbound frontage road does not have any local access needs. The southbound frontage road would require coordination to provide access to adjacent properties through detours using the Austin street network.

At least a 6.5-year construction duration is anticipated for Alternative 2 based on construction cost, complexity of construction, and the five phases that would take over one year each to construct.

Alternative 3 also poses medium constructability challenges featuring the same construction methods, sequencing and detours as Alternative 2, and also has at least a 6.5-year construction duration.

Criterion 2: Utility Conflicts

Each alternative was evaluated for its anticipated utility relocation effort (Table 2 lists major Austin water and wastewater utilities within the project limits.) Each alternative was scored within the range of High, Medium or Low, where High = more effort and utility conflicts and Low = less effort and fewer utility conflicts. For all three build alternatives, utilities along both sides of the ROW will be impacted by the reconstruction and widening of frontage roads. In particular, lowered frontage roads to grade separate the Capital Metro Redline rails, located south of the intersection at Airport Boulevard and 4th Street, would present a challenge on the sanitary sewer gravity flow line. Evaluation of this line includes potential lift station installation.

No Build – N/A

Alternative 1 – Alternative 1 would require high effort and complexity to relocate utilities due to both mainlanes (approx. 25 feet below the surface) and managed lanes (approx. 50 feet below the surface) facility depths. All utilities crossing the freeway would be impacted and require relocation. Existing utilities would need to be relocated prior to installing the storm drain system crossings.

Alternatives 2 and 3 – Alternatives 2 and 3 would both require medium effort and complexity to relocate utilities due to both mainlanes and managed lane (approx. 25 feet below the surface) facility depths. There is potential to avoid impacts to a few major utility crossings with these alternatives. Existing utilities would need to be relocated prior to installing the storm drain system crossings.

Table 2. Major City of Austin Water Utilities from US 290E to SH 71/US 290W

Utility Type	Size and Material	Parallel/ Crossing/ Lateral	Length in Project Limits (LF)	Conflict Description
Water	36" DI	Crossing	271	Under Pavement
Water	24" CI	Crossing	216	Under Pavement
Water	48" CSC	Crossing	225	Under Pavement
Waste Water	96" CONC	Crossing	404	Under Pavement
Water	24" CSC	Crossing	366	Under Pavement
Waste Water	30" CONC	Parallel	966	Under Pavement
Waste Water	24" SANITARY	Parallel	344	Under Pavement

Waste Water	24" SANITARY	Parallel	145	Under Pavement
Waste Water	42" CONC	Parallel	404	Under Pavement
Water	66" CSC	Crossing	494	Under Pavement
Waste Water	42" CONC	Crossing	312	Under Pavement
Water	24" CI	Parallel/Crossing	1002	Under Pavement
Waste Water	24" SANITARY	Parallel	865	Under Pavement
Waste Water	33" SANITARY	Parallel	497	Under Pavement
Waste Water	36" SANITARY	Crossing	303	Under Pavement
Waste Water	36" SANITARY	Crossing	386	Under Pavement
Waste Water	48" SANITARY	Crossing	429	Under Pavement
Waste Water	TUNNEL	Crossing	547	Under Pavement
Waste Water	30" CONC	Crossing	222	Under Pavement
Waste Water	54" CONC	Crossing	477	Under Pavement
Waste Water	30" CONC	Parallel	430	Under Pavement
Water	48" CSC	Parallel	432	Under Pavement
Water	24" CSC	Parallel	1015	Under Pavement

Source: Utilities CAD File provided by TxDOT

Criterion 3: Drainage Infrastructure Complexity

Each alternative was evaluated for its construction and maintenance of drainage infrastructure. A qualitative analysis was performed for the proposed drainage plan. This analysis was focused on identifying any fatal flaws, identifying issues and concerns that will result in drainage complexity, and identifying drainage features such as tunnels, detention and stormwater pump stations that would result in long-term operation and maintenance demands. Each alternative was scored within the range of High, Medium or Low, where High = more complex drainage infrastructure required and Low = less complex drainage infrastructure required.

No Build – N/A. Existing drainage systems are traditional gravity storm drain systems which are passive systems and thus have no complex operational demands associated with drainage tunnels, detention facilities, and stormwater pump stations, but do require some periodic inspection and maintenance to ensure their continued operation.

Alternative 1 – Alternative 1 scored high for drainage complexity as this alternative consists of lowered roadway lanes (mainlanes at approx. 25-foot depth) and an 8.25-mile continuous tunnel system (tunneled lanes at approx. 50-foot depth) which would sever all existing drainage systems. Extensive gravity tunnel systems and stormwater pump stations present complex construction and long-term maintenance challenges. Specific complexities encountered include:

- A 9,000-linear-foot stormwater gravity drain tunnel system along Cesar Chavez Street to just downstream of Longhorn Dam would be required to drain the downtown area from just north of Lady Bird Lake to 12th Street. Isolation gates and a stormwater pump station would likely also be required to keep the downtown roadway from flooding during extreme storm events.

- An extensive 9,000-linear-foot stormwater gravity drain tunnel system would be required along the southbound frontage road from 12th Street to just south of 38th Street to drain lowered roadway lanes and tunneled sections to Waller Creek.
- Drainage of the tunnel systems presents additional complexities with hazard containment and pumping systems required at several low points.
- A stormwater pump station or an additional 2,700-linear-foot tunnel section would be required to drain the lowered roadway lanes just south of the Capital Metro Red Line.
- South of Lady Bird Lake several large box culvert crossings of Harper's Branch would require complex relocations. Some in-line detention located within existing ROW would also be required.
- North of 38th Street, several large box culvert crossings to Boggy Creek would require complex relocations.

Alternative 2 – Alternative 2 scored medium-high for drainage complexity as this alternative consists of lowered roadway lanes (mainlanes at approx. 25-foot depth) which sever all existing drainage systems. Alternative 2 requires fewer gravity tunnel systems and stormwater pump systems than Alternative 1, reducing construction and long-term maintenance challenges. Unlike Alternative 1, Alternative 2 eliminates the need for a stormwater pump station for the downtown drainage; would not require draining a deeper tunnel section from 12th Street to south of 38th Street; and decreases the overall length of relocations for the Airport Boulevard area. Due to the lowered roadway lanes south of Lady Bird Lake, major drainage challenges would include:

- Mainlanes lower than Harper's Branch. Proposed local drain systems running parallel along each side of I-35 to Lady Bird Lake.
- Lower existing box culvert below mainlanes and tie into existing system on the east side of I-35. Flatter storm drain grades reduces system capacity, which may require upsizing the entire system outside of the project limits.

Alternative 3 – Alternative 3 scored medium for drainage complexity. Drainage needs for this alternative are relatively the same as Alternative 2. However, Alternative 3 removes major drainage impacts south of Lady Bird Lake by utilizing the existing drainage systems, which reduces construction and long-term maintenance challenges when compared to Alternatives 1 and 2.

Criteria 4: Opportunity and Complexity of Future Expansion

This was a qualitative evaluation based on each alternative's ability to allow for future modification and technologies. Each alternative was scored within the range of High, Medium or Low, where High = less complexity and more opportunities for expansion and Low = more complexity and fewer opportunities for expansion.

No Build – N/A

Alternative 1 – Alternative 1 scored low as it would provide few opportunities for future modification including technologies, with managed lanes being in a continuous tunneled

section just below the mainlanes and the frontage roads. Modifications to the structure would be a challenge and may not be feasible.

The managed lanes would be adaptable to new technologies, such as connected/autonomous vehicles. However, due to the limited horizontal and vertical space in the tunnel, it would be hard to retrofit any new technological infrastructure. Any modifications to the tunnel's footprint are very unlikely to be feasible due to the structural complexity and limited space. General purpose lane expansion is likely infeasible due to limited ROW.

Alternative 2 and 3 – Alternatives 2 and 3 both scored medium, as they would provide greater opportunities for future modifications, including technologies, than Alternative 1. Future modifications of the managed lanes would be feasible. The managed lanes would be adaptable to new technologies, such as connected/autonomous vehicles. It would be feasible to retrofit any new technological infrastructure on these alternatives. Mainlane expansion is likely infeasible due to limited ROW, however, modifications are feasible.

Criterion 5: Amount of New Right of Way Required

Each alternative was evaluated for the amount of new ROW required. This was determined by conducting a GIS comparison of currently proposed ROW lines for each build alternative with existing ROW lines and parcel lines from Travis Central Appraisal District (TCAD) (www.traviscad.org, accessed September 2020). Design of the alternatives is preliminary and for planning purposes only. Once the designs have been refined and properties surveyed for ROW acquisition, the impact acreages will be increasingly accurate.

The total number of parcels along the existing ROW of the proposed project was calculated: A total of 520 parcels abut the existing ROW of the proposed project area, including proposed direct connectors along US 290 and proposed improvements along cross streets throughout the corridor.

No Build – There are 520 parcels along the existing ROW; no new ROW or parcel impacts would be required for the no build alternative.

Alternative 1 – Of 520 total abutting parcels along the proposed ROW, Alternative 1 would require 16 acres of new ROW from 181 parcels.

Alternative 2 – Of 520 total abutting parcels along the proposed ROW, Alternative 2 would require 32 acres of new ROW from 199 parcels.

Alternative 3 – Of 520 total abutting parcels along the proposed ROW, Alternative 3 would require 30 acres of new ROW from 190 parcels.

3.3 Criteria Evaluated for Environmental Resources

Criterion 1: Minimize Displacements

Each alternative was evaluated for number of potential displacements, including residential and business or commercial properties. Residential and business/commercial property impacts were analyzed by conducting a comparison of currently proposed ROW lines for each alternative with existing ROW lines and available parcel data from TCAD (www.traviscad.org, accessed September

2020). Where the proposed ROW of an alternative came within 10 or fewer feet of a parcel's improvement (building), it was considered to be a potential displacement.

Potential Residential and Business/Commercial Displacements:

No Build – N/A

Alternative 1 – Of 520 total abutting parcels along the proposed ROW, Alternative 1 would potentially displace a total of 96 properties, including 50 commercial and 46 residential (single- and multifamily).

Alternative 2 – Of 520 total abutting parcels along the proposed ROW, Alternative 2 would potentially displace a total of 147 properties, including 75 commercial and 72 residential (single- and multifamily).

Alternative 3 – Of 520 total abutting parcels along the proposed ROW, Alternative 3 would potentially displace a total of 142 properties, including 72 commercial and 70 residential (single- and multifamily).

Criterion 2: Minimize Minority and Low-Income Property Displacements

Each alternative was evaluated for number of potential minority and/or low-income property displacements. These were analyzed by conducting a comparison of currently proposed ROW lines with parcel lines within minority and/or low-income block groups. Parcel data was obtained from TCAD (www.traviscad.org, accessed September 2020) and minority and low-income block group data was obtained from American Community Survey 2019 5-year estimates (ACS 2020). In accordance with TxDOT's "Environmental Handbook – Community Impacts, Environmental Justice, Limited English Proficiency, and Title VI Compliance," (TxDOT 2020) block groups where minority persons (Black, Hispanic, Asian American, American Indian or Alaskan Native, and Native Hawaiian or other Pacific Islander) approached or exceeded 50 percent of the population were considered to contain a minority population. Low-income populations were those where the median household income of the block group was at or below the Department of Health and Human Services poverty guideline for a family of four in 2021 (https://ftp.txdot.gov/pub/txdot-info/env/toolkit/710-01-gui.pdf, accessed June 2021). Where the proposed ROW of an alternative came within 10 or fewer feet of a parcel's improvement (building), it was considered to be potentially displaced.

No Build – N/A

Alternative 1 – Of 520 total abutting parcels along the proposed ROW, Alternative 1 would potentially displace 96 properties, 45 of which are considered minority/low-income properties (47% of the total displacements).

Alternative 2 – Of 520 total abutting parcels along the proposed ROW, Alternative 2 would potentially displace 147 properties, 52 of which are minority/low-income properties (35% of the total displacements).

Alternative 3 – Out of 520 total abutting parcels along the proposed ROW, Alternative 3 would potentially displace 142 properties, 52 (37% of the total displacements) of which are

minority/low-income properties.

Criterion 3: Minimize Visual Impacts

The quality of views from frontage road and cross streets were assessed for each alternative. Visual Impacts were analyzed by evaluating the value of and/or change in views from frontage roads and cross streets for each alternative. FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (USDOT 2015) provides concepts for creating beneficial impacts as a result of the project through opportunities to enhance or improve visual quality. Visual enhancements as a result of this project would be removing the upper decks, between Airport Boulevard and MLK Jr. Boulevard and tunneling or lowering the proposed managed lanes and mainlanes below the level of the existing roadway for all build alternatives. This was a qualitative assessment of visual impacts where each alternative was scored within the range of High, Medium or Low. Alternatives scored High where views remained unchanged, since the existing views are obstructed by the raised decks between Airport Boulevard and MLK Jr. Boulevard; and alternatives scored Medium or Low where views were enhanced by lowering current obstructions.

In 1983, protections were placed on the remaining views of the Texas State Capitol building, called Capitol View Corridors (TEX GV. CODE ANN. § 3151.002: Texas Statutes – Section 3151.002). The Capitol View Corridor is a plane that extends from a defined viewpoint or points to the base of the Capitol dome. None of the build alternatives would impact views of the Capitol.

No Build – Visual impacts are considered high for the no build alternative. With no improvements, views would continue to be obscured at frontage roads and cross streets by the elevated upper decks and elevated portions south of MLK Jr. Boulevard.

Alternative 1 – Visual impacts were considered to be low for Alternative 1, due to the removal of the existing decks and tunneling of the mainlanes and managed lane facilities.

Alternative 2 – Visual impacts were considered to be low for Alternative 2, due to the removal of the existing decks and the mainlanes and managed lane facilities being depressed.

Alternative 3 – Visual impacts were considered to be medium for Alternative 3, due to removal of the existing decks and the mainlanes and managed lane facilities being located below grade; however, proposed elevated managed lanes at Airport Boulevard and Woodland Avenue, could obscure some views.

Criterion 4: Archeological Sites and Cemeteries

Each alternative was evaluated for the risk and probability of encountering or directly disturbing sites containing intact archeological resources. Impacts were determined by the number of pre-recorded archeological sites within the currently proposed project footprint for each alternative using the THC Archeological Sites Atlas online (https://atlas.thc.state.tx.us/Account/Login, accessed May 2020).

All three build alternatives would potentially impact three archeological sites. One site was found to be ineligible for listing in the National Register of Historic Places (NRHP), one site has unknown eligibility, and the third site, the Mount Calvary Cemetery, was determined eligible under Criterion A (and Criterion Consideration D). A recent ground penetrating radar study showed that no grave sites would be

impacted at the cemetery.

Criterion 5: Historic Properties

Each alternative was evaluated for direct impacts to historic properties/districts. Direct impacts were analyzed by determining the number of historic properties (those already listed or identified as eligible for listing in the NRHP) within the currently proposed project footprint for each alternative, and whether or not the alternatives would result in a displacement or a ROW acquisition from one or more of these properties. Note that this analysis only includes *direct* impacts by the proposed alternatives, and not *indirect* impacts such as visual and aural impacts from proposed alternatives and/or their construction. Indirect impacts would be determined by further analysis of the reasonable alternatives carried forward into the DEIS. Additional survey work to be conducted after the alternatives analysis, could identify more historic properties that are currently unrecorded/unknown.

Sources consulted for recorded historic properties include:

- THC Historic Sites Atlas online (https://atlas.thc.state.tx.us/Map, accessed September 2020)
- TxDOT databases of historic properties, sites and bridges (https://txdot.maps.arcgis.com/apps/webappviewer/index.html?id=077104987672487b9b320cc424d588a2 and https://txdot.maps.arcgis.com/apps/webappviewer/index.html?id=cc9cf3452a324d0bb961a0c8b4edd898, accessed October 2020)
- City of Austin Landmarks Database (https://data.austintexas.gov/Locations-and-Maps/Historical-Landmarks/vvuz-m3y4, accessed October 2020).

Parcel data was obtained from TCAD. The Mount Calvary Cemetery is included as a non-archeological historic property as well as an archeological property since it is NRHP-eligible under Criterion A (and Criterion Consideration D) for its association with important events in history.

No Build – N/A

Alternative 1 – 6 historic properties (those listed in or eligible for listing in the NRHP) would be impacted by Alternative 1. Five historic residences and the Mount Calvary Cemetery would incur ROW acquisition by this alternative (none are currently proposed to be displaced).

Alternative 2 – 5 historic properties would be impacted by Alternative 2. Three historic residences and the Mount Calvary Cemetery would incur ROW acquisition by this alternative, and one commercial building, The Austin Chronicle, is currently proposed to be displaced.

Alternative 3 – 4 historic properties would be impacted by Alternative 3. Two historic residences and the Mount Calvary Cemetery would incur ROW acquisition by this alternative, and one commercial building, The Austin Chronicle, is currently proposed to be displaced.

Table 3 shows the approximate acreages of each historic property in the alternative footprints. The red highlighted acreages would result in a potential displacement.

Table 3. Potential ROW Acquisition of Historic Properties

TCAD Property ID	TCAD Property Zoning	Total Parcel Acreage	Alternative 1 ROW Acquisition Acreage	Alternative 2 ROW Acquisition Acreage	Alternative 3 ROW Acquisition Acreage
190931	Residential	0.14	0.097	0	0
190943	Residential	0.14	0.043	0.003	0.003
909548	Residential	0.22	0	0.002	0.081
211825	Commercial	0.33	0	0.260*	0.097*
213507	Residential	0.49	0.087	0	0
213509	Residential	0.35	0.006	0	0
213508	Residential	0.36	0.001	0.001	0
203930	Cemetery	7.33	0.069	0.248	0.251

Source: TCAD Property Data
Note - *= Potential Displacement

Criterion 6: Hazardous Materials

Each alternative was evaluated for number of potential regulated materials sites that may be disturbed. GIS data was obtained from an environmental regulatory database search, performed by GeoSearch in May 2021, to determine the number of potential regulated materials sites within 200 feet of the proposed ROW for each alternative. The sites may each contain multiple listings, however the data for each listing is preliminary and will require further analysis during hazardous materials technical evaluations. The databases searched included federal, state, and local, databases as defined by ASTM E 1527-13 (American Society for Testing and Materials 2020). Listings for pointer databases and those anticipated to have minimal impacts on a roadway project were eliminated from the review.

No Build – N/A

Alternative 1 – There are approximately 90 hazardous materials sites within 200 feet of the proposed ROW.

Alternative 2 – There are approximately 95 hazardous materials sites within 200 feet of the proposed ROW.

Alternative 3 – There are approximately 95 hazardous materials sites within 200 feet of the proposed ROW.

Criterion 7: Traffic Noise

Each alternative was evaluated for its potential to reduce traffic noise impacts to sensitive receptors. The evaluation consisted of a qualitative review of each alternative's ability to lower noise levels through its design, its potential to provide noise abatement, or both, as compared to each other. Studies have shown that depressing roadways can decrease traffic noise impacts. A 1997 study performed by TTI, entitled *Traffic Noise Effects of Elevated, Depressed, and At-Grade Level Freeways in Texas,* states:

> If a choice of grade condition is available between at-grade (same as other ground level in the area), depressed (below surrounding ground), or elevated (above surrounding ground), the choice should be depressed. By placing the flowing traffic below ground level, a natural sound barrier is created between the traffic and people adjacent to the roadway. Studies have shown that as the depth of the cut increases, between 3 meters (9.8 feet) and 9 meters (30 feet), the noise levels were not greatly affected because the improved screening provided by the increased depth of cut is offset by the increase in reflected noise from the opposite wall of the cut. With a depressed roadway of 3 meters (9.8 feet) or more, traffic noise has been shown to decrease from 74 dBA, at the cut, to 63 dBA at 10 meters (32.8 feet) from the edge of the cut. This noise level remains at about the same level out to 50 meters (164 feet). (TTI 1997)

The study further noted that while traffic noise along depressed mainlanes of a freeway are shielded for noise reduction, the frontage roads are usually still at-grade and near noise sensitive areas, thus depending on the volume and speed of traffic on these frontage roads, efforts can be negated. As a result, noise barriers may still be necessary and were considered in the evaluation.

Each alternative was scored within the range of High, Medium or Low, where High = more potential to reduce traffic noise impacts and Low = less potential to reduce traffic noise impacts.

No Build – With no additional improvements other than routine maintenance, the no build alternative scored low for noise impacts. The upper decks between Airport Boulevard and MLK Jr. Boulevard would remain in place and the noise impacts would be unchanged with little potential to reduce traffic noise impacts.

Alternative 1 – Noise impacts from Alternative 1 are anticipated to be reduced and Alternative 1 would have a high potential to reduce noise impacts. The tunnel would reduce noise, although frontage lanes may still require barriers depending on their speed and amount of traffic. In areas of ROW acquisition, sensitive receivers previously second row, may become first row.

Alternative 2 – Alternative 2 scored medium-high, as noise impacts are anticipated to be reduced since traffic noise would improve but may be slightly less improved than with tunnels as in Alternative 1. The depressed section of the proposed alternative would reduce noise, but possibly not as much as tunnels. Frontage lanes may still require barriers depending on their speed and amount of traffic. In areas of ROW acquisition, sensitive receivers previously second row, may become first row.

Alternative 3 – Alternative 3 scored medium, as noise impacts are anticipated to be reduced since traffic noise would improve in most areas but would remain unchanged in other areas. The depressed section would reduce noise, but not as much as the tunnels would. Frontage lanes may still require barriers depending on their speed and amount of traffic. This alternative also has overpass sections proposed at Woodland Avenue and Airport Boulevard, which could keep traffic noise at current levels in those areas. In areas of ROW acquisition, sensitive receivers previously second row, may become first row.

Criterion 8: Parks Purchased with Land and Water Conservation Funds (Section 6(f) Impacts)

Potential impacts to park resources protected by Section 6(f) of the Land and Water Conservation Fund (LWCF) are being evaluated and coordinated with the City of Austin. Section 6(f) parks were identified by consulting the LWCF database (https://www.doi.gov/lwcf, accessed July 27, 2021) the City of Austin Parks Department, and the Texas Parks and Wildlife Department. Section 6(f) protected parks adjacent to the project include Waller Beach at Town Lake Metro Park, and Edward Rendon Sr. Metro Park at Festival Beach.

Criterion 9: Parks Impacts (Section 4(f))

Each alternative was evaluated for park impacts by acre of park within each currently proposed alternative footprint. Park impacts for this criterion consider parks that are protected by Section 4(f) of the U.S. Department of Transportation Act of 1966. These estimates are subject to change as designs progress. Section 4(f) protected parks adjacent to the project include:

- *Northwest Greenway along Philomena Street* – City of Austin park (in partnership with Mueller) with hike/bike trail and play areas
- *Swede Hill Pocket Park* – City of Austin park with urban green space
- *Waller Creek Greenbelt* – City of Austin park with greenbelt, parkland and trail (included in proposed Waterloo Greenway project)
- *Waterloo Greenway* - Proposed City of Austin public-private park system currently under construction (expected completion: 2026)
- *Waller Beach at Town Lake Metro Park* – City of Austin riverfront park with kayaking facilities (included in proposed Waterloo Greenway project)
- *Sir Swante Palm Neighborhood Park* – City of Austin park with urban greenspace with playground (included in proposed Waterloo Greenway project)
- *Edward Rendon Sr. Metro Park at Festival Beach* - City of Austin riverside park and trail for picnicking, gardening and sports
- *Norwood Tract at Town Lake Metro Park* - City of Austin urban waterfront park and dog park
- *Ann and Roy Butler Hike and Bike 1300 Riverside Easement* - City of Austin hike and bike trail

  No Build – N/A

  Alternative 1 – Approximately 0.54 combined acres of parks would be impacted, including Norwood Tract at Town Lake Metro Park and Sir Swante Palm Neighborhood Park.

  Alternative 2 – Approximately 0.10 acres of Norwood Tract at Town Lake Metro Park would be impacted.

  Alternative 3 – Approximately 0.15 combined acres of Norwood Tract at Town Lake Metro Park would be impacted.

TxDOT and the City of Austin are coordinating on potential impacts to Waller Beach at Town Lake Metro Park and Edward Rendon Sr. Metro Park at Festival Beach, which are protected by both Section 4(f) and Section 6(f), as described above.

Criterion 10: Reduce Air Quality Impacts to Adjacent Communities

Each alternative was evaluated for the estimated total future year emissions compared to existing conditions. Previous studies have shown that that even though VMT and population are expected to increase significantly into the future, emissions of volatile organic compounds (VOC) and nitrous oxides (NOx), precursor emissions to ozone, carbon monoxide (CO) and particulate matter less than 2.5 micrometers (PM2.5), are showing declining trends. This is due to the vehicle and fuel improvements expected along with associated fleet turnover over time (TCEQ 2015).

FHWA has performed a national analysis of Mobile Source Air Toxics (MSAT) trends for all of the priority MSAT and show that even with increasing VMT over time, all of the MSAT are expected to decline over that same time period. The reason for these projected improvements over time is the same, vehicle and fuel improvements expected along with associated fleet turnover (USDOT 2016).

The analysis of air quality impacts consists of estimated total future year emissions for the build alternatives analyzed compared to existing conditions. Each alternative was scored within the range of High, Medium or Low, where High = more air quality impacts and Low = fewer air quality impacts.

No Build – The no build scored medium, as air quality is likely to improve along the corridor due to increasingly stringent vehicle and fuel regulations along with fleet turnover, but the increasing amount of congestion within the corridor could limit, but not cancel out that anticipated improvement.

Alternative 1 – Alternative 1 scored medium, as air quality is anticipated to improve along the corridor overall, however, at vents and tunnel openings, there could be isolated locations where pollutant concentrations are increased.

Alternatives 2 and 3 – Alternatives 2 and 3 scored medium, as air quality is anticipated to improve along the corridor overall, but the increasing amount of VMT as compared to the no build within the corridor could limit, but not cancel out that anticipated improvement.

3.4 Criteria Evaluated for Deck Cap Local Enhancements

Criterion 1: Deck Cap Local Enhancements

Each alternative was evaluated for its ability to accommodate deck cap construction by minimized ROW needs, ease of constructability, and lower cost to the City of Austin. Each alternative was scored within the range of High, Medium or Low, where High = more opportunities for enhancements and Low = fewer opportunities for enhancements.

No Build – With no deck cap additions, the no build would remain unenhanced, and therefore scored low.

Alternative 1 – Alternative 1 scored high, as it would accommodate deck cap additions.

Alternative 2 – Alternative 2 scored high, as it would accommodate deck cap additions.

Alternative 3 – Alternative 3 scored medium-high, as it would accommodate deck cap additions; however, the overpasses required for Alternative 3 would limit (by very few) the number of crossings.

3.5 Criteria Evaluated for Preliminary Design/Build Project Costs

Criterion 1: Minimize Design/Build Costs

Each alternative's engineer's estimate of probable design/build project costs were estimated by measuring preliminary construction and design/build costs using statewide averages where applicable. Estimates include inflation and contingency. Estimates do not include acquisition of ROW, easements, or utility relocation costs.

No Build – N/A

Alternative 1 – Estimated design/build cost is approximately $8.08 billion. The estimate for Alternative 1 was higher than Alternatives 2 and 3 due to the additions of the tunnels and cut and cover sections between Airport Boulevard and Lady Bird Lake as well as the tunnels located near Oltorf Street.

Alternative 2 – Estimated design/build cost is approximately $3.92 billion.

Alternative 3 – Estimated design/build cost is approximately $3.94 billion. Alternative 3 is more than Alternative 2 due to the additional mainlane overpasses.

Criterion 2: Minimize Operation and Maintenance Costs

Each alternative's preliminary operation and maintenance costs were estimated using existing studies performed on tunnels around the U.S. with costs varying from approximately $700,000 to $2.2 million per lane mile depending on location and environmental conditions. The tunnel operation and maintenance costs per lane mile used in the calculation is approximately $900,000. The non-tunneled sections were estimated at approximately $9,000 per lane mile ($7,500 plus inflation).

No Build – Estimated operation and maintenance cost is approximately $1.7 million/year.

Alternative 1 – Estimated operation and maintenance cost is approximately $14.4 million/year. This cost includes $21 million/year for the manage lane tunnel section.

Alternative 2 – Estimated operation and maintenance cost is approximately $2.2 million/year.

Alternative 3 – Estimated operation and maintenance cost is approximately $2.2 million/year.

4 Alternatives to be Analyzed in the Draft Environmental Impact Statement

Based on the alternatives evaluation criteria detailed above, TxDOT has decided to eliminate Alternative 1 from further study and analyze Alternatives 2 and 3 in the DEIS. Table 4 revisits the criteria considerations that proved to differentiate among Alternatives 1, 2 and 3, and the no build. (Although it does not meet the need and purpose of the project, the no build alternative is still an option and will be carried forward, through the DEIS, as a baseline for comparison.)

Table 4. Alternative Scores among Differentiating Criteria

Alternatives that Best Meet the Purpose and Need				
Criterion	No Build	Alternative 1	Alternative 2	Alternative 3
Improves Emergency Response Time	**Low**	**Medium** Proposed 8.25 miles of continuous tunnels would limit access to cross streets.	**High** Direct and continuous access between mainlanes and managed lanes improves access to cross streets.	**High** Direct and continuous access between mainlanes and managed lanes improves access to cross streets.
Emergency Egress Requirements	**High**	**Low** Proposed 8.25 miles of continuous tunnels limit entrance and exit ramp locations.	**High** Depressed sections provide egress using ramps and collector-distributor roads.	**High** Depressed sections provide egress using ramps and collector-distributor roads.
Alternatives that Best Meet Feasibility, Design, and Engineering Criteria				
Criterion	No Build	Alternative 1	Alternative 2	Alternative 3
Constructability Risk	N/A	**High** 8.25 continuous tunneled section. Limited space, multilevel infrastructure and an additional 1.5 years of construction time.	**Medium** Single stretch of frontage roads bridged over mainlanes between Manor Road and 38 ½ Street, and reduced construction time of 1.5 years.	**Medium** Single stretch of frontage roads bridged over mainlanes between Manor Road and 38 ½ Street, and reduced construction time of 1.5 years.
Utility Conflicts	N/A	**High** All utilities crossing the freeway would require relocation.	**Medium** Potential to avoid impacts to major utility crossings.	**Medium** Potential to avoid impacts to major utility crossings.
Drainage Infrastructure Complexity	N/A	**High** Extensive gravity tunnel systems and stormwater pump stations present complex construction and long-term maintenance challenges.	**Medium-High** Fewer gravity tunnel systems and stormwater pump systems than Alternative 1 reduce construction and long-term maintenance challenges. Lowered mainlanes may require extensive drainage improvements including upsizing and new drainage systems south of Lady Bird Lake and areas outside the project limits.	**Medium** Fewer gravity tunnel systems and stormwater pump systems than Alternative 1 reduce construction and long-term maintenance challenges. Major drainage impacts south of Lady Bird Lake are removed by utilizing the existing drainage system, compared to Alternatives 1 and 2.

Amount of New Right of Way	N/A	**16 acres** of new ROW from 181 parcels	**32 acres** of new ROW from 199 parcels	**30 acres** of new ROW from 190 parcels
Alternatives that Best Meet Environmental Resources Criteria				
Criterion	No Build	Alternative 1	Alternative 2	Alternative 3
Minimize Displacements	N/A	**96** potential displacements	**147** potential displacements	**142** potential displacements
Minimize minority and low-income property displacements	N/A	**45** minority/low-income displacements (**47%** of total displacements)	**52** minority/low-income displacements (**35%** of total displacements)	**52** minority/low-income displacements (**37%** of total displacements)
Alternatives that Best Meet Cost Considerations				
Criterion	No Build	Alternative 1	Alternative 2	Alternative 3
Minimize Design-build Costs	N/A	**$8.08 billion,** approx.	**$3.92 billion,** approx.	**$3.94 billion,** approx.
Minimize Operation and Maintenance Cost	**$1.7 million/year,** approx.	**$14.4 million/year,** approx.	**$2.2 million/year,** approx.	**$2.2 million/year,** approx.

Within the Purpose and Need criteria listed in Table 4, Alternatives 2 and 3 allow for faster emergency response times and fewer emergency egress requirements than Alternative 1, largely because there are currently no tunneled sections proposed for Alternatives 2 and 3 (however, following coordination with the City of Austin, short, tunneled sections may be included at select locations in order to accommodate deck caps and mitigate ROW/displacement impacts). The 8.25-mile continuous proposed tunnel for Alternative 1 would limit access to cross streets and provide fewer egress options, thus delaying emergency response times. Alternatives 2 and 3 both resulted in shorter emergency response times than Alternative 1 because Alternative 2 and 3 allow direct and continuous emergency access across the striped boundaries separating mainlanes and managed lanes thereby improving access to cross streets. Additionally, Alternatives 2 and 3 do not have extra requirements for emergency egress: existing shoulders, ramps, collector-distributor roads and frontage roads along the corridor would provide egress in case of an emergency and there are currently no tunneled sections proposed for these alternatives.

Within the Feasibility, Design and Engineering differentiating criteria, Alternatives 2 and 3 scored well above Alternative 1 for Constructability Risk, Utility Conflicts, and Drainage Infrastructure Complexities. This is mainly because the continuous tunnel proposed by Alternative 1 require multi-level and more complex construction phasing as well as an additional 1.5 years of construction time. During construction for Alternative 1, the northbound mainlanes would be reduced to just 2 lanes for multiple years. The tunnels also conflict with utilities and drainage infrastructure more than Alternatives 2 and 3, because they require more extensive gravity tunnel systems and stormwater pump stations than proposed lowered sections in Alternatives 2 and 3. Among this evaluation criteria group, Alternative 1 scored better under Amount of ROW Required: Alternative 1 would require approximately 15 acres less of ROW acquisition than what is proposed for Alternatives 2 and 3.

Under Environmental Resources criteria, Alternative 1 scored better for minimizing the number of potential displacements.

Finally, under Cost Considerations, the alternatives differentiated under both design-build and operations and maintenance costs. At an estimated $8.08 billion, Alternative 1 is approximately twice ice than twice the cost of Alternatives 2 and 3, which have similar estimated costs. Furthermore, at an estimated $14 million/year, Alternative 1 is almost seven times the annual cost to operate and maintain either Alternative 2 or 3.

5 Conclusions

Based upon the analysis of data developed and presented as part of the alternatives evaluation screening process, TxDOT has determined that Alternative 1 will not be carried forward. Alternatives 2 and 3 will be carried forward, based on:

- Faster response times for EMS, police, fire department and hospitals.
- Shorter construction duration by 1.5 years.
- Improved traffic operations during construction with fewer lane closures.
- Fewer utility conflicts and lower relocation costs.
- Fewer drainage conflicts.
- Lower design-build costs.
- Lower annual and lifetime maintenance requirements and cost.

TxDOT will be moving forward with further evaluation and technical analyses of the build alternatives 2 and 3 since they best meet the evaluation criteria and represent the safest and most constructible options of the three feasible, standalone alternatives.

6 Next Steps

In the coming months, TxDOT will be furthering the design of Alternatives 2 and 3 to refine the designs and further minimize potential impacts to the human and natural environment. In the development of the DEIS, TxDOT will analyze the following:

- Biological Resources
- Waters Resources
- Community Impacts
- Air Quality
- Traffic Noise
- Park Impacts (Section 4(f) and Section 6(f))
- Archeological Resources
- Historic Resources
- Indirect Impacts, and
- Cumulative Impacts

The results of these technical analyses will be shown and described in the DEIS, including the identified of the Preferred Alternative, which will be made available for agency and public review and comment as part of the public hearing process.

Following the public comment period, TxDOT will compile and respond to all public and agency comments and incorporate design revisions occurring as a result of the public hearing process. Ultimately, TxDOT will release the anticipated Final Environmental Impact Statement and Record of Decision, which will mark the end of the National Environmental Policy Act process.

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Draft Alternatives Evaluation Criteria

I-35 Capital Express Central - CSJ: 0015-13-388 - Draft Alternatives Evaluation Criteria (March 2021)

Note: After the draft alternatives evaluation criteria are finalized, TxDOT will populate this table for the No Build Alternative and each of the proposed Build Alternatives. This information will be used to compare the alternatives to each other.

Alternatives Evaluation Criteria	Criteria Description	Evaluation Parameters	Metrics/Units	No Build Alternative	Build Alternative 1 Managed Lanes Tunnel Section	Build Alternative 2 Managed Lanes Lowered Section	Build Alternative 3 Managed Lanes Lowered Section Modified at Airport Boulevard and Woodland Avenue
Purpose and Need	**Enhancing safety within the corridor**						
	Aligned with TxDOT's Road to Zero Initiative and City of Austin's Vision Zero Initiative	Supports TxDOT's mission to cut traffic fatalities in half by 2035 and then entirely by 2050. Supports the City's mission to eliminate traffic deaths and serious injuries on Austin streets.	Yes/No				
	Improves emergency response time for EMS, police, fire, and hospitals	Adequate ramps, detour routes for emergency vehicles	High/Medium/Low				
	Emergency egress requirements	Tunnels will require detailed evaluations and additional design elements to meet Fire and Life Safety code requirements.	High/Medium/Low				
	Reduction in crash rate	Review potential for crash reductions	High/Medium/Low				
	Addressing demand by prioritizing the movement of people, goods, and services through and across the corridor; improving operational efficiency						
	General purpose travel time	Change in travel time compared to the No Build	% Change				
	Managed lane travel time	Change in travel time compared to the No Build	% Change				
	Reduction in travel demand in adjacent transportation roadway network	Change in travel demand patterns/traffic volumes and delays on adjacent roadway network	Vehicle Miles Traveled				
	Annual cost of delay	Cost savings from reduced delays relative to No Build	Dollars				
	Creating a more dependable and consistent route for the traveling public including bicyclists, pedestrians, emergency responders, and transit						
	Improves east-west connectivity	Enhanced vehicular, bicycle and pedestrian crossings	High/Medium/Low				
	Accommodates CapMetro Project Connect improvements at cross routes	Accommodates Project Connect's proposed light rail system at east- west crossings	High/Medium/Low				
Feasibility, Design, and Engineering	Constructability	Construction duration, construction staging/sequencing complexity	High/Medium/Low				
	Amount of new right of way (ROW) required	Acres of ROW	High/Medium/Low				
	Utility conflicts	Anticipated utility relocation effort	High/Medium/Low				
	Drainage infrastructure complexity	Construction and maintenance of drainage infrastructure	High/Medium/Low				
	Opportunity and complexity of future expansion	Cost, constructability, and construction duration	High/Medium/Low				
Environmental Resources	Minimize residential displacements	Travis Central Appraisal District property data	Number of Potential Displacements				
	Minimize business displacements	Travis Central Appraisal District property data	Number of Potential Displacements				
	Minimize minority and low income property displacements	Travis Central Appraisal District property data and American Community Survey Data	Number of Potential Displacements				
	Minimize visual impacts	Quality of views from frontage road and cross streets	High/Medium/Low				

I-35 Capital Express Central - CSJ: 0015-13-388 - Draft Alternatives Evaluation Criteria (March 2021)

Note: After the draft alternatives evaluation criteria are finalized, TxDOT will populate this table for the No Build Alternative and each of the proposed Build Alternatives. This information will be used to compare the alternatives to each other.

Alternatives Evaluation Criteria	Criteria Description	Evaluation Parameters	Metrics/Units	No Build Alternative	Build Alternative 1 Managed Lanes Tunnel Section	Build Alternative 2 Managed Lanes Lowered Section	Build Alternative 3 Managed Lanes Lowered Section Modified at Airport Boulevard and Woodland Avenue
Environmental Resources, continued	Archeological sites and cemeteries	Risk and probability of encountering sites	High/Medium/Low				
	Historic properties	Impacts to historic properties/districts	Number of Historic Properties				
	Hazardous materials	Number of potential regulated materials sites within and adjacent to the footprint	Number of Hazmat Sites				
	Traffic noise	Potential to reduce noise impacts	High/Medium/Low				
	Parks purchased with Land and Water Conservation Funds	Acres within footprint	Acres				
	Park impacts	Acres within footprint	Acres				
Local Enhancements	Deck Plaza Local Enhancements	Best accommodates plaza construction by minimized ROW needs, ease of constructability, and lower cost to City of Austin	High/Medium/Low				
Preliminary Project Costs	Minimize construction cost	Preliminary construction cost estimate	Dollars				
	Minimize operation and maintenance cost	Preliminary operation and maintenance cost estimate	Dollars				