Texas Department of Transportation

PRESIDIO TEXAS

CITY of ALPINE BREWSTER COUNTY 1882

THE CITY OF MARFA MARFA, TEXAS

US 67 CORRIDOR MASTER PLAN

APPENDIX T

FEBRUARY 2020

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US 67 CORRIDOR

MASTER PLAN

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US 67 Corridor Master Plan Alternate Route Roadmap

Texas Department of Transportation®

February 2020

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1.0 Purpose of the Roadmap

The Texas Department of Transportation has developed a Corridor Master Plan of the United States (US) Highway 67 corridor. The US 67 Corridor Master Plan limits stretch 142 miles from Interstate Highway 10 (I-10) west of Fort Stockton to the Presidio/Ojinaga Port of Entry (POE) on the U.S./Mexico border. Throughout the public involvement process for the study, elected officials, stakeholders, and members of communities along the US 67 study corridor expressed both an opinion against "alternate routes" and an interest in identifying alternate routes as part of the study. Because alternate routes would likely be located outside of the study area, they would not be considered as recommended improvement options within the US 67 Corridor Master Plan. However, given the interest on this topic, and to inform local officials and the public about the concept of alternate routes, TxDOT is providing this document as a "roadmap" of the alternate route process. The roadmap provides high-level steps involved in the process and a summary of several case studies, based on available information.

The roadmap is organized into the following sections:

- **Section 2.0 Background** – This section provides a background discussion of the US 67 Corridor Master Plan, public outreach conducted for the study, and a summary of public comments that led to the preparation of this roadmap.
- **Section 3.0 Alternate Route Development Process** – This section provides a high-level summary of the alternate route development process from feasibility study through construction.
- **Section 4.0 Alternate Route Case Studies** – This section provides examples of proposed and constructed alternate routes throughout the U.S. and the process (time and cost) to achieve project initiation, environmental clearance (if clearance was obtained), and construction (time and cost).
- **Section 5.0 Post-Construction Impacts of Alternate Routes** – This section provides potential pros and cons of alternate routes on communities after construction.
- **Section 6.0 Summary** – This section provides a summary of the information provided above.
- **Section 7.0 References –** This section provides the references.

2.0 Background

US 67 provides access to Alpine, Marfa, Presidio, and surrounding communities, as well as Big Bend National Park, Sul Ross State University, the Marfa Lights, Big Bend Ranch State Park, Fort Leaton State Park, and Fort Davis attractions. This rural area has experienced growth in recent years, and TxDOT conducted the US 67 Corridor Master Plan study to help determine the current and future transportation needs to best serve the communities along US 67. The study included comprehensive data collection, corridor planning, development strategies, feasibility analysis, and public involvement in order to recommend a set of improvement projects for short-, mid-, and long-term implementation.

The study area included the entire 142 miles of US 67 as described above and a buffer of 1,500 feet from the edge of the prescribed right-of-way (based on the County Appraisal District parcel boundary information) in all directions. The buffer was included to be sure that the study did not only look at resources within the existing right-of-way, but also considered resources adjacent to US 67.

2.1 Public Outreach

As part of the US 67 Corridor Master Plan collaborative process, TxDOT conducted various public outreach activities between December 2017 and October 2019 to present information to the public and receive meaningful public input regarding the corridor needs and concerns. The Study Team, which consisted of TxDOT and their consultants, conducted numerous Focus Group Interviews with special interest groups and property owners; seven Corridor Working Group Meetings with agency representatives, public officials, and various members of the public; three Bus Tours along the corridor with elected officials and members of the public and the media; nine Steering Committee Meetings with elected officials; and three series of Public Meetings (totaling 12 meetings).

As noted above, throughout the public involvement process, members of the communities along the US 67 study corridor expressed both an opinion against alternate routes and an interest in identifying alternate routes as part of the study. During Public Meeting Series #1, held in May 2018, 410 members of the public attended the meetings and of the 540 comments received during the comment period, 181 comments (34 percent) mentioned alternate routes (158 in support and 23 in opposition). In Public Meeting Series #2, held in November 2018, 257 members of the public attended the meetings, and of the 181 comments received during the comment period, 132 comments (73 percent) mentioned alternate routes (127 in support and five in opposition). In Public Meeting Series #3, held in June 2019, 207 members of the public attended the meetings, and of the 47 comments received during the comment period, five comments (11 percent) were in support of considering an alternate route. This is summarized in the table below (**Table 1**).

Table 1. Summary of Public Comments on Alternate Routes

Public Meeting Series #	Date	# of Public Attendees	Total # of Comments	# Supporting Alternate Routes	# Opposing Alternate Routes
1	May 2018	410	540	158	23
2	November 2018	257	181	127	5
3	June 2019	207	47	5	0

Source: Blanton & Associates 2019

The public expressed concerns about how an alternate route could affect their local economies, the environment, and property values, as well as how it could impact property owners through land acquisition. However, others also noted that an alternate route could take car and truck traffic off of roads within each town, which would benefit pedestrians and tourists and would potentially reduce noise and air pollution. Also, alleviation of congestion by commercial traffic, specifically the Solitaire Mobile Homes and oil and gas industry trucks, was cited as a main reason for proposing an alternate

route. Many members of the public proposed that the alternate route should be limited to commercial trucks.

After noting the interest in alternate routes within the communities, TxDOT explained in meetings with elected officials and the public that the objective of the US 67 Corridor Master Plan is to study the existing US 67 corridor and to provide recommendations/solutions within the vicinity of the corridor, and because alternate routes would likely be located outside of the study area, they would not be considered as improvement options within the US 67 Corridor Master Plan. Given the interest on this topic, however, and to inform local officials and the public about the concept of alternate routes, TxDOT is providing this document as a "roadmap" of the alternate route process. The roadmap provides high-level steps involved in the process and also provides a summary of several case studies.

2.2 What is an Alternate Route?

An alternate route is defined as a road or highway that directs traffic around a populated area. Other terms that may be used to describe an alternate route include: "bypass", "reliever route", "outer loop", and "relief route". These transportation facilities can also be used to specifically re-route truck traffic. For the purpose of this roadmap, the term "alternate route" will be used to describe all of these concepts (**Figure 1**).

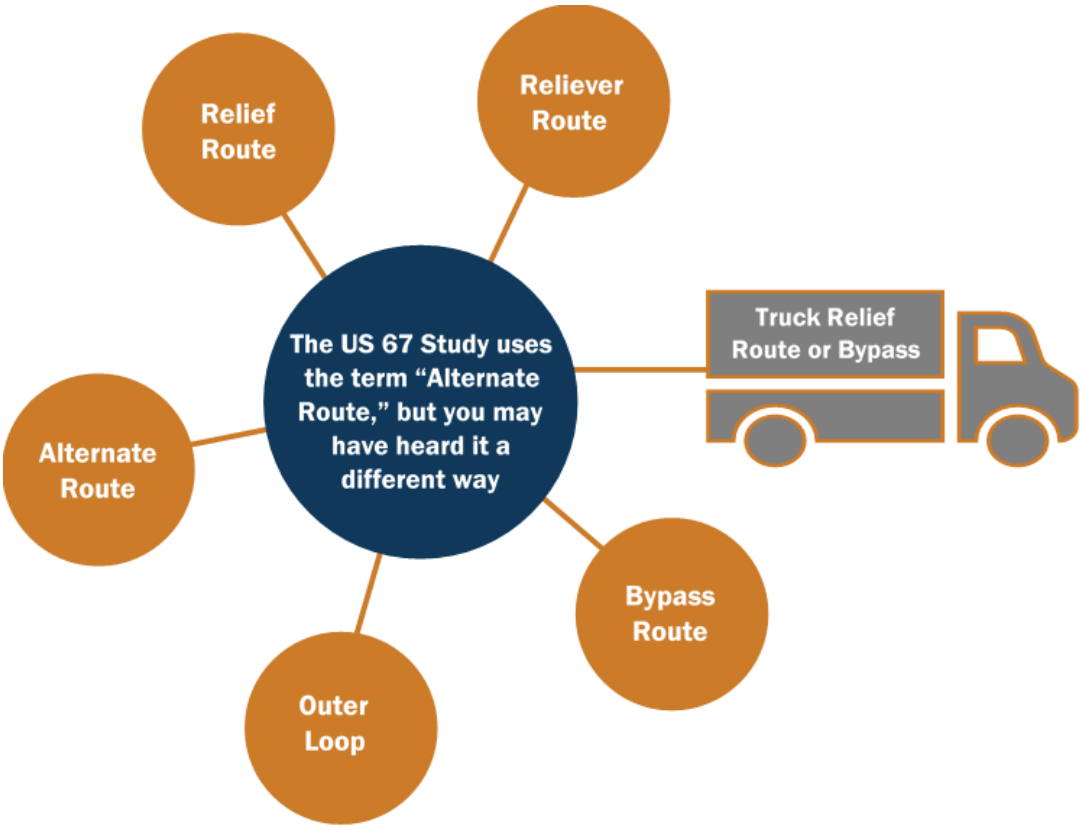

Figure 1. What is an Alternate Route?

An alternate route is often constructed mostly or entirely on new location around a town or city. Alternate routes can offer benefits such as diverting perceived unwanted traffic (such as truck traffic or high-speed traffic) away from local roadways, thus preserving a small-town feel. Diverting traffic away from towns could also have negative impacts, such as impacts to local businesses, loss of property, and other environmental impacts based on the need for new right-of-way. In addition, alternate routes have different impacts on towns depending on the type of town and whether or not the town is striving for economic growth (and where the focus area of that economic growth is located). There are many examples of alternate routes constructed around different sized towns with many different economic drivers; however, the intent of this roadmap is to provide examples of alternate routes around towns similar in size to Alpine, Marfa, and Presidio.

Alternate routes often involve extensive considerations and coordination over a long period of time. Considerations include project initiation efforts (whether that involves a feasibility study and/or gaining the support of local elected officials), public and stakeholder input throughout the process, project design, and environmental documentation. The entire alternate route development process timeline can range from 2 to 30 years. This timeline depends on factors such as impacts to the natural and human environment, right-of-way cost, engineering constraints, available funding, and public input, as well as post construction impacts to local communities and the economy of the area (**Figure 2**).

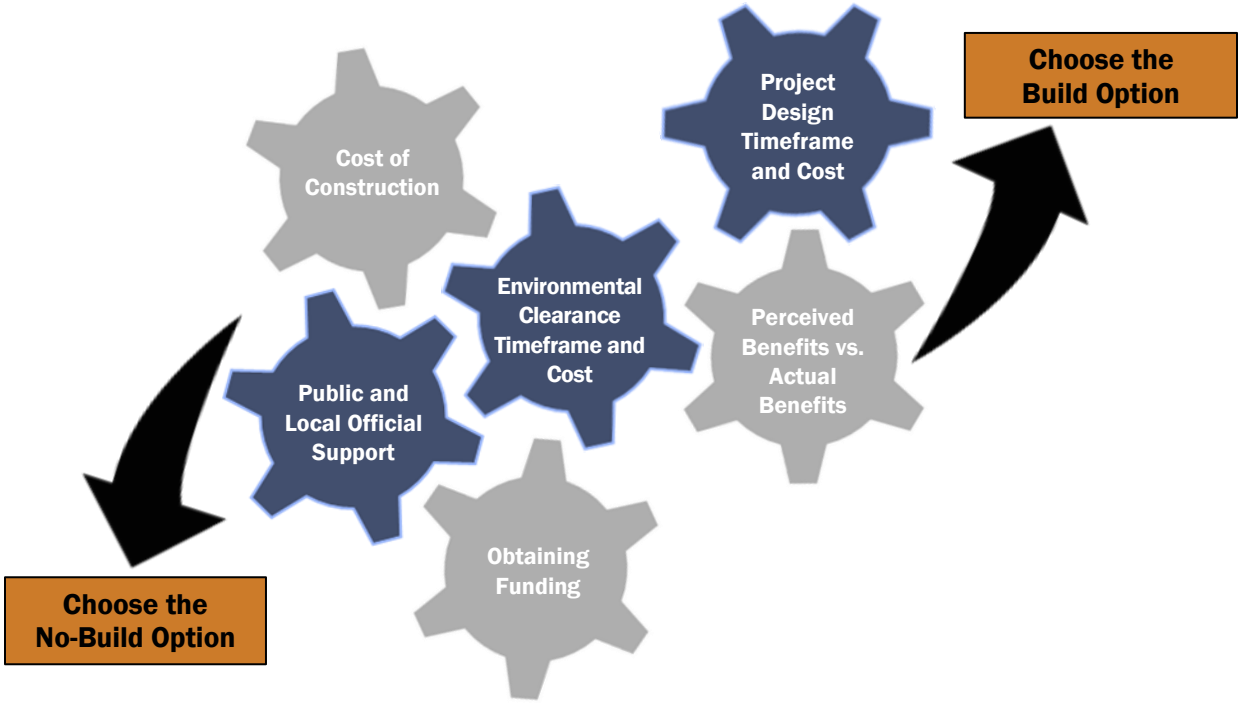

Figure 2. Alternate Route Process Considerations

3.0 Alternate Route Development Process

The purpose of this section is to assist interested parties in learning how an alternate route study is developed and what the process entails. Some of the key steps are:

- Conduct Planning Process
- Obtain Funding
- Finalize the Design and Construct Project

3.1 Planning Process

The federal transportation planning regulations governing the use of transportation planning and project development (23 CFR 450.212 and 450.318) identify the following five items among the main products needed for a federally funded transportation project:

- Goals and objectives or purpose and need
- General travel corridor and or general mode definition (e.g., highway, transit, or a highway/transit combination)
- Preliminary screening of alternatives and elimination of alternatives that do not meet the goals and objectives/purpose and need statements
- Basic description of the engineering and environmental constraints
- Preliminary identification of environmental impacts and potential mitigation

These items are initiated during early planning studies that occur up to 20+ years out and are developed in detail within 10 years of the project being put out for construction bids (i.e. ready to be let). The 20 and 10-year time frames for early planning and development, respectively, are planning timeframes for this work; the actual time frames for the delivery of an alternate route could occur more quickly depending on the amount of early planning and development work that needs to be performed, potential impacts, funding, and stakeholder support for the project. Alternatively, as described in Texas Administrative Code (TAC) Title 43, Part 1, Chapter 16, a proposed project can go through a less rigorous state planning and development process, but this would eliminate the possibility of using federal funds.

3.1.1 Initiation of Planning Process

The transportation project planning process is initiated using various early planning tools such as feasibility studies, alternative analyses, corridor studies, and Planning and Environment Linkages (PELs). Once these studies are complete, the project can be further developed provided it is in the Unified Transportation Program (UTP) (See **Figure 3** below).

Early planning tools are beneficial to identify and resolve initial issues and understand the level of effort needed to complete the planning process. They can also help define the goals and objectives or purpose and need of a transportation improvement or help prioritize among various competing projects or corridors. Early planning tools are also used to help address broader issues of land use, growth management, and resource protection. This application of early planning tools often occurs through constraints analyses of conceptual alternatives, before project-level transportation solutions

are identified. Transportation planners can benefit by getting early feedback from resource agencies and environmental stakeholders. The expectation is that early coordination will help agencies identify key environmental factors and resources that will lead to more informed decision making. Corridor and area studies can also help state and local officials understand the magnitude and scope of projects and allow officials to learn more about a particular corridor or area before moving forward with project development.

The PEL process is another early planning tool that has been identified as an initiative that may shorten project delivery time (Source: https://www.fhwa.dot.gov/innovation/everydaycounts/edc-1/PEL.cfm). The PEL initiative encourages the use of information developed in planning to be "counted" and utilized more efficiently in the National Environmental Policy Act (NEPA) process. This can lead to less duplication of effort at the development stage and more informed project-level decisions.

Transportation agencies can conduct a "PEL study," which is any type of transportation planning study conducted at the corridor or area level that links planning information directly or by reference into NEPA. To be viable in NEPA, a PEL study must involve interested state, local, tribal, and federal agencies as well as the public, document relevant decisions in a form that is identifiable and available for review during the NEPA scoping process, can be appended to or referenced in the NEPA document, and must be accepted by the NEPA lead agencies.

3.1.2 Planning and Programming

In order to obtain transportation funding necessary to proceed with a study or project within the state of Texas, local officials would work with TxDOT and/or the regional Metropolitan Planning Organization (MPO) to insert the study or project into a transportation planning and programming document. There are multiple planning and programming documents utilized in Texas for transportation projects. **Figure 3** provides a brief description of each.

Unified Transportation Program (UTP) – 10-year plan linking the SLRTP, MTP, and RTP to the STIP and 24-month Letting Schedule.
Statewide Long-Range Transportation Plan (SLRTP) – 20+ year plan that includes roadways, pedestrian and bicycle facilities, transit, freight and passenger rail, airports, waterways and ports, pipelines, and intelligent transportation systems.
Metropolitan Transportation Plan (MTP) – 20+ year plan that includes an integrated, intermodal transportation system.
Rural Transportation Plan (RTP) – 20+ year plan that includes transportation needs outside of MPO boundaries and includes added capacity highway specific projects.
The Statewide Transportation Improvement Program (STIP) – 4-year program including the MPO and Rural Transportation Improvement Programs and is consistent with the SLRTP and MTP. In non-attainment areas (Houston, Dallas-Fort Worth, Beaumont, San Antonio, and El Paso), projects must conform to the State Implementation Plan (SIP).
24-month Letting Schedule – Contains projects authorized by the Texas Transportation Commission that have been identified as ready for letting (i.e. ready to be advertised to solicit construction bids) or obligation of funds for that fiscal year by each TxDOT District.

Figure 3. Transportation Planning and Programming Documents
Source: CDM Smith 2019

A rural project similar to an alternate route along US 67 would typically utilize only four of the documents referenced in **Figure 3**. During early planning stages, an alternate route along the US 67 corridor would need to be included in the Rural Transportation Plan (RTP), Unified Transportation Program (UTP), Statewide Transportation Improvement Program (STIP), and 24-month Letting Schedule. A more detailed explanation is provided below.

The RTP focuses on statewide added-capacity highway specific transportation projects outside of areas within the jurisdiction of an MPO. TxDOT or a Regional Transportation Planning Organization (RTPO) can recommend adding projects to the RTP. As no MPO or RTPO exist in the US 67 corridor area, local authorities would coordinate directly with TxDOT to help direct a US 67 alternate route project into the RTP, which typically precedes the inclusion in the UTP.

The UTP links the planning activities of the RTP to the detailed programming activities under the STIP and TxDOT's 24-month Letting Schedule. Inclusion of a proposed US 67 alternate route project in the UTP would secure what is called "develop authority", which allows the schematic and environmental process, public involvement, Plans, Specifications and Estimates (PS&E) preparation, right-of-way acquisition, and local agreement preparation (if required) to occur. The processes authorized by "develop authority" can take considerable time to complete but are needed to secure "construct authority". "Construct authority" includes placing a project in the Transportation Improvement Program (TIP)/STIP with all funding sources necessary to complete the alternate route and to request bids for construction for completion within approximately 1 to 4 years.

3.2 NEPA and Preliminary Design Processes

The following two processes are required for the advancement of a proposed alternate route project: 1) conduct and complete the environmental or NEPA process and 2) prepare and obtain approval of the preliminary design. These processes are commonly conducted concurrently for federally funded TxDOT projects. Provided below are brief explanations of each process and what tasks they may entail.

NEPA Process

Alternate routes are often proposed on new location which can create sensitive environmental issues (i.e. impacts to the natural and human environment) and public controversy, both of which are addressed during the NEPA process and through public involvement. Environmental considerations under the NEPA process may include, but are not limited to, the following:

- Purpose and need of the proposed project
- Alternatives analyses
- Economic considerations including business and employment, tax base, traffic patterns, business access, and special needs patrons
- Right-of-way requirements

- Land use impacts including land use changes, consistency with planning, impacts to open space, focal points, and mobility (i.e. multimodal considerations, connectivity, parking, traffic circulation, and disadvantaged transportation needs)
- Aesthetics including noise/vibration, viewshed, and compatibility
- Impacts to residential structures, non-residential structures, public facilities, and other facilities
- Community impacts to minority populations, limited English proficiency populations, low income communities, community cohesion, quality of life, safety/emergency response time, and special community designations
- Natural resource impacts to resources such as threatened and endangered species, native vegetation, waters of the U.S., impaired waters, floodplains, and water quality
- Farmland Impacts
- Visual Impacts
- Impacts to Section 4(f)/6(f) properties (including parks and recreational areas)
- Noise impacts
- Air quality
- Hazardous materials issues
- Cultural resources including archeological sites, historic resources, tribal lands, and cemeteries
- Public outreach including public meetings, public hearings, and meetings with elected officials, communities, stakeholders, landowners, neighborhood associations, etc.
- Permitting such as Section 404 or Section 9
- Indirect and cumulative impacts

The NEPA process must be followed for all federally funded projects. The amount of time it takes to clear an alternate route is heavily dependent on the location of the alternative (alternate routes are often times on new location which can lead to the highest level of environmental documentation, an Environmental Impact Statement). Public controversy regarding the location of the alternate route and potential for negative environmental impacts may also lengthen the environmental clearance process.

Preliminary Design

The preliminary design documents or "schematics" are also prepared as a part of the planning process. Schematics include the basic information necessary for TxDOT's review, evaluation, and eventual approval of a proposed project (TxDOT 2018a). The NEPA process is conducted and refined at the same time the schematic is created and refined, and the schematics are frequently revised to avoid potential environmental impacts or engineering constraints. Commonly, the schematic is prepared in 30, 60, 90, and 100 percent phases. The schematic does not reach 100 percent

completion until the NEPA phase is complete. The TxDOT *Roadway Design Manual* (2018) requires schematics to include the following items, as appropriate:

- General project information including project limits, design speed, and functional classification.
- The location of interchanges, mainlanes, grade separations, frontage roads, turnarounds, and ramps.
- Existing and proposed profiles and horizontal alignments of mainlanes, ramps, and crossroads at proposed interchanges or grade separations. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine right-of-way needs.
- For freeways, the location and text of the proposed mainlane guide signs should be shown. Lane lines and/or arrows indicating the number of lanes should be shown.
- For freeway added capacity projects, a capacity analysis needs to be conducted.
- An explanation of the sequence and methods of stage construction including initial and ultimate proposed treatment of crossovers and ramps.
- The tentative right-of-way limits.
- Bridges and bridge class culverts should be shown.
- The geometrics (pavement cross slope, super elevation, lane and shoulder widths, slope ratio for fills and cuts) of the typical sections of proposed highway mainlanes, ramps, frontage roads, and crossroads.
- Location of retaining walls and/or noise walls.
- The existing and proposed traffic volumes and, as applicable, turning movement volumes.
- If applicable, the existing and proposed control of access lines.
- The direction of traffic flow on all roadways.
- If applicable, location and width of median openings.
- The geometrics of speed change and auxiliary lanes.
- Design speed.
- Existing roadways and structures to be closed or removed.

Once the NEPA and schematic processes are complete, and funding is obtained, the project can go to letting or construction bid. **Section 3.3**, below, describes the funding process.

3.3 Project Funding

As noted above, an alternate route is often constructed on new location around a town or city. New location roads are significant investments of time and money as they typically have lengthier environmental and engineering processes, extensive public outreach, mitigation for significant impacts, and the cost of new right-of-way in addition to the cost of construction. Therefore, allocating

sufficient funding for each phase of project development (e.g., early planning studies, NEPA/schematic and final design, right-of-way purchase, utility relocation), as needed, is critical to keep the project moving forward. A combination of local, state, and federal funding is usually used.

> Over 75 percent (191) of the 254 counties in the state of Texas applied for the $225 million in transportation infrastructure funding appropriated in the State's 83rd legislature for counties affected by Oil & Gas production.
> *(Texas Association of Counties, Legislative Brief: Transportation, January 2019)*

Smaller communities, such as Alpine, Marfa, and Presidio, may have difficulty participating in alternate route funding due to their size and relative tax base. However, there are statutory opportunities that may reduce local participation requirements. Title 43, Part1, Chapter 15, Subchapter E, TAC Sect 15.50-15.56 describes the federal, state, and local responsibilities for cost participation in highway improvement projects. One piece of this TAC, Section 15.55(b), specifically addresses the Economically Disadvantaged County Program (EDCP) (TxDOT 2019a). Small to medium-sized towns that qualify for the EDCP per Texas Transportation Code Section 222.053 have: (1) below average per capita taxable property value; (2) below average per capita income; and (3) above average unemployment. The Texas counties eligible for this program are identified annually (e.g.: the 2019 list can be found in the Texas Transportation Minute Orders for October 25, 2018 Minute Number 115363 (TTC 2018). The current Minute Order lists Pecos and Presidio Counties as having a respective 52 and 47 percent adjustment to their participation requirements. Note that these adjustments are subject to change each year.

Also, local funding could come from approved transportation bond funding. However, bond funding might be combined with property, sales tax, municipal utility district taxes and fees, and in some areas, hotel taxes or special district fees. In Texas, the state legislature has established several innovative methods for developing and financing projects, including Transportation Reinvestment Zones (TRZs). A local government (e.g. a city or town) could designate a TRZ that includes a proposed alternate route. An incremental increase in property tax revenue (compared to the initial base year established), that is collected from within the TRZ, could be used to finance the alternate route and other transportation projects within the TRZ. See eligibility and process details on TxDOT's website at https://www.txdot.gov/government/programs/trz.html) (TxDOT 2019b). This program is similar to other local government programs such as Tax Increment Reinvestment Zones (TIRZ) and Tax Increment Financing (TIF) but has the advantage of a broader range of eligible transportation projects and does not require the local creation of a board. While this approach is very appealing in areas experiencing or anticipating significant growth, some rural areas with smaller towns may not be able to project sufficient growth along an alternate route to assure the tax revenue will support the full project development (TxDOT 2019b).

Once the source of participation for project development has been identified, the locals would commit these funds through execution of an Advance Funding Agreement (AFA) with TxDOT. During initial project development, TxDOT negotiates an AFA with the local agency to establish which party is responsible for project development such as acquiring right-of-way, drafting schematic design,

providing utility relocation and performing environmental studies and mitigation [TxDOT 2019c – Local Government Toolkit (Source: https://www.txdot.gov/government/processes-procedures/lgp-toolkit/initiation/funding.html)].

State and federal sources commonly fund the majority of construction cost for alternate route projects. For example, an alternate route along US 67 might be eligible for UTP Category 4 (Statewide Connectivity), Category 11 (District Discretionary), and Category 12 (Strategic Priority) funding sources. The TxDOT El Paso and Odessa Districts may have available funding over the 10-year UTP planning horizon that could be used to fund a US 67 alternate route. Other funding categories typically available for smaller projects include Category 8 (Safety), Category 9 (Transportation Alternatives Set-Aside Program) and Category 10 (Supplemental Transportation Programs). Category 8 (Safety) may have the greatest funding potential because improved safety was the main objective in the US 67 Corridor Master Plan study. Category 8 (Safety) is managed by the TxDOT Traffic Division and includes three programs: the Highway Safety Improvement Program, the Safety Bond Program, and the Systemic Widening Program. Safety projects are selected based on the need for the project (measured by the safety improvement index), roadway safety, and project-specific characteristics. As of 2020, Category 8 (Safety) has $4 billion in funds available **statewide** over the 10-year period in the 2020 UTP. The TxDOT El Paso and Odessa Districts would be eligible to pursue this funding. The 2020 UTP increased this funding category by $600 million compared to the previous UTP due to the new "Road to Zero" program implemented by TxDOT. This $600 million represents a significant increase in the number and the potential size of projects that can be funded by Category 8 (Safety).

Federal grants may also be available through the U.S. Department of Transportation, the Economic Development Administration (EDA) Public Works Program, and the U.S. Department of Agriculture Community Facility Development Loans and Grants.

More information about funding can be found in TxDOT's *Transportation Funding in Texas, 2019 edition* (TxDOT 2019d). Information about the required local match has been summarized by TxDOT [per 43 TAC §15.55(c)§ 15.55(c)] in the 2019 EDCP Eligibility table (TxDOT 2019a).

Once a TxDOT project is funded for construction, the project would be listed in the STIP where it would be identified with the latest estimated costs, anticipated let and construction start/completion dates, and dedicated funding sources. Once a project gets close to having all development tasks completed, the project is listed on the 24-month Letting Schedule to reserve a month and year for letting (i.e. when the project is advertised for construction bids).

Note - If an alternate route project can be funded by non-federal funds, the planning process is less complicated and would likely take less time to complete than the federal process. However, this roadmap is focused on the federal process, because it is a more commonly utilized scenario.

3.4 Final Design and Construction

The PS&E process involves an engineering analysis of the technically preferred alignment, which has been cleared through the NEPA process. The PS&E process is frequently the stage just prior to construction.

TxDOT construction contracts can vary as follows:

- Traditional time and materials with not-to-exceed limit contract awards for design [schematic and environmental] followed by a separate construction contract. These contracts are typically funded by the state, county, and/or local government.
- Design-build/design-bid-build construction processes that are usually fixed-fee projects funded by federal/state/local governments.
- Public/Private Partnership (P3) process (also known as Concession Agreements) that are funded in part by a private consortium of contractors with an ability to charge tolls (or shadow tolls) to recover costs and profits. [Note: The State of Texas does not currently allow tolling on any new state let/funded projects and has proposed removing toll projects identified in the STIP.]

4.0 Alternate Route Case Studies

The purpose of this section is to provide multiple case studies of alternate routes. Provided under each case study is the following information, when available:

- Project Information
- NEPA Process Information
- Construction Information

In addition, a summary table of the applicable information from each case study, including available timelines, is provided as **Table 2** in **Section 4.8**.

4.1 Case Study #1 - US 69/Loop 49 North Lindale Reliever Route

Project Information

The US 69/Loop 49 North Lindale Reliever Route, also referred to as the Lindale Reliever Route, is located in Lindale, Texas. The population of Lindale was estimated as 4,804 in 2010 (Source: U.S. Census Bureau). The project was initiated with a feasibility study, which was conducted between 1999 to 2001. (FHWA and TxDOT 2013). The Lindale Reliever Route was constructed to provide relief to the existing US 69 facility through the City of Lindale and to extend a toll facility (Loop 49 West) from I-20 southwest of Lindale to US 69 north of Lindale. The alternate route was constructed north of Lindale and was originally approved as a 7.4-mile long new location roadway consisting of a four-lane divided freeway within a 450-foot wide right-of-way. The project was anticipated to be built in phases, with an

interim design consisting of a two-lane facility. The 7.4-mile long project required approximately 427.5 acres of new right-of-way (TxDOT 2015a).

NEPA Process

Because the proposed project utilized federal funding, the NEPA process was followed and an Environmental Assessment (EA) was prepared. However, the EA did not result in a Finding of No Significant Impact (FONSI) because of public controversy that was associated with the project (FHWA and TxDOT 2013). The NEPA process was elevated to an Environmental Impact Statement (EIS) and was environmentally cleared by a Record of Decision (ROD) in April of 2015 (TxDOT 2015b). The pre-EIS portion of the project lasted approximately 7 years, and the NEPA process took approximately 9 years until a ROD was issued.

Construction Information

Construction on the Lindale Relief Route began in July 2016. The project construction cost was approximately $126 million at the start of construction. Right-of-way was estimated to be another $20 million. The portion that was ultimately constructed consisted of a 6.7-mile, two-lane undivided toll road from I-20 to US 69. This portion of the reliever route was opened to the public in November 2018 (Source: https://tylerpaper.com/news/local/lindale-relief-route-open-toll-extended-from-i--to/article_b66934a2-e2d7-11e8-a542-5795de06502a.html).

4.2 Case Study #2 - US 87 Truck Relief Route

Project Information

The US 87 Truck Relief Route, also known as the William B. (Bill) Cooker Truck Relief Route (TxDOT 2019e), is located in Howard County near Big Spring, Texas. The population of Big Spring was estimated as 27,282 in 2010 (Source: U.S. Census Bureau). In the mid-1980s, the City of Big Spring and Howard County showed interest in a relief route around Big Spring (TxDOT 2019f). In the mid-1990s, elected officials and civic leaders from Lubbock, Texas wanted to improve US 87 to the north and south of I-27 between Lubbock and Amarillo. Their goal was to construct an additional north-south interstate route. The project was referred to as the Ports-to-Plains Corridor (TxDOT 2015c). Improvements to US 87, including a relief route around Big Spring, were included in planning discussions for this project. In 1998, the Ports-to-Plains Corridor was granted federal designation from Laredo, Texas to Denver, Colorado via I-27, with segments within Texas approved in 2001 (Ports-to-Plains Alliance 2019). As a result, a Task Force was created in January 2000 between the City of Big Spring, Big Spring Chamber of Commerce, Howard County Commissioners Court, and TxDOT to discuss a potential relief route around Big Spring (TxDOT 2019e, 2019f, 2019g).

The portion of the Ports-to-Plains around Big Spring (US 87 Truck Relief Route project) included a new four-lane rural expressway providing two lanes in each direction with a wide median. At the time, the US 87 corridor ran through downtown Big Spring, and traffic was approximately 30 percent trucks, which contributed to traffic congestion (TxDOT 2019e, 2019f). The US 87 Truck Relief Route would

allow vehicles on the Ports to Plains Route to travel at higher speeds with less congestion, while still allowing access to downtown Big Spring through Business US 87 (previously US 87 through town) (TxDOT 2019e). The objectives of the US 87 Truck Relief Route were to optimize the existing transportation system while minimizing right-of-way acquisitions and environmental impacts, improve safety; provide sustainability, and enhance economic opportunities (TxDOT 2019e, 2019f). The project right-of-way was approximately 16.6 miles in length and approximately 300 feet in width.

NEPA Process

As part of the NEPA process, various public meetings were held in June 2003, presenting multiple alignments and narrowing to one alignment for public outreach and input. Additional public meetings were performed between 2005 and 2006 based on changes to the proposed alignment previously presented, including a meeting with affected property owners (MAPO) (TxDOT 2019f).

An EA was prepared to document environmental impacts associated with the preferred alignment and was approved for further processing in 2009 (which means a public meeting is the next step). The public hearing was conducted in the winter of 2010, and a FONSI was issued in July 2011. Additional public outreach was conducted after the FONSI was issued primarily due to additional funding that became available for additional proposed improvements to the relief route. This outreach was performed in 2012 and 2014, with a final MAPO and a re-evaluation of the EA due to changes in access and right-of-way boundaries in March of 2015 (TxDOT 2019e).

Based on discussions with TxDOT (Jones, T. personal communication with David Young, Blanton & Associates, June 2019), the project timeline was primarily driven by project funding. At times, funding sources were not available for all components/phases and TxDOT chose to develop phases versus waiting for funding for the entire relief route. The project's public involvement strategy included outreach efforts that were above-and-beyond what is required; TxDOT District staff believed that it could curtail new controversies that might arise from new stakeholders by conducting additional public outreach.

Local officials were in support of the project. Based on discussions with Mr. Jones, concerned individuals were generally in opposition to the project because it affected them or their properties directly, but acknowledged that the project was needed for an overall benefit to the residents in the area and enhanced truck traffic/freight movements and interstate commerce.

The pre-NEPA planning process lasted approximately 21 years, and the NEPA process was completed in approximately 8 years.

Construction Information

Construction of the southern portion of the relief route was completed in February 2017 at a final cost of $47.5 million. The northern portion of the relief route is currently under construction and is anticipated to be completed by April of 2020. The letting cost of the northern portion was $67.7 million. The northern section included a grade separated interchange at I-20 which was completed in May 2017 for $18.6 million (Jones, T., e-mail message to David Young, Blanton & Associates, June 2019).

A new overpass on FM 700 over BS 87 is planned to begin mid-February 2020. All project components were federal and state funded, with an 80/20 percent split, respectively (Jones, T. personal communication with David Young, Blanton & Associates, June 12, 2019).

4.3 Case Study #3 - US 337 Cresson Relief Route

Project Information

The US 337 Cresson Relief Route is located in Cresson, Texas, which is southwest of the City of Fort Worth. The population of Cresson was estimated as 741 in 2010. (Source: U.S. Census Bureau). Cresson was incorporated in 2001 (TxDOT 2017). In 2008, the Texas Transportation Institute (TTI) conducted a study for a problematic intersection located just north of the center of Cresson at the US 377/SH 171/Fort Worth and Western Railroad (FWWR) intersection. Based on the 2008 study, the North Central Texas Council of Governments (NCTCOG) and the TTI provided short and long-term suggestions for the existing traffic. It was suggested that the best long-term solution would be to provide a US 377 grade-separated railroad crossing. In 2010, the TxDOT Fort Worth District began the process of developing conceptual alternatives for a proposed solution. Conceptual alternatives including a bridge over the railroad along the existing corridor, a tunnel under the railroad along the existing corridor, two relief routes along the western side of the City of Cresson, and one relief route along the east side of the City of Cresson were studied (TxDOT 2017).

The US 377 Cresson Relief Route begins 1 mile south of the US 377/SH 171 intersection and ends approximately 1 mile north of the intersection, totaling approximately 3 miles in length. Once constructed, the relief route will be a new four-lane divided highway. In addition, the US 377 Relief Route will bridge over both SH 171 and the FWWR tracks, providing a grade-separated crossing of the railroad. Approximately 115 acres of new right-of-way is required for the project (TxDOT 2017). The project would result in no residential or commercial displacements (TxDOT 2015d).

The primary objectives of the project included:

- Provide a positive impact on the region by effectively improving access to a reliable and safe new transportation route for a rural area.
- Enhance reliability and timely access to employment centers and job opportunities in the rapidly growing Dallas-Fort Worth-Arlington, Texas Metropolitan Statistical Area (the “Metroplex”).
- Provide a grade-separated railroad crossing for US 377 traffic.
- Promote regional connectivity.
- Improve infrastructure conditions on existing US 377.
- Reduce traffic congestion on US 377 and SH 171.
- Improve safety and reduce accidents by eliminating vehicle backups at US 377 and SH 171.
- Improve emergency response times for first responders.
- Facilitate economic growth and competitiveness by allowing for better access to jobs and more efficient movement of goods throughout the region (TxDOT 2017).

The US 377 Relief Route will have a substantial impact at a regional level, as it is a major transportation corridor providing access from rural communities to Fort Worth and the Dallas/Fort

Worth metroplex (TxDOT 2017). Currently, there are 20,500 vehicles per day along US 377, and this is projected to increase to 33,900 vehicles per day in 2035 (TxDOT 2018b).

NEPA Process

As part of the NEPA process, three public meetings and one public hearing were held for the proposed project. The public meetings were in May of 2010, December of 2011, and July of 2014 and the Public Hearing was held in February of 2015 (2015d). After public review and comment, the preferred alternative was identified. Among the comments received for support for the project were:

- Sixty-nine commenters expressed concerns regarding existing and potential impacts to emergency services if a US 377 Relief Route was not constructed.
- Thirty-one commenters acknowledged that the proposed US 377 Relief Route was the least costly of the alternatives presented and many supported this alternative for that reason.
- The Elevated Through-Town Option that proposed a bridge over the railroad along the existing corridor would result in the displacement of six commercial structures and the acquisition of approximately 4 acres of additional right-of-way. This would directly impact the existing businesses the City of Cresson relies on for sales tax income and subsequently was not supported by the public (TxDOT 2017).

A memo to classify the US 377 project as an EA was approved on March 3, 2012 (TxDOT 2017). An EA was prepared for the project and was approved by the FHWA on June 6, 2016 for further processing. The FONSI was signed on September 20, 2017 (TxDOT 2017). The Pre-NEPA planning process took approximately 2 years, and the NEPA clearance process took approximately 7 years.

Construction Information

The project is planned to be completed in 2022. The estimated construction cost is $61 million (Source: https://hoodcountytoday.com/august-2018-update-on-u-s-377-cresson-relief-route/).

4.4 Case Study #4 - Williston Northwest Truck Reliever Route

Project Information

The Williston Northwest Truck Reliever Route is located in Williston, North Dakota. The population of Williston was estimated as 15,940 in 2010 (Source: U.S. Census Bureau). In 2010, a transportation plan was prepared for the City of Williston. One of the highest priority transportation needs identified during the planning process was a highway that would serve as a bypass around the north and west sides of Williston. This need was identified due to increasing volumes and particularly semi-trucks traveling through the city on US 2/US 85. As a follow-up to the adoption of the plan, several potential routes for an alternate route were explored in 2011. This analysis included a detailed traffic operations study, which included the development of a regional travel demand model for the city of Williston (Source:https://www.srfconsulting.com/news/projects/williston-bypass/).

Early planning identified the immediate need for a temporary truck relief route, which was constructed in 2012 while the EA was being prepared for the permanent reliever route (Source: https://www.srfconsulting.com/news/projects/williston-bypass/).

NEPA

Some of the engineering and environmental constraints that were assessed during the NEPA/schematic phase of the project included traffic operations, cultural resources issues, variable topography, impacts to wetlands, utility issues/coordination, and newly approved developments. Close coordination with the City of Williston and Williams County was necessary to identify impacts and select a preferred alternative. Public engagement included numerous public meetings and a multitude of property owner meetings and outreach. The EA for the permanent bypass project was approved in 2013 (Source: https://www.srfconsulting.com/news/projects/williston-bypass/). The pre-NEPA process was completed in 2 years, and NEPA clearance was obtained in 2 years.

Construction Information

The Williston Bypass is 13.4 miles in length. As stated above, a temporary truck reliever route was constructed in 2012. Construction on the permanent reliever route began in 2014. In October 2015, state and local officials gathered to celebrate the completion of Williston's permanent truck reliever route (Source: https://www.willistonherald.com/east-truck-bypass-moving-forward/article_de31fee2-641c-11e6-9658-fb3f5a935f4e.html). According to the Governor's office, the state spent more than $150 million on the project (Source: http://www.boomingbasin.com/page/content.detail/id/500270.html).

Future Planning Efforts

The North Dakota Department of Transportation (NDDOT) is currently searching for funding for a separate EA for the Williston Northeast truck reliever route, which will be approximately 10 miles long. Williams County and Williston made commitments to preserve the future right-of-way needed for this 10-mile long connecting alternate route for at least 10 years. (Source: https://www. willistonherald.com/east-truck-bypass-moving-forward/article_de31fee2-641c-11e6-9658-fb3f5a935f4e.html.) The two entities maintained appropriate zoning, platting, and internal road networks; the desired access spacing and roadways for the route; and prevented land use changes along the corridor that would affect the projected traffic patterns within their respective jurisdictions (Source: https://www.willistonherald.com/east-truck-bypass-moving-forward/article_de31fee2-641c-11e6-9658-fb3f5a935f4e.html).

4.5 Case Study #5 - New Town Northeast Truck Reliever Route

Project Initiation Information

The New Town Northeast Truck Reliever Route is located in New Town, North Dakota. The population was estimated as 1,925 in 2010 (Source: U.S. Census Bureau). In 2007, North Dakota conducted public meetings for a study of Main Street. An outcome of this study was the planning of the New Town

Northeast Truck Reliever Route Project. In November 2011, "Solicitation of Views" letters were sent to potentially interested agencies notifying them of the proposed project (NDDOT 2013).

NEPA

There were four alternatives considered in the Draft EA. One of the most complex environmental considerations for the project was potential impact to Tribal lands. Of the approximate 120 acres of additional right-of-way needed, the project would need approximately 13 acres of tribal land (NDDOT 2013). The project was approximately 3.2 miles in length. The Fort Berthold Indian Reservation is home to the Mandan, Hidatsa, and Arikara (MHA) Tribes, also known as the Three Affiliated Tribes. Because the proposed project would cross Federal Trust Lands, the Bureau of Indian Affairs (BIA), through a tribal agreement, worked with the MHA Nation during the environmental review process (NDDOT 2013).

The EA was signed February 2013 (NDDOT 2013). A public hearing was held March 19, 2013, and the FONSI was issued May 2013 (Source: https://www.dot.nd.gov/dotnet2/news/docs/2013releases/20130307-%20public%20meeting%20new%20town.pdf). The pre-NEPA process took approximately 4 years and the NEPA process was completed in approximately 2 years.

Construction Information

The New Town Northeast Truck Reliever Route Project was constructed in 2014 (Source: https://www.insurancejournal.com/news/midwest/2019/04/07/523131.htm#). Construction cost was approximately $25 million (Source: https://www.kxnet.com/news/new-bypass-considered-for-new-town/amp/). One interesting note - as of Mid-February 2015, per New Town City Council Ordinance, trucks weighing over 35,000 pounds or more are no longer allowed in New Town if they do not have a specific destination (**Figure 4**). If they go through town and do not use the New Town Truck Reliever Route, they will receive a $1,500 fine. In addition, trucks of this size are not allowed to park on city streets or sidewalks (Source: https://www.minotdailynews.com/news/local-news/2015/02/truckers-must-use-new-town-bypass/).

Figure 4. This sign lets truckers know that they must use the reliever route if not doing business within New Town.

4.6 Case Study #6 - New Town Northwest Truck Reliever Route

Project Information

The New Town Northwest Truck Reliever Route is located in New Town, North Dakota. The population of New Town was estimated as 1,925 in 2010 (Source: U.S. Census Bureau). In Early 2014, it was estimated that over 3,500 trucks pass through New Town every day (Source: https://www.jamestownsun.com/news/ 2682801-work-begins-truck-bypasses-oil-patch). The proposed project is an approximately 1.4-mile long, two-lane new location highway that will be a controlled access facility (NDDOT 2017).

NEPA

The NEPA process began with an agency kick-off meeting in 2014. (NDDOT 2017). There were two public meetings, one in October 2015 and one in November 2016.

There were many land use constraints within the study area of the New Town Northwest Reliever Route project including recreational land owned by the U.S. Army Corps of Engineers (including Lake Sakakawea), the Edgewater Country Club, a nature trail, tribal lands, and private property. At the first public meeting, five alternatives were presented to the public. Based on public input from the first

public meeting, nine alternatives were developed. Seven of the nine alternatives included a truck alternate route (NDDOT 2017).

The following were major permitting and coordination considerations during the alternatives analysis process: a USACE Section 408 Permit for impacts to civil works projects; a USACE Section 404 Permit for impacts to waters of the U.S. (including wetlands); a U.S. Coast Guard Permit for impacts to navigable waters of the U.S.; U.S. Fish and Wildlife Service coordination for potential impacts to threatened and endangered species habitat; Section 4(f) coordination for protected recreational lands; Section 6(f) coordination for protected outdoor recreations areas that received funding from The Land and Water Conservation Fund (LWCF); Section 106 Consultation for properties listed or eligible for the National Register of Historic Places (NRHP); and displaced properties (NDDOT 2017). For the impacts to the Edgewater Country Club, there was an MOU signed between Edge Water County Club, the City of New Town and NDDOT (NDDOT 2017). Mitigation of the Edgewater Country Club would result in the conversion of approximately an additional 46 acres of vegetated area into a recreational area (NDDOT 2017). The project would require approximately 53 acres of new right-of-way (NDDOT 2017).

The EA and Section 4(f) Document were approved in April 2017, the public hearing was held April 27, 2017 (Source: https://www.dot.nd.gov/dotnet2/view/ViewEvent.aspx?esn=8114), and the FONSI was issued June 29, 2017 (NDDOT 2017). No pre-NEPA process was identified for the project, and the NEPA process was completed in approximately 3 years.

Construction Information

The project costs approximately $30M, including construction, but the date of completion was not available.

4.7 Case Study #7 - US 287 Reliever Route

Project Information

The US 287 Reliever Route is located in Lamar, Colorado. The population of Lamar was estimated as 7,933 in 2010 (Source: U.S. Census Bureau). A feasibility study for the reliever route was conducted in 1999. Large trucks made up 47 percent (i.e. 1,500 trucks per day) of the traffic through Lamar, which had a posted speed limit of 30 miles per hour. The project was 10 miles long and included two grade separations: one over the Burlington Northern Santa Fe Railway (BNSF) and a second 2,000-foot-long bridge over the Arkansas River [Colorado Department of Transportation (CDOT) 2016].

NEPA

The NEPA process for the US 287 Reliever Route began in 2002. According to Brian Long with CDOT (personal communication with Callie Barnes, Blanton & Associates, July 2019), the US 287 project required approximately 450 acres of right-of-way, much of which was being preserved from development. The major project considerations through the NEPA process included the lengthy crossing of the Arkansas River and impacts to other waters and wetlands, impacts to an archeologically sensitive area, multiple properties with hazardous materials concerns, and impacts to irrigation canals, the railroad, and other canals eligible for NRHP, impacts to a Native American “site of concern,”

impacts to highway-dependent businesses located downtown, splitting of farm and ranch operations, crossing of and required relocation of a POE facility, suitable habitat for several threatened and endangered species, and visual and noise impacts from new highway infrastructure (including overpasses and lighting) to sparsely populated areas (CDOT 2014).

Multiple public meetings occurred between 2002 and 2003. Due to changing priorities within CDOT, little progress on the reliever route project occurred between 2003 and 2010, and as a result, a long period passed between early public involvement activities and the publication of the EA (CDOT 2014). A public hearing was held in September 2014, and a FONSI was issued in 2014. The pre-NEPA process took approximately 3 years and the NEPA process was completed in approximately 12 years.

Construction Information

The estimated construction cost was approximately $220 million. CDOT applied for special funding and grants; however, to date, CDOT has been unsuccessful in securing the funds needed for the project.

4.8 Case Study #8 - Petroskey Bypass Project

Project Information

The Petroskey Bypass project is located in Petroskey, Michigan. The population of Petroskey was estimated as 5,673 in 2010 (Source: U.S. Census Bureau). In 1972, a major thoroughfare plan was prepared for Petroskey that recommended a bypass around the city [MDOT 1994].

NEPA

The Michigan Department of Transportation (MDOT) began the preparation of the EIS in 1986. In 1987, Congress authorized $28 million for planning and construction of the Petroskey Bypass Project (Source: http://www.mlui.org/mlui/archives.html?archive_id=98#.XTdy8-hKhPZ). One of the more complex environmental considerations for the original NEPA clearance were impacts to the Bay View Historic District and an associated wooded area that was determined by FHWA and the State Historic Preservation Officer (SHPO) to be a contributing element to the history of the community. The Historic District and wooded area were determined to be Section 4(f) properties (MDOT 1994). The Draft EIS and Section 4(f) document were signed by FHWA on June 29, 1994 (MDOT 1994).

In 1999 and 2000, the Michigan Land Use Institute developed what they called a better, faster, and cheaper “smart” alternative to the four-lane new location Petroskey Bypass project. Their studies found that 80 percent of the vehicles begin or end their trip in Petroskey rather than just passing through the city (Source: http://www.mlui.org/_mlui/archives.html?archive_id=28#.XTd02OhKhPZ). The smart alternative consisted of upgrading existing roads in strategic locations to encourage trucks to avoid downtown.

Based on the study, it was determined that a Supplemental EIS was needed. As part of that Supplemental EIS effort, a public hearing was held December 5, 2001. Over 500 (approximately 12 percent) of the city residents attended the hearing, most in opposition to the proposed $90 million four-lane alternate route. The majority of the opposing comments were concerns over impacts to active

farms as well as potential negative impacts to downtown businesses. After public comments were received, MDOT announced they were cancelling the Petroskey Bypass project and were going to allow local governments to work with the public on future planning efforts. The environmental documentation effort for the project was approximately $4M (Source: http://www.mlui.org/mlui/archives.html?archive_id=28#.XTd02OhKhPZ).

The pre-NEPA process took approximately 14 years, and the NEPA process was put on hold after 15 years.

Construction

Since the No Build Alternative was chosen, no construction was conducted.

4.9 Alternate Route Case Study Summary

Provided below is a table (**Table 2**) summarizing the information gathered for all case studies shown above. The table provides the following information: the alternate route project name, location, estimated population in 2010, which is used as a reference point to compare the project area size to US 67 study corridor towns, project length, acres of new right-of-way, NEPA document type, pre-NEPA planning timeline, NEPA clearance timeline, project construction timeline, and the approximate construction cost.

Table 2. Summary of Case Study Examples

Alternate Route Project Name	Alternate Route Location	Estimated Population (2010)	Length (Miles)	Amount of new Right-of-way (Acres)	NEPA Document Type	Approximate Pre-NEPA Planning Timeline	Approximate NEPA Clearance Timeline	Approximate Construction Timeline	Construction Cost (Million)
US 69 / Loop 49	Lindale, Texas	4,804	7.4	427.5	EIS/ROD	7 Years	9 Years	2 Years	$146
US 87 Truck Relief Route	Howard County, Texas	27,282	16.6	NA*	EA/FONSI	21 Years	8 Years	8 Years	$134
US 377 Relief Route	Cresson, Texas	741	3	115	EA/FONSI	2 years	7 Years	3 Years	$61
Williston Northwest Truck Reliever Route	Williston, North Dakota	15,940	13.4	NA	EA/FONSI	2 Years	2 Years	2 Years	$150
New Town Northeast Truck Reliever Route Project	New Town, North Dakota	1,925	3.2	120	EA/FONSI	4 Years	2 Years	1.5 Years	$25
New Town Northwest Truck Reliever Route Project	New Town, North Dakota	1,925	1.4	53	EA/FONSI	1 Year	3 Years	NA	$30
US 287 Reliever Route	Lamar, Colorado	7,933	10	450	EA/FONSI	3 Years	12 Years	NA – On Hold	$220
US 31 Petroskey Bypass Project	Petroskey, Michigan	5,673	N/A	N/A	EIS	14 Years	15 Years	N/A*	N/A

Source: Blanton & Associates, Inc. 2019
*NA = Information not Available; N/A = Not Applicable

Based on data available for these projects, the average amount of new right-of-way acreage needed was an average of 233 acres, the pre-NEPA planning timeline was an average of 7 years, NEPA clearance was an average of 7 years, and the construction timeline was an average of 3 years. The average construction cost was $109 million.

5.0 Post-Construction Impacts of Alternate Routes

Provided below are examples of additional studies that were conducted *after* alternate routes were constructed. These studies attempted to understand common concerns, issues, and benefits of alternate routes, once constructed.

5.1 National Cooperative Highway Research Program (NCHRP) Study

The NCHRP conducted a study on the effects of alternate routes on rural communities and small urban areas. The study reviewed over 100 publications about alternate routes; however, the publications did not all analyze the same criteria. For example, some publications focused on economic impacts of alternate routes whereas others analyzed the impacts of alternate routes on the communities. The publications analyzed in the NCHRP study included information gathered on towns where an alternate route project was planned and constructed within typically 10 years or less (NCHRP 1996).

The NCHRP also reviewed 43 case studies that considered impacts of alternate routes on traffic-serving businesses (such as gas stations and restaurants) that were located along the original route through towns with populations less than 5,000. Of those case studies, approximately 25 percent indicated a positive impact, approximately 20 percent indicated no impact, and approximately 55 percent indicated negative impacts (NCHRP 1996).

In addition, the NCHRP conducted a survey regarding alternate routes and received responses from 47 states and six Canadian providences. Approximately 90 percent of the locations included in the study were for communities with populations less than 20,000. TxDOT's response referenced a project for which up to 36 percent of the "traffic serving businesses" located along the previous route (prior to the alternate route) closed after alternate route construction. For those businesses that were not "traffic serving," less than 25 percent closed after alternate route construction. In almost all survey cases, along the new alternate route, new businesses in the city or town substantially increased. The NCHRP survey noted that the research of sales tax receipts suggested a gradual decline in sales tax in the alternate route communities. However, based on the survey results, respondents believed that businesses had not been adversely affected by a 1:2 margin. The survey responses were more positive as the length of time increased from the completion of construction (NCHRP 1996).

Included in the NCHRP Study were a total of 71 alternate route studies that considered overall impacts to communities with a population of less than 5,000. Approximately 85 percent of these communities believed the completed alternate route was a positive feature for their community. Approximately 5

percent believed the alternate route resulted in no impact, and 10 percent believed the alternate route had a negative impact on the community (NCHRP 1996).

Based on documented interviews, political officials in communities with populations of less than 5,000 suggested that their communities saw alternate routes as favorable; however, some of the potential reasons noted by the study were because the towns were able to expand their boundaries, thus increasing the tax base. With the increased tax base, the officials felt that towns were able to "share the benefit" with businesses and residents (NCHRP 1996).

Of the studies reviewed that considered employment-related impacts to the communities, 75 percent of the communities experienced an increase in employment. In over 90 percent of the studies researched, land values increased along the previous in-town route as well as the alternate route (NCHRP 1996).

5.2 University of Kentucky Center for Business and Economic Research

The University of Kentucky Center for Business and Economic Research conducted a study on the economic impacts and quality of life impacts of completed alternate routes [Kentucky Transportation Center (KTC) 2001]. This study focused on eight communities with alternate routes and used surveys as the main tool to gather information. Of the eight communities studied, five had a population of 5,000 or less and three had a population between 5,000 and 10,000 (KTC 2001). This study compared US Census data before and after alternate route construction and included a land use analysis (KTC 2001).

In responses to surveys, the KTC found that community members were generally satisfied with the alternate route. The majority of in-town business owners believed alternate routes were either good for the community or resulted in no impact at all to retail or services industries within the community. However, some negative comments were received regarding downtown retail impacts (KTC 2001).

5.3 California Department of Transportation (Caltrans)

The Caltrans Transportation Economics Branch published an analysis of economic impacts of alternate routes titled, *California Bypass Study. The Economic Impacts of Bypasses Volume 1: Planning Reference* (Caltrans 2006). Of nine previously published case studies (Caltrans 2006), the following states were noted:

- Three studies in Virginia with populations of approximately 40,000, 95,000, and 220,000
- One study in Indiana with a population of approximately 250,000
- One study in Wisconsin with a population of approximately 75,000
- One study in California with a population of approximately 95,000
- One study in Montana with a population of approximately 185,000
- Several towns in Oklahoma, one with a population of approximately 475
- Several towns in Iowa with undisclosed population sizes

Some general research findings from the Caltrans (2006) analysis are as follows:

- National - Assuming appropriate zoning and infrastructure are in place or obtainable, the analysis showed that travel-oriented development, such as motels, gas stations, and fast food restaurants, has a strong negative correlation with residential development.
- Iowa and Minnesota - Surveys of merchants located in bypassed communities showed that merchants are more likely to oppose bypasses as the distances from central business districts to the proposed bypasses increase.
- Texas and North Carolina – The survey indicated that traffic is hard to divert from a bypass to downtown if the bypass is part of a high-speed freeway. Lessons from Texas and North Carolina suggested that the negative impacts of bypasses on downtowns can be minimized by facilitating linkages through enhanced physical access and relatively low-cost signage.
- Oklahoma [specifically the city of Stonewall (population 475)] - The locals felt that the alternate route resulted in no significant effects to the town and that no businesses on the original route through town were affected. In addition, the survey stated that no new businesses were constructed along the alternate route.
- Overall Impacts - The survey showed that, in general, business owners felt that the alternate route area competes with the bypassed area for customers if it is within 3 miles of downtown, has water and sewer, and if the bypassed area is more than 5 miles from the nearest service exits. However, they felt that an alternate route can be integrated with the downtown if it is less than 2 miles away from the alternate route. Additionally, in rural small towns, they felt that alternate routes can improve access to trade centers and provide opportunities for economic development in town.

Specific Examples:

- Rosalia, Washington - The SR-195 bypass reduced congestion and truck traffic in Rosalia, which helped enhance the small-town lifestyle. The bypass also reduced the driving time from Rosalia to Spokane, which allowed the community to attract professionals who commute to Spokane (Caltrans 2006).
- Rush Springs, Oklahoma - A new alternate route provided easier access to nearby population centers and a regional Wal-Mart. While this improved access appeared to hurt downtown businesses, it increased the job market radius for Rush Springs residents (Caltrans 2006).

The study also showed the perception is that the types of businesses in towns with an alternate route are important when trying to determine future impacts to the town. If the town businesses depend on pass-through traffic and an alternate route is constructed, these businesses would be at a higher risk of economic losses. Alternatively, if the town businesses have a solid local base of customers and/or the businesses in town are regional attractions, these businesses may have more likelihood of benefiting from an alternate route (Caltrans 2006).

Specific Examples:

- Iowa – The study showed that travelers made up a lower proportion of local business in bypassed communities than was assumed prior to construction of the alternate route. The alternate routes increased sales due to local residents taking advantage of easier access to businesses as a result of less traffic congestion, improved traffic safety, and easier parking (Caltrans 2006).
- Rosalia, Washington - The downtown serves a local and a regional market. The bypass created a quieter, safer environment along Main Street. This environment helped attract new residents from Spokane, which is 30 miles away (Caltrans 2006).

As stated in the study, high average daily traffic (ADT) and truck traffic may inhibit tourism (Caltrans 2006). In these cases, alternate routes remove trucks and excess traffic, which may increase the attractiveness of communities as tourist destinations. Relieving extreme congestion, reducing fast-moving through traffic, and reducing the number of trucks tend to enhance local traffic safety and potentially reduces air pollution. This may also increase the attractiveness of communities for businesses and residents. The presence of significant local traffic suggests that merchants rely on local customers and that alternate routes may have impacts to those businesses. The adequacy of downtown parking and access to towns after alternate routes are constructed often indicate how well communities can compete with lands made accessible by alternate routes (Caltrans 2006).

Example:

- Danville, Virginia - The study showed that there were no perceived negative business impacts based on the construction of the alternate route. The alternate route did not result in a decrease in overall ADT, but it significantly reduced truck traffic. This may be attributed to drivers who previously chose to avoid driving through town due to truck traffic, but now choose to drive through town because there are fewer trucks. Also, a shopping mall near the end of the alternate route was not affected and is currently expanding. The study indicated that the alternate route has encouraged the public to drive to the mall (Caltrans 2006).

Overall, the Caltrans study (2006) found the following types of businesses that would not likely be impacted by the project and those that would be impacted either positively or negatively by the project:

- Gas stations and quick service or fast food restaurants - These businesses cater the most to pass-through traffic and are most likely to be impacted by the diversion of traffic due to alternate routes.
- Other visitor-serving businesses, such as motels, art galleries, antique stores, and curio shops - These businesses cater to visitors attracted to the community as a destination rather than those simply passing through and are therefore less likely to be negatively impacted by alternate routes. It is possible that an alternate route may even improve their business.
- Regionally serving businesses, such as big box retail and department stores - These retail businesses may benefit from improved access.

- Businesses serving local residents, such as drug stores, banks, and grocery stores. These businesses are generally not impacted by alternate routes.

Additionally, Caltrans found the following design features as the most important to consider for alternate routes:

- Visibility - Negative economic impacts (loss of customers and sales) are likely to be small for businesses that remain visible from alternate routes. In some cases, the goal of making downtowns visible from alternate routes may conflict with the desire to protect communities from noise and visual impacts. The study suggested providing "visibility" for businesses through additional signage.
- Distance from downtown - Alternate routes located close to existing downtowns are less likely to hurt local economies. Travelers may be able to see businesses, and access times are shorter if alternate routes are nearby.
- Direct access - Highway interchanges can provide direct access from alternate routes to downtowns and existing businesses. However, interchanges can also encourage the development of competition to existing businesses by offering new "prime" locations.
- Time savings - The difference in travel time between the old route and the new alternate route determines how many vehicles (and potential customers) divert to the alternate route.

6.0 Roadmap Summary

There are many factors or "drivers" to consider when analyzing how an alternate route would impact a particular town (See **Figure 5**). Considerations include time and cost associated with the project initiation, NEPA, funding, and construction of the alternate route project. As indicated and illustrated below, project initiation and gaining local official support can be a lengthy yet integral process.

Figure 5. Public Perception "Drivers"

As noted above, alternate routes are often proposed on new location which can cause sensitive environmental issues and public controversy (i.e. impacts to the natural and human environment) to be addressed during the NEPA and public involvement phase. Based on the above examples, the amount of time it takes to clear an alternate route is heavily dependent on the location of the route (alternate routes are oftentimes on new location which can lead to the highest level of environmental documentation, an EIS). Public controversy regarding the location of the alternate route and potential for negative environmental impacts lengthens the environmental clearance process as well.

Alternate routes typically divert traffic away from town centers, which can cause concerns from in-town business owners about decreased revenues. The public may also view an alternate route as positive because of safer in-town streets and/or reemphasis on small-town aesthetics. Whether the impacts of an alternate route are actually (not just perceived) positive or negative for a town is dependent on the impacts of the project and the town's short- and long-term economic growth goals; the focus area for that economic growth, and well as where the traffic-serving businesses are currently located.

Even if the local officials, stakeholders, and the public are in support of an alternate route project and the project achieves NEPA clearance, sometimes construction funds are not available. Some specific factors to consider regarding funding are as follows:

- New location projects may have longer environmental clearance timeframes
- Federal funds are often needed for alternate route projects
- Alternate routes will likely have higher right-of-way costs
- Construction funding availability can impact the environmental clearance process, thus adding to the time and expense of the environmental clearance

Overall, there are a multitude of factors to consider with alternate routes, and the process should be considered on a case-by-case basis. Information provided in this document can be used to evaluate whether an alternate route best fits the needs of each community located along the US 67 study corridor.

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