



FINAL

ENVIRONMENTAL ASSESSMENT

SH 71 Express Project

From Presidential Boulevard to SH 130

Travis County, Texas

CSJ: 0265-01-110

Prepared for:

FEDERAL HIGHWAY ADMINISTRATION

Prepared by:

TEXAS DEPARTMENT OF TRANSPORTATION

MAY 2014

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Changes Made Since FHWA Issued SFP

The Federal Highway Administration (FHWA) approved the environmental assessment (EA) as “satisfactory for further processing” on February 25, 2014. After the Satisfactory for Further Processing (SFP) was issued, revisions to the EA relating to incorrectly labeled shoulder widths were proposed in a TxDOT letter dated March 13, 2014, and the FHWA determined that the proposed revisions were administrative changes on March 20, 2014 (see **Appendix J**). The proposed revisions to the Draft EA were announced during the April 1, 2014 Public Hearing presentation.

The following changes (provided as tracked-changes in **Appendix J**) have been made to the following sections:

Section 1.2: Existing Facility

- The inside shoulders of existing SH 71 at SH 130 were incorrectly labeled as 10 feet in width; these shoulders are 4 feet in width. The shoulders were incorrectly labeled on Figure 1-5.
- The shoulders were incorrectly labeled on Figure 5-1 and were changed in the figure to match the correct description in the paragraph preceding Figure 1-5 (on page 5).

Section 1.5: Proposed Facility

- The inside shoulders of proposed SH 71 between Presidential Boulevard and FM 973, as shown on Figure 1-13 and described in the paragraph preceding Figure 1-13 (on page 19), were incorrectly labeled as 10 feet in width. These shoulders are proposed to be 4 feet in width.
- The shoulders of existing SH 71 at SH 130 were incorrectly labeled as 10 feet in width on Figure 1-17; these shoulders are 4 feet in width.

Section 6.1.4: Public Hearing

- A summary of the Public Hearing was added to EA, and the Public Hearing Summary Report has been included as **Appendix I**.

Additionally, the SH 71 Express Project has been modified to include a bicycle and pedestrian facility across SH 71 at Spirit of Texas Drive. The bicycle and pedestrian facility connection across SH 71 at Spirit of Texas is now included in the technical provisions of the SH 71 Express Project design-build contract.

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- Appendix H: CAMPO Regional Toll Network Analysis
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- Appendix J: Edits to Draft EA Post Satisfactory for Further Processing

Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
ABIA	Austin-Bergstrom International Airport
ACC	Austin Community College
ACS	American Community Survey
ADT	average daily traffic
AFD	Austin Fire Department
ALP	Airport Layout Plan
AOI	Area of Influence
APE	area of potential effect
AST	aboveground storage tanks
ATL	Average trip length
BF	Brownfield Management System
BMPs	Best Management Practices
BSA	Brownfield Site Assessments
CAAA	Clean Air Act Amendments
CAMPO	Capital Area Metropolitan Planning Organization
CapMetro	Capital Metropolitan Transportation Authority
CARTS	Capital Area Rural Transportation System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSS	context sensitive solutions
CSSAG	CSS Advisory Group
Mobility Authority	Central Texas Regional Mobility Authority
CZMA	Coastal Zone Management Act
dB	Decibel
dba	A-weighted decibel
dbh	Diameter at breast height
EA	Environmental Assessment
EJ	environmental justice
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
ERNS	Emergency Response Notification System
ETC	electronic toll collection
ETJ	extra-territorial jurisdiction
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Farm-to-Market Road
FPPA	Farmland Protection Policy Act
FR	Federal Register
FRS	Facility Registry System
FY	Fiscal Year
GIS	Geographic Information System
GLO	General Land Office
GWCC	Groundwater Contamination Case
HBNW	home-based non-work
HBW	home-based work
HCTRA	Harris County Toll Road Authority

HEI	Health Effects Institute
HUBS	Historically Underutilized Businesses
I	Interstate Highway
IHW	Industrial and Hazardous Waste Sites
IRIS	Integrated Risk Information System
ISD	Independent School District
LEP	limited English proficiency
LOMA	Letter of Map Amendment
LOS	level of service
LPST	leaking petroleum storage tanks
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSA	metropolitan statistical area
MSATs	Mobile Source Air Toxics
MSE	mechanically stabilized earth
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NOVs	Notice of Violations
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	National Response Center
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NTTA	North Texas Tollway Authority
NWP	Nationwide Permit
PA-TU	First Amended Programmatic Agreement
PCN	Preconstruction Notification
PM	Particulate Matter
ROW	right-of-way
RSA	Resource Study Area
RTA	Regional Toll-Network Analysis
RTHL	Recorded Texas Historic Landmarks
RTP	Regional Transportation Plan
SAL	State Antiquities Landmarks
SFHA	Special Flood Hazard Area
SH	State Highway
SHPO	State Historic Preservation Officer
SPILLS	Texas Spills Listing
SW3P	Storm Water Pollution Prevention Plan
SXSW	South by Southwest
TAQA	Traffic Air Quality Analysis
TAZ	traffic analysis zone
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TDM	travel demand model

TIP	Transportation Improvement Program
TPDES	Texas Pollution Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TTI	Texas Transportation Institute
TxDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
USDOJ	U.S. Department of Interior
USDOT	U.S. Department of Transportation
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
HHS	U.S. Department of Health and Human Services
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tanks
vmt	vehicle-miles travelled
VOC	vehicle operating cost
vpd	vehicles per day

1. Introduction

The Texas Department of Transportation (TxDOT) in cooperation with the Central Texas Regional Mobility Authority (Mobility Authority) is proposing improvements to State Highway (SH) 71 from the logical termini of Presidential Boulevard to SH 130 in Travis County, Texas. The project would add two toll lanes, one in each direction, with overpasses at Farm-to-Market Road (FM) 973 and SH 130 as well as bicycle and pedestrian improvements. The total length of the project, including transition areas, is approximately 3.9 miles. This project is called the SH 71 Express Project. Project plans are in **Appendix A**.

1.1 Project History

Initial construction of the existing SH 71 facility was completed in 1968. Since then several operational improvements have been made including an overpass at Spirit of Texas Drive in 1989, an eastbound bridge at Onion Creek in 1990, and the 2013 superstreet project at FM 973. The SH 71 and SH 130 interchange was created between 2007 and 2008, as phases three and four of the SH 130 tollway became operational. No capacity improvements have been made on SH 71 since initial construction.

On September 16, 2011, the Federal Highway Administration (FHWA) issued a Finding of No Significant impacts (FONSI) for the FM 973 project (from Harold Green Drive to Pearce Lane) (CSJs 1200-03-028 and 1200-03-033) across SH 71. One component of this project would realign the FM 973/SH 71 intersection. The FM 973 project was designed to not preclude the improvements proposed for the SH 71 Express Project, as identified in the Capital Area Metropolitan Planning Organization's (CAMPO) 2035 Regional Transportation Plan (RTP). Construction of the FM 973 project would be constructed concurrently with the proposed SH 71 Express Project; this Environmental Assessment (EA) assumes the FM 973 project is part of the existing conditions.

The SH 71 roadway serves as the primary access route leading to Austin-Bergstrom International Airport (ABIA). It is a major roadway for daily commuters from neighboring Bastrop County to the Austin metropolitan area and serves as one of two east-west high capacity routes for traveling between the Central Texas area and East Texas destinations such as Houston.

The SH 71 Express Project was originally listed in the CAMPO 2035 RTP as the *SH 71 East Access Project for State Complex* (project number 696). The description included the reconstruction of the existing four-lane undivided rural principal arterial to a six-lane divided urban principal arterial with an overpass at FM 973 and median for future freeway main lanes. An amendment to the CAMPO 2013 to 2016 Transportation Improvement Program (TIP) and CAMPO's 2035 RTP was adopted on June 10, 2013, which describes the project as adding two toll lanes, one in each direction, with overpasses at FM 973 and SH 130, and adding bicycle and pedestrian facilities that shall consist of either shared-use paths or shoulders on the main lanes and sidewalks (**Appendix B**). **Figure 1-1** shows the project location within the larger area, and **Figure 1-2** details the project's logical termini.

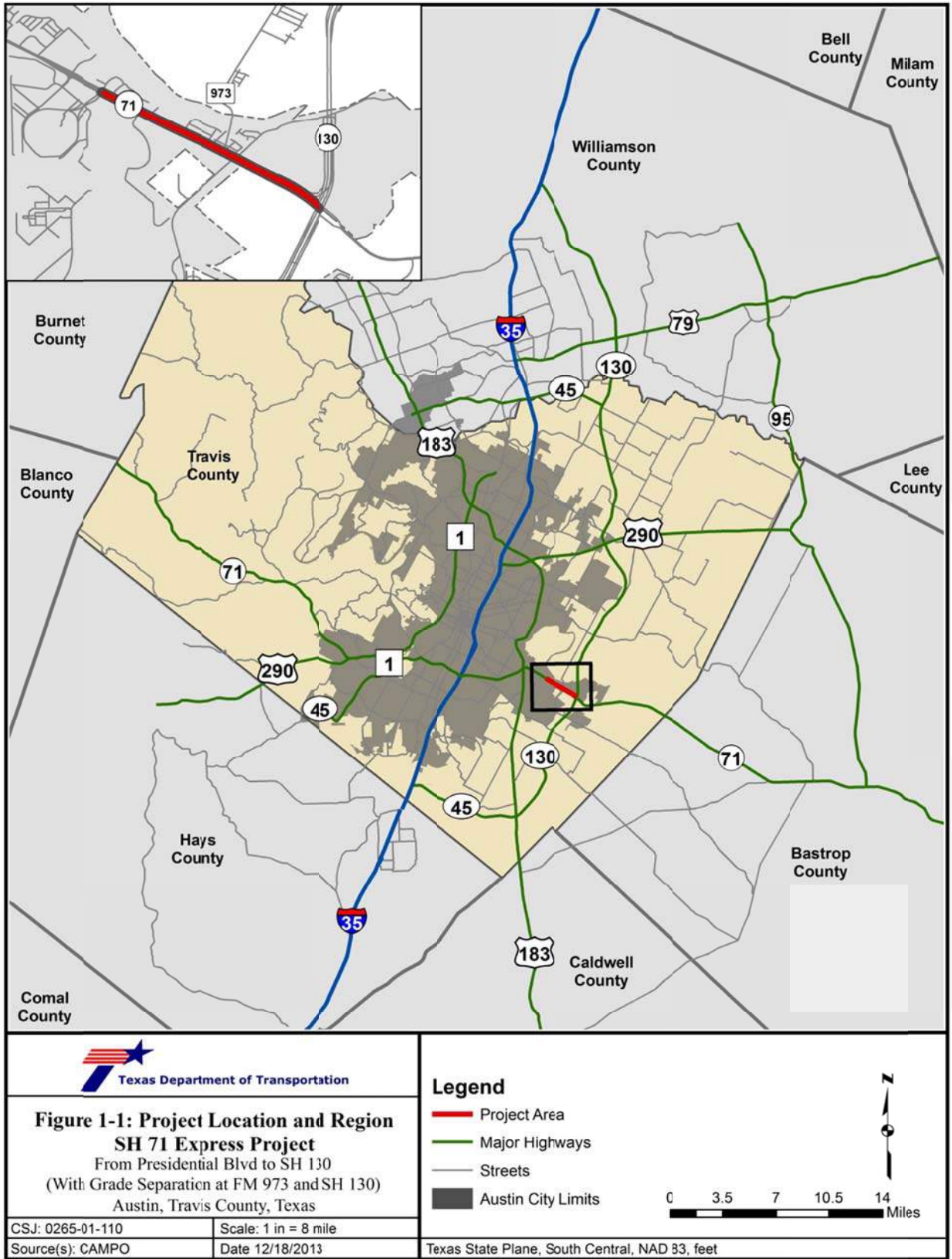


Figure 1-1: Project Location and Region

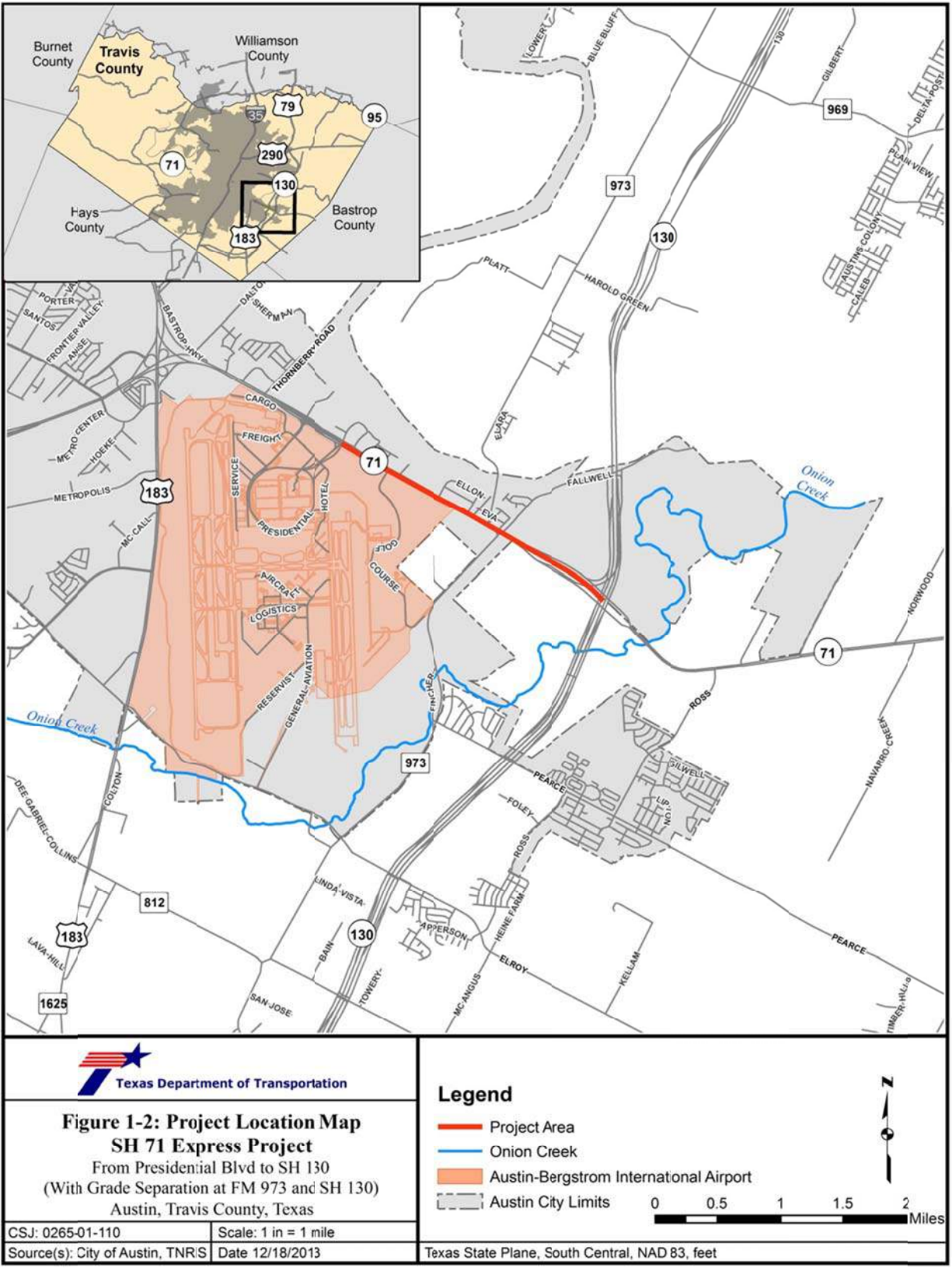


Figure 1-2: Project Location Map

1.2 Existing Facility

The existing SH 71 is a divided highway consisting of main lanes with intermittent frontage lanes. The number of existing travel lanes on SH 71 varies within the project limits. There is a grade-separated interchange at Presidential Boulevard, and SH 130, and an at-grade interchange at FM 973. The right-of-way (ROW) in the proposed project area varies from approximately 220 to 680 feet. The existing posted speed limit on SH 71 is 60 miles per hour (mph) from Presidential Boulevard to FM 973, 65 mph from FM 973 to SH 130, and 70 mph east of SH 130. Traffic signals are located along the SH 71 main lanes at FM 973 and SH 130, and along the eastbound and westbound frontage lanes at Presidential Boulevard. The only sidewalks present within the project area are along the westbound frontage lane, just west of Spirit of Texas Drive (approximately 270 feet) and along eastbound SH 71 west of FM 973 (approximately 460 feet).

At Presidential Boulevard (**Figure 1-3**) SH 71 has two 12-foot-wide main lanes in each direction with 10-foot outside shoulders and 4-foot inside shoulders. Concrete barrier separation of main lanes transitions to a grass median without inside shoulders east of Presidential Boulevard and expands to up to 54 feet wide (**Figure 1-4**). The eastbound frontage lane and shoulder converge with the main lanes at Del Valle Street to give a three-lane eastbound cross section plus right-turn only lane as the facility proceeds east. The westbound frontage lane provides right-turn access to local businesses and residential neighborhoods. The two-lane westbound frontage lane converges with the two main lanes just west of Shapard Lane to yield to two 12-foot main lanes plus a 12-foot right-turn only lane at Shapard Lane, which continues east to Del Valle Street.

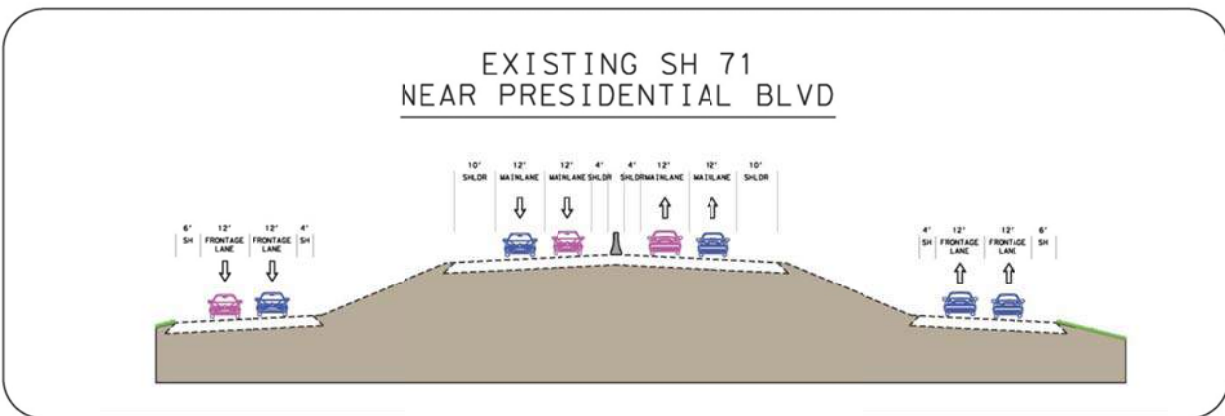


Figure 1-3: Existing Typical Section near Presidential Boulevard

From Del Valle Street to Golf Course Road, there are two 12-foot-wide main lanes in each direction with right-turn only lane drops in each direction, variable inside shoulder width (0 to 4 feet) and variable outside shoulder width (0 to 10 feet). At Golf Course Road, additional eastbound and westbound traffic lanes continue beyond the eastern project limit of SH 130. Between Del Valle Street and Terry Lane, the section of SH 71 contains a grass median of variable width up to 42 feet. The median has breaks at Golf Course Road, Lyle Road and Terry Lane with left-turn lanes. One eastbound and one westbound Capital Metropolitan Transportation Authority (CapMetro) bus stop are located in between Golf Course Road and Main Street.

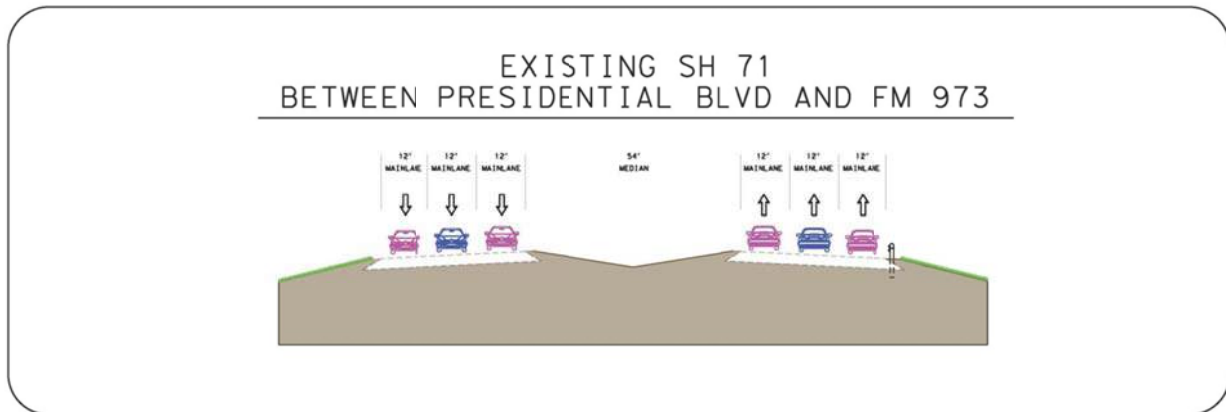


Figure 1-4: Existing Typical Section between Presidential Boulevard and FM 973

The intersection of SH 71 and FM 973 is part of the previously approved FM 973 project described in **Section 1.1 - Project History**. The construction limits for improvements to SH 71 associated with the FM 973 project are from approximately 0.5 mile west of FM 973 to 0.5 mile east of FM 973. FM 973 south of SH 71 will be realigned to match the alignment of FM 973 north of SH 71. The overall pavement width for the SH 71 main lanes at the intersection of FM 973 will be 50 feet in each direction, which will accommodate two 12-foot-wide inside travel lanes, a 14-foot-wide outside travel lane, and a 12-foot-wide left-turn lane. Approximately 10 acres of ROW will be acquired for the FM 973 project to complete the interchange. Six-foot sidewalks will also be provided on each side of FM 973 at the SH 71 interchange. Where the design allows, a buffer between the sidewalk and the curb and gutter will be provided. The existing culverts along SH 71, within the limits of the FM 973 project, will be lengthened a maximum of 260 feet. Safety end treatments will be added to improve safety at these culvert crossings. CapMetro eastbound and westbound bus stops located west of Cheviot Lane and along Fallwell Lane, south of SH 71, will be relocated as part of the FM 973 project. Final locations will be determined during the final design phase.

East of the FM 973 interchange and approaching SH 130, the SH 71 ROW between eastbound and westbound lanes expands to up to 340 feet as the eastbound, left lane exit ramp to the northbound SH 130 flyover begins to grade-separate from the facility (**Figure 1-5**). The deceleration lane/exit ramp is 15 feet wide, with variable inside and outside shoulder widths from 6 to 25 feet. The flyover exit ramp rises to a height of over 45 feet, to the bottom of the bridge deck, in order to maintain vertical clearance above the SH 130 interchange. SH 71 remains at-grade with three 12-foot main lanes of eastbound and westbound traffic, 10-foot outside shoulders, and 4-foot inside shoulders through the SH 130 interchange.

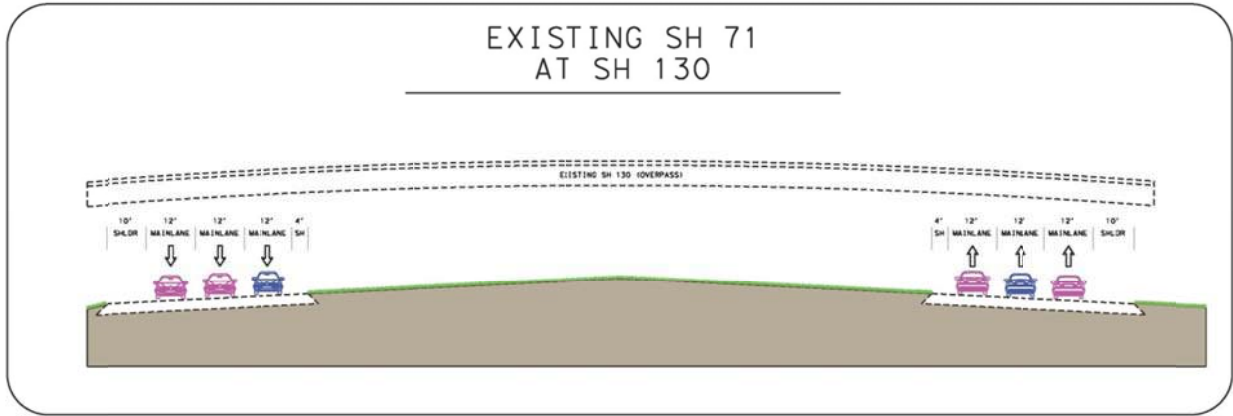


Figure 1-5: Existing Typical Section at SH 130

1.3 Purpose and Need

The purpose of the proposed project is to improve traffic flow, mobility, and vehicle and pedestrian safety within the SH 71 corridor while effectively managing congestion. The need for the proposed project is warranted by the increasing regional population and economic growth, increasing congestion, and decreasing safety.

1.3.1 Increasing population and economic growth

As shown on **Figure 1-1**, the project area serves as a primary collector from north-south expressways (US 183, SH 130, and FM 973) and Interstate Highway 35 (I-35) and connecting the city of Austin and eastern Travis County with the surrounding cities and unincorporated communities. SH 71 is a primary east-west expressway linking residents and employees of the city of Austin and eastern Travis County, as well as Bastrop, Caldwell, and Williamson counties. As shown in **Table 1-1**, from 2000 to 2010, several of the larger population centers saw substantial growth of well over 20 percent. Many of these communities are also emerging employment centers. The continued growth in the professional and technical service industries has produced a greater demand for residential housing than the city of Austin is able to keep pace with. The city is approaching its urban development capacity, and the availability of land in the surrounding communities of unincorporated Travis County are supporting the development of a growing number of corporate and industrial parks outside of the city of Austin limits.

Table 1-1: Regional Population Growth (2000 to 2010)

Geography	2000	2010	2000 – 2010 Change
Austin	656,562	799,846	21.8%
Bastrop	5,340	8,890	66.5%
Leander	7,596	22,675	198.5%
Pflugerville	16,335	39,480	141.7%
Round Rock	61,136	106,502	74.2%
Bastrop County	57,733	84,449	46.3%
Travis County	812,280	1,003,253	23.5%

Source: Texas Water Development Board.

CAMPO is projecting continued population and employment growth well above the national average through 2035, contributing to the decentralization of regional population and employment growth into suburban areas, communities in Williamson County, and unincorporated Travis County over the next 20 years. **Figure 1-6** through **Figure 1-8** show that the growth of surrounding counties and communities will far outpace that of Austin and Travis County through 2035. Areas of substantial employment growth include portions of the city of Austin and the unincorporated region southwest of the SH 71 and US 183 interchange; the city of Bastrop; and emerging cities along the SH 130 corridor in northeast Travis County and southern Williamson County such as Round Rock. Commuters traveling to Austin from the east on SH 71 as well as those that use SH 130 to reach Austin and/or the Round Rock area are likely to be impacted by the SH 71 Express Project.

Table 1-2: Projected Regional Population and Household Growth (2005 to 2035)

Geography	2005	2015	2025	2035	2005 – 2035 Change
Population					
Project Area	5,909	5,915	6,294	6,400	8.3%
City of Austin	774,659	966,681	1,147,480	1,326,478	71.2%
Travis County	896,753	1,105,083	1,318,041	1,555,281	73.4%
Bastrop County	69,516	102,289	149,185	215,452	209.9%
Caldwell County	35,426	50,127	65,321	82,069	131.7%
Hays County	126,206	189,153	271,593	371,245	194.2%
Williamson County	330,740	473,316	702,694	1,026,484	210.4%
5-County Total	1,458,641	1,919,968	2,506,834	3,250,531	122.8%
Household					
Project Area	1,360	1,365	1,483	1,507	10.8%
City of Austin	316,292	391,121	463,295	534,412	69.0%
Travis County	359,160	439,960	524,805	619,325	72.4%
Bastrop County	25,237	37,251	54,555	79,008	213.1%
Caldwell County	12,551	17,610	23,055	29,059	131.5%
Hays County	44,302	66,535	96,515	132,751	199.7%
Williamson County	118,083	169,149	251,363	367,415	211.1%
5-County Total	559,333	730,505	950,293	1,227,558	119.5%
Employment					
Project Area	7,058	7,821	9,241	9,531	35.0%
City of Austin	511,993	680,670	792,640	971,371	89.8%
Travis County	533,232	707,253	843,546	1,026,485	92.5%
Bastrop County	12,340	23,526	37,296	58,172	371.4%
Caldwell County	6,990	12,030	16,330	20,517	193.5%
Hays County	41,026	71,878	104,563	144,786	252.9%
Williamson County	101,744	165,661	252,970	400,329	293.5%
5-County Total	695,332	980,348	1,254,705	1,650,289	137.3%

Source: CAMPO, 2035 Forecast.

The Del Valle community, located on the north side of SH 71 between Presidential Boulevard and FM 973, is the immediately affected residential population in the project area. As it is unincorporated, community level population projections are not readily available, but the Del Valle Independent School District (ISD) enrollment figures show an increase of approximately 125 percent from 1996 (4,745 students) to 2011 (10,673 students) and anticipate continued growth into

the future. The number of economically disadvantaged students also increased from approximately 45 percent in 1996 to 87 percent in 2011, suggesting that an increasing number of residents may rely on transportation means other than personal vehicles (Texas Education Agency 2013).

As the population continues to grow in central Texas, traffic congestion on the SH 71 corridor will increase if mobility and operational improvements are not made. The SH 71 corridor also needs increased mobility to meet the needs of employers and special event organizers in the future. Noteworthy event centers and destinations within the corridor include ABIA and the Circuit of the Americas motorsports and event venue. ABIA currently supports over 42,000 jobs and has plans to expand existing facilities, add an additional runway, and passenger terminal over the next 20 years in order to meet capacity demands (City of Austin 2013). The Circuit of the Americas opened in 2012 but is still completing construction on ancillary support facilities including lodging and a convention center. The employer forecasts generating over 6,000 jobs in total. Approximately 1,700 of these are construction jobs, 300 full-time equivalent jobs, and more than 3,000 seasonal/event-specific employees (Circuit of the Americas 2012).

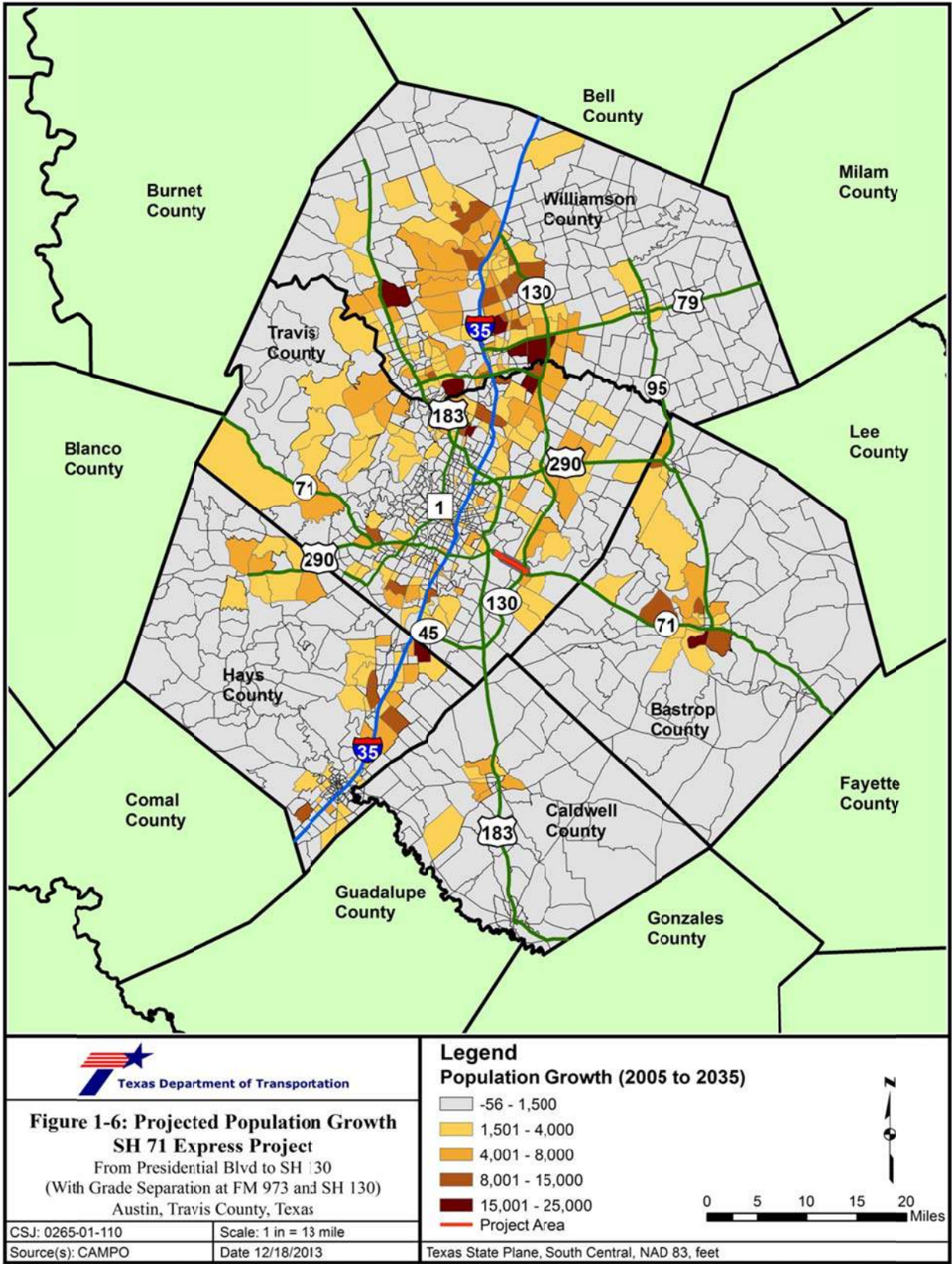


Figure 1-6: Projected Population Growth in the CAMPO Region

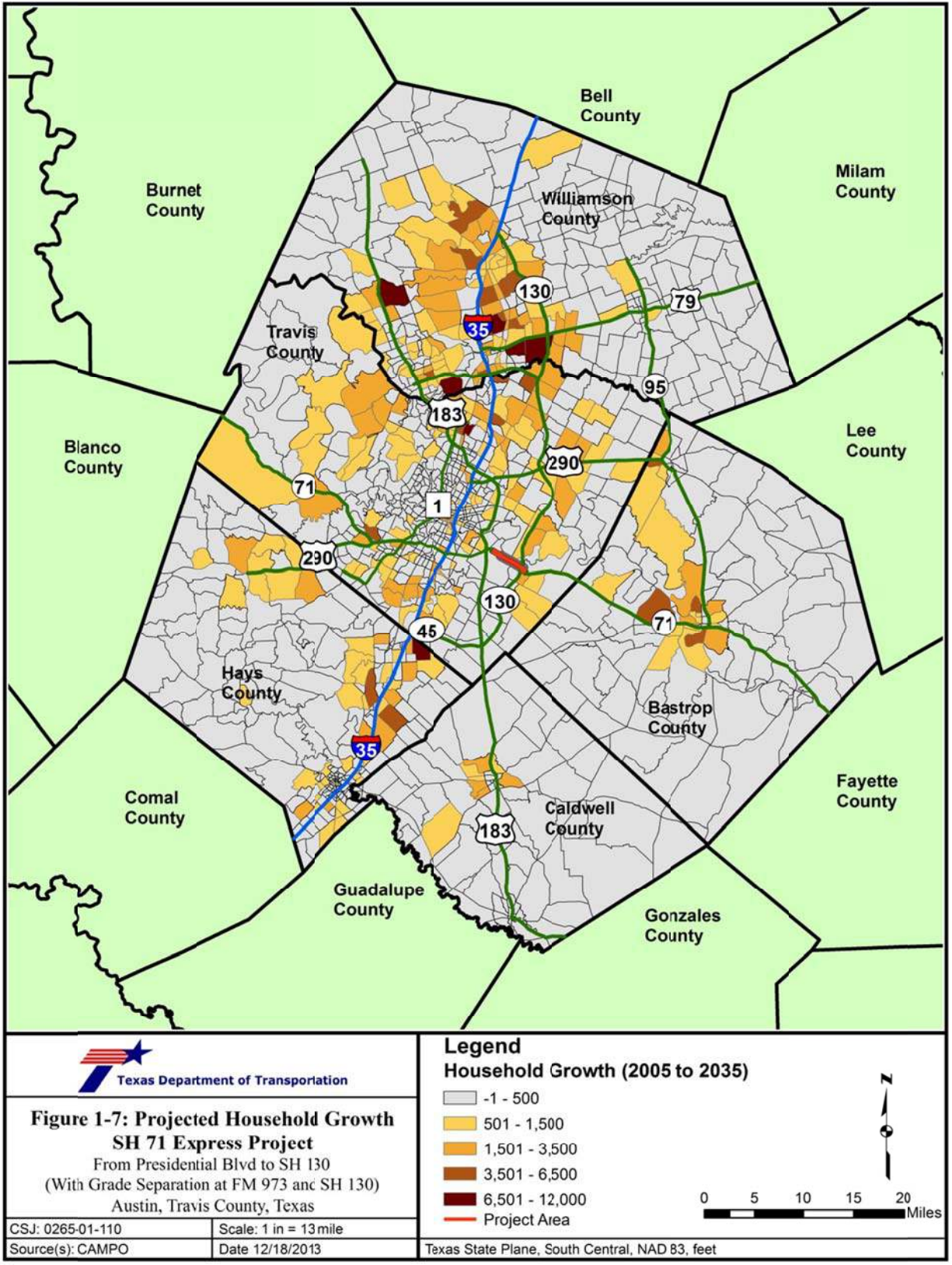


Figure 1-7: Projected Household Growth in the CAMPO Region

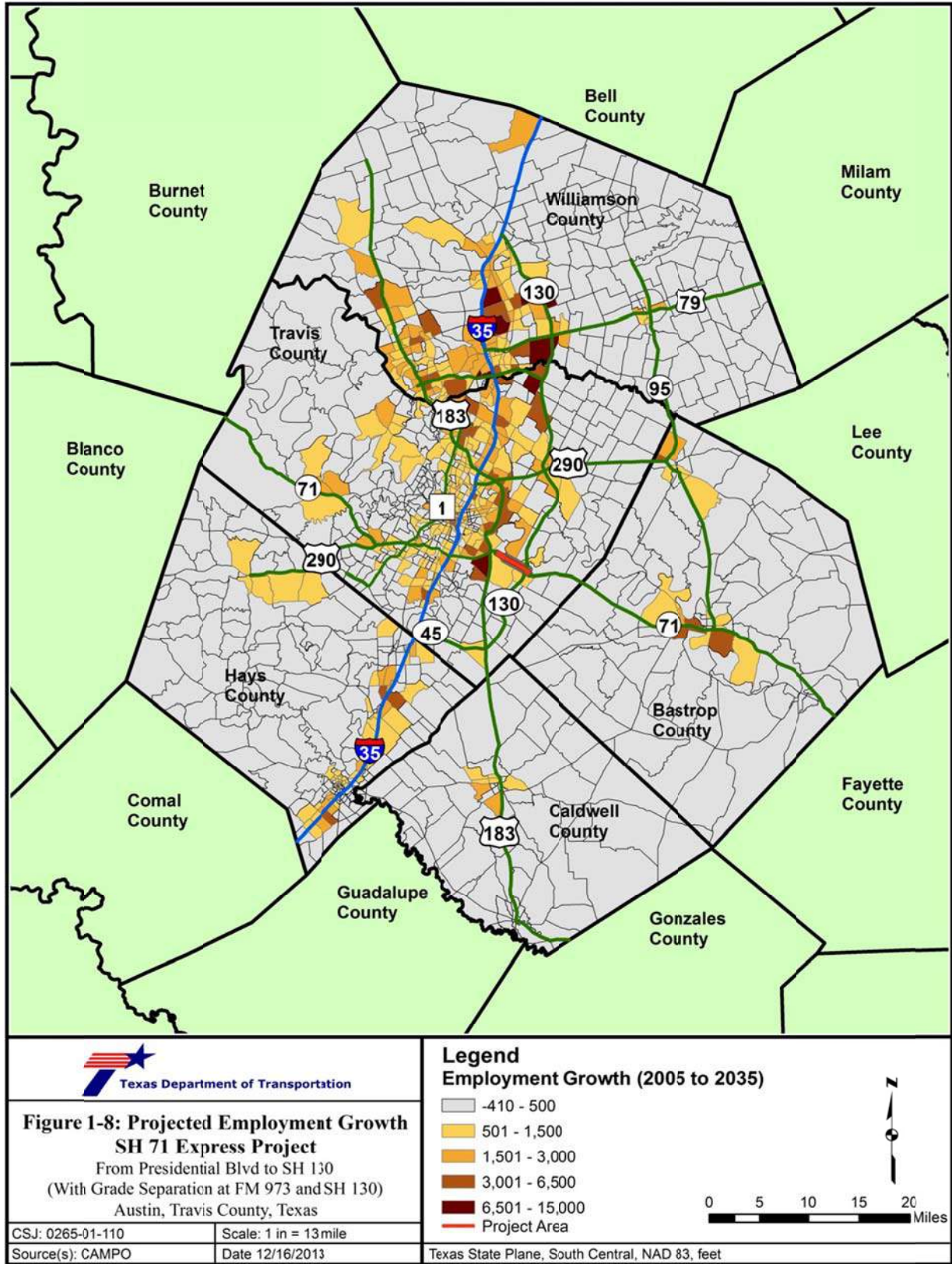


Figure 1-8: Projected Employment Growth in the CAMPO Region

1.3.2 Increasing Congestion

The increase in population and employment to the city of Austin peripheral has increased the travel demand along major thoroughfares and arterial collectors serving Austin employment centers and also contributed to increased congestion levels during peak travel periods. There is also a lack of an alternative east-west arterial connection between the north-south facilities of SH 130 and I-35. Due to the lack of alternative east-west connectors in southeast Travis County, emergency services to and from the Austin metropolitan area use SH 71 in response to incidents. Lack of an accessible diversion route also means that motorists in queues behind incidents are not able to circumvent the congestion.

In May 2013, traffic volume counts were taken on the existing SH 71 facility from I-35 to east of SH 130, including the proposed project SH 71 Express Project area. Data were collected to analyze and evaluate the current traffic operating characteristics of the transportation network, quantify the levels of performance experienced on segments of the network, and determine whether those levels are acceptable based on performance criteria. The rating system used to evaluate performance measures is called Level of Service (LOS). LOS ratings range from A to F. LOS A and B represent uncongested conditions under light traffic. LOS C is typically the worst allowable performance for a rural transportation network, while LOS D is the worst allowable for an urban network. LOS E represents operations near the capacity of a roadway, thus traffic flow is affected by weaving, intersections delays, or other conditions that result in speed reductions. LOS F occurs when volumes of traffic exceed capacity, thus resulting in long delays, traffic queues, and congested roadway operations. The results of the SH 71 Express project traffic forecasts and analysis were reviewed and approved by TxDOT, Transportation Planning and Programming Division on October 25, 2013, are shown in **Table 1-3**. **Figure 1-9** provides visual and corresponding descriptive references for LOS characteristics.

The existing SH 71 highway carries between approximately 60,000 to 63,000 vehicles per day (vpd) between Presidential Boulevard and SH 130, as well as about 44,000 vpd east of SH 130. By the planned opening year for the SH 71 Express project (2016), traffic volumes at these locations are expected to grow to 66,000 west of SH 130 to 46,000 east of SH 130. By the traffic forecast year of 2036, traffic volumes on SH 71 are expected to grow to 81,000 west of SH 130 and 60,000 east of SH 130. The long-term horizon year forecasts for 2046 are 90,000 west of SH 130 and 64,000 east of SH 130.

Table 1-3: Annual Average Daily Traffic in the SH 71 Express Project Limits

From	To	Current Year (2013)	Opening Year (2016)	(2036) Traffic Forecast	(2046) Traffic Forecast
Presidential Blvd (ABIA)	SH 130	60,000	66,000	81,000	90,000
% Change		--	10%	22.7%	11.1%

Source: TxDOT/ Mobility Authority

The increased commuter travel demand between Bastrop and Travis counties would further strain the mobility and operations of SH 71 as the local population continues to grow, which would adversely impact the roadway LOS.

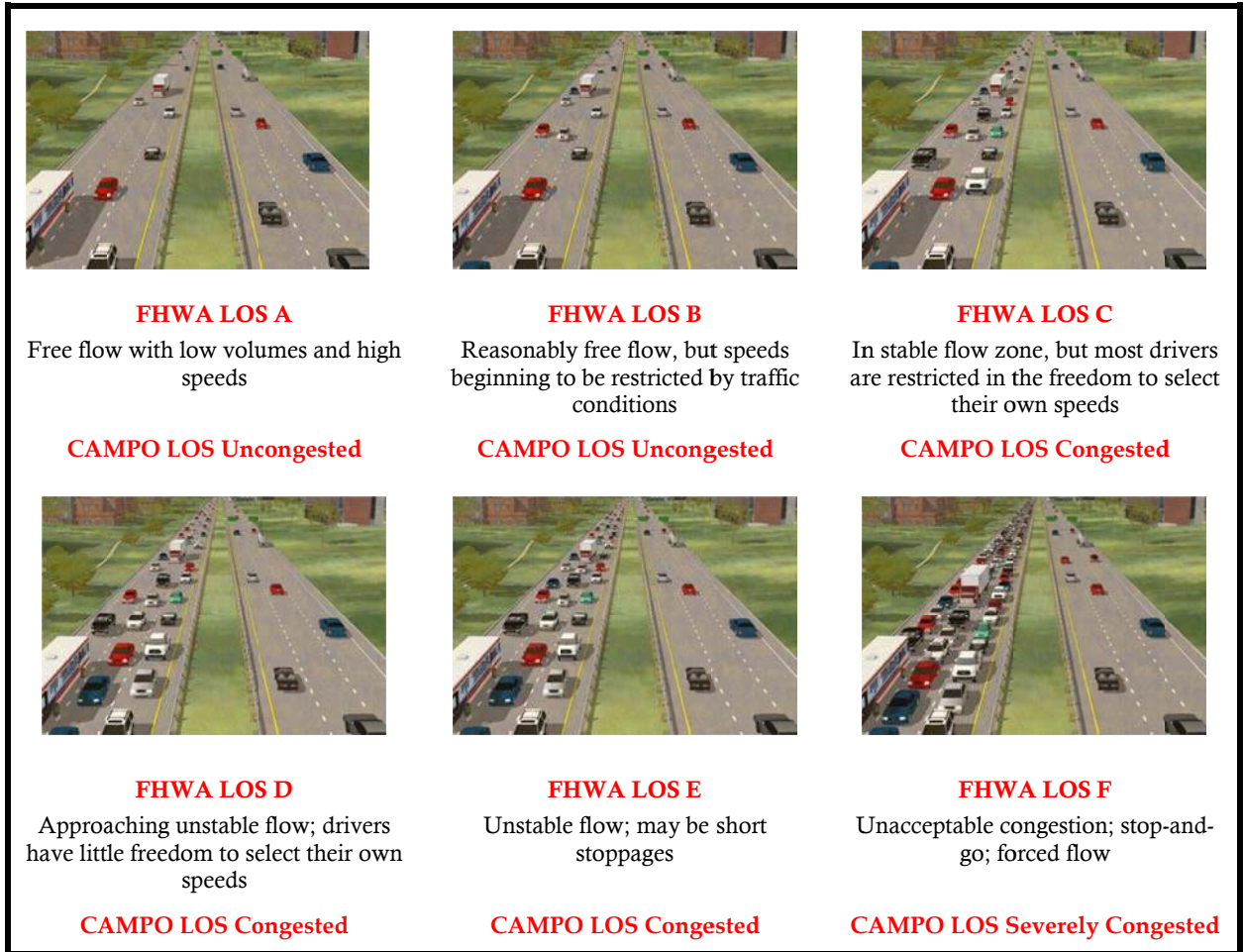


Figure 1-9: FHWA versus CAMPO LOS Characteristics

According to 2010 congestion analyses conducted by TxDOT, commuters currently experience routine congestion in the vicinities of the Presidential Boulevard entrance to ABIA, as well as the approaches to the FM 973 and SH 130 interchanges. CAMPO coordinated regional transportation surveys to evaluate the current and projected LOS for arterial roadways in 2010, 2015, and the planning horizon year of 2035. In 2010, the segments at the Presidential Boulevard and FM 973 intersections were reported as congested. By 2035, the segment between Presidential Boulevard and SH 130 is forecasted to be severely congested. The duration and affected areas of the congested and severely congested conditions will include substantial portions of the project area.

The expansion of internationally renowned conventions, festivals, and athletic events such as South by Southwest (SXSW), Austin City Limits, Motorsport races, and the X-Games will continue to draw hundreds of thousands of visitors to the Capital area for years to come. Approximately 800,000 to 1.2 million people are expected to attend events at Circuit of the Americas, which is approximately 2 miles south of ABIA off FM 973, annually, once the venue is fully operational. It is already host to nationally recognized sporting events and concerts, with anticipated peak attendance estimated at over 300,000 for F1 Grand Prix weekends. With up to 80 percent of special event

attendees projected to come from outside the state, and the concentration of hotel lodging, retail, and complementary entertainment centers in the metro Austin area, the tourist and visitors generated for special events would considerably increase travel demand along the SH 71 corridor (Circuit of the Americas 2012).

1.3.3 Pedestrian and Vehicle Safety

Traffic accidents occurring on SH 71, between Presidential Boulevard and SH 130 were analyzed for the years 2008 through July 2013 utilizing data collected from Texas Peace Officer's Crash Reports (CR-3). The analysis indicates approximately 369 accidents were recorded over this 5-year period. There were 7 fatal accidents out of 100 confirmed injury accidents, with another 80 "possible injury" incidents. Rear-end collisions accounted for the greatest frequency of accidents (166 or 45 percent), while 58 accidents (15.7 percent) occurred during attempted turning movements. 271 of the 369 accidents occurred between Presidential Boulevard and FM 973. There were also 7 reported traffic incidents involving pedestrians or bicyclists between Presidential Boulevard and SH 130. Four of the pedestrian incidents resulted in fatalities, each occurring west of the FM 973 interchange.

The primary first responder unit to incidents within the project area is Austin Fire Department (AFD) Station #0042, located at 2434 Cardinal Loop. Incidents requiring AFD response are directly impacted by the level of congestion present along SH 71. In a telephone interview conducted December 5, 2013, a member of AFD Station #0042 identified queuing at signalized intersections and unsignalized median openings as contributing factors in many of the traffic incidents responded to within the area.

Project area residences are located on the north side of SH 71 between Golf Course Drive and FM 973. Several of the nearest convenience stores and other pedestrian destinations are located on the south side of SH 71, requiring pedestrians to cross the SH 71 facility without dedicated crossing protection. Also, CapMetro transit stops within the project area are generally not connected to nearby residential, commercial and recreational destinations with a continuous sidewalk; nor are they protected from moving traffic via guardrail or pedestrian crossing signal. The only sidewalk present within the project area is along eastbound SH 71 west of FM 973 (approximately 460 feet). Pedestrian crosswalks or crossing signals are not present at existing signalized intersections; and the unsignalized median breaks enable unprotected, midblock crossings by pedestrians.

The SH 71 Express Project makes modifications to improve roadway LOS within the project area by closing median openings and limiting turning movements to signalized, grade-separated interchanges. New bicycle and pedestrian facilities are also proposed to provide a safe, continuous, and dedicated facility for pedestrian and non-motorized vehicular traffic within the project area.

1.4 Alternatives Analysis

The alternatives examined for this analysis are the Build and the No Build.

1.4.1 No Build Alternative

The No Build Alternative includes all projects currently programmed within the fiscally-constrained Long Range Transportation Plan, including the previously-approved FM 973 improvements. There would be no change to the existing capacity of SH 71, and the increasing traffic demand on the

facility would decrease mobility and safety within the proposed project area. Vehicle emissions would also increase due to increased congestion. Under the No Build the SH 71 corridor would operate at LOS F. As such, the No Build Alternative would not meet the stated needs of the project area or purpose of the improvements. However, pursuant to 40 CFR §1502.16, a No Build Alternative shall be carried forward throughout the document for the purposes of comparing the Build Alternative with a no action scenario.

1.4.2 Alternative Development

Several project coordination and development meetings were held among representatives from FHWA, TxDOT, CAMPO, and the Consultant design team to develop a build alternative. The development was predicated on meeting the project's purpose and need, consistency with the CAMPO plan, and minimizing the need for additional ROW.

Continued refinement of the proposed project resulted from collaboration among partnering agencies such as Austin-Bergstrom International Airport (ABIA), CapMetro, City of Austin – Department of Aviation, and other agency stakeholders. This coordination resulted in project refinements including incorporating bicycle and pedestrian facilities within the Build Alternative.

1.4.3 Build Alternative

The SH 71 Express Project proposes adding one new toll lane in each direction to the existing SH 71 facility from Presidential Boulevard to SH 130. The project would include widening the existing SH 71 overpass at Presidential Boulevard, as well as constructing overpass structures at the FM 973 and SH 130 interchanges. A continuous bicycle and pedestrian facility would be built along SH 71 connecting the residential neighborhoods with transit, commercial areas, and community facilities. North and south pedestrian access would be provided via crosswalks at the signalized intersections at Presidential Boulevard and FM 973, and the stop-controlled intersection at the Spirit of Texas Drive. The SH 71 pedestrian facility would connect with facilities being built as part of the US 183 and FM 973 interchange projects as well as the Onion Creek Greenway being built by Travis County Parks Department. All improvements would be constructed within the existing ROW with the exception of a portion of the bicycle and pedestrian facility which would be built on property owned by Austin-Bergstrom International Airport (ABIA).

When toll operations begin, the toll lanes would be operated and maintained by the Mobility Authority. The Mobility Authority is an independent government agency created in 2002 to improve the transportation system in Williamson and Travis counties. The TxDOT would continue to operate and maintain the non-tolled, main lanes.

The proposed SH 71 Express Project would address the purpose and need of the project by providing added capacity to the corridor to accommodate the projected growth in population and traffic. Both the capacity and operational improvements would aid regional congestion and improve mobility through the SH 71 corridor. The SH 71 Express Project would provide an express bypass of traffic queues caused at signalized intersections, and facilitate access to ABIA and Circuit of the Americas. The toll lanes would also act as a redundant east-west highway facility, offering an alternative to congested conditions caused by traffic incidents occurring within the main lanes. By 2036, the toll lanes are projected to operate at LOS C between Presidential Boulevard and FM 973, and LOS B

between FM 973 and SH 130 and the main lanes would operate at LOS D. This is an improvement over the 2036 condition when compared to the No Build Alternative. Pedestrian and vehicle safety would be enhanced by replacing median openings with designated turnarounds at Presidential Boulevard and FM 973, installing median barriers and adding a continuous bicycle and pedestrian facility. Protocols may be established during incident management or other emergencies to facilitate the use of toll lanes and main lanes for emergency congestion relief or incident response as needed.

The proposed Build Alternative is recommended over the No Build Alternative because the No Build Alternative does not meet the future traffic and pedestrian needs of the project area.

Appendix A provides a schematic of the roadway and bicycle and pedestrian facility.

1.5 Proposed Facility

As described above, the SH 71 Express Project proposes adding two new 12-foot toll lanes, one in each direction, from Presidential Boulevard to SH 130. The total length of the Build Alternative between logical termini is approximately 2.4 miles, with an additional 1.5 miles of combined transition area. The transition areas extend westward to Thornberry Road and eastward across Onion Creek. The transition areas would be required to ensure safe traffic merging from the proposed toll lanes to the existing main lanes on the east and west sides of the project. West of the SH 130 interchange, there would be an eastbound egress point from the toll lanes to the main lanes and a westbound access point from the main lanes to the toll lanes. The toll lanes terminate east of the SH 130 interchange and transition to the SH 71 main lanes (**Figure 1-18**). The western project terminus would include a single access/egress point to and from the toll lanes approximately 400 feet west of Presidential Boulevard (**Figure 1-10**).

The project would widen the existing SH 71 overpass at Presidential Boulevard, and construct overpasses at the FM 973 and SH 130. Designated turnarounds would be built at the Presidential Boulevard and FM 973 intersections. A continuous bicycle and pedestrian facility would be built along SH 71 and north and south pedestrian access would be provided via crosswalks at the signalized intersections at Presidential Boulevard and FM 973, and the stop-controlled intersection at the Spirit of Texas Drive. The SH 71 pedestrian facility would connect with facilities being built as part of the US 183 and FM 973 interchange projects as well as the Onion Creek Greenway being built by Travis County Parks Department. All improvements would be constructed within the existing ROW with the exception of a portion of the bicycle and pedestrian facility which would be built on property owned by Austin-Bergstrom International Airport (ABIA).

The following provides a detailed description of the proposed facility from west to east.

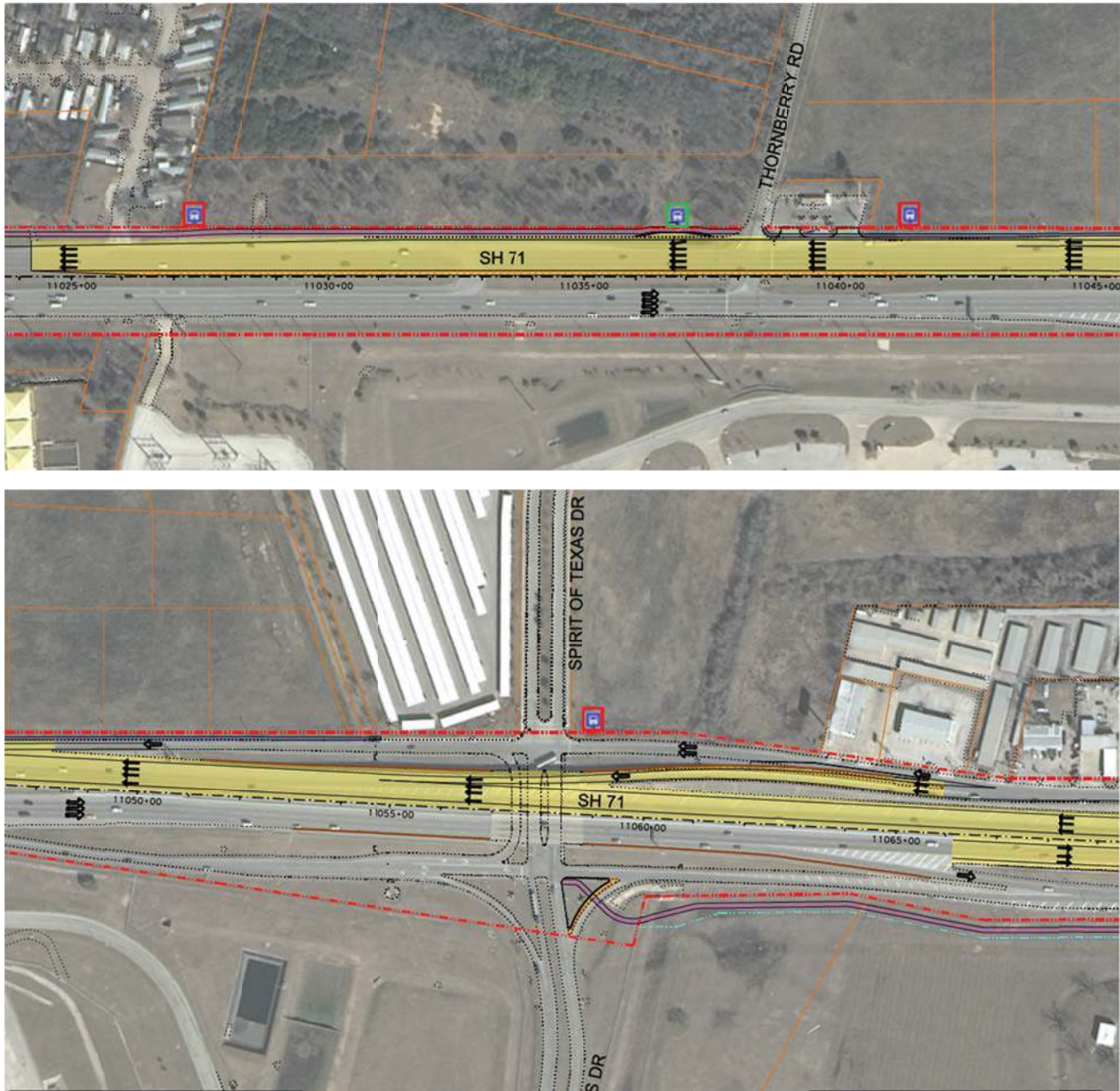


Figure 1-10: Aerial View of Western Transition Zone

Within the western transition zone, the westbound main lanes at Spirit of Texas Drive would be widened to accommodate an additional 12-foot lane by restriping the existing roadway to replace the existing 22-foot shoulder with a 12-foot lane and a 10-foot shoulder. The deceleration lanes/exit ramps, acceleration lanes/entry ramps and main lanes through the Spirit of Texas Drive interchange would not be modified.

The western terminus of the toll lanes is approximately 400 feet west of the SH 71 and Presidential Boulevard interchange. The outside shoulders would be reduced to 10 feet in each direction and the main lanes restriped to accommodate the additional 12-foot toll lane on the inside. Toll lanes would be separated from the two 12-foot general purpose lanes by a 4-foot buffer. The buffer area between

tolled lanes and general purpose lanes would be a striped 4-foot buffer. The 10-foot inside shoulder width and concrete median barrier would remain. The existing sloped embankment supporting the vertical transition approaches to the Presidential Boulevard interchange would be replaced with mechanically stabilized earth (MSE) retaining walls and the existing four-lane overpass bridge spanning Presidential Boulevard would be widened to a 130-foot-wide six-lane bridge section (Figure 1-11 and Figure 1-12). The widened overpass at Presidential Boulevard also supports the widening of the westbound SH 71 main lane entrance ramp from one lane to two lanes. Approaching the western terminus of the toll road, the three SH 71 main lanes would transition to a two-lane entrance ramp and two frontage lanes at the ramp gore. The additional capacity on the entrance ramp would accommodate westbound SH 71 main lane traffic without requiring traffic to stop at the Presidential Boulevard traffic signal.

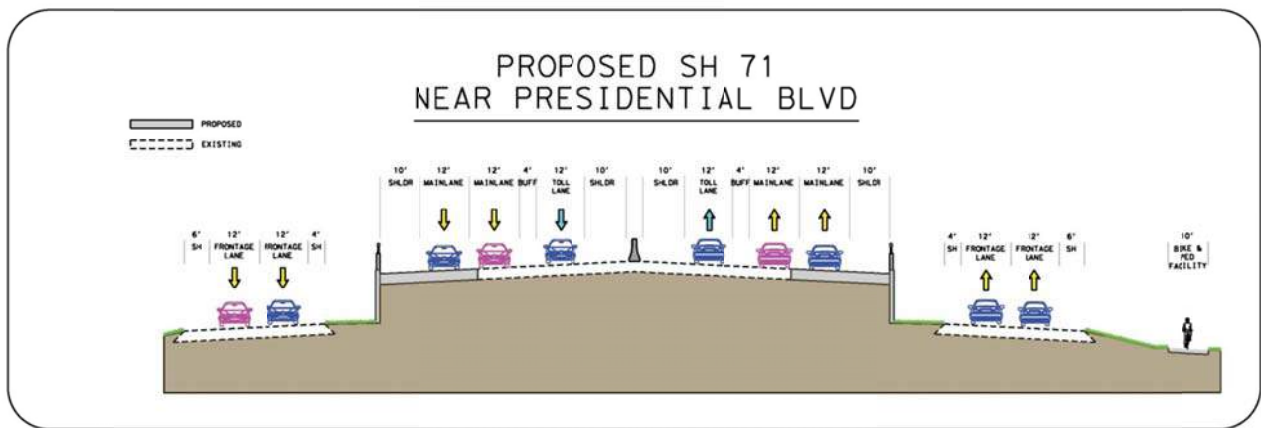


Figure 1-11: Proposed Typical Section near Presidential Boulevard

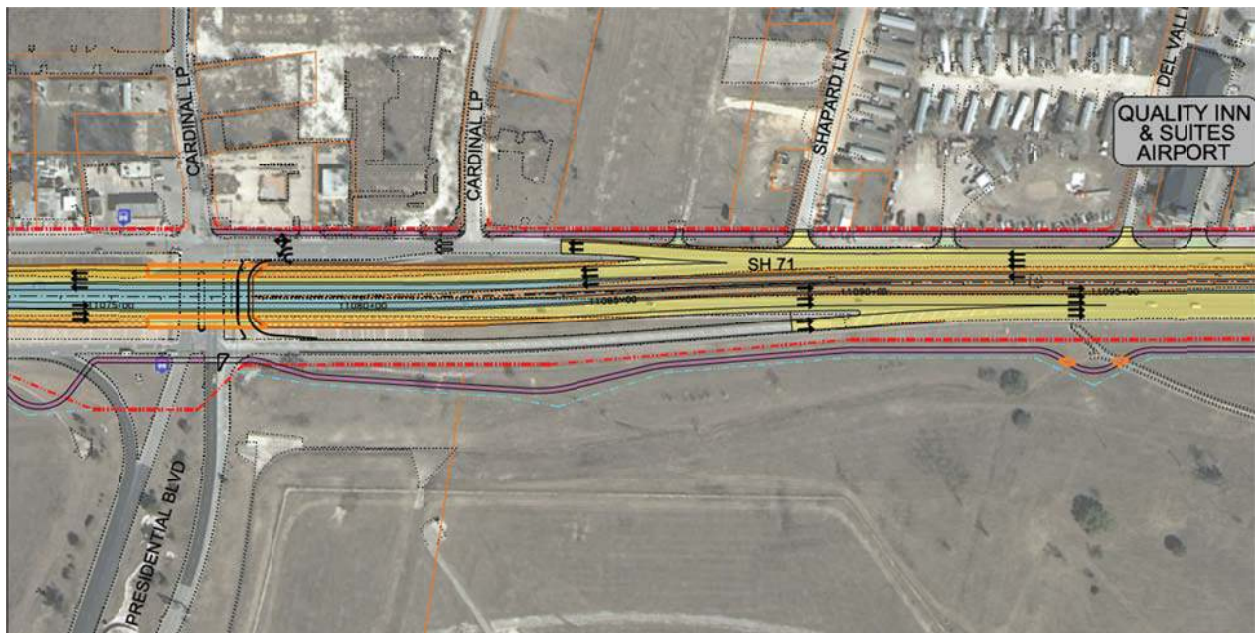


Figure 1-12: Aerial View at Presidential Boulevard

From the Presidential Boulevard interchange to west of FM 973, the eastbound and westbound main lanes converge with the SH 71 facility to result in an eight-lane cross section. Eastbound and westbound lanes would consist of three 12-foot general purpose travel lanes separated from a 12-foot toll lane by a 4-foot buffer. A 4-foot inside and 10-foot outside shoulder would be provided in each direction of travel. The existing SH 71 main lanes would be widened in the existing median to construct the newly added toll lanes, buffer and inside shoulder. No existing lanes would be converted into toll lanes. Guardrail would be installed along the outside shoulder, as necessary, of the eastbound and westbound lanes. A concrete traffic barrier would be provided along the inside. Closure of median breaks would occur at Golf Course Road, Lyle Road, and Terry Lane to construct the toll lanes. Accessibility to the opposite direction of travel would be limited to the SH 71 interchanges at the Presidential Boulevard or FM 973 interchanges (**Figure 1-13** and **Figure 1-14**).

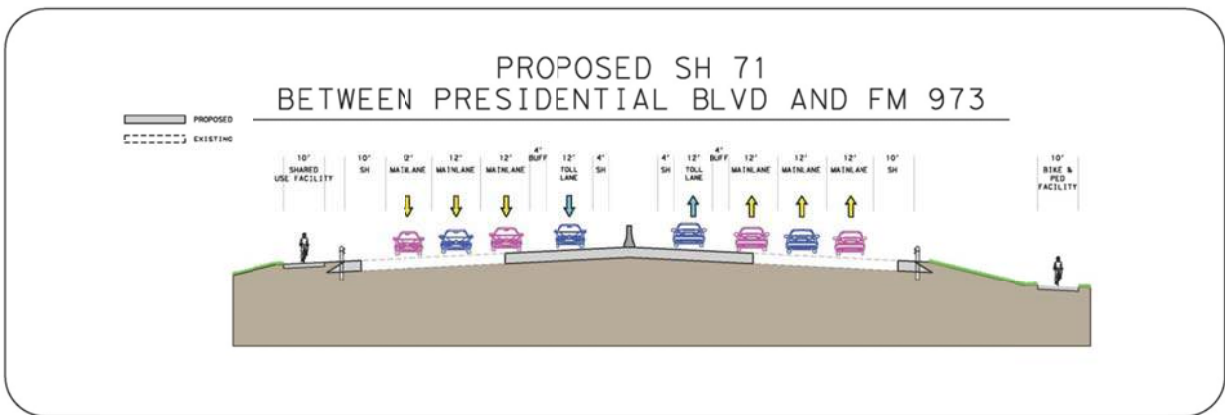


Figure 1-13: Proposed Typical Section between Presidential Boulevard and FM 973



Figure 1-14: Aerial View between Presidential Boulevard and FM 973

The SH 71 and FM 973 interchange will be reconstructed as part of the FM 973 project previously described, including SH 71 eastbound and westbound main lanes with a variable width grass median of up to approximately 250 feet between them. The eastbound and westbound main lane approaches to FM 973 have been modified from the previous project to include right-turn deceleration/storage

lanes as well as east-west and west-east turnarounds. The three 12-foot eastbound and westbound main lanes would diverge from the toll lanes to become the main lanes of the non-tolled, SH 71 approximately 1,500 feet west of FM 973. The two-lane toll facility would operate on a raised embankment with 10-foot shoulders in the ROW between main lanes. An approximately 100-foot-wide by 400-foot-long, four-span bridge overpass would be constructed through the FM 973 interchange. Through the FM 973 interchange and approaching SH 130, the toll facility would accommodate 10-foot inside and outside shoulders, concrete median barrier, two 12-foot toll lanes, and transition lanes for a 12-foot westbound acceleration lane/entrance ramp and 12-foot eastbound deceleration lanes/exit ramps to SH 130. In order to simplify the tolling operations, a single overhead gantry pay point is proposed for electronic toll collection (ETC) just east of FM 973 (Figure 1-15 and Figure 1-16).

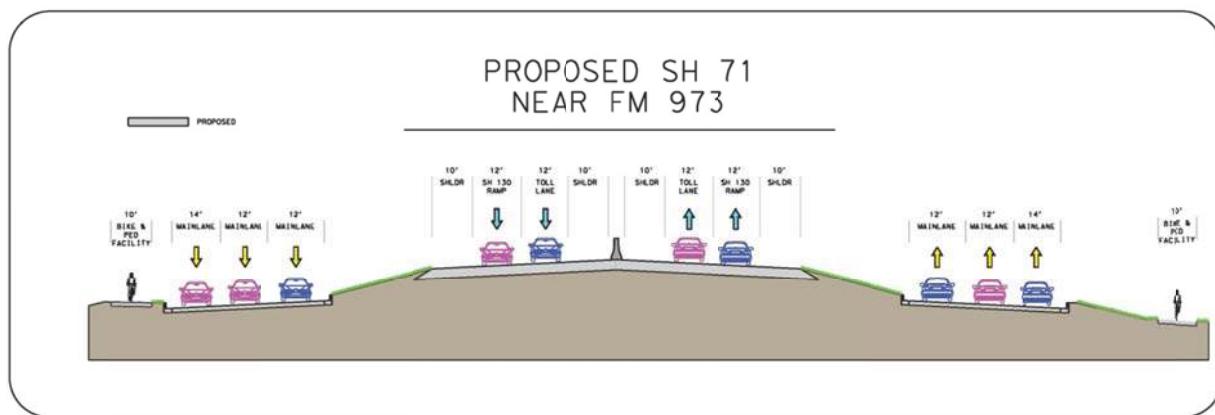


Figure 1-15: Proposed Typical Section near FM 973



Figure 1-16: Aerial View at FM 973 Interchange

East of the SH 71 and FM 973 interchange, the elevated SH 71 toll lanes' width would transition to approximately 72 feet with two 12-foot toll lanes, 12-foot inside shoulders, 10-foot outside shoulders and a concrete median barrier as it approaches SH 130. The bridge deck passes under the SH 71 eastbound to SH 130 northbound flyover ramp and elevates to a height of approximately 45 feet (to the bottom of the bridge deck) as it passes over the main lanes of the SH 130 and SH 71 interchange.

The three-lane eastbound and westbound SH 71 main lanes are separated by approximately 400 feet of ROW, which narrows to approximately 20 feet of grassy median east of the interchange.

East of the SH 71 and SH 130 interchange, the toll lane section transitions down to grade at the SH 71 main lanes approach to Onion Creek. The toll lane facility ends west of the Onion Creek Bridge and diverges into a 12-foot eastbound and 12-foot westbound lane; each with 4-foot inside shoulders and 10-foot outside shoulders and separated by a grass median. The eastbound bridge would be widened by approximately 12 feet on its north side to provide a transition zone for the merge of SH 71 Express vehicles into the 2-lane SH 71 eastbound main lanes. The existing SH 71 eastbound lanes on the Onion Creek Bridge transition back to the existing conditions as they merge into the main lanes. Widening of the bridge section would allow safe transition of elevated toll lanes down to grade and assimilation into the existing 3-lane cross section. No work would be expected at the westbound bridge. The bridge widening would extend the existing bents, including a maximum of two additional drilled shafts and columns in-line with the existing bents. The girders/beams used for the widening would be similar to the existing infrastructure and the slab would be widened (**Figure 1-17**).

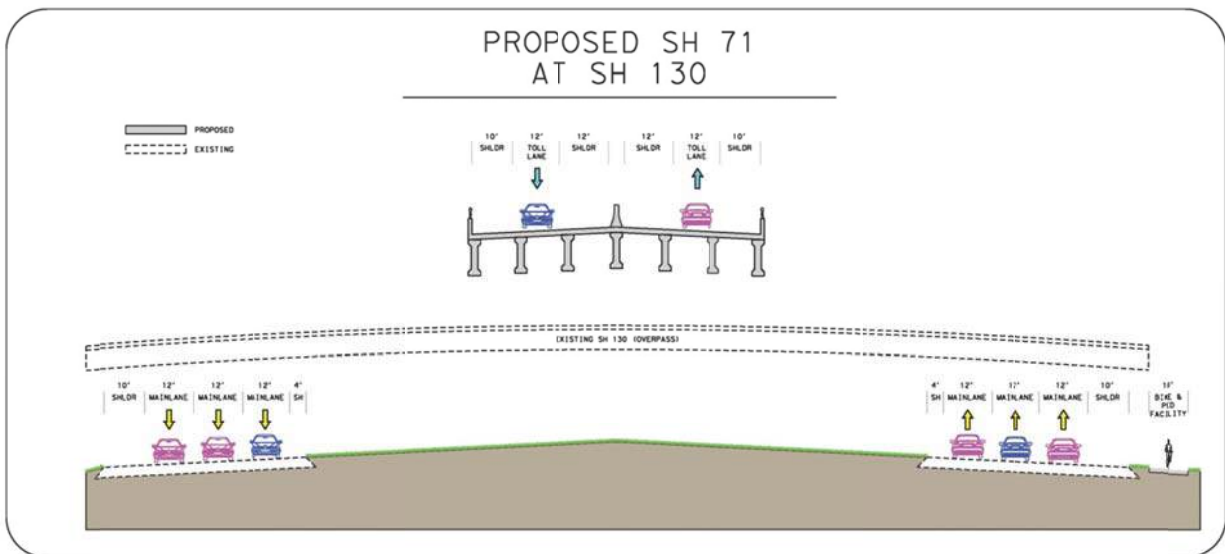


Figure 1-17: Proposed Typical Section at SH 130



Figure 1-18: Aerial View at SH 130

The project would meet the pedestrian and multimodal accessibility needs of the area by adding a combination of bicycle and pedestrian facilities along areas of both the north and south sides of the proposed SH 71 Express Project (see **Section 1.5.2 – Bicycle and Pedestrian Improvements** for a complete description). The bicycle and pedestrian facilities proposed for the SH 71 Express Project would connect to the pedestrian facilities built as part of the FM 973 project, as well as to the Onion Creek Greenway trail which is being built by Travis County Parks.

The changes to the SH 71 facility proposed by the Build Alternative would meet the project purpose by addressing the needs of the project within the existing ROW. Improved traffic flow along SH 71 would be accomplished through the addition of travel lane capacity and reducing travel time caused by existing signalization. Safety would be improved by removing unprotected left turning movements, restricting cross-street access to only signalized interchanges, and by reducing vehicle movement conflicts between local and commuter trips. In addition, pedestrian safety would be addressed through the addition of bicycle and pedestrian facilities with intermodal connectivity and protected pedestrian crossings at signalized interchanges.

1.5.1 ROW

The SH 71 Express Project would be constructed primarily within the existing ROW. A portion of the bicycle and pedestrian facility on the south side of the project would be built on property owned by ABIA. While 6 acres of ABIA property would be affected during construction, no new ROW would be acquired. After construction, ABIA would continue to own the land and would maintain the portion of the bicycle and pedestrian facility on its property. No additional temporary construction or permanent ROW would be required.

1.5.2 Bicycle and Pedestrian Improvements

The proposed project would address bicycle and pedestrian accommodations in accordance with current FHWA, TxDOT, and CAMPO guidance. All bicycle and pedestrian facilities proposed would also be consistent with the city of Austin's bicycle and pedestrian planning goals and coordinated with the Travis County Parks Department.

A combination of sidewalks as well as a bicycle and pedestrian facility would be built on both the north and south side of SH 71 with designated crosswalks at Spirit of Texas Drive, Presidential Boulevard, and FM 973. ADA-compliant curb ramps would be installed at all at-grade roadway crossings and all cross streets intersected by the bicycle and pedestrian facility. Impacted driveway aprons along SH 71 would be reconstructed to accommodate the installation of the bicycle and pedestrian facility. Guardrail would be installed in select locations along the outside shoulders of SH 71 for the protection of pedestrians and bicyclists.

As shown in **Appendix A**, on the north side of SH 71 the bicycle and pedestrian facilities would begin east of Cardinal Loop and would connect to the bicycle and pedestrian facilities constructed as part of the FM 973 project at Terry Lane. The bicycle and pedestrian facilities built as part of the FM 973 project terminate east of the FM 973/SH 71 Interchange. On the south side of SH 71, the facility would be constructed on ABIA property from Spirit of Texas Drive to just east of Terry Lane. A pedestrian bridge would be constructed at approximately Terry Lane, where the bicycle and pedestrian facility would cross a drainage structure. Improvements would continue eastward along

the south side of SH 71 within existing ROW from east of Terry Lane to the SH 130. The bicycle and pedestrian facilities would eventually connect to the Onion Creek Greenway hike and bike trail near the Onion Creek Bridge as Travis County Parks Department advances the Onion Creek Greenway project.

In addition to bicycle and pedestrian facilities proposed as part of the SH 71 Express Project, new facilities would be constructed along the north side of SH 71, from Spirit of Texas Drive to US 183 within the ROW acquired by TXDOT project CSJ: 0265-01-108. A Programmatic Categorical Exclusion was prepared for this project in July 2011.

In response to requests by the city of Austin, the SH 71 Express Project would include the construction of new sidewalk along the north side of SH 71, from Spirit of Texas Drive to Thornberry Road, as well as bicycle and pedestrian facilities between Thornberry Road and Old Bastrop Highway. All facilities would be constructed within existing ROW.

1.5.3 Utility Adjustments and Relocations

Construction activities may impact existing utilities (water, sewer, electric, natural gas, communication) that are located within or across construction zones. The appropriate local owner/operators would locate all utility lines within the construction areas and coordinate a work schedule that would avoid and minimize any disruption of the utility service(s) during the construction of the facility.

1.5.4 Logical Termini and Independent Utility

The project has logical termini and independent utility per FHWA regulations (23 Code of Federal Regulations [CFR] 771.111(f)). Limits of the proposed project begin at Presidential Boulevard and end at SH 130 with transitions back to existing conditions beyond the termini. The project termini are rational endpoints for construction and for review of environmental impacts.

Presidential Boulevard and ABIA (commercially accessible at Sprit of Texas Drive and passenger accessible at Presidential Boulevard) is the largest regional employment anchor and passenger trip generator. Over 20,000 vpd access ABIA facilities via Spirit of Texas Drive and Presidential Boulevard. That figure is projected to increase to over 27,000 by the year 2035. Vehicles destined for the airport arrive from points west via SH 71 on multiple alternate routes such as: East Riverside Drive, I-35, MoPac Expressway (Loop 1), and US 183.

The proposed action has independent utility as it can stand on its own without the implementation of other transportation improvements. The proposed project improvements would provide a functioning roadway with the ability to provide effective transportation without further construction at either terminus of the roadway. Additionally, the project would not restrict the consideration of alternatives for other foreseeable transportation improvements.

1.6 Funding

The proposed SH 71 Express Project is proposed for development and implementation as a design-build venture, estimated to cost approximately \$141 million. Capital costs identified within the fiscally constrained TIP include approximately \$1 million for preliminary engineering, \$20 million for ROW, \$108 for construction and engineering services, and \$12 million in contingencies and indirect costs.

The project would be constructed using federal and state funds, as listed in the CAMPO Fiscal Year (FY) 2013 to 2016 TIP. The TIP estimates the total project cost at \$141 million, of which \$64.8 million would come from federal sources and \$76.2 million would come from state sources. Construction is anticipated to begin in late 2014. The SH 71 toll lanes are estimated to be open for revenue service in late 2016.

2. Affected Environment and Impacts

2.1 Environmental Issues Eliminated from Analysis

2.1.1 Section 4(f)/6(f) Properties

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (Title 49 United State Code [USC] 1653(f) as amended and codified in 49 USC 303 in 1983) states the Secretary of Transportation may approve a transportation program or project requiring use of publicly owned land of a public park, recreation area, wildlife/waterfowl refuge, or land of a historic site of national, state, or local significance (as determined by the officials having jurisdiction over the park, recreation area, refuge, or site) only if there is no prudent and feasible alternative to such use and the project includes all planning to minimize harm.

The State of Texas Parks and Wildlife Code, Title 3, Chapter 26 contains similar language concerning the taking of park and recreational lands. Texas Parks and Wildlife Department (TPWD) restricts the use or taking of any public land designated and used as a park (recreation area, scientific area, wildlife refuge, or historic site) unless the agency, political subdivision, county, or municipality determines there is no feasible and prudent alternative and that the project/program includes all reasonable planning to minimize harm to the land.

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 requires that any outdoor recreational facilities acquired with U.S. Department of the Interior (USDOI) financial assistance under the LWCF Act, as allocated by the TPWD, may not be converted unless approval is granted by the Director of the National Park Service (NPS). If no practical alternative exists, replacement property of reasonably equivalent usefulness and location must be provided.

The project would occur within existing ROW, so no 4(f) or 6(f) protected land would be acquired for the SH 71 Express Project.

The Travis County Parks Department is currently in the process of developing and building a park and trail system called the Onion Creek Greenway. The Onion Creek Greenway is being developed in phases and will ultimately link several existing parks (Richard Moya Park, Berdoll Bend, Barkley Meadows Park, Southeast Metro Park, and Onion Creek Nature Preserve) via greenway corridors, a multi-use trail system, and several new parks. Part of this system of trails will ultimately cross the SH 71 ROW at the Onion Creek Bridge (Travis County Parks Department 2010). An agreement between Travis County Parks and TxDOT was executed on January 29, 2013, to allow the county to install and maintain a public hike and bike trail within the ROW, while the land would remain TxDOT ROW (Travis County Commissioners Court 2013). Construction of the greenway is underway and a preliminary design has been developed for the trail that would pass under the Onion Creek Bridge; however, this portion of the trail has not been built and no recreational amenities exist. The SH 71 Express Project proposes the widening of the eastbound bridge at Onion Creek that would include additional support infrastructure in the ROW. The construction activities at Onion Creek Bridge would not impact the Onion Creek Greenway but may affect the final design of the trail in this location. The construction activities at the Onion Creek Bridge do not constitute a use under 4(f).

2.1.2 Soils

The project area and surrounding area consists of nearly level and gently sloping terrain on the inactive Colorado River floodplain. The Natural Resources Conservation Service (NRCS) Web Soil Survey of Travis County describes the general soil types within the proposed project area as Lewisville-Patrick associations. These soils are deep, calcareous, clayey soils that overlay gravelly alluvium. Oakalla silty loam soil is located along Onion Creek and is considered to be a hydric soil as classified by the NRCS.

Existing soils within the proposed project area may be disturbed by construction activities. During construction, deep excavation would take place where additional drilled shafts are proposed. This would result in minor disturbances of the soils. Soil units and their corresponding characteristics are listed in **Table 2-1**.

Table 2-1: Soils in the Project Area

Soil Series	Characteristics	Soil Units	Hydric?	Prime and Unique Farmland?
Altoga	-Well drained -High available water capacity	AgC2 – Altoga silty clay, 3-6% slopes, moderately eroded	No	No
Burleson	-Moderately well drained -Moderate available water capacity	BsB – Burleson clay, 1-2% slopes	No	Yes
Ferris Heiden	-Well drained -Low available water capacity	FhF3 – Ferris-Heiden complex, 8-20% slopes, severely eroded	No	No
Oakalla	-Well drained -High available water capacity	Fr – Oakalla silty clay loam, 0-1% slopes, frequently flooded	Yes	No
Heiden	-Well drained -Moderate available water capacity	HeD2 – Heiden clay, 5-8% slopes, moderately eroded	No	No
Houston	-Moderately well drained -Moderate available water capacity	HnA – Houston Black clay, 0-1% slopes	No	Yes
		HnB – Houston Black clay, 1-3% slopes	No	Yes
Lewisville	-Well drained -High available water capacity	LcA – Lewisville silty clay, 0-1% slopes	No	Yes
		LcB – Lewisville silty clay, 1-2% slopes	No	Yes
Travis	-Well drained -Moderate available water capacity	TsD – Travis gravelly soils, 1-8% slopes	No	No
Wilson	-Moderately well drained -Moderate available water capacity	WIB – Wilson clay loam, 1-3% slopes	No	No

Source: NRCS, Web Soil Survey, Travis County, 2013.

This project area is not located within the Edwards Aquifer contributing or recharge zones. No surface exposure of underlain geology was visible during field investigations due to soil cover and thick vegetation. **Table 2-2** shows the general stratigraphy of the area and the soils that overlay each within the project area.

Table 2-2: Geology

Stratigraphy		Series	Overlying Soil
Qt	Fluviatile Terrace Deposits	Pleistocene	AgC2, FhF3, Fr, HnA, LcA, LcB
Ko	Ozan Formation	Upper Cretaceous	AgC2, HeD2, HnA, LcA, LcB, TsD
Kknm	Navarro and Marlbrook Marl		HnB, WIB

Source: Association of American State Geologists.

- **Qt** consist of gravel, sand, and silt and is composed of metamorphic rocks, quartzite, milky quartz, chert, and fine-grained igneous rocks.
- **Ko** is a dark gray clay that weathers to light brown. It consists of variable amounts of silt and glauconite and some siltstone beds.
- **Kknm** consist of the Navarro group and Marlbrook Marl, also called the “upper Taylor marl.” This formation contains calcareous clay in the upper portion and montmorillonitic clay with silt-sized quartz in the lower portion.

2.1.3 Farmland

The surrounding area has been used and is well suited for cropland and pastureland although urban development is beginning to dominate land use. Prime and unique farmlands are provided protection under the Farmland Protection Policy Act (FPPA), Subtitle I of Title XV of the Agricultural and Food Act of 1981. The project area lies within existing TxDOT ROW and consequently there would be no new impacts to prime and unique farmland.

2.1.4 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act protects essential fish habitat in tidally influenced waters, and if the habitat exists within a project area, consultation with the National Marine Fisheries Service is required. There are no tidally influenced waters in the proposed project area; therefore, the requirements of the Act do not apply.

2.1.5 Navigable Waters

The proposed project does not cross any navigable waterways. Therefore, navigational clearance under the General Bridge Act of 1946, Section 9 of the Rivers and Harbors Act (administered by the U.S. Coast Guard [USCG]) and Section 10 of the Rivers and Harbors Act (administered by the U.S. Army Corps of Engineers [USACE]) are not applicable. Coordination with the USCG (for Section 9 and the Bridge Act) and the USACE (for Section 10) would not be required.

2.1.6 Coastal Zone Management

The Coastal Zone Management Act (CZMA) of 1972, as amended in 1996, provides for the preservation, protection, development, and where feasible, restoration and enhancement of the Nation’s coastal zone resources. In Texas, the General Land Office (GLO) is designated as the agency that coordinates the development and implementation of the Texas Coastal Management Plan. The Coastal Coordination Council administers the coastal management program and is in charge of adopting uniform goals and policies to guide decision making by all entities regulating or managing natural resource use within the Texas coastal area. The boundary of the Texas Coastal

Management Zone was delineated in accordance with the requirements of the CZMA to include four elements: inland boundary, seaward boundary, interstate boundaries, and federal land excluded from the boundary. The SH 71 Express Project is not in the Coastal Management Zone; therefore, no formal coordination with the GLO would be required.

2.2 Land Use in Project Area

The study area for land use includes all uses within a ¼-mile buffer around the centerline of the existing SH 71 corridor in the project area. The city of Austin’s GIS land use data (updated 2012) was used as a baseline of land use conditions, which were then field verified on June 18, 2013. As shown in **Table 2-3**, transportation uses account for 45.5 percent of the total acres in the study area, which include ABIA, parking facilities, and roadway facilities. The second most common land use type (35.2 percent) is generally vacant of development including open space, parks, agricultural land, and other undeveloped land (**Figure 2-1**). The SH 71 Express Project would not require additional ROW, so there would be no impact to land use.

Table 2-3: Land Use within ¼ Mile of SH 71

Land Use	Acres	Share
Residential – Single Family	47.46	3.5%
Residential – Duplexes	2.55	0.2%
Residential – Multi-family Three/Fourplexes	1.16	0.1%
Residential – Multi-family Apartments/Condos	15.80	1.1%
Residential – Multi-family Group Quarters	0.83	0.1%
Residential – Mobile Homes	49.98	3.6%
Commercial	50.02	3.6%
Office	1.57	0.1%
Civic – Educational	28.96	2.1%
Civic – Government Services	24.77	1.8%
Civic – Meetings & Assembly	0.30	0.0%
Utilities	7.88	0.6%
Industrial	1.94	0.1%
Warehousing	9.46	0.7%
Manufacturing	23.90	1.7%
Open Space	1.44	0.1%
Parks & Greenbelts	6.72	0.5%
Agricultural	252.51	18.4%
Undeveloped	222.51	16.2%
Transportation – Aviation	293.08	21.3%
Transportation – Parking	5.93	0.4%
Transportation – Roadway	325.94	23.7%
Total	1,374.87	100.0%

Source: City of Austin, Land Use GIS shapefile, updated 2012.

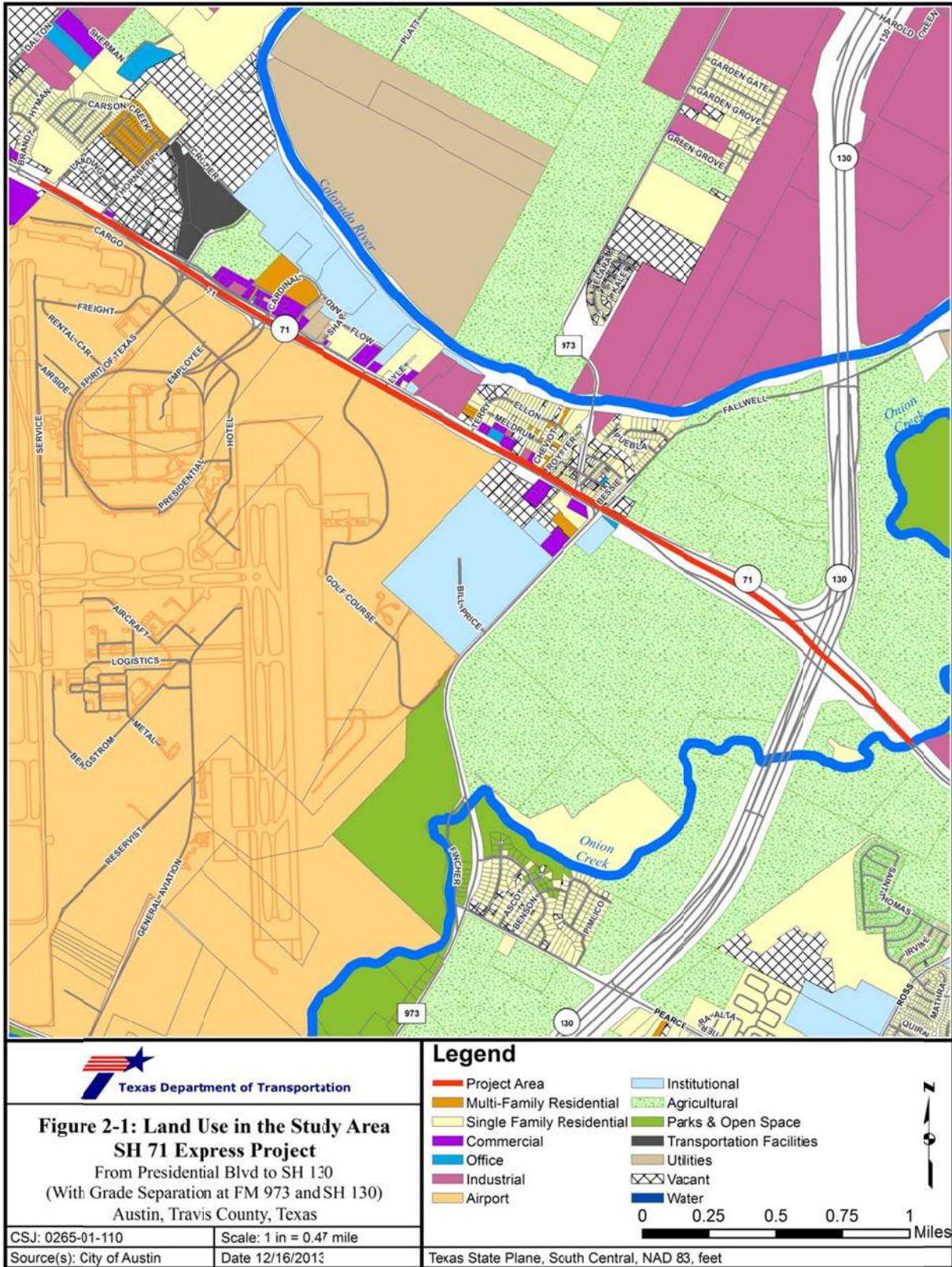


Figure 2-1: Land Use in the Study Area

2.3 Social and Economic Issues

This section describes the socioeconomic conditions that could be affected by the SH 71 Express Project. A study area was developed for the project, which includes all Census block groups (and the blocks within them) that intersect a ¼-mile buffer around SH 71 project area. The study area includes portions of the city of Austin and Travis County. The Census geography in the study area includes seven block groups and 346 blocks:

- Census tract 22.07, block group 2, blocks 2000 to 2080
- Census tract 23.10, block group 1, blocks 1000 to 1012
- Census tract 23.10, block group 2, blocks 2000 to 2064
- Census tract 23.19, block group 1, blocks 1000 to 1004
- Census tract 24.33, block group 1, blocks 1000 to 1061
- Census tract 24.33, block group 2, blocks 2000 to 2070
- Census tract 9800, block group 1, blocks 1000 to 1042

2.3.1 Existing Social and Economic Conditions

Historic Growth

The Austin metropolitan statistical area (MSA) has experienced substantial growth between 1990 and 2010; the population, the number of households, and employment has more than doubled. In this same time period the city of Austin added approximately 325,000 people, 125,000 households and 210,000 employees, equating to a 69.7 percent, 64.6 percent, and 79.3 percent growth, respectively (Table 2-4).

Table 2-4: Historic Population and Household Growth

		City of Austin	Travis County	Austin MSA
1990	Population	465,622	576,407	781,572
	Households	192,148	232,861	303,871
	Employment	264,516	326,788	434,986
2000	Population	656,562	812,280	1,249,763
	Households	265,649	320,766	471,855
	Employment	376,704	460,525	541,598
2010	Population	790,390	1,024,266	1,716,289
	Households	316,337	390,862	650,459
	Employment	447,424	559,045	954,659
1990-2010 % Change	Population	69.7%	77.7%	119.6%
	Households	64.6%	67.9%	114.1%
	Employment	69.1%	71.1%	119.5%

Source: U.S. Census Bureau, 1990, 2000, and 2010 Census, Total Population, Total Households, 1990 and 2000 Census, Employment, and 2007–2011 American Community Survey (ACS), Selected Economic Characteristics.

Race and Ethnicity

The 2010 population of the study area is predominantly minority (78.8 percent). The Hispanic/Latino population accounts for more than half (58.7 percent) of the population, followed by those that identify themselves as some other race (19.3 percent), and black or African American (18.5 percent). Compared to the city of Austin and Travis County, the study area is home to a greater share of minority populations, as the city of Austin is 51.3 percent minority, and Travis County is slightly less than half minority with 49.5 percent (**Table 2-5**).

Table 2-5: Race and Ethnicity

Demographic		Study Area	Travis County	City of Austin
Total Population		16,701 100.0%	1,024,266 100.0%	790,390 100.0%
Total Minority* Population		13,157 78.8%	506,622 49.5%	405,119 51.3%
non- Hispanic/ Non-Latino	Total	6,898 41.3%	681,500 66.5%	512,683 64.9%
	White Only	3,544 21.2%	517,644 50.5%	385,271 48.7%
	Black or African American	2,955 17.7%	82,805 8.1%	60,760 7.7%
	American Indian and Alaska Native	37 0.2%	2,611 0.3%	1,967 0.2%
	Asian	150 0.9%	58,404 5.7%	49,159 6.2%
	Native Hawaiian and Pacific Islander	6 0.0%	540 0.1%	401 0.1%
	Some Other Race	27 0.2%	1,813 0.2%	1,448 0.2%
	Two or More Races	179 1.1%	17,683 1.7%	13,677 1.7%
Hispanic/ Latino	Total	9,803 58.7%	342,766 33.5%	277,707 35.1%
	White Only	5,855 35.1%	192,170 18.8%	154,489 19.5%
	Black or African American	142 0.9%	4,503 0.4%	3,646 0.5%
	American Indian and Alaska Native	180 1.1%	5,944 0.6%	4,934 0.6%
	Asian	8 0.0%	929 0.1%	705 0.1%
	Native Hawaiian and Pacific Islander	17 0.1%	178 0.0%	128 0.0%
	Some Other Race	3,203 19.2%	122,893 12.0%	100,756 12.7%
	Two or More Races	398 2.4%	16,149 1.6%	13,049 1.7%

Source: U.S. Census Bureau, 2010 Census, Hispanic and Latino Origin by Race.

* Minority equals all people except the white non-Hispanic/non-Latino population.

Household Income

Household income is used to identify the presence of low-income populations. According to the U.S. Department of Health and Human Services (HHS) 2013 poverty guidelines, a three-person household is considered low-income if they earn less than \$19,530 or \$23,550 for a four-person household. As shown in **Table 2-6**, 18 percent of the households in the study area earn less than \$24,999. In comparison, 21.0 percent of households in Travis County and 22.9 percent in the city of Austin earn less than \$24,999. Despite having a greater share of low-income households, Travis County and the city of Austin have a slightly larger but comparable median household income when compared to the study area; this is because the county and city have a larger share of high-income earning households when compared to the study area.

Table 2-6: Household Income (2011 Dollars)

Household Income	Study Area	Travis County	City of Austin
Total Households	4,160 100.0%	399,679 100.0%	322,979 100.0%
Median Household Income	\$21,161 to \$62,785	\$55,452	\$51,596
Less than \$10,000	228 5.5%	29,140 7.3%	26,176 8.1%
\$10,000 to \$14,999	194 4.7%	17,993 4.5%	16,161 5.0%
\$15,000 to \$19,999	222 5.3%	17,638 4.4%	15,149 4.7%
\$20,000 to \$24,999	100 2.4%	19,003 4.8%	16,488 5.1%
\$25,000 to \$29,999	172 4.1%	20,434 5.1%	17,522 5.4%
\$30,000 to \$34,999	268 6.4%	20,674 5.2%	17,608 5.5%
\$35,000 to \$39,999	360 8.7%	20,104 5.0%	17,186 5.3%
\$40,000 to \$44,999	229 5.5%	19,931 5.0%	16,518 5.1%
\$45,000 to \$49,999	208 5.0%	16,279 4.1%	13,705 4.2%
\$50,000 to \$59,999	484 11.6%	31,004 7.8%	25,923 8.0%
\$60,000 to \$74,999	575 13.8%	39,371 9.9%	31,776 9.8%
\$75,000 to \$99,999	715 17.2%	46,344 11.6%	36,844 11.4%
\$100,000 to \$124,999	231 5.6%	31,895 8.0%	23,564 7.3%
\$125,000 to \$149,999	59 1.4%	19,966 5.0%	14,575 4.5%
\$150,000 to \$199,999	87 2.1%	23,292 5.8%	16,184 5.0%
\$200,000 and More	28 0.7%	26,611 6.7%	17,600 5.4%

Source: U.S. Census Bureau, 2007–2011 ACS, Household Income in the Past 12 Months (in 2010 inflated dollars), and Median Household Income.

Age Groups

The largest age cohort in the study area is those between the ages of 30 and 61. This age group is most likely to be employed and commutes to work and/or is raising a family and travels for non-work-related activities. When compared to the county and city, the study area has a larger share of school-aged children (5 to 17 years old); they account for 22.9 percent of the population as compared to 16.5 percent in Travis County and 14.9 percent in the city of Austin. The elderly population (65 years old and older) in the study area represents a smaller share of the total population (4.2 percent) when compared to county (7.3 percent) and the city (7.0 percent). School-aged children and the elderly are most likely to be dependent on others or transit for their transportation needs (Table 2-7).

Table 2-7: Age Groups

Age Groups	Study Area	Travis County	City of Austin
Total Population	16,701 100.0%	1,024,266 100.0%	790,390 100.0%
Under 5 years old	1,474 8.8%	75,774 7.4%	57,982 7.3%
5 to 17 years old	3,820 22.8%	169,263 16.5%	117,483 14.9%
18 to 29 years old	3,411 20.3%	231,247 22.6%	202,628 25.6%
30 to 39 years old	2,978 17.9%	174,207 17.0%	139,622 17.7%
40 to 49 years old	2,222 13.3%	140,480 13.7%	102,083 13.0%
50 to 59 years old	1,642 9.8%	117,538 11.5%	85,266 10.8%
60 to 79 years old	1,021 6.1%	96,686 9.4%	70,219 9.0%
Over 80 years old	133 0.8%	19,071 1.8%	15,107 1.9%
Total Elderly Population (65 years and older)	703 4.2%	74,759 7.2%	55,695 7.1%

Source: U.S. Census Bureau, 2010 Census, Sex by Age.

Persons with Disabilities¹

The U.S. Census Bureau defines persons with disabilities as those that have one or more of the following: physical difficulties such as hearing and vision impairments, cognitive difficulties, ambulatory difficulties, and self-care difficulties, or independent living difficulties. Persons with disabilities may be more dependent on transit for their transportation needs as a result of their difficulties and/or may be affected more by transportation changes than persons without disabilities.

¹ Statistics for persons with disabilities is only available from the 2000 Census at the project level; current data will be released with the 2008-2012 ACS dataset. The 2000 Census disability statistics for the study area do not offer a fair comparison with the county and city 2009-2011 ACS data, presented in Table 2-8, because the data collection dates and methods are significantly different. As such disability statistics are presented for Travis County and the city of Austin as representations of the disability characteristics in the region.

As shown in **Table 2-8**, 8.2 percent of the population in Travis County and the city of Austin are persons with disabilities; most of whom are of working age (between 16 and 64 years old).

Table 2-8: Persons with Disabilities

Disability	Travis County**	City of Austin**
Total Population	1,027,084 100.0%	793,629 100.0%
With a Disability	84,202 8.2%	65,034 8.2%
Total Population Under 5 Years Old	76,531 7.5%	57,902 7.3%
With a Disability	198 0.2%	105 0.2%
Total School Aged Population^	169,891 16.5%	119,591 15.1%
With a Disability	7,809 9.3%	5,533 8.5%
Total Working Aged Population^^	706,963 68.8%	561,106 70.7%
With a Disability	50,959 60.5%	39,436 60.6%
Total Elderly Population^^^	73,699 7.2%	55,030 6.9%
With a Disability	25,236 30.0%	19,960 30.7%

Source: U.S. Census Bureau, 2007–2011 ACS, Disability Characteristics.

** Travis County and city of Austin data are sourced from the 2007-2011 ACS, as such population totals differ from other tables in this document.

^ School aged children are defined as ages 5 to 17

^^ Working aged population is defined as ages 18 to 64

^^^ Elderly aged population is defined as age 65 and over

2.3.2 Projected Growth

As part of its long-range transportation plan, CAMPO produced population, household, and employment projections to 2035. As shown in **Table 2-9**, the population of the city of Austin and Travis County will more than double between 2005 and 2035. In comparison, employment is expected to grow faster in the project area compared to the population and the number of households. The growth trends point to the development of metropolitan region, with multiple growth cores, as suggested by the project growth in the counties around Austin and Travis County, and as illustrated on **Figure 1-6** through **Figure 1-8**.

Table 2-9: Projected Population Growth

Geography	2005	2015	2025	2035	2005-2035 Change
Population					
Study Area	5,909	5,915	6,294	6,400	8.3%
City of Austin	774,659	966,681	1,147,480	1,326,478	71.2%
Travis County	896,753	1,105,083	1,318,041	1,555,281	73.4%
Bastrop County	69,516	102,289	149,185	215,452	209.9%
Caldwell County	35,426	50,127	65,321	82,069	131.7%
Hays County	126,206	189,153	271,593	371,245	194.2%
Williamson County	330,740	473,316	702,694	1,026,484	210.4%
5-County Total	1,458,641	1,919,968	2,506,834	3,250,531	122.8%
Households					
Study Area	1,360	1,365	1,483	1,507	10.8%
City of Austin	316,292	391,121	463,295	534,412	69.0%
Travis County	359,160	439,960	524,805	619,325	72.4%
Bastrop County	25,237	37,251	54,555	79,008	213.1%
Caldwell County	12,551	17,610	23,055	29,059	131.5%
Hays County	44,302	66,535	96,515	132,751	199.7%
Williamson County	118,083	169,149	251,363	367,415	211.1%
5-County Total	559,333	730,505	950,293	1,227,558	119.5%
Employment					
Study Area	7,058	7,821	9,241	9,531	35.0%
City of Austin	511,993	680,670	792,640	971,371	89.75
Travis County	533,232	707,253	843,546	1,026,485	92.5%
Bastrop County	12,340	23,526	37,296	58,172	371.4%
Caldwell County	6,990	12,030	16,330	20,517	193.5%
Hays County	41,026	71,878	104,563	144,786	252.9%
Williamson County	101,744	165,661	252,970	400,329	293.5%
5-County Total	695,332	980,348	1,254,705	1,650,289	137.3%

Source: CAMPO, Regional Global Information System (GIS) data, 2005 to 2035 Demographics.

Imagine Austin is the city's comprehensive plan, which was adopted June 15, 2012. This plan contemplates the future of Austin and the region through 2040. While the city of Austin is projected to continue to grow, this plan forecasts that the city's share of the regional population (Austin-Round Rock MSA) will drop from almost half of the MSA's total population in 2008 to approximately one-third of the MSA's population by 2040. This suggests that the region will include several nodes of employment and activities centers beyond the urban core of Austin. Between 2008 and 2040 the number of households within the MSA is expected to double. This growth will

generate a demand for new housing units which may occur in the form of new development or conversions of the existing housing stock (City of Austin 2012).

2.3.3 Relocations and Displacements

The proposed SH 71 Express Project would primarily occur within existing ROW. The construction of the shared-use path on ABIA property would not result in the relocation or displacement of a building and the airport would retain ownership of the land.

The project would modify access within the corridor by closing several median openings (see **Table 2-13** below). These median closings would change the path that travelers take to access adjacent land uses and cross streets, but no driveways or cross streets would be closed that would result in a displacement. Construction activities would result in temporary detours, which would change access to the adjacent businesses and other land uses. Clear signage would be provided and all adjacent property would remain accessible during construction.

2.3.4 Economic Impacts

The economic conditions of the SH 71 Express Project area are influenced by its adjacency to the city of Austin and ABIA. Data from the *Longitudinal Employer-Household Dynamics – OnTheMap* application, produced by the U.S. Census Bureau, describe the employment opportunities within 1 mile of the SH 71 Express Lanes Project as well as where people work that live within 1 mile of the project.

As shown in **Table 2-10**, the largest employment industry within 1 mile of the project is transportation and warehousing and utilities, followed by arts, entertainment, recreation, accommodations, and food services. The *OnTheMap* mapping features shows the highest density of jobs in and around the ABIA. According to employment statistics collected by ABIA, the airport supports almost 50,000 jobs, which accounts for 7 percent of the jobs in Austin.

Table 2-10: Employment by Industry in the Study Area

Industry	Employment
Total labor force	100.0%
Agriculture, forestry, fishing and hunting, mining	1.0%
Construction	2.3%
Manufacturing	12.8%
Wholesale trade	6.2%
Retail trade	4.6%
Transportation and warehousing, utilities	38.6%
Information	0.0%
Finance and insurance, real estate and rental, leasing	7.9%
Professional, scientific, management, administrative, waste management services	5.0%
Educational services, health care and social services	2.2%
Arts, entertainment, recreation, accommodations and food services	16.8%
Other services except public administration	1.9%
Public administration	0.9%

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics, *OnTheMap*, 2013.

More than half of the 2011 labor force that lives within 1 mile of the SH 71 Express Project commutes to the city of Austin for work and 62.6 percent travel less than 24 miles (including Austin destinations). Austin has been the dominant employment center for residences in the project area between 2009 and 2011 (Table 2-11).

Table 2-11: Where People Work that Live in the Project Area

Location	2011	2010	2009
Austin	53.1%	60.9%	55.5%
Houston	6.3%	4.3%	6.1%
San Antonio	5.6%	4.1%	3.9%
Dallas	3.3%	2.7%	3.9%
Round Rock	1.6%	1.6%	1.6%
Other	30.0%	26.5%	29.0%

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics, *OnTheMap*, 2013.

By 2035, CAMPO projects that Travis County will have over 1 million jobs, of which most will be within the city limits of Austin. While downtown Austin will remain an important employment hub, CAMPO projects future employment growth will occur along major highways and outside the city core. One of the high employment growth areas is predicted to be west of the study area along US 183.

The largest employers in the Austin region are within the government, education, technology, warehouse and distribution, and health care industries, with an increasing share of local businesses. These industries attract a labor force that is predominantly young and educated. In 2010, young professionals between 25 and 44 accounted for 34 percent of Austin’s population. This cohort is recognized for contributing to the creative sector, including art, film, and visual media; gaming and digital media; and music. While Austin’s 2011 unemployment rate was 7.4 percent (the highest in 20 years and lower than the state of Texas (8.5 percent) and the U.S. (9.1 percent)), the demographic characteristics of the unemployed population are tied to education; in 2011 the greater share (13.9 percent) of the unemployed labor force had less than a high school degree or G.E.D. when compared to those completing college (4.6 percent) (City of Austin 2012).

The mobility improvements resulting from the SH 71 Express Project would offer express access to ABIA for travelers from the west and/or who use SH 130. The added capacity would reduce congestion, particularly during morning and evening peak commute hours, and would improve travel time and level of service for those traveling through the project area on their way to major employment centers in the city of Austin.

Impacts to Local Businesses

There are several businesses adjacent to SH 71 that have a driveway fronting the roadway. Table 2-12 lists these businesses from west to east.

Table 2-12: Businesses Adjacent to the SH 71 in the Study Area

Name	Description
Gatti's Pizza	Restaurant
The Parking Spot	Long and short-term parking
Austin Energy	Power substation
Valero & Corner Store	Gas station and convenient store
Austin-Bergstrom International Airport	Airport
FastPark	Long and short-term parking
Club Tejano Explosion	Nightclub
Del Valle Automotive	Auto repair
A Mini Storage Company	Storage facilities
Subway	Restaurant
Super Shuttle	Van/taxi services
Curl's RV Rental	RV rentals
El Tenampa Bar: Bellas de Noche	Nightclub/adult entertainment
Capitol Garden Inn	Motel
Jasmine's Mexican Restaurant	Restaurant
Ritmo, Salud y Vida	Fitness/dance studio
Christian Personality Auto Repair	Auto Repair
Circle K Shell	Gas station and convenient store
Bejucos Mexican Restaurant (Closed)	Restaurant
El Michoacano Restaurant	Restaurant
Unnamed Parking Facility	Parking facility
Quality Inn	Motel
Right Now Insurance	Insurance vendor
Hill Liquor Store	Liquor and convenient store
Naree's Beauty Salon	Beauty salon
Direct Propane Services	Propane sales
Highway 71 Food & Fuel	Gas station and convenient store
Pop's Party Palace	Party supplies vendor
ATX Transmission	Auto repair
Del Valle Body & Paint	Auto repair
Unnamed roofing business	Construction/roofing
U.S. Post Office	Postal services
Mona Salon	Beauty salon
Joel's Auto Repair	Auto repair
Martinez Tire Shop	Auto repair
Niece Equipment	Water/fuel/lube truck sales and rental
Stadio Motors	Auto repair
Sonic Drive-in	Restaurant
AAA Storage	Storage facilities

Source: Study Team 2013.

The SH 71 Express Project would be built within the existing ROW so would not displace any of the adjacent businesses. Potential impacts to local businesses would result from changes in traffic patterns.

The toll lanes have the potential to divert some traffic-based patronage away from local businesses by offering an express route through the corridor and past the commercial uses. According to the toll revenue study, 20 to 30 percent of the 2017 auto and truck traffic will select the toll lanes; these

shares are anticipated to grow to up to 40 percent by 2035. Candidate toll lane users generally select a toll path with the anticipation that they will not stop. The toll lane on and off ramps are east and west of the main business district in the corridor. The diversion of traffic to the toll lanes would reduce the number of potential business patrons by removing the immediate access to the businesses adjacent to the existing SH 71.

Traffic patterns in the corridor would also change as a result of the closure of several median openings on SH 71, which would change the turning movements within the corridor (**Table 2-13**). The purpose of closing the median openings on SH 71 is to remove conflict points between through-traffic and turning traffic, thereby improving vehicle safety. Where median openings would be closed, travelers would be required to travel to the nearest overpass intersection to make a U-turn or access cross streets on the opposite side of SH 71. Designated turnarounds would be built at Presidential Boulevard and FM 973 interchanges.

Table 2-13: Proposed Access Changes at Cross Streets

Cross Street	Existing Configuration	SH 71 Express Configuration
Spirit of Texas Drive	Overpass with at-grade interchange	Overpass with at-grade interchange
Presidential Boulevard/Cardinal Loop	Overpass with at-grade interchange	Overpass with at-grade interchange and turnaround
Golf Course Road	Median Opening	Median Opening Closed
Lyle Road	Median Opening	Median Opening Closed
Terry Lane	Median Opening	Median Opening Closed
Royster Avenue	Median Opening	Median Opening Closed
FM 973	At-grade interchange	Overpass with at-grade interchange and turnaround
Fallwell Lane	Median Opening	Median Opening Closed
SH 130	Overpass with at-grade interchange	Overpass with at-grade interchange

Source: Study Team 2013.

These changes would make accessing some businesses more circuitous depending on the origin of the patron and the location of the nearest turnaround point. No driveways would be closed, and the visibility of the adjacent businesses from the roadway would remain unchanged. However, the access changes may adversely impact businesses. Some traffic-based patronage could be lost if the access changes are perceived to be inconvenient and/or difficult to navigate.

2.3.5 Community Cohesion

An adverse impact on community cohesion occurs when an alternative severs or alters social interaction among groups or individual members of a community, divides or displaces a functioning neighborhood, or displaces places where members of the community assemble and interact, such as a local place of worship or community facility. The residential neighborhoods and a large majority of the businesses in the project area are located on the north side of SH 71; whereas most community facilities and park space are located on the south side. CapMetro bus stops are located on both the north and south side of SH 71. The existing SH 71 roadway currently serves as a barrier that affects community cohesion, and the lack of sidewalks currently hinders safe pedestrian movement.

The SH 71 Express Project would be built predominantly within the existing ROW so it would not displace residences, businesses, or community facilities. And, all existing cross streets would remain open and would have access to SH 71. The closure of median openings would improve safety but would accentuate the north-south barrier effect of the roadway by making it more cumbersome to access the neighborhoods, businesses, and community facilities in the project area. These median closures would change community cohesion. However, the designated turnarounds at Presidential Boulevard and FM 973 would reduce these effects.

The construction of a continuous bicycle and pedestrian facility and pedestrian crosswalks at Spirit of Texas Drive, Presidential Boulevard, and FM 973 would help improve pedestrian access and safety and therefore would enhance community cohesion. The bicycle and pedestrian facility would create a safer link between the residential neighborhoods, commercial businesses, community facilities, and transit stops by providing a continuous path for north-south and east-west mobility. The new crosswalk facility at FM 973 would provide for safer north-south pedestrian access between the residential neighborhoods on the north side and the community and recreation facilities on the south side of this intersection. The bicycle and pedestrian facility built as part of the SH 71 Express Project would connect to the bicycle and pedestrian facilities that will be built as part of the FM 973 project, the US 183 projects, and the Onion Creek Greenway project being built by Travis County Parks Department. These connections would improve community cohesion by enhancing the north-south and east-west mobility both within the corridor and to the larger network of bicycle and pedestrian facilities in the region.

2.3.6 Public Facilities and Services

The dominant public facility in the SH 71 study area is ABIA. This international airport provides freight and passenger aviation transportation for travelers to and from the city of Austin, Travis County, and the greater Central Texas region. Reduced congestion on SH 71 and improved travel time through the corridor would make travel to and from the airport more convenient and reliable.

Other public facilities in the project area include the AFD, Station #0042, the U.S. Post Office, the Travis County Softball Field Complex, and the Travis County Correctional Complex, which includes a probation center, a transitional housing facility (Austin Transitional Center), health and human services, a sheriff training academy, and other social services (**Figure 2-2**). No public facility or park space would be displaced as a result of the SH 71 Express Project.

CapMetro provides transit services within the SH 71 Express Project corridor including three bus routes. Route 100 connects ABIA with destinations in Austin including the Riverside neighborhood, downtown, and The University of Texas. Route 271 travels between the Del Valle ISD Complex and Children's Wellness Center on Ross Road, the Southeast Metropolitan Park & Ride facility, and Austin Community College (ACC) at Riverside. Route 350 connects the Travis County Correctional Complex with ABIA and destinations in Austin, including the Riverside neighborhood, ACC Riverside, the Highland Mall, Travis County offices, and the North Lamar Transit Center. In the westbound direction bus stops are located at SH 71 and Thornberry Road, Cardinal Loop, Main Street, and Cheviot Lane. In the eastbound direction, bus stops are located at SH 71 and Presidential Boulevard, and just west of FM 973 and the Austin Transitional Center. The SH 71 Express and FM 973 projects would require adjustments of several stops; however, the transit services would be

maintained. Coordination with CapMetro has occurred and would continue throughout project development to optimize transit operations and pedestrian connects to these transit services.

The reduction in congestion and improvement in travel time on the main lanes would improve through traffic movement, which would improve the response time of emergency responders. Protocols would be established during incident management or other emergencies to facilitate the use of toll lanes and main lanes for emergency congestion relief or incident response as needed. While there would be changes in traffic patterns associated with the closure of median openings, the closures would remove conflict points from the roadway, and the addition of designated turnarounds at Presidential Boulevard and FM 973 would provide a quick and safe means for emergency vehicles to turn around.

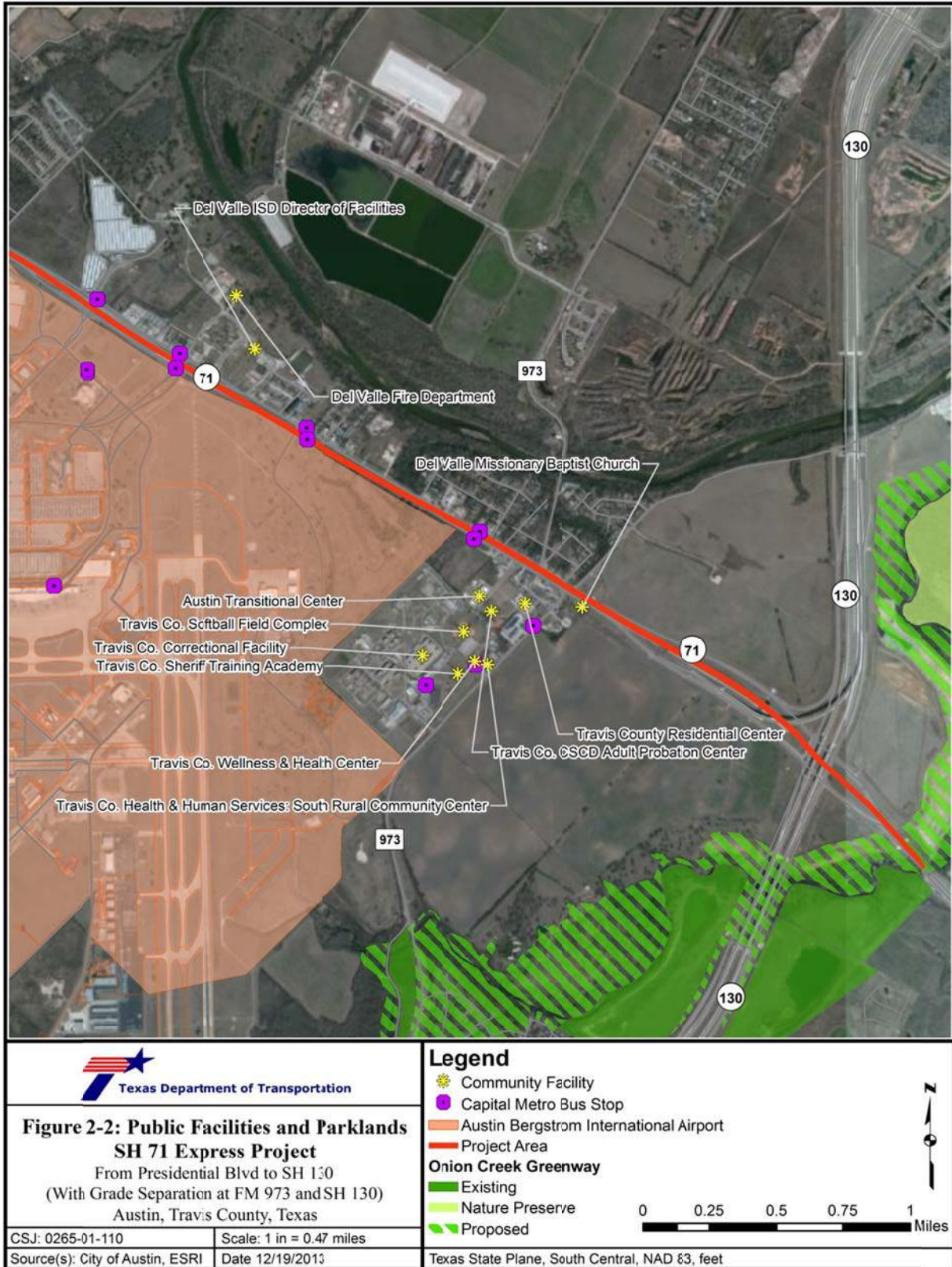


Figure 2-2: Public Facilities and Parklands

2.3.7 Environmental Justice

Presidential Executive Order (EO) 12898, Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations, mandates that federal agencies “identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations” (59 Federal Register [FR] 7629-7633, February 16, 1994). The three fundamental principles of environmental justice (EJ) are to:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations; and
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

According to FHWA Order 6640.23 and USDOT Order 5610.2(a), disproportionately high and adverse effects on minority or low-income populations generally means an adverse effect that is predominantly borne by a minority and/or low-income population, or would be suffered by the minority and/or low-income population, and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority and/or non-low-income population (USDOT 2012).

Definitions

A minority is defined in Order 5610.2(a) as:

- **Black:** a person having origins from any of the black racial groups of Africa
- **Hispanic or Latino:** a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race
- **Asian American:** a person having origins in any of the original peoples of the Far East, Southeast Asia, or Indian subcontinent
- **American Indian and Alaskan Native:** a person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition
- **Native Hawaiian and Other Pacific Islander:** people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands

Low income is defined in Order 5610.2(a) as a person whose median household income is at or below the HHS poverty guidelines. The HHS poverty guidelines are categorized by the number of persons living in a household (**Table 2-14**).

Table 2-14: HHS 2013 Poverty Guidelines

Persons in Household	2013 Poverty Guideline
1	\$11,490
2	\$15,510
3	\$19,530
4	\$23,550
5	\$27,570
6	\$31,590
7	\$35,610
8	\$39,630

Source: HHS 2013.

In accordance with EO 12898 and FHWA Order 6640.23A, data on the presence of minority and low-income populations should be analyzed at the project level to ensure that the proposed SH 71 Express Project does not subject these populations to a “disproportionately high and adverse effect.” As such, socioeconomic factors are analyzed using the most detailed geographies available; income and poverty are analyzed at the Census block group level, and race and ethnicity are analyzed at the Census block level.

Direct effects are defined in 40 CFR 1508.08 as those caused by the proposed project and which occur at the same time and place. This means that the effects are likely to be experienced as a result of project activities, such as construction impacts, and are likely to be experienced at properties that are located at and adjacent to the project. For this analysis, direct effects to EJ populations are analyzed within a ¼-mile buffer around existing SH 71, from Spirit of Texas Drive to SH 71 at Onion Creek (**Figure 2-3**). This area captures both the logical termini as well as the project area. In the study area (the ¼-mile buffer) there are 346 Census blocks and seven Census block groups.

Minority Populations in the Study Area

Of the 16,701 people that live in the study area, 13,157 or 78.8 percent of the population were a minority race or ethnicity in 2010. A majority of the population (58.7 percent) identified themselves as ethnically Hispanic or Latino, 19.3 percent identified themselves as some other race, and 18.5 percent identified themselves as black. Of the 346 Census blocks in the study area, 144 are home to a minority population that represents greater than 50 percent of the total population in that block. **Figure 2-4** presents that racial and ethnic distribution of the population in the project area. There are concentrations of minority populations within ¼ mile of the existing SH 71 roadway; they live predominantly on the north of SH 71 and between Dalton Lane and Fallwell Lane. This area includes the communities of Valle del Rio, Glenbrook, Del Valle, Carson Creek, and Richland Estates.

Beyond the immediate project area, there are concentrations of minority populations: north of SH 71 and between FM 973 and SH 130; these communities include Hornsby Glen, Green Grove, and Garden Valley; and east of the project area along Ross Road including the communities of Berdoll Farms, Meadows and Berdoll, Deerwood, Vista del Pueblo, and Los Cielos.

Low-Income Households in the Study Area

According to the 2010 Census, the average household size in the project area ranged from three to four people. The 2013 poverty guideline for a three-person household is \$19,530 per year and is \$23,550 for a four-person household. The median household income in the study area ranges from \$21,161 to \$62,785, which is above the poverty guidelines, and, therefore, does not meet the definition of low-income for the purposes of EJ. Despite this, there are some low-income households that live in the study area.

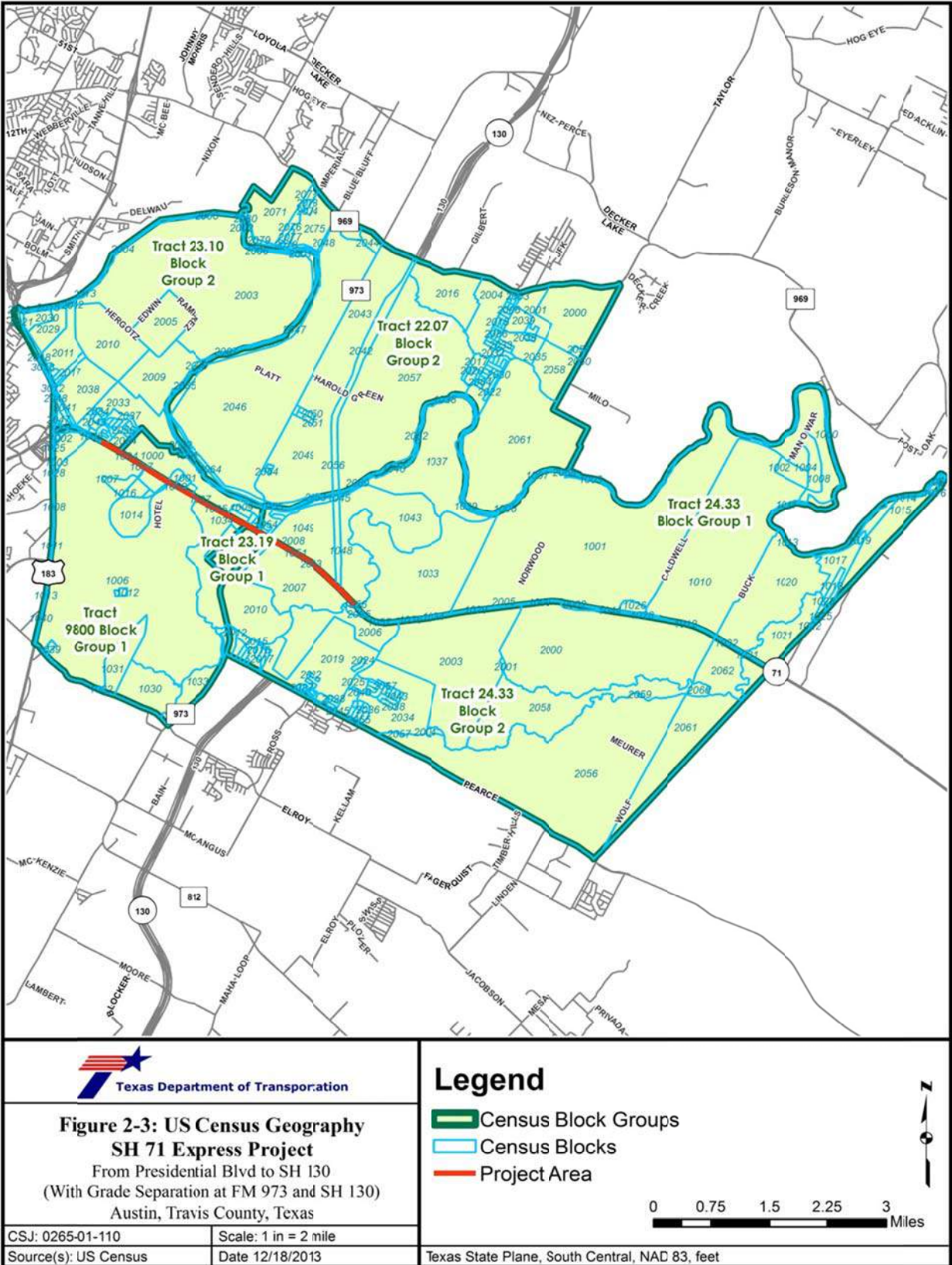


Figure 2-3: U.S. Census Geography

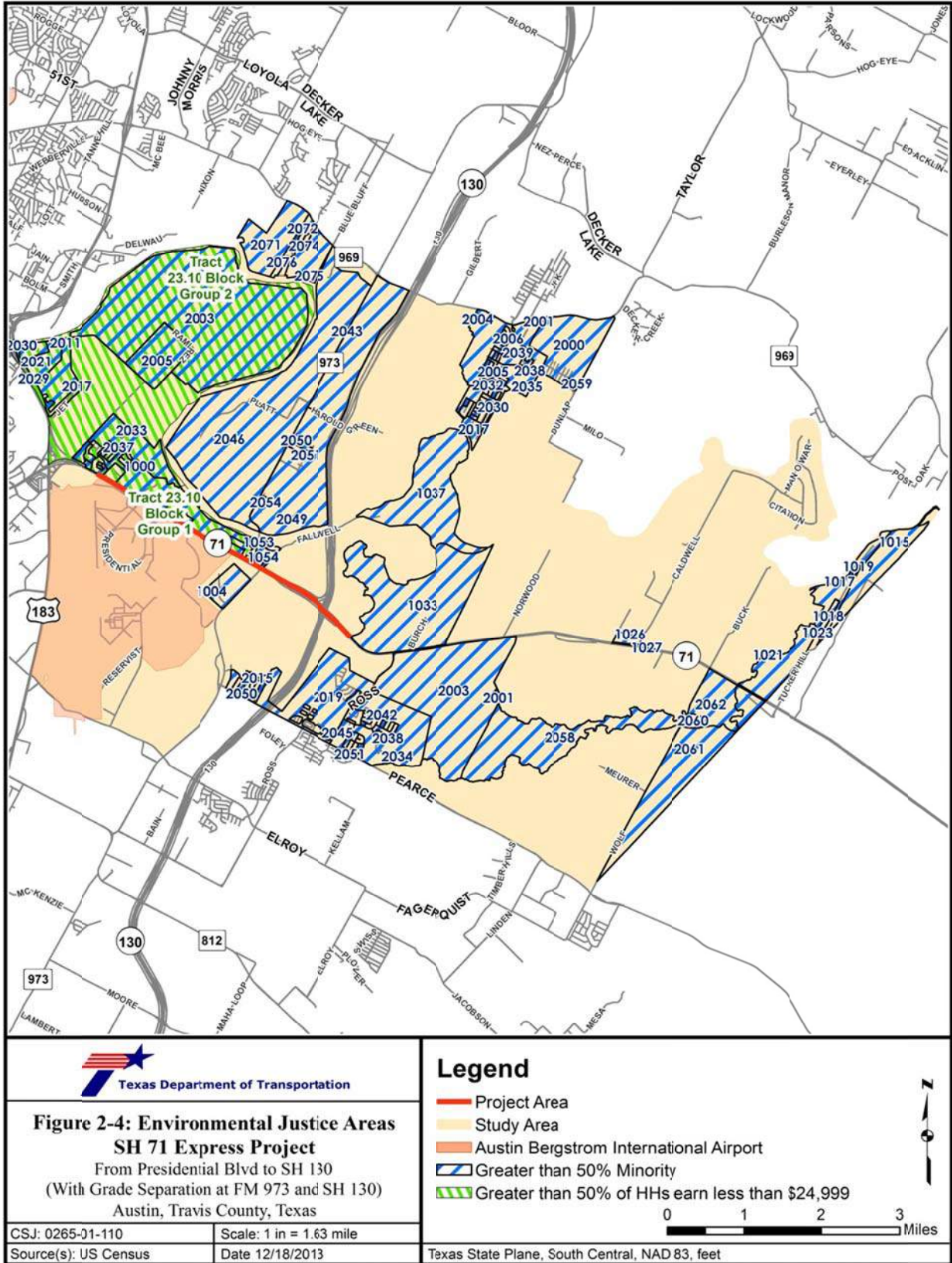


Figure 2-4: Environmental Justice Areas

2.3.8 Toll Lanes and Environmental Justice

The SH 71 Express Project falls within the interconnected network of existing and planned toll roads and managed lanes within the CAMPO regional toll network. In order to measure effects of toll roads and managed lanes on EJ populations, an evaluation is conducted for the individual roadway project (presented here) and the regional toll network, as a whole (presented in the indirect and cumulative analysis).

Project Level Toll Analysis

A project level toll analysis was conducted to determine the potential impact that tolling would have on the EJ communities within the proposed project's study area. To complete this study, TxDOT, in collaboration with the Mobility Authority, used a travel demand model (TDM) to identify potential toll road users and to conduct a travel time analysis for persons residing in EJ traffic analysis zone (TAZs) and non-EJ TAZs. CAMPO uses demographic data compiled by TAZ to identify EJ areas. EJ TAZs were defined as follows:

- At least 50 percent of the families in a TAZ earn less than 80 percent of the county median family income;
- At least 25 percent of the households in a TAZ earn less than the 2009 federal poverty guideline for a three-person household (\$17,098) as obtained from the 2010 Census estimates; and/or
- More than 50 percent of the population in a TAZ identify themselves as minority.

Of the 443 EJ TAZs in the CAMPO region, 3 are immediately adjacent to the proposed SH 71 Express Project.

In accordance with the FHWA and TxDOT Joint Guidance for Project and Network Level Environmental Justice, Regional Network Land Use, and Air Quality Analyses for Toll Roads (FHWA and TxDOT 2009), the following items were evaluated to determine the potential for disproportionate impacts to EJ communities:

- Non-toll facilities
- Travel time differences
- Toll policies
- Anticipated toll rate
- Methods of toll collection
- Comparison of payment methods
- Toll booth/gantry locations
- EJ-related demographic data
- Potential economic impact
- Limited English Proficiency (LEP) accommodations
- Potential users of the toll facility
- Model assumptions and limitations

Non-Toll Facilities

Alternative, non-toll, travel options would be available to those who choose not to use SH 71 toll lanes. The Build Alternative would build toll lanes (one in each direction) in the median, and the existing number of non-toll lanes between Presidential Boulevard and SH 130 would be maintained.

SH 71 connects to three major north-south facilities: US 183 and I-35 on the west, and SH 130 at the project's eastern terminus. US 183 is a six-lane divided signalized facility, I-35 is a six-lane divided controlled access facility, and SH 130 is a four-lane divided controlled access facility.

There are no major highways parallel to SH 71 that connect SH 130 to US 183 within the vicinity of the project. Parallel arterials between I-35 and SH 130 include Webberville Road, a four-lane signalized facility located approximately 4 miles to the north, and Burleson Road, a four-lane signalized facility located approximately 2.5 miles to the south.

Transit service within the study corridor includes CapMetro MetroBus routes 100, 271, and 350.

- **Route 100 Airport Flyer**: Connects ABIA with the Riverside neighborhood of Austin, downtown Austin, includes state offices and The University of Texas. This route runs 7 days per week on a half-hour frequency.
- **Route 271 Del Valle Flex**: Travels between Del Valle ISD Complex and Children's Wellness Center, the Southeast Metropolitan Park & Ride facility, and ACC Riverside. This route runs on weekdays only on a half-hour frequency.
- **Route 350 Airport Boulevard**: Connects the Travis County Correctional Complex with ABIA, the Riverside neighborhood of Austin, ACC Riverside, designations and connections along Airport Boulevard such as the Highland Mall and Travis County offices, and the North Lamar Transit Center. This route runs 7 days per week on a half-hour frequency.

Toll Policies

After construction of the proposed project, the Mobility Authority would operate the facility. The Mobility Authority adopted policies and procedures for toll collection operations on the Mobility Authority's turnpike system in 2004 and amended them in 2014. They are included in the Mobility Authority Policy Code (Mobility Authority 2014) and can be accessed online at <http://www.mobilityauthority.com/opportunities/policies.php>.

Chapter 3, Article 1, Subchapter A, 301.004, of the toll policy states emergency and military vehicles are exempt from paying tolls on the Mobility Authority's toll road system. In addition, public transportation vehicles with a carrying capacity of 16 or more individuals that are owned and/or operated on behalf of CapMetro or the Capital Area Rural Transportation System (CARTS) shall be exempt from paying tolls on Mobility Authority toll facilities. According to the *Market Valuation Agreement* between TxDOT and the Mobility Authority, registered vanpools would also be allowed to use the toll lanes free of charge (TxDOT 2010). While not exempt, school buses from school districts in the central Texas region are eligible for a 10 percent discount off the toll tag rate for cars.

Chapter 3, Article 1, Subchapter A, 301.005, of the policy details the discounts and incentives customers are offered. Customers who pay their toll using a toll tag would receive a discount equal

to 10 percent of the toll amount paid by cash toll customers. At times the Mobility Authority may conduct promotions or marketing activities that encourage drivers to use Mobility Authority toll roads and reward customers for such use.

Chapter 3, Article 1, Subchapter B, 301.011 of the policy outlines customer service and violation policies. The TxDOT Customer Service Center provides customer service to Mobility Authority customers and supports all operations related to customer toll tag account setup, account maintenance, and customer service. Refer to **Appendix C** for more information on the Mobility Authority’s policies regarding toll violations, such as (a) customers that use tolled lanes without corresponding toll tags, (b) violation enforcement strategies, (c) procedures for disputing toll violations, and (d) appealing a toll violation.

Toll Rates

While the toll rate for the SH 71 Express Project has not yet been determined, it is anticipated that the 2017 toll rate for ETC transactions could range from \$0.29 per mile for a 2-axle automobile to \$1.16 for a 5-axle truck. With a tolled length of 3 miles, the toll rate would be \$0.87 and \$3.48 for automobiles and 5-axle trucks, respectively. The toll rates (for users with transponders) in effect as of January 1, 2013, for the toll roads in the system are provided in **Table 2-15**.

Table 2-15: Toll Rates (For Users with Transponders)

Tolling Point	Vehicle Axles				
	2 axle	3 axle	4 axle	5 axle	6 axle
1 (Plaza)	\$1.02	\$2.04	\$3.06	\$4.08	\$5.10
1 (Ramps)	\$0.68	\$1.36	\$2.04	\$2.72	\$3.40
45 North (Plaza)	\$1.02	\$2.04	\$3.06	\$4.08	\$5.10
45 North (Greenlawn & AW Grimes Ramps)	\$0.68	\$1.36	\$2.04	\$2.72	\$3.40
45 SE (Plaza)	\$1.00	\$2.00	\$3.00	\$3.00	\$3.00
45 SE (Ramps)	\$0.66	\$1.32	\$1.98	\$1.98	\$1.98
SH 130, Segments 1–4 (Plaza & Cameron Road Ramps)	\$1.69	\$1.69	\$3.38	\$5.07	\$5.07
SH 130, Segments 1–4 (SH 29, Blue Bluff, Harold Green & Moore Road Ramps)	\$0.45	\$0.90	\$1.35	\$1.35	\$1.35
SH 130, Segments 5–6 (Skyline Plaza)	\$1.94	\$3.87	\$7.72	\$7.72	\$9.65
SH 130, Segments 5–6 (FM 1185 Ramps)	\$0.41	\$0.80	\$1.60	\$1.60	\$2.00
US 183A (Park Street Plaza)	\$1.38	\$2.76	\$4.14	\$5.52	\$6.90
US 183A (Crystal Falls Ramps)	\$0.37	\$0.74	\$1.11	\$1.48	\$1.85
US 290E/Manor Expressway (US 183 Ramps)	\$0.50	\$1.00	\$1.50	\$2.00	\$2.50
US 290E/Manor Expressway (Springdale Rd Ramps)	\$0.50	\$1.00	\$1.50	\$2.00	\$2.50

Source: <http://www.texasollways.com/austintollroads/img/rates.png>.

Established toll rates are subject to an adjustment on January 1 of each year under the Annual Toll Rate Escalation procedure. The Mobility Authority executive director is authorized and directed to edit, update, and certify any change to an established toll. Per Section 301.003 of the Mobility Authority’s policy (**Appendix C**), a percentage increase in the Toll rates charged on all toll facilities in the Turnpike System will be determined in an amount equal to the Toll Rate Escalation Percentage on each October 1. The Toll Rate Escalation Percentage shall be reported to the board

each year at its October board meeting, and the percentage increase in the Toll rates would be effective on the January 1 of the next calendar year, unless at such board meeting the board affirmatively votes to modify the Toll Rate Escalation Percentage. If the board votes to modify the Toll Rate Escalation Percentage, the toll rate increase to be effective on January 1 of the next calendar year shall be based on the modified Toll Rate Escalation Percentage.

Methods of Toll Collection

Tolls would be collected using a completely ETC system. No toll booths are proposed, and therefore, no cash payment would be accepted. The ETC system requires that users of the roadway have a toll tag that registers on the ETC system as the vehicles pass under the toll gantry. The ETC equipment would be placed on toll gantries positioned at specific locations along the main lanes.

The ETC allows participating motorists to prepay their tolls using a major credit/debit card or direct debit payment option. A small adhesive transponder that communicates electronically with a computer via radio frequencies is affixed to the inside of the windshield.

TxTag Account Payment Methods

With a TxTag “AutoPay” account, the user would pay a minimum installment of \$33.85 (\$20 credit and a \$13.85 one-time fee for the TxTag) through a credit or debit card (Mobility Authority 2014). The account would then be established with a \$20 credit, which would be reduced each time the TxTag holder passes through an operating toll gantry. The account holder’s credit or debit card would be automatically charged when the funds in the “AutoPay” account drop below a pre-set threshold value. There is no additional fee for this automatic charge service. A user can sign up for “AutoPay” by accessing the account online and providing credit card or debit card information or by calling the TxTag Customer Service Center. The associated fees for enrolling in the TxTag program are shown in **Table 2-16**.

Table 2-16: TxTag Fees

Number of Tags	Minimum Initial Prepaid Toll Amount	Initial Automatic Replenishment Amount	Low Balance Threshold	TAG Fee¹
1	\$20	\$20	\$10	\$13.85 per tag
2	\$40	\$40	\$10	
3	\$60	\$60	\$15	
4	\$80	\$80	\$20	
5	\$100	\$100	\$25	
Unlimited²/ Commercial	\$30	\$30 per tag	½ of initial prepaid toll amount	

Source: <http://www.txtag.org/fees.php>.

Note: The \$13.85 sticker tag fee only applies to accounts that are not enrolled in AutoPay. Any customer that purchases a sticker tag and subsequently converts their account to an account supported by AutoPay will have the \$13.85 sticker tag fee credited to their account balance. An account requiring six or more tags must be established as a commercial account. Specialty tags (bumper and motorcycle tags): \$45 per tag, which includes a \$35 refundable deposit.

For those who choose to maintain a prepaid TxTag "Manual Pay" account, an initial deposit of \$13.85 would be required for the toll transponder, as well as a \$20 payment to establish the account. The account would then be established with a \$20 credit, which would be reduced each time the transponder passes through an operating toll gantry. The user would be responsible for maintaining sufficient funds in his/her account to cover incurred toll charges. Toll rates would be the same as "AutoPay" account toll rates. "Manual Pay" accounts can be replenished via credit card, cash, or check/money order. "Manual Pay" customers who have their TxTag account suspended due to insufficient funds to cover the cost of a toll would be required to pay an account reactivation fee of \$8.50. Paying by credit card can be handled online (<http://www.TxTag.org>), via phone (1-888-468-9824), or at the TxTag Customer Service Center located in Austin, Texas. Cash payments must be made at the TxTag Customer Service Center in Austin. Check or money orders are accepted at the TxTag Customer Service Center in Austin or can be mailed TxTag, P.O. Box 650749, Dallas, Texas, 75265-0749.

The TxTag sticker must be permanently placed on the windshield and cannot be moved between vehicles without damaging the toll transponder. If a user has more than one vehicle, the user can order multiple transponders and manage them all through one account. Regardless of the user type, TxTag accounts may be monitored free of charge via the internet. Should the user request a monthly invoice, a \$1.15 charge per invoice would be incurred each month.

Other Toll Tags

In addition to TxDOT TxTag[®] stickers, the North Texas Toll Authority (NTTA) TollTag[®] (Dallas area), and the Harris County Toll Road Authority (HCTRA) EZ TAG[®] (Houston area) would be accepted on the SH 71 toll lanes. If the driver has one of these toll transponder accounts, the tolls would automatically be deducted from the account when the facility is used. The account would be a prepay account, which means the driver must maintain sufficient funds in his/her account to cover incurred toll charges, such as for accounts currently in use for the existing toll roads. NTTA's and HCTRA's account payment methods can be accessed online at their respective websites.

Video Billing Payment Methods

Motorists using the toll road without an electronic toll transponder or prepaid user account would be charged via the video tolling system. The ETC video records a photograph of the vehicle's license plate and a (monthly) invoice would be mailed to the registered owner of the vehicle. The assessed toll fee for these motorists is higher than that for users with a transponder, and an additional collection fee is included on the monthly invoices. This tolling program allows infrequent users without a transponder/toll tag to travel the toll road without having to stop and pay. Not maintaining a pre-paid TxTag, TollTag, or EZ TAG account results in higher costs for those who utilize the video billing option.

The video tolling method is more expensive for users without a transponder because fees include an additional 33 percent toll rate premium plus an incidental administrative fee commensurate with the costs related to processing the vehicle registration information. The maximum processing fee is allowed to increase proportionally with the toll rate. There is no interest charged on unpaid tolls;

however, there are delinquent penalty fees associated with an unpaid or delinquent bill. Common penalties (<http://www.txtag.org/fees.php>) include:

- Returned Check (Insufficient Funds) – \$25
- Administrative Fee – Violation Notice \$5
- Administrative Fee – Violation in Collections \$25
- Administrative Fee – Violation Sworn Complaint Issued \$100

If the registered owner does not have a toll transponder, they would receive a bill every month for the balance. There is no minimum threshold for video billing to occur. As with the prepaid account, video billing would allow for cash or credit payments (**Appendix C**).

Comparison of Payment Methods

Not maintaining a prepaid account would impact any user, including low-income users, because the cost of paying the accumulated toll charges without an account would represent a higher toll rate than toll charges affiliated with a prepaid account. Cash payment options are available for each payment method; however, only those users who maintain automatic and manual pay prepaid accounts would benefit from reduced toll rates compared to the video billing policy.

In summary, toll rates are generally 33 percent more for drivers who do not have an electronic toll transponder to offset the costs related to processing the license plate information associated with video billing. Although certain toll transponder account holders are required to pay upfront fees or deposits for toll transponders (\$13.85 fee per transponder for TxTag accounts, \$25 deposit for TollTag “cash users” accounts, and \$15 fee per EZ TAG for the first three EZ TAGs and \$10 fee per EZ TAG thereafter), the toll transponder account holders would benefit from lower toll rates compared to the total toll rates associated with video billing. In other words, the upfront fees associated with toll transponders may be offset over time when considering the premium and processing fees affiliated with the video billing method of payment.

The TxTag Customer Service Center is located at 12719 Burnet Road, which is north of Parmer Lane on the east side of MoPac. Customers may buy a TxTag at the service center using cash, check, or money orders if they choose not to use a credit card or do not have a credit card. Customers can also purchase a TxTag online at www.txtag.org.

Limited English Proficiency Accommodations

The Mobility Authority website provides information regarding the TxTag, toll road network, toll charges or violations, and safety on the toll roads. There are accommodations in place to allow persons with LEP and the disabled to access the toll facilities. The TxTag website is available in Spanish and provides a customer service contact number for the deaf and hard of hearing <http://www.txtag.org/contact.php>.

Toll Gantry Locations

The SH 71 Express Project is proposed as an all-electronic toll road with no cash payments; therefore, no toll booths are proposed. Since the ETC system does not require the installation of toll

booths, there would be no disproportionate impact to EJ communities regarding toll booth placement.

The main lane toll gantries would span both directions of travel on a structure similar to a typical sign bridge. The gantry would support ETC reader units, video enforcement system cameras, illumination devices, automatic vehicle identification antennae, communications gear, and other necessary equipment. This equipment would be supported approximately 20 feet above the roadway surface and would be used to collect electronic toll data. The exact location of toll gantry location would be determined during final design. Advantages of the ETC system include:

- Minimizes the amount of ROW needed for the proposed toll collection facilities because additional lanes for cash toll booths and parking and other facilities for toll attendants would not be required.
- The gantry minimizes the acceleration and deceleration of traffic that usually accompanies toll booth collections because cash would not be accepted.
- Last-minute lane changes between toll and cash lanes would not occur, providing smoother traffic conditions at toll collection locations.
- Lighting impacts would be minimized because the gantries would not require any lighting beyond typical roadway-specific lighting for the video enforcement cameras.

Potential Users of the Toll Facility

The evaluation to determine the effects of the SH 71 Express Project toll lanes on EJ populations utilized the CAMPO travel demand model for the 443 preselected EJ TAZs defined by CAMPO, each of which contained over 50 percent or more of its populations identified as minority and/or living in families with annual income below the predefined thresholds. The criteria for EJ TAZ selection are described in detail in CAMPO's Regional Toll-Network Analysis (RTA) June 2013 update (Stantec 2013a).

Following the identification of the EJ TAZs, two alternative regional roadway network scenarios were utilized to conduct an analysis on travel time for persons within the EJ TAZs and non-EJ TAZs. Both the 2035 Build Scenario and the 2035 No Build Scenario include the current year 2013 roadway network, the fiscally constrained 2035 Regional Transportation Plan roadway network with the committed toll roads and managed lane system (e.g., Loop 1 S). The two scenarios differ, however, in that the Build Scenario also includes the SH 71 Express Project.

Travel Demand Methodology

The region's travel demand model does not provide a means for tracking travel at an individual household level but does provide a means for tracking travel at a zonal level. For purposes of the analyses, the zones are specified as either EJ zones or non-EJ zones based on the socioeconomic characteristics of the zonal populations as described previously in the discussion of potential users. The CAMPO TDM performs toll diversion modeling within its multi-class traffic assignment procedure, where vehicle trips are assigned by class, separately for autos by occupancy level, and trucks. The assignment procedure allocates vehicle trips between individual zone pairs to the shortest travel path options. A travel path in the TDM is defined by the generalized costs, which

comprises of congested travel time, vehicle operating cost (vehicle operating cost [VOC], a function of total distanced traveled), and toll cost components.

The focus of this analysis is to determine the benefits experienced by “candidate” trips for the new toll facility. Candidate trips are defined as vehicle movements that could potentially benefit from travel time savings using the new toll facility. Using the highway assignment algorithm, if a trip can save travel time using the tolled path rather than the free alternative path then it is considered a candidate trip. Conversely, if the toll path created by the assignment process between two zones does not offer a time savings when compared to the alternative free path, then those trips are not considered as candidates for the toll facility.

For this project level EJ analysis, there are two network scenarios under consideration:

1. The “Build” network - This network includes the future year network with all existing and committed projects including any toll roads as well as the SH 71 Express Project toll lanes.
2. The “No Build” network - This network includes the future year network with all existing and committed projects including any toll roads, but excluding the SH 71 Express Project toll lanes.

Both networks include all existing and committed toll facilities that are considered as part of the background network that is common to both the Build and No Build conditions. From these two networks, two travel time estimates from each zone to all other zones are developed and separately considered:

1. The travel time using both toll and non-toll links (commonly referred to as toll path).
2. The travel time using only non-toll links (commonly referred to as the free path).

However, simply comparing the toll path versus the free path option from either network will not quantify the benefits for candidate trips that use only the new toll facility being studied. Indeed, such a comparison would also include trips using other existing and other proposed toll facilities, as well as those trips using the SH 71 Express Project. In order to properly quantify the benefits experienced by candidate trips for the new toll facility, the travel timed for toll paths from the Build network are compared to the travel times for the toll paths from the No Build network. The toll paths for the No Build network include travel on other toll roads in the region but not the SH 71 Express Project toll lanes.

A select-link traffic assignment was performed to identify the trips between particular zone pairs traversing the SH 71 Express Project main lanes toll barrier and corresponding locations on the frontage system, to be considered as candidate trips. A minimal level of toll was adopted for this toll facility to maximize the identification process in a manner that is consistent with the calibrated highway assignment process. A total daily traffic volume of 78,200 vehicles was estimated for the 2035 analysis year, with a corresponding traffic volume for the 3-hour AM peak period estimated at 18,500 vehicles for all trip purposes and vehicle types. Home-based work (HBW) trips represent travel between the home and work locations and tend to have a higher value of time due to the requirements of on-time arrival for these largely mandatory trips. HBW trips also occur primarily in the peak periods. In contrast, home based non-work (HBNW) trips include more discretionary travel, such as shopping trips that tend to occur in off-peak periods and these trips generally exhibit a

lower value of time. The number of HBW trips and HBNW trips, respectively, under the four segmentation groups for the SH 71 Express Project is depicted in **Table 2-17**.

Table 2-17: Potential Person Trips in the EJ and Non-EJ Zones

	2035 HBW Person Trips			2035 HBNW Person Trips		
	Toll Candidate	Non-Candidate	Total	Toll Candidate	Non-Candidate	Total
EJ Zone	3,320	126,993	130,313	4,155	338,570	342,725
Percent of Total	2.5%	97.5%		1.2%	98.8%	
Non-EJ Zone	8,828	481,406	490,234	2,885	949,177	952,062
Percent of Total	1.8	98.2		0.3	99.7	

Source: CAMPO 2013.

The trips for each trip purpose are segmented into four groups:

- Trips originated from EJ zones with perceived travel time benefit offered by the new toll facility are classified as “Candidate” trips.
- The remaining trips originated from EJ zones are classified as “non-Candidate” trips.
- Trips originated from non-EJ zones with perceived travel time benefit offered by the new toll facility are classified as “Candidate” trips.
- The remaining trips produced by non-EJ zones are classified as “non-Candidate” trips.

Using toll path travel times and free path travel times from the Build and the No Build networks, there are four travel times for each type of trip (e.g., HBW, HBNW), which include:

1. Build network – toll path option
2. Build network – free path option
3. No Build network – toll path option
4. No Build network – free path option

By computing the average trip lengths (in minutes) for each of the options, the impacts of the two networks on the trip categories can be quantified, compared, and analyzed.

Results

As shown in Table 2-17, approximately 2.5 percent of the HBW trips from within EJ zones were “toll” candidates, meaning there was a time savings related to the “toll” project. Additionally, nearly 1.8 percent of the HBW trips from within non-EJ zones were toll candidates. Of the HBNW trips, approximately 1.2 percent of the trips from within EJ zones were toll candidates, and 0.3 percent of the HBNW trips from within non-EJ zones were toll candidates.

Utilizing this data, further evaluation was conducted to determine the free path travel time and tolled travel path time for both the Build and No Build Network Scenarios. The average trip length (ATL) in minutes was the measure used in this evaluation for both types of trips within the EJ and non-EJ zones.

The results of the HBW and HBNW trips analysis for the proposed the SH 71 Express Project are presented in **Table 2-18** and **Table 2-19**, respectively.

Table 2-18: AM Peak Home Base Work Trips

			AM Peak ATL in minutes				Difference in AM Peak ATL in minutes (No Build - Build)	
			Build Network Scenario		No Build Network Scenario			
Zones	2035 HBW Trip Scenarios	2035 HBW Person Trips	Tolled Path	Free Path	Tolled Path	Free Path	Tolled Path	Free Path
EJ	Candidate Trip	3,320	26.73	27.83	28.87	29.28	2.14	1.45
	Non-Candidate Trip	126,993	14.97	15.16	15.03	15.22	0.06	0.06
Non-EJ	Candidate Trip	8,828	44.31	45.36	46.38	47.20	2.07	1.84
	Non-Candidate Trip	481,406	18.51	18.97	18.54	19.00	0.04	0.04

Source: Study Team 2013.

Table 2-19: AM Peak Home Base non-Work Trips

			AM Peak ATL in minutes				Difference in AM Peak ATL in minutes (No Build - Build)	
			Build Network Scenario		No Build Network Scenario			
Zones	2035 HBNW Trip Scenarios	No. of 2035 HBNW Person Trips	Tolled Path	Free Path	Tolled Path	Free Path	Tolled Path	Free Path
EJ	Candidate Trip	4,155	20.38	21.07	21.58	21.79	1.21	0.72
	Non-Candidate Trip	338,570	9.86	9.92	9.87	9.94	0.01	0.02
Non-EJ	Candidate Trip	2,885	31.80	32.51	33.88	34.45	2.08	1.94
	Non-Candidate Trip	949,177	10.26	10.37	10.26	10.38	0.00	0.01

Source: Study Team 2013.

The results for the HBW and HBNW trips analysis indicate:

- The addition of the SH 71 Express Project to the regional roadway network under the Build Scenario results in a minor reduction of travel time in the EJ and non-EJ zones (2.14 and 2.07 minutes, respectively, for HBW trips and 1.21 and 2.08 minutes for HBNW, respectively).
- While the users of the toll facility in the Build Network Scenario for both EJ and non-EJ zones would receive a greater time savings benefit than the users on the free network, there is no appreciable change in travel time on the free network in the EJ and non-EJ zones. As a result, there is no potential for a disproportionate negative affect to the EJ populations from the proposed the SH 71 Express Project. In fact, the entire region, including the EJ zones, would recognize a benefit in travel time savings because of the added capacity of the entire toll roadway network facilities provided to the regional roadway network. Note that CAMPO recently revised their RTA document with SH 71 Express Project toll lanes incorporated in the 2035 network assumptions, and the analysis showed no noticeable disadvantages to the EJ population from a region-wide perspective, consistent with these project level results.

Model Assumptions and Limitations

The assumptions and limitations for the SH 71 Express Project level toll analysis are as follows:

1. The interim version of CAMPO TDM with traffic assignment by time period was utilized in this study as the calibration effort is ongoing as of July 2013.
2. The model is based on the latest adopted CAMPO 2035 population, household, and employment forecast as of May 2013.
3. The model includes all planned highway network projects as listed in the CAMPO 2035 RTP; the No Build scenario removes only the project segment being analyzed.
4. The model uses the same CAMPO 2035 household/employment forecasts and vehicle trip matrices for both Build and No Build scenarios.
5. For this analysis, an EJ zone is any TAZ that meets the minimum criteria as defined in CAMPO's Regional Toll-Network Analysis documentation. The model does not use separate individual households. All travels in the model from households in an EJ zone are assumed to be EJ regardless of their individual income levels or composition. The model's Trip Generation step does consider household's income level as a factor for trip generation. (The general assumption is that higher income households tend to make more trips.) The model is based on the latest adopted CAMPO 2035 household and employment forecast as of November 2011 (household and employment numbers are used for trip generation only, not population).

Notes:

- The CAMPO model includes trip purposes other than HBW and HBNW trips. However, for the project level EJ analysis, only auto trips that travel wholly within the CAMPO region are considered. The remaining non-home-based (i.e., trip chains), external (i.e., trips with either

or both origin and destination outside of region), and truck trips are not included in this analysis.

- In reality not all candidate trips will choose to use a tolled path, as the capturing of the candidate trips is also a function of the toll costs perceived by the drivers.
- The EJ analysis evaluates only the HBW and HBNW trip purposes, which are a subset of the total travel in the period.

Potential Economic Impact

Potential economic impacts to individuals using the proposed SH 71 Express Project can be illustrated using the Mobility Authority’s 2013 Level 1 Traffic and Revenue Study (Stantec 2013b) toll rates and the median household income for the counties within the AOI. Currently, the low, mid-range, and high toll rates are 18, 26, and 32 cents per mile. The potential cost per household calculations assumes that a toll road user makes 500 trips (250 round-trips) per year along the 3-mile toll road from Presidential Boulevard to SH 130. This assumes an average of 250 work days per year with round trip travel to and from work. As shown in Table 2-20, the annual cost for low, mid-range, and high toll rates would be approximately \$270, \$390, and \$480, respectively.

A user with an annual household income that equals Travis County’s 2011 median household income of \$55,452 would spend 0.5, 0.7, and 0.9 percent of their household income on tolls. A user with an annual household income that equals Bastrop County’s 2011 median household income of \$52,882 would spend 0.5, 0.7, and 0.9 percent of their household income on tolls. Users with an annual household income that falls within the HHS poverty level of \$23,550 (HHS 2013) would spend 1.1, 1.7, and 2.0 percent of their household income on tolls.

Table 2-20: Potential Economic Impact

Toll Range	Toll Rate Per Mile ¹	Trips per Year	Miles Per Trip	Total Cost Per Year	Project Area	Travis County	
					Percent of Median HH Income ²	Percent of Median HH Income ²	Percent of Poverty Level Income ³
Low	\$0.18	500	3	\$270	0.4 to 1.3	0.5	1.1
Mid-range	\$0.26	500	3	\$390	0.6 to 1.8	0.8	1.7
High	\$0.32	500	3	\$480	0.8 to 2.30	0.9	2.0

Source: Study Team 2013.

Notes: ¹ Per Mobility Authority’s 2013 Level 1 Traffic and Revenue Study.

² 2011 median household income for the project area ranges between \$21,161 and \$62,785 and the median household income in Travis County is \$55,452.

³ 2013 Health and Human Services poverty guideline level is \$23,550 for a family of four.

Environmental Justice Determination

A large majority (almost 80 percent) of the population that lives in the study area is either low-income and/or a minority. As such, project impacts would affect environmental justice populations. In order to determine if the SH 71 Express Project would have disproportionately high and adverse impacts on environmental justice populations, consideration was given to the adverse impacts of the project as well as its benefits.

The SH 71 Express Project would be built within existing ROW; as such, no residence or businesses would be displaced. The project would not terminate access to adjacent properties and cross streets. The potential adverse impacts of the project include permanent changes in traffic patterns and community cohesion, the economic burden of tolls for low-income households, and noise impacts. The benefits of the project include improved community cohesion with the addition of a continuous bicycle and pedestrian facility and improved crosswalks. Other benefits include safety improvements associated with the closure of median openings and installation of a median barrier; as well as reduction on congestion and improved travel time as a result of added travel capacity within the corridor.

The existing SH 71 corridor already serves as a barrier that separates the businesses and residential neighborhoods north of the corridor (which are predominantly environmental justice communities), from the south side of the corridor where several community facilities are recreational amenities are located. The closure of median openings would change how people travel within and through the corridor. For motorists, the designated turnarounds at Presidential Boulevard and FM 973 would create a safe and quick means to turn around which would minimize the adverse effects of the median closures. These changes in access would be predominantly borne by the environmental justice populations that live and conduct business within the project area.

Assuming the same level of use, low-income households would pay a larger percentage of their income in tolls when compared to the general population. If toll costs are beyond the affordability of low-income travelers, they do have the alternative of using the existing non-tolled transportation network. However, potential users who are unable to afford the toll or maintain a toll tag would be denied the travel benefit (reduced travel time) associated with using the tolled facility. The location of the toll lane on and off ramps is east and west of the residential neighborhoods and community facilities; as such, it is more likely that the non-toll main lanes would be used for travel within the corridor. The environmental justice populations that live within the study area may only elect to use the toll lanes if there are traveling outside of the corridor.

According to the noise analysis (**Section 2.12 - Traffic Noise**), there are 11 noise sensitive receivers adjacent to the SH 71 Express Project corridor, of which all are located in areas that are predominantly EJ. The SH 71 Express Project would generate noise impacts for 7 noise sensitive receivers. A noise abatement measure must be both feasible and reasonable to be incorporated into a project. None of the noise abatement options for noise impacts met the feasible and reasonable criteria; therefore, all 7 noise sensitive receivers located in predominantly EJ areas would experience noise impacts (see **Section 2.12 – Traffic Noise** for more details).

The SH 71 Express Project bicycle and pedestrian facility would improve safety and provide better north-south and east-west connectivity between residential areas, commercial areas, community

facilities and transit stops It would provide the same number , but safer, crosswalk facilities across SH 71 as the existing condition. The bicycle and pedestrian facility would also connect to the bicycle and pedestrian facilities that will be built as part of the US 183 FM 973 interchange projects as well as Travis County’s Onion Creek Greenway project. All people, including the environmental justice populations who live within the study area, would benefit from these improvements.

The closure of median openings would improve safety by limiting vehicle turning movements to turnarounds and signalized intersections within the corridor. The installation of a median barrier, designated turnarounds and improved crosswalks would improve vehicle safety within the corridor and would reduce vehicle-pedestrian conflicts. These changes in operations allow for less congestion and a better level of service.

The public involvement activities and official public comments were used as a means to evaluate how these effects may be perceived and weighed by community members (public involvement is discussed in more detail in **Section 6 – Public Involvement**). Environmental justice populations would experience both the adverse and beneficial effects of the SH 71 Express Project; the overall affect is not anticipated to be disproportionately high and adverse.

2.3.9 Limited English Proficiency

The National Environmental Policy Act (NEPA) requires that projects undergoing scoping and environmental analysis communicate with local residents who could be affected by the construction and operations of a proposed project. Meaningful communication includes conveying messages, reports, and other materials in language(s) that local citizens can understand to the greatest extent practical. LEP is defined as having “limited ability to read, write, speak, or understand English” (67 FR 41459). Data from the 2007–2011 American Community Survey (ACS) were gathered at the Census tract level to identify if there are LEP populations that could be affected by the SH 71 Express Lanes Project. As Census data is self-reported, an individual’s ability to speak English represents the respondent’s own perception about his/her ability to speak English.

As shown in **Table 2-21**, slightly more than half of the population (5 years old and over) in the study area speaks English only (53.3 percent) and slightly less than half speaks Spanish or Spanish Creole (44.3 percent). Spanish speakers with LEP account for 20.7 percent of the total population age 5 and over in the study area. There are other LEP speakers in the project area; however, they account for a much small share than LEP Spanish speakers.

Table 2-21: Languages Spoken and Limited English Proficiency

Language	Total Speakers	LEP Speakers
Total Speakers (5 years and over)	14,898	n/a
English only	7,936 53.3%	n/a
Spanish or Spanish Creole	6,594 44.3%	3,086 20.7%
Thai	124 0.8%	124 0.8%
Vietnamese	88 0.6%	31 0.2%
French including Patois and Cajun	77 0.5%	25 0.2%
German	40 0.3%	19 0.1%
Chinese	13 0.1%	13 0.1%
Greek	10 0.1%	10 0.1%
Laotian	8 0.1%	0 0.0%
Italian	8 0.1%	0 0.0%

Source: U.S. Census Bureau, 2007-2011 ACS - Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over.

In order to provide meaningful communication to the people that could be affected by the project, project materials were made available in the dominant languages spoken (English and Spanish) and translation services were available for speakers of other languages upon request. In compliance with EO 13166, the public involvement activities and communications for the SH 71 Express Project were conducted to ensure full and fair participation.

2.4 Cultural Resources

2.4.1 Non-Archeological Historic Resources

NEPA requires consideration of important historic, cultural, and natural aspects of our national heritage. Important aspects of our national heritage that may be present in the proposed project area have been considered under Section 106 of the National Historic Preservation Act of 1966, as amended, and the implementing regulations, 36 CFR 800. This act requires federal agencies to “take into account” the “effect” that an undertaking would have on “historic properties.” Compliance with Section 106 and its implementing regulations would be undertaken under the terms of the First Amended Programmatic Agreement (PA-TU) among the FHWA, the Texas State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, and TxDOT. The identification of potential historic (National Register of Historic Places [NRHP]-listed or -eligible) properties is complete for historic-age structures, buildings, objects, and districts found within the proposed ROW and the associated area of potential effect (APE), which includes parcels adjacent to the SH 71 ROW for historic structures analysis.

A review of the NRHP, the list of State Antiquities Landmarks (SALs), and the list of Recorded Texas Historic Landmarks (RTHLs) indicated that no historically significant resources have been previously documented within the APE. It has been determined through consultation with the SHPO that the APE for the proposed project is (1) 150 feet from the project ROW where the construction would rise 5 feet above the existing grade, (2) those historic-age properties adjacent to the proposed bicycle and pedestrian facility on the south side of SH 71 between Spirit of Texas Drive and Presidential Boulevard, and (3) the existing ROW everywhere else. Site visits conducted in 2009 and 2013 (coordinated under previous environmental studies) revealed that there are 24 historic-age (built prior to 1965) resources located within the APE. All of the historic-age resources surveyed in 2009 were determined not eligible for listing in the NRHP on December 21, 2009, under the PA-TU. A copy of the coordination memo is on file.

Resource # 23, identified during one of the 2013 site visits, is the 752-foot continuous westbound I-beam SH 71 over Onion Creek Bridge (NBI# 142270026501051, constructed 1958 and widened 1990). TxDOT historians have determined that the bridge is not NRHP eligible under Criteria A, B, or C because it lacks both engineering complexity and integrity under the Historic Road Infrastructure of Texas, 1866 to 1965 MPS. There is no reason to believe it has local significance. A copy of the coordination memo related to this bridge is on file and the project coordination request and associated memo are located in **Appendix D**.

Resource #24, identified during the second 2013 site visit, is the Twelfth Air Force Headquarters/Hilton Airport Hotel. The round, four-story building was constructed ca. 1942 in conjunction with what later became Bergstrom Air Force Base. The building was remodeled into a hotel when the base was converted to a civilian airport. While round buildings are uncommon, historic aerial imagery suggests that the building conversion included placing a roof on an open interior courtyard. Consequently, the building lacks sufficient integrity of design and materials to be NRHP eligible for architecture under Criterion C. The resource is NRHP eligible under Criterion A: Defense at the state level for the purposes of this project only. A more extensive evaluation of the building would require an effort that is disproportionate to the potential to cause effects.

After applying professional judgment and the criteria of Adverse Effects as stipulated in 36 CFR 800.4, TxDOT historians determined that the proposed action to construct a bicycle and pedestrian facility adjacent to the parcel containing the resource has no potential to cause effects to historic resources as construction and use of a bicycle and pedestrian facility is a minor activity, the facility would be 900 feet from the building, and the two locations are currently separated by the existing Hotel Drive.

Pursuant to Stipulation VI Undertakings with Potential to Cause Effects of the PA-TU and the Memorandum of Understanding (MOU), TxDOT historians determined that there are no historic properties in the APE and that individual project coordination with SHPO is not required.

2.4.2 Archeological Resources

It has been determined through consultation with TxDOT that the archeological resources horizontal APE for the proposed undertaking includes the existing 210- to 720-foot-wide SH 71 ROW and a 35- to 90-foot-wide bicycle and pedestrian facility predominantly south of and parallel

to the existing SH 71 ROW, encompassing approximately 343 acres (**Appendix D**). Based on typical roadway design, the depth of impacts or vertical APE would extend to 40 feet below the current ground surface for cross drainage and overpass structure supports and no more than 40 inches for the remainder of the project.

The U.S. Geological Survey (USGS) topographic maps, Geologic Atlas of Texas (Austin Sheet), and the United States Department of Agriculture, NRCS soil survey for Travis County were reviewed to assess the physical landscape and geomorphic conditions that could affect the preservation of intact archeological deposits. Despite the favorable geographic setting for the project, the majority of the proposed project APE lies within the existing SH 71 ROW. Because the existing ROW has been previously disturbed by roadway construction, preservation of intact archeological deposits in this area is unlikely.

Additionally, the files and maps at the Texas Archeological Research Laboratory, the THC's on-line Restricted Archeological Sites Atlas, and the National Park Service's NRHP database and GIS Spatial Data, El Camino Real de los Tejas National Historic Trail Comprehensive Management Plan/Environmental Assessment Maps and Geographic Resources Program National Historic Trails Map Viewer as well as the National Historic Landmarks Program were consulted to identify previously recorded archeological resources within 1 kilometer (according to TxDOT's Standards of Uniformity) of the current APE. Results of the records review and consultation with TxDOT indicate that the entire current APE has been previously assessed archeologically (**Appendix D**). The records review also indicated that 42 previously recorded terrestrial archeological sites, 1 shipwreck (*Moccasin Belle*), and a branch of the El Camino Real de los Tejas National Historic Trail (not ground truthed) are documented within 1 kilometer of the current APE. Of the previously recorded terrestrial archeological sites, three (41TV443, 41TV453, and 41TV2159) are crossed by the proposed project APE. Sites 41TV443, 41TV453, and 41TV2159 consist of low-density artifact scatters. The SHPO has determined that the portions of these three sites that overlap with the current APE do not contribute to the sites' eligibility for listing in the NRHP and do not warrant designation as a SAL.

Further review of historical maps of the vicinity of the APE dating from 1894 by TxDOT indicated that at least six houses or commercial buildings had previously been located in or near the current APE but since the entire APE had previously been assessed and coordinated with SHPO, it is TxDOT's opinion that the potential for impacting related historical archeological deposits is minimal. There are also no known cemeteries located within or near the APE and despite suspicions of an unmarked cemetery existing within the APE, remote sensing in this area failed to identify any anomalies; subsequently, TxDOT and SHPO agreed no further work in this locale was necessary.

TxDOT has also confirmed that Native American tribal consultation for the APE has been completed on December 8, 2013, with both tribes possessing a programmatic agreement with TxDOT and those who do not under previous undertakings. In addition, as allowed under the PA-TU and MOU between the SHPO and TxDOT, TxDOT has determined that the inventory of the undertaking is complete, that no historic properties would be affected, that no SALs would be affected, and that no additional survey, work or consultation is required. However, if archeological

remains are discovered during construction, work should cease in the immediate vicinity of the discovery and emergency discovery procedures should be initiated.

2.5 Vegetation

According to requirements of the September 1, 2013 TxDOT-TPWD Memorandum of Understanding (MOU), the Ecological Mapping Systems of Texas (EMST) was utilized to calculate vegetation in the proposed project ROW. The proposed project area totals 201.12 acres. The largest area of MOU habitat in the proposed project area is listed as “Urban” and totals 130.27 acres (Table 2-22). “Urban” is defined by EMST as areas that are built up and include wide transportation corridors with impervious cover.

Table 2-22: Ecological Mapping Systems of Texas

MOU Habitat	Acres
Agriculture	9.28
Disturbed Prairie	4.14
Edwards Plateau Savannah, Woodland, and Shrubland	0.26
Floodplain	0.52
Post Oak Savanna	0.05
Riparian	1.88
Tallgrass Prairie, Grassland	54.72
Urban	130.27
Total Acres	201.12

Source: TPWD 2013.

A site visit conducted on July 10, 2013, indicated the majority of the area within the proposed project area does correspond with the MOU habitat of “Urban,” as described in TPWD’s EMST. Approximately 3 acres should be listed as “Floodplain” along Onion Creek and the remaining 67.85 acres listed as various types of MOU habitat should also be listed as “Urban” because the project area is within an existing maintained TxDOT ROW.

The project area is within the Texas Blackland Prairies Ecoregion (TBPR) as described in the 2012 Texas Conservation Action Plan (TCAP). This ecoregion is considered critically threatened due to historical changes in the landscape and vegetation. The area has been converted from historical tall grass prairies with abundant wildlife to mostly farmlands and urban development.

Evaluation of riparian habitat along Onion Creek revealed riparian zones above and below the proposed project area, but initial construction of the SH 71 Bridge appears to have resulted in the removal of the previously existing riparian zone within the project area. Regrowth is present, and no true riparian species are present in the project area. Riverine instream habitats of the watersheds which intersect the TBPR include Onion Creek which is listed as an ecologically significant stream segment by the 2012 TCAP. An ecologically significant stream segment is designated for its unique ecological value based on the following five criteria: 1) biological function, 2) hydrologic function, 3) the presence of riparian conservation areas, 4) high water quality/exceptional aquatic life/high aesthetic value, and 5) habitat for threatened or endangered species/unique natural communities (TPWD 2013). The segment of Onion Creek between the confluence of the Colorado River in Travis

County to the most upstream crossing of FM 165 in Blanco County was designated for its high water quality and diverse benthic macroinvertebrate communities. A riparian conservation area was noted where the creek passes through McKinney Falls State Park (approximately 5 miles upstream and southwest of the project area) (TPWD 2013). Although the portion of Onion Creek within the project area contains high water quality and exceptional aquatic life, it does not contain the riparian conservation area. As such, the project would not impact the riparian habitat that contributes to Onion Creek's designation as ecologically significant. Planned construction will result in only temporary impacts to the stream at the SH 71 Bridge crossing as described in **Section 2.9 - Waters of the U.S. Including Wetlands**. See **Appendix E** for the Onion Creek Bridge plan.

Dominant vegetation found in the maintained TxDOT ROW, "Urban" areas, includes Japanese brome (*Bromus japonicus*), Johnsongrass (*Sorghum halepense*), common ragweed (*Ambrosia artemisiifolia*), Bermuda grass (*Cynodon dactylon*), silverleaf nightshade (*Solanum elaeagnifolium*), King Ranch bluestem (*Bothriochloa ischaemum*), and sideoats grama (*Bouteloua curtipendula*).

Dominant regrowth located under the SH 71 bridge, along Onion Creek, includes giant ragweed (*Ambrosia trifida*), Johnsongrass, red lovegrass (*Eragrostis secundiflora*), common ragweed, silverleaf nightshade, Japanese brome, Virginia wildrye (*Elymus virginicus*), cedar elm (*Ulmus crassifolia*), honey mesquite (*Prosopis glandulosa*), hackberry (*Celtis laevigata*), and Texas persimmon (*Diospyros texana*).

Unusual vegetation features located within the proposed project area includes the previously described regrowth vegetation associated with Onion Creek. There are no natural plant communities or native prairie remnants within or immediately adjacent to the proposed project area.

Under the SH 71 Bridge, along Onion Creek, trees were observed with heights of approximately 20 feet and 6 inches in diameter at breast height (dbh). Trees ranged from approximately 2 to 10 inches in dbh and from approximately 10 to 20 feet in height. Canopy coverage was approximately 50 percent where trees were located. Dominant species observed were cedar elm, honey mesquite, hackberry, and Texas persimmon.

Vegetation impacted by the proposed project would total approximately 18 acres of maintained TxDOT ROW. The SH 71 eastbound bridge at Onion Creek would be widened on the north side by approximately 12 feet; no work is expected at the westbound bridge. The bridge widening would extend the existing bents, including additional drilled shafts and columns in-line with the existing bents. Girders and/or beams would be used for widening the traffic lanes.

2.6 Wildlife

Wildlife species typical to Travis County are expected within the proposed project area. Among those expected are the common wild bird species including wild turkey (*Meleagris gallopavo*), bobwhite quail (*Colinus virginianus*), and mourning dove (*Zenaida macroura*). Typical wild mammals include the white-tailed deer (*Odocoileus virginianus*), fox squirrel (*Sciurus niger*), jackrabbit (*Lepus californicus*), and cottontail (*Sylvilagus floridanus*). Certain mammals such as coyote (*Canis latrans*), nutria (*Myocastor coypus*), opossum (*Didelphis marsupialis*), raccoon (*Procyon lotor*), ring-tailed cat (*Bassariscus astutus*), and striped skunk (*Mephitis mephitis*) may also be present in the county. Barn

swallow (*Hirundo* sp.) nests are present on both the east and westbound bridges of SH 71, but none are present on the SH 130 ramp or overpass within the proposed project area.

The ABIA has developed a Wildlife Hazard Management Plan to alleviate or reduce the potential of wildlife hazards to aircraft. ABIA staff has been reporting wildlife strikes to the Federal Aviation Administration (FAA) since 1990. The data show a total of 940 strikes consisting of 844 birds, 89 bats, 2 raccoons, 1 deer, 1 skunk, 2 opossums, and 1 turtle. Specific activities to reduce hazards from bird strikes include reviewing and commenting on all construction activities that may attract wildlife within 10,000 feet of the airport. TxDOT met with ABIA environmental compliance manager on May 28, 2013. At that meeting the ABIA environmental manager requested that TxDOT take measures to discourage swallows from nesting under the overpasses at Sprit of Texas Drive and Presidential Boulevard. TxDOT would follow standard procedures for dealing with migratory birds to prevent swallow-nesting during construction.

2.7 Threatened and Endangered Species

The US Fish and Wildlife Service (USFWS) has legislative authority to list and monitor the status of species whose populations are considered to be imperiled. This federal legislative authority for the protection of vulnerable species is derived from the *Endangered Species Act* (ESA) of 1973 and its subsequent amendments. Petitions for federal protection of species receive an initial review and if the USFWS finds that listing may be warranted, the species undergoes a thorough status review. After the status review is complete, vulnerable species that qualify for listing are either listed as threatened or endangered or categorized as candidates. Candidate species have been deferred from listing while the USFWS works on listing proposals for other species they determine are at greater risk. Fish and wildlife species listed as endangered or threatened by the USFWS are provided full protection. This protection includes a prohibition on direct “take” of the listed species in addition to indirect “take” such as destruction of habitat.

The TPWD oversees endangered resources through the Wildlife Division’s Wildlife Diversity Program. This program is responsible for maintaining county occurrence records for state and federal endangered and threatened species and maintaining the Texas Natural Diversity Database (TXNDD). This database provides site specific information and other species status tracking information on listed or rare animal and plant species, including unique or declining vegetation communities of concern. State endangered species have limited regulatory protection. While these species cannot be taken, collected, held, or possessed without a permit, their habitat is afforded no regulatory protection, except on tracts managed by state, federal, or private interests for conservation purposes.

Coordination was initiated with TPWD on May 16, 2013, for information from the TXNDD regarding state and federal threatened and endangered species. Information was requested from the Montopolis and Webberville USGS 7.5-minute topographical quadrangle maps, which include the project area. Based on species occurrence data acquired from TPWD, three species are listed near the proposed project area (see **Appendix D** for more correspondences). The following known elements of occurrence have been recorded near the proposed project area (**Table 2-23**).

Table 2-23: Element Occurrences within 1.5 miles of Project

EOID	Scientific Name	Common Name	Status
7074	<i>Micropterus treculi</i>	Guadalupe bass	None
5159	<i>Micropterus treculi</i>	Guadalupe bass	None
9769	<i>Lampsilis bracteata</i>	Texas fatmucket	State Threatened & Federal Candidate

Source: TPWD, Texas Natural Diversity Database, 2013.

Site visits conducted by qualified biologists on July 10, 2013, revealed that suitable habitat exists within the proposed project’s ROW for federal- and/or state-listed threatened or endangered species, and state rare species. Previous surveys for the freshwater mussel for the Austin District of TxDOT in 2010 found the Texas fatmucket in Onion Creek (Wilkins et al. 2011). Presence of the Texas fatmucket within the proposed project area triggers coordination between TxDOT and TPWD per the 2013 TxDOT-TPWD MOU and triggers a Tier II site assessment. According to the 2012 TCAP Species of Greatest Conservation Need (SGCN) list, the Texas fatmucket is listed as G1 and S1, which is critically imperiled at a global and state conservation rank.

A review on July 1, 2013, of the TPWD *Annotated County List of Rare Species* for Travis County and the USFWS *Southwest Region County-by-County List*, located on the Southwest Region Ecological Services website revealed 28 species listed as candidate, threatened, or endangered in Travis County. Species from both lists are recorded in **Table 2-24**. In order to distinguish between federal regulatory requirements and voluntary measures, specific terms are used to describe potential impacts to species.

Species not protected under the ESA are described using the following terms:

- “No impact,”
- “May impact”
- “Would impact”

Species under the regulatory protection of the ESA are described using one of the following:

- “No effect”
- “May affect, is not likely to adversely affect”
- “May affect, is likely to adversely affect”

Table 2-24: Candidate, Threatened, or Endangered Species of Travis County

Species	State Status	Federal Status	Potential Habitat Present	Species Effect /Impact	Justification
Austin Blind Salamander <i>Eurycea waterlooensis</i>	--	FE	No	No Effect	Only known from outlets of Barton Springs which are not in the proposed project area.
Barton Springs Salamander <i>Eurycea sosorum</i>	SE	FE	No	No Effect/ Impact	Only known from outlets of Barton Springs which are not in the project area.

Species	State Status	Federal Status	Potential Habitat Present	Species Effect /Impact	Justification
Jollyville Plateau Salamander <i>Eurycea tonkawae</i>	--	FT	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Bee Creek Cave Harvestman <i>Texella reddelli</i>	--	FE	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Bone Cave Harvestman <i>Texella reyesi</i>	--	FE	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Tooth Cave Pseudoscorpion <i>Tartarocreagris texana</i>	--	FE	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Tooth Cave Spider <i>Neoleptoneta myopica</i>	--	FE	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Warton's Cave Meshweaver <i>Cicurina wartoni</i>	--	FC	No	No Impact	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
American Peregrine Falcon <i>Falco peregrinus anatum</i>	ST	DL	No	No Impact	No suitable habitat present. No high cliffs or tall buildings found within or adjacent to the proposed project ROW.
Arctic Peregrine Falcon <i>Falco peregrinus tundrius</i>	--	DL	No	No Impact	No suitable habitat present. No high cliffs, tall buildings, coastlines, mountains, or open areas near water found within or adjacent to the proposed project ROW.
Bald Eagle <i>Haliaeetus leucocephalus</i>	ST	DL	No	No Impact	No suitable habitat present. No tall trees, cliffs, coasts near large bodies of water found within or adjacent to the proposed project ROW.
Black-capped Vireo <i>Vireo atricapilla</i>	SE	FE	No	No Effect/ Impact	No suitable habitat present. No early successional vegetation in the project area.
Golden-cheeked Warbler <i>Dendroica chrysoparia</i>	SE	FE	No	No Effect/ Impact	No suitable habitat present. No oak-juniper stands found in the project area.
Interior Least Tern <i>Sterna antillarum athalassos</i>	SE	FE	No	No Effect/ Impact	No suitable habitat present. No nests or major rivers found within the proposed project ROW.

Species	State Status	Federal Status	Potential Habitat Present	Species Effect /Impact	Justification
Peregrine Falcon <i>Falco peregrinus</i>	ST	DL	No	No Impact	No suitable habitat present. No tall trees, cliffs, coasts near large bodies of water found within or adjacent to the proposed project ROW.
Sprague's Pipit <i>Anthus spragueii</i>	--	FC	No	No Impact	No suitable habitat present. No native upland prairie or coastal grasslands within or adjacent to the proposed project ROW.
Whooping Crane <i>Grus americana</i>	SE	FE	No	No Effect/ Impact	No suitable habitat present. No estuaries, prairie marshes savannah, grasslands, cropland pastures found within or adjacent to the proposed project ROW, but could incidentally be used for a brief stopover during migration.
Smalleye Shiner <i>Notropis buccula</i>	--	FC	No	No Impact	No suitable habitat present in Onion Creek. No broad open sandy channels.
Kretschmarr Cave Mold Beetle <i>Texamaurops reddelli</i>	--	FE	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Tooth Cave Ground Beetle <i>Rhadine persephone</i>	--	FE	No	No Effect	No suitable habitat present. No karst features were found within or adjacent to the proposed project ROW.
Red Wolf <i>Canis rufus</i>	SE	FE	No	No Effect/ Impact	Extirpated from Texas.
False Spike Mussel <i>Quadrula mitchelli</i>	ST	--	Unknown	May Impact	Habitat requirements are not known for this species; however, it was not found in the 2010 survey and did not indicate that the species was present within Onion Creek.
Smooth Pimpleback <i>Quadrula houstonensis</i>	ST	FC	Yes	May Impact	Potential for suitable habitat, but no known recorded observations.

Species	State Status	Federal Status	Potential Habitat Present	Species Effect /Impact	Justification
Texas Fatmucket <i>Lampsilis bracteata</i>	ST	FC	Yes	May Impact	Specimens have been found in Onion Creek. Coordination with TPWD and TxDOT will ensure conservation measures will be taken once final design is complete. Mussels will be moved upstream in agreement with TPWD prior to construction disturbances. In the event that the Texas fatmucket is reconsidered for listing or listed prior to construction, TxDOT will enter formal consultations with the USFWS and take measures to avoid affecting the species.
Texas Fawnsfoot <i>Truncilla macrodon</i>	ST	FC	Yes	May Impact	Potential for suitable habitat, but no known recorded observations.
Texas Pimpleback <i>Quadrula petrina</i>	ST	FC	Yes	May Impact	Potential for suitable habitat, but no known recorded observations.
Texas Horned Lizard <i>Phrynosoma cornutum</i>	ST	--	No	No Impact	No suitable habitat present. No sandy soils or harvester ants seen.
Bracted Twistflower <i>Stretanthus bracteatus</i>	--	FC	No	No Impact	No suitable habitat present. There are no rocky hillsides, slopes, or thin clay soils within the proposed project ROW.
<p><u>USFWS</u> (E = Endangered, EXPN = Experimental population, non-essential, DL = Delisted Taxon, DM = Delisted monitoring, C = Candidate, and NL = Not listed)</p> <p><u>TPWD</u> (DL = Delisted Taxon, FT = Federal threatened, FE = Federal endangered, FC = Federal Candidate species SE = State endangered, ST = State threatened, SC = State Candidate Species and -- = No regulatory status)</p>					

Source: USFWS & TPWD June 20, 2013.

There is little known information on false spike mussels (state threatened) and their habitats. Once thought to be extinct, recent surveys have found *Quadrula mitchelli* in the Brazos River basin in the lower San Gabriel River; Colorado River basin in the lower San Saba River and Llano River; and Guadalupe River basin in the Guadalupe River (Randklev et al. 2013). Species in these locations were found in riffles, runs, and pool habitats with gravel substrates (Randklev et al. 2013). It is unknown whether any potential habitat exists within the proposed project area. Although there are no known recorded observations and none were observed during the freshwater mussel survey for the Austin District of TxDOT in 2010, the species may be impacted by the proposed project, but is unlikely.

Smooth pimplebacks (state threatened and federal candidates) have limited abundance, patchy distribution, and recent losses associated with pollution, flooding, or droughts make defining exact distribution difficult. This freshwater species is historically known to occur in the Colorado and Brazos River drainages in Texas. Recently a live individual was discovered in the Navasota River (Wilkins et al. 2011) and the Trinity River (USFWS 2013a). The smooth pimpleback has been nearly extirpated from the Colorado River basin (USFWS 2013a). This species occurs in small to moderate-size streams and rivers as well as moderate-size reservoirs; found on mud, sand, and gravel in water as shallow as 3 to 4 centimeters; and tolerates very slow to moderate flow rates. It appears not to tolerate dramatic water level fluctuations, scoured bedrock substrates, or shifting sand bottoms. There is potential for smooth pimpleback habitat within the proposed project area. Although there are no known recorded observations and none were observed during the freshwater mussel survey for the Austin District of TxDOT in 2010, the species may be impacted by the proposed project but it is unlikely.

The Texas fatmucket (state threatened and federal candidate) historically occurred in the upper Colorado, Guadalupe, and San Antonio systems and their associated tributaries. The fatmucket has declined range wide and is only known to occur in nine streams in the Colorado and Guadalupe River basins (USFWS 2013b). This species occurs in streams and smaller rivers within the Texas Hill Country and appears to be intolerant of impoundment preferring flowing waters at depths of less than 3 feet, usually with sand and gravel substrates (less frequently on mud). It is often found in association with bedrock layers along bank areas where they slide between bedrock cracks and move inward as far as their shell size will allow. During a freshwater mussel survey for the Austin District of TxDOT in 2010, three live individuals of Texas fatmucket were found in Onion Creek around the SH 71 Bridge (Wilkins et al. 2011); therefore, there is habitat within the proposed project area and these species may be impacted. According to the September 1, 2013 MOU, the presence of the Texas fatmucket triggers coordination between TxDOT and TPWD. The Texas fatmucket is listed as a candidate species by USFWS and is not subject to the legal protection under the ESA. However, coordination with TPWD and TxDOT would ensure conservation measures would be taken before construction. Mussels would be moved upstream as a best management practice (BMP) through the Programmatic Agreement in coordination with TPWD prior to any construction disturbances. In the event that the Texas fatmucket is reconsidered for listing or listed prior to construction, TxDOT would enter into consultations with the USFWS and take measures to avoid affecting the species.

The Texas fawnsfoot (state threatened and federal candidate) is historically known from the Colorado, Trinity, and Brazos River drainages in Central Texas. It appears to still survive in very small numbers over several hundred miles of the Central Brazos River drainage. A recent discovery of a living population in the Brazos River, one of very few since its original description, proves that there is little knowledge regarding habitat requirements of the species. The surveyed portion of the Brazos where these specimens were found is characterized by steep banks with extensive riparian vegetation. The specimens were found on the bank, buried partially in soft sandy sediment (Wilkins et al. 2011). The Texas fawnsfoot has been eliminated from almost all of the Colorado River system (USFWS 2013d). There is potential for habitat within the proposed project area. Although no known observations have been recorded and none were observed during the freshwater mussel survey for the Austin District of TxDOT in 2010, the species may be impacted by the proposed project, but is unlikely.

The Texas pimpleback (state threatened and federal candidate) is a freshwater species that is endemic to central Texas in the Guadalupe and Colorado River systems including reports from the Llano, San Saba, and Pedernales rivers. This species inhabits mud, gravel and sand substrates, generally in areas of the river with low flow. Currently, only the Colorado River, San Saba River, Concho River, and San Marcos Rivers are known to have Texas pimpleback populations (USFWS 2013c). The Texas pimpleback has been extirpated from Onion Creek (USFWS 2013c). There is potential for habitat within the proposed project area. Although no known observations have been recorded and none were observed during the freshwater mussel survey for the Austin District of TxDOT in 2010, the species may be impacted by the proposed project, but is unlikely.

2.8 Migratory Birds

The Migratory Bird Treaty Act (MBTA) states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance with the act's policies and regulations. All of the bird species in **Table 2-24** are considered migratory. Further, there are other migratory bird species in addition to those listed above that could utilize the proposed project area.

The migration patterns of the listed bird species would not be affected by the SH 71 Express Project. Site visits and a visual inspection of the project area (on July 10, 2013) revealed no evidence of nesting. It is not anticipated that migratory birds would be disturbed during proposed construction of the project. In accordance with the MBTA, no vegetation or man-made structures would be removed containing nests, eggs, or young should they be discovered during construction. All efforts necessary to avoid impacts would be made to protect birds, active nests, eggs and young if migratory birds are encountered during construction.

2.9 Waters of the U.S. Including Wetlands

A field investigation was performed on July 10, 2013, to locate and identify potential Section 404 jurisdictional waters of the U.S., including wetlands, within the proposed project location. The field visit and an analysis of topographic maps revealed one potential jurisdictional water of the U.S. that would be impacted by the proposed project--Onion Creek--shown on **Figure 2-5**. Wetland determination data forms can be found in **Appendix F**.

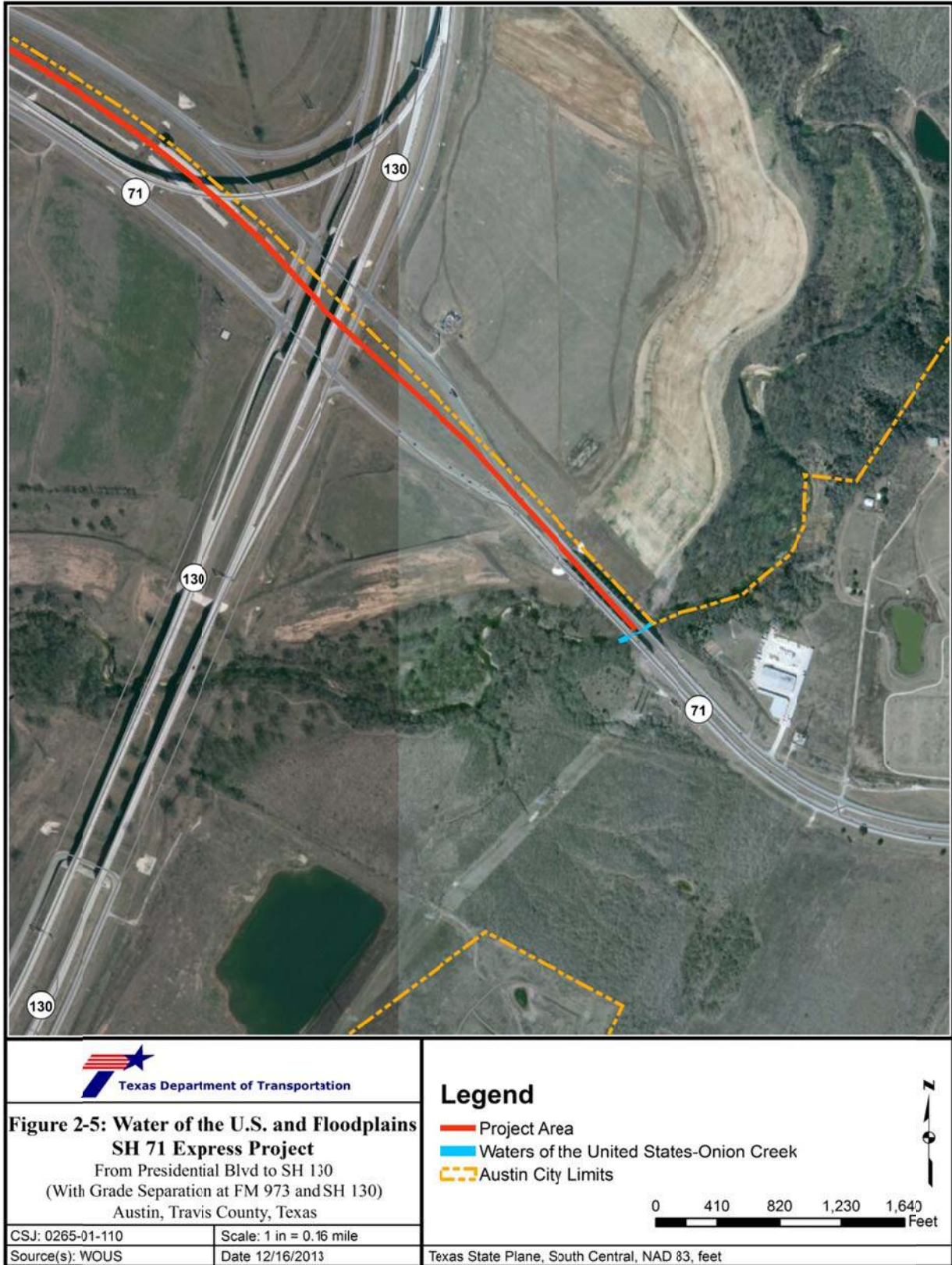


Figure 2-5: Jurisdictional Waters of the U.S. in the SH 71 Express Project Area

Approximately 244 linear feet of Onion Creek are within the proposed project area (**Table 2-25**). One bent of the current SH 71 bridge structure appears to be in Onion Creek due to eroded banks (**Figure 2-6**).



Figure 2-6: SH 71 Bent in Onion Creek due to Eroded Banks

Source: View is to the west. Study Team 2013.

Additionally, one unnamed tributary of the Colorado River crosses the proposed project area; however, due to previous construction of a culvert within the ROW, no additional impacts are expected. A review of the National Wetland Inventory and subsequent field delineation at the site confirmed that there are no wetlands located within the proposed project area.

The SH 71 eastbound bridge at Onion Creek would be widened on the north side by approximately 12 feet; no work is expected at the westbound bridge. The bridge widening would extend the existing bents, including additional drilled shafts and columns in-line with the existing bents. Girders and/or beams would be used for widening the traffic lanes. Construction activities could affect jurisdictional waters of the U.S. Temporary erosion and sediment control measures would be planned for access to the site for drilling of the shafts, dewatering of the shafts, and clearing of vegetation. A temporary stream crossing may be necessary for access. Upon completion of construction, all materials would be removed and the site returned to preexisting conditions. Due to bridge bent removal and installation, the placement of temporary or permanent dredge/fill material into potentially jurisdictional waters of the U.S. is anticipated and would require a Nationwide Permit (NWP), without a Preconstruction Notification (PCN). Total stream impacts of 0.045 acre are anticipated. Construction activity would comply with all general and regional conditions applicable to NWP 14

(Linear Transportation Projects). During the modification of the linear transportation facility, appropriate measures would be taken to maintain normal downstream flows and minimize flooding. Temporary fills would be placed in a manner that would limit erosion by expected high flows. Temporary fills would be removed in their entirety and the affected area returned to pre-construction elevations, and revegetated as appropriate.

Table 2-25: Summary of Delineated Potential Jurisdictional Features

Name of Water Body	Latitude/ Longitude	Approx. OHWM (Average feet)	Existing ROW		Flow Direction	Potential Water of the U.S.?	Impacts	
			Stream (LF/acre)	Wetland (acre)			Streams (LF/acre)	Wetland (acre)
Onion Creek (intermittent)	30.18929/-97.61852	23	244/0.103	None	NE	Yes	141/0.045	None
TOTAL POTENTIAL JURISDICTIONAL WATERS			<u>Total Streams in ROW</u> 244 LF/0.103 acre	<u>Total Wetlands in ROW</u> 0 acre			<u>Total Stream Impacts</u> Intermittent-141 LF/0.045 acre	<u>Total Wetland Impacts</u> 0 acres

Source: Study Team 2013.

2.10 Floodplains

The Federal Emergency Management Agency (FEMA) *Flood Insurance Rate Maps* dated September 26, 2008, numbers 48453C0610H and 48453C0630H, include the project limits. Onion Creek’s floodplain is located in the project area; it has an associated Special Flood Hazard Area (SFHA), Zone AE Floodplain with defined floodplain elevations, and Zone X Floodplain within the limits of this project. Zone X floodplains are areas of shallow flooding of less than a foot and also include the 500 year floodplain. This project is also very close to the confluence of Onion Creek and the Colorado River. The Zone AE floodplain for the Colorado River is shown on these maps as well (**Appendix G**).

The project proposes bridge widening over Onion Creek. This would not have effects to the floodplain of Onion Creek or the Colorado River. However, any modifications to the floodplain would require coordination with FEMA and a Letter of Map Amendment (LOMA). The FEMA SFHA floodplain is administered by the City of Austin in this area. Any work to be performed within the limits of the floodplain and all floodplain modifications would be coordinated with the City of Austin during project design; however, TxDOT’s highway design would ensure that there is no net rise in the 100-year flood elevation.

23 CFR 650.113 requires that encroachments on floodplains be the only practicable alternative, which shall be supported by the following information: 1) the reasons why the proposed action must be located in the floodplain; 2) the alternatives considered and why they were not practicable; and 3) a statement indicating whether the action conforms to applicable state or local floodplain protection standards. Since the proposed project currently crosses floodplains, the following support information is provided:

1. The proposed project must be located in floodplains because the proposed project would consist of upgrading an existing linear transportation facility that currently crosses floodplains;
2. There were no alternatives considered (except the No Build Alternative which fails to satisfy the project's purpose and need) that would avoid encroachments on floodplains because it would not be feasible to move the proposed roadway out of the floodplains; and
3. The proposed project would conform to state floodplain protection standards.

The Build Alternative is the only practicable alternate that satisfies the purpose and need of the proposed project.

2.11 Water Quality

The Texas Commission of Environmental Quality (TCEQ) is responsible for monitoring, assessing, and regulating surface water quality. The results of the assessment are published periodically in the Texas Water Quality Inventory and 303(d) List, as required by Sections 305(b) and 303(d) of the Clean Water Act. Waterbodies that are not meeting the Texas Surface Water Quality Standards designated for their use are identified in a section called the 303(d) list. The 2012 Texas 303(d) List was approved for submission by the TCEQ on February 13, 2013. It was submitted to the Environmental Protection Agency (EPA) on February 21, 2013, and approved May 9, 2013.

There are two water crossings in the project area, including Onion Creek and an unnamed Colorado River tributary contained within a culvert; neither is listed as impaired on the 2012 Texas 303(d) List.

The proposed project would disturb more than 5 acres of land, so TxDOT is required to comply with the TCEQ Texas Pollutant Discharge Elimination System General Permit for Construction Storm Water Discharges. A Storm Water Pollution Prevention Plan (SW3P) would be in place prior to the start of construction and would be maintained until the site is stabilized. A Notice of Intent (NOI) stating that an SW3P has been developed would be filed with the TCEQ prior to beginning of construction.

The proposed project includes a drainage system that would be regulated under the Municipal Separate Storm Sewer System (MS4) permit held by TxDOT. The MS4 program is used to determine that storm water runoff that is discharged to local water bodies is properly managed to protect the receiving streams.

Measures would be taken to prevent and correct erosion that may develop during construction. Temporary erosion controls would be in compliance with TxDOT Standard Specifications and would be in place, according to the construction plans, prior to commencement of construction. They would be inspected regularly to ensure maximum effectiveness. Specific BMPs and commitments to maintain water quality are discussed in the **Section 5 - Permits and Commitments**.

The major aquifer found within Travis County is the Edwards Aquifer. The proposed project is not located within the Contributing or Recharge Zones of the Edwards Aquifer.

The contractor would take appropriate measures to prevent, minimize, and control spillage of hazardous materials in the construction staging area. All materials being removed or disposed of by

the contractor would be done in accordance with applicable State and Federal laws and as not to degrade ambient water quality. All of these measures would be enforced under appropriate specifications during construction of the project. Therefore, given all the information above, the Build Alternative would have no impacts to water quality.

2.12 Traffic Noise

This analysis was accomplished in accordance with TxDOT's (FHWA approved) Guidelines for Analysis and Abatement of Roadway Traffic Noise (2011).

Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in decibels and is expressed as "dB." Sound occurs over a wide range of frequencies. However, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dBA." Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "L_{eq}."

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise,
- Determination of existing noise levels,
- Prediction of future noise levels,
- Identification of possible noise impacts, and
- Consideration and evaluation of measures to reduce noise impacts.

The FHWA has established the following Noise Abatement Criteria (NAC) for various land use activity areas that are used as one of two means to determine when a traffic noise impact will occur (Table 2-26).

Table 2-26: FHWA Noise Abatement Criteria

Activity Category	FHWA (dBA Leq)	Description of Land Use Activity Areas
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Residential
C	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

Activity Category	FHWA (dBA Leq)	Description of Land Use Activity Areas
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F
F	--	Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	Undeveloped lands that are not permitted.

Source: TxDOT 2011.

Notes: Primary consideration is given to exterior areas (Category A, B, C or E) where frequent human activity occurs.

A noise impact would occur when either the absolute or relative criterion is met:

Absolute criterion: the predicted noise level at a receiver approaches, equals or exceeds the FHWA NAC. "Approach" is defined as one dBA below the NAC. For example: a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dBA or above.

Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal or exceed the NAC. "Substantially exceeds" is defined as more than 10 dBA. For example: a noise impact would occur at a Category B residence if the existing level is 54 dBA and the predicted level is 65 dBA (11 dBA increase).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The FHWA traffic noise modeling software (TNM 2.5) was used to calculate existing and predicted traffic noise levels at receiver locations (**Table 2-27** and **Figure 2-7** to **Figure 2-10**) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement. The model primarily considers the number, type and speed of vehicles; highway alignment and grade; cuts, fills, and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise.

Table 2-27: Traffic Noise Receivers

Representative Receiver		NAC Category	NAC Level	Existing 2013	Predicted 2035	Change (+/-)	Noise Impact
R-1	Residential	B	66 (exterior)	66	68	+2	Yes
R-2	Residential	B	66 (exterior)	66	69	+3	Yes
R-3	Residential	B	66 (exterior)	65	67	+2	Yes
R-4	Residential	B	66 (exterior)	71	73	+2	Yes
R-5	Residential	B	66 (exterior)	72	73	+1	Yes
R-6	Apartments	B	66 (exterior)	62	64	+2	No
R-7	Residential	B	66 (exterior)	62	64	+2	No
R-8	Restaurant	E	71 (exterior)	67	69	+2	No
R-9	Residential	B	66 (exterior)	63	66	+3	Yes
R-10	Residential	B	66 (exterior)	65	66	+1	Yes
R-11	Residential	B	66 (exterior)	65	65	0	No

Source: Study Team 2013.

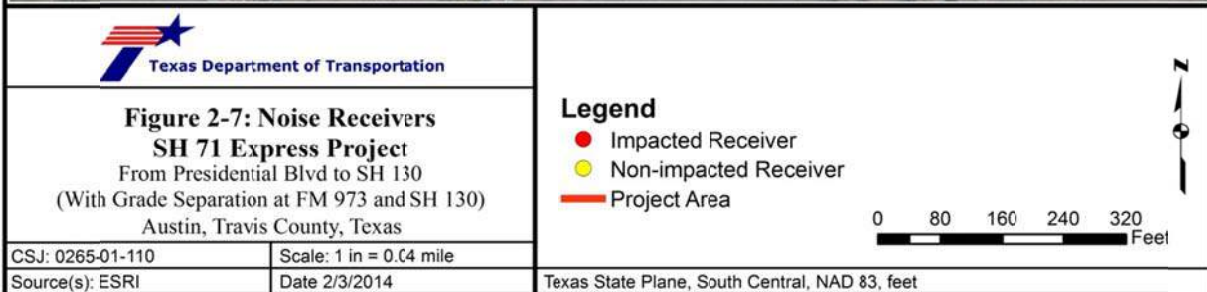
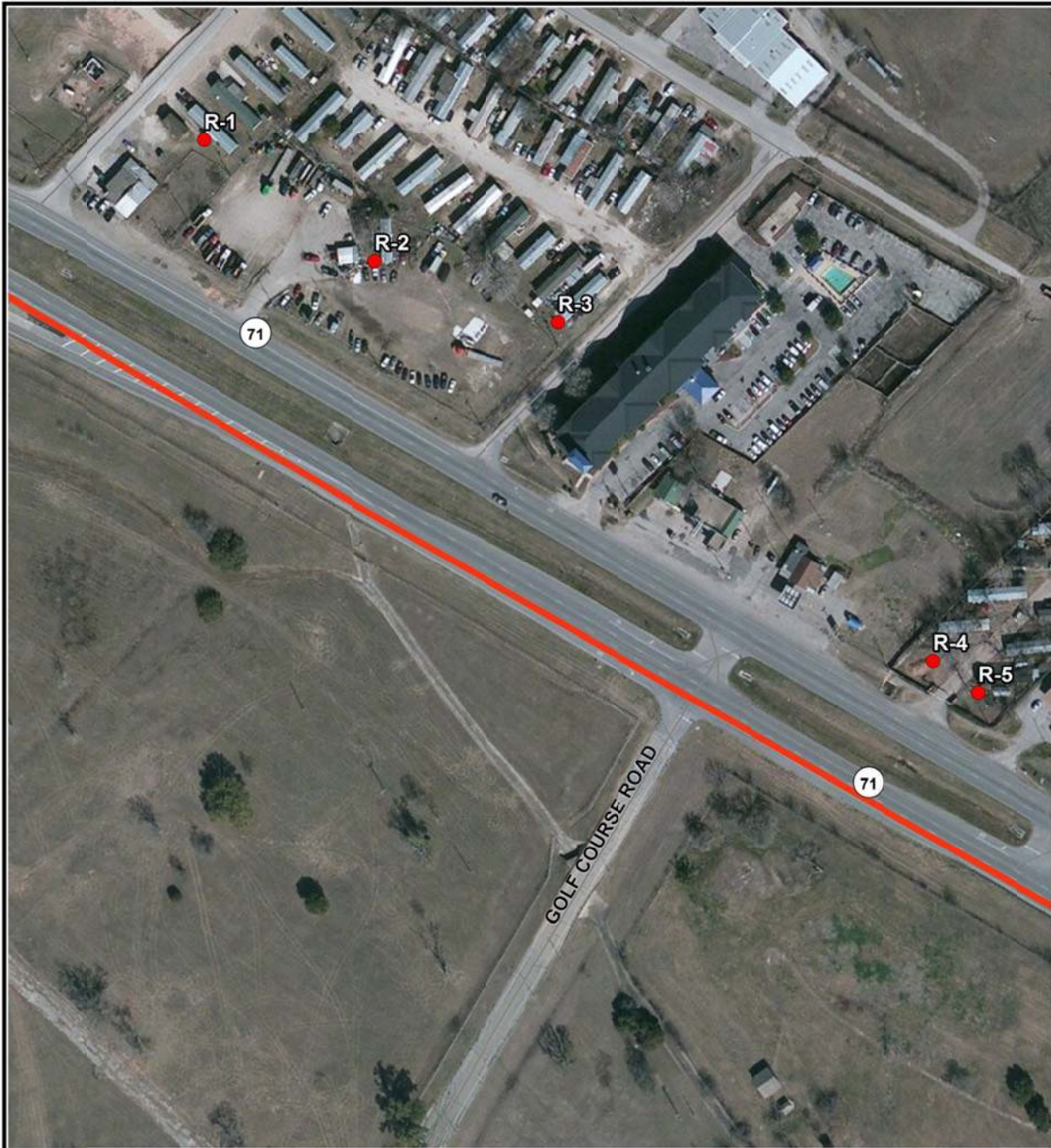
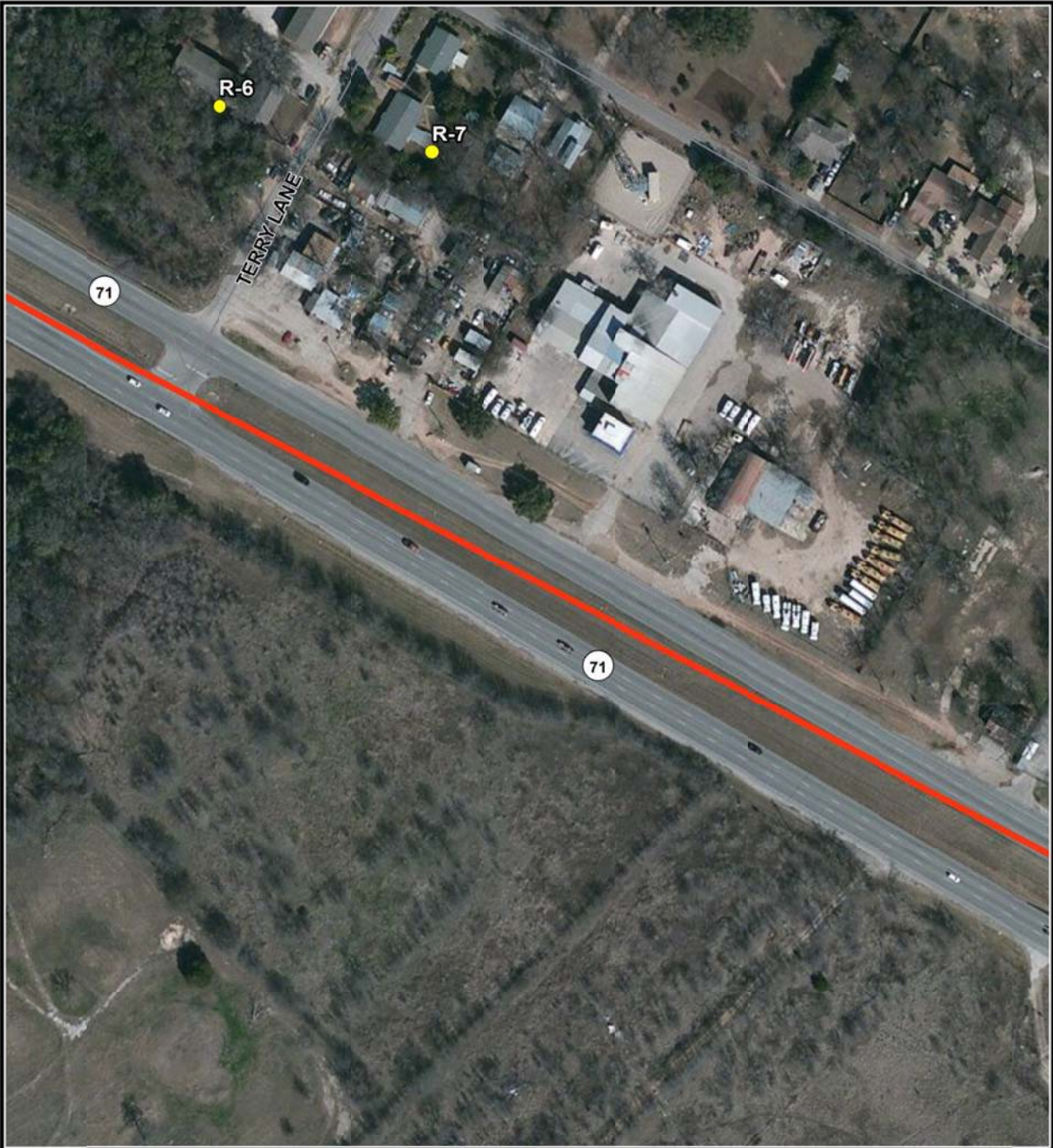


Figure 2-7: Noise Receivers (R1 to R5)





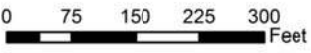
 Texas Department of Transportation		Legend ● Impacted Receiver ● Non-impacted Receiver — Project Area	 
Figure 2-8: Noise Receivers SH 71 Express Project From Presidential Blvd to SH 130 (With Grade Separation at FM 973 and SH 130) Austin, Travis County, Texas			
CSJ: 0265-01-110	Scale: 1 in = 0.04 mile	Texas State Plane, South Central, NAD 83, feet	
Source(s): ESRI	Date 2/3/2014		

Figure 2-8: Noise Receivers (R6 to R7)

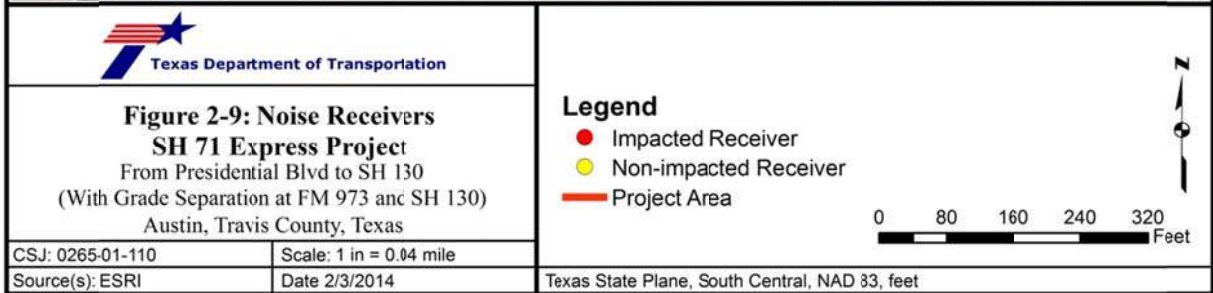


Figure 2-9: Noise Receivers (R8 to R10)

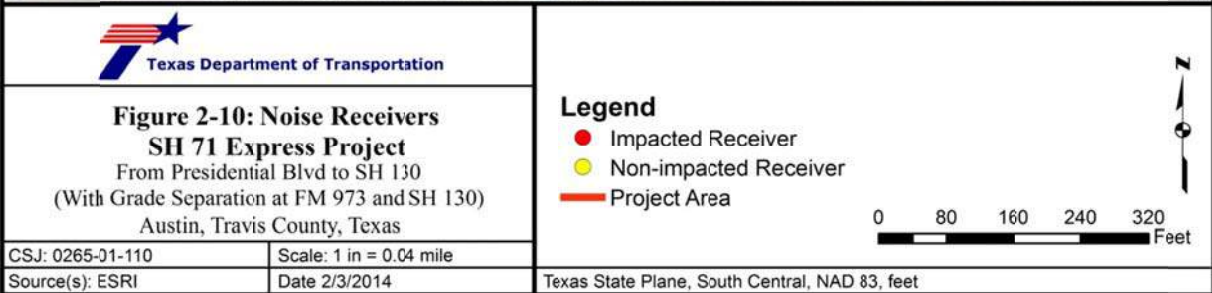
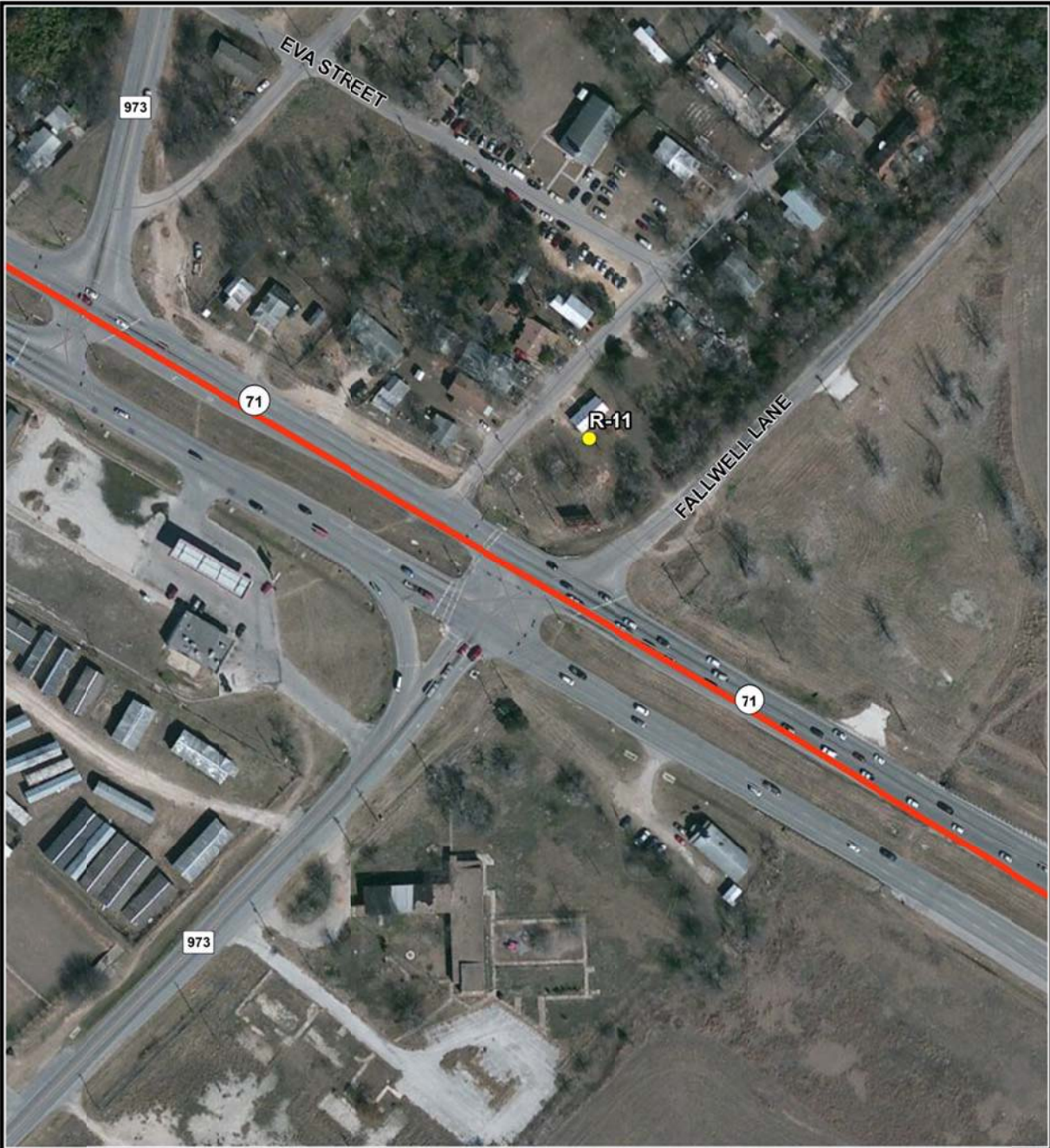


Figure 2-10: Noise Receivers (R11)

As indicated in **Table 2-27**, the proposed project would result in a traffic noise impact and the following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone and the construction of noise barriers.

Before a noise abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level by at least 5 dBA; and to be "reasonable," it must not exceed the cost-effectiveness criterion of \$25,000 for each receiver that would benefit by a reduction of at least 5 dBA and the abatement measure must be able to reduce the noise level at least one impacted, first row receiver by at least seven dBA in the predicted noise level.

Traffic management: control devices could be used to reduce the speed of the traffic; however, the minor benefit of 1 dBA per 5 mph reduction in speed does not outweigh the associated increase in congestion and air pollution. Other measures such as time or use restrictions for certain vehicles are prohibited on state highways.

Alteration of horizontal and/or vertical alignments: any alteration of the existing alignment would displace existing businesses and residences, require additional ROW and not be cost effective/reasonable. Buffer zone: the acquisition of undeveloped property to act as a buffer zone is designed to avoid rather than abate traffic noise impacts and, therefore, is not feasible.

Buffer zone: the acquisition of undeveloped property to act as a buffer zone is designed to avoid rather than abate traffic noise impacts and, therefore, is not feasible.

Insulation of NAC Category D structures: Interior noise reduction factors are applied to NAC Category D receivers by Building Type and Window Conditions per TxDOT's Guidelines for Analysis and Abatement of Roadway Traffic Noise, April 2011.

Noise barriers: this is the most commonly used noise abatement measure. Noise barriers were evaluated for each of the impacted receiver locations. Noise barriers would not be feasible and reasonable for any of the following impacted receivers and, therefore, are not proposed for incorporation into the project:

- R-1 through R-3: These receivers represent a total of eight residences. A noise barrier was modeled for the full length of available ROW 485 feet adjacent to SH 71 to a maximum height of 20 feet. The model concluded a noise barrier would not achieve the reasonable noise reduction design goal of at least 7 dBA at one receiver with a minimum of at least 5 dBA at greater than 50 percent of the first row benefitted receivers.
- R-4: This receiver represents a single residence. A noise barrier was modeled for the full length of available ROW 65 feet adjacent to SH 71 to a maximum height of 20 feet. The model concluded a noise barrier would not achieve the reasonable noise reduction design goal of at least 7 dBA or the minimum of at least 5dBA.
- R-5: This receiver represents a single residence. A noise barrier was modeled for the full length of available ROW 55 feet adjacent to SH 71 to a maximum height of 20 feet. The

model concluded a noise barrier would not achieve the reasonable noise reduction design goal of at least 7 dBA or the minimum of at least 5dBA.

- R-9 and R-10: These receivers represent a total of eight residences. A noise barrier was modeled for the full length of available ROW 479 feet adjacent to SH 71 to a maximum height of 20 feet. The model concluded a noise barrier would not achieve the reasonable noise reduction design goal of at least 7 dBA or the minimum of at least 5dBA.

Some land use activity areas in various locations throughout the length of the proposed project are currently Category G, undeveloped lands that are not permitted. Also, no new development is currently planned, designed, or programmed in this area. There is no NAC for undeveloped land; however, to avoid noise impacts that may result from future development of properties adjacent to the proposed project, local officials responsible for land use control programs should ensure, to the maximum extent possible, that no new activities are planned or constructed along or within the following predicted (2035) noise impact contours. The noise impact contours can be seen in **Table 2-28**.

Table 2-28: Traffic Noise Contours

Undeveloped Area	Land Use	Impact Contour	Distance from ROW
SH 71 between Fallwell Lane and SH 130	NAC B and C	66 dB(A)	70 Feet
SH 71 between Fallwell Lane and SH 130	NAC E	71 dB(A)	at ROW

Source: Study Team 2013.

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of this traffic noise analysis is available to local officials to ensure, to the maximum extent possible, future developments are planned, designed and programmed in a manner that would avoid traffic noise impacts. On the date of approval of this document (Date of Public Knowledge), Travis County and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

2.13 Air Quality

2.13.1 National Ambient Air Quality

The proposed action is consistent with the CAMPO 2035 RTP and the 2013 - 2016 TIP, as amended. The project is located in Travis County, which is in an area in attainment for all National Ambient Air Quality Standards (NAAQS); therefore, the transportation conformity rules do not apply.

2.13.2 Traffic Air Quality Analysis

Traffic data for the design year 2036 is 81,000 average daily traffic (ADT). A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that a carbon monoxide standard would ever be exceeded as a result of any project with an annual average daily traffic (AADT) below 140,000. The AADT projections for the project do not exceed 140,000 vpd; therefore, a Traffic Air Quality Analysis (TAQA) was not required.

2.13.3 Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (EPA 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (EPA 2013). In addition, the EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (EPA 2006). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA Mobile Source Air Toxics (MSAT) rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Based on a FHWA analysis using EPA's MOVES2010b model, as shown on **Figure 2-11** and in **Table 2-29**, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project level decision-making within the context of NEPA. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with

highway projects. The FHWA will continue to monitor the developing research in this emerging field.

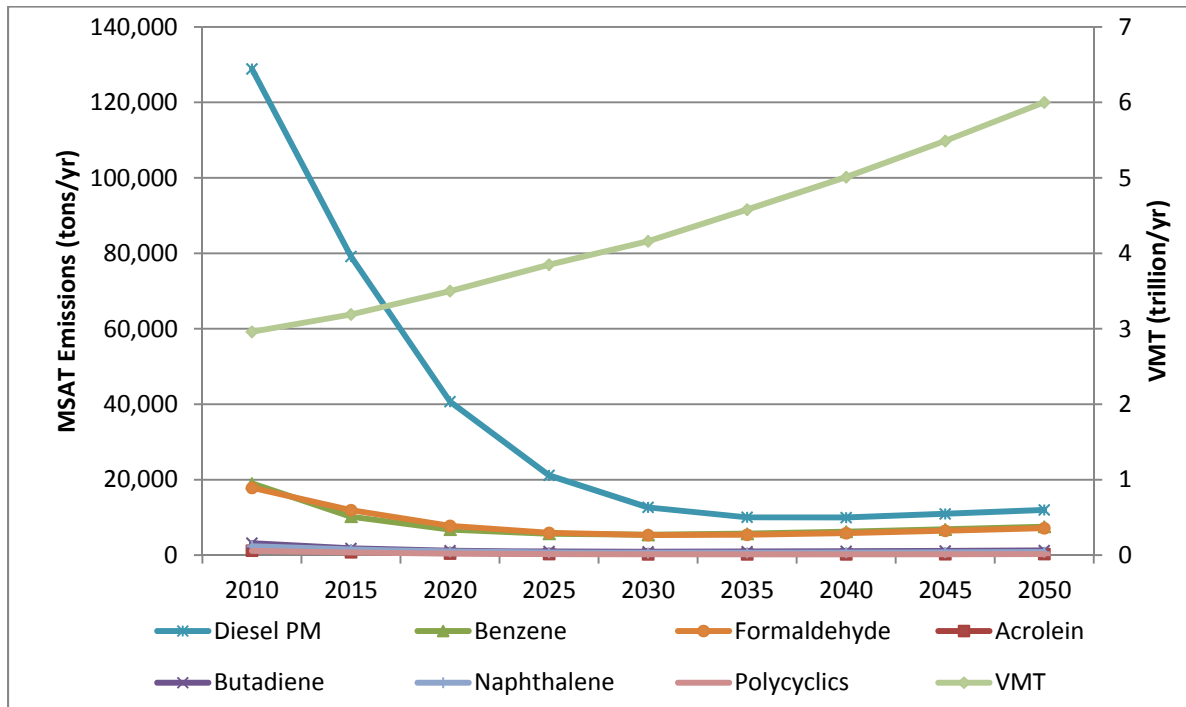


Figure 2-11: Projected National MSAT Emission Trends 2010 – 2050 for Vehicles Operating on Roadways Using EPA’s MOVES2010b Model

Source: EPA MOVES2010b model runs conducted during May – June 2012 by FHWA.

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

Table 2-29: Projected National MSAT Emissions and Trends for 2010-2050 for Vehicles Operating on Roadways Using EPA’s MOVES2010b Model

Pollutant/VMT	Pollutant Emissions (tons) and Vehicle-Miles Traveled (VMT) by Calendar Year									Change 2010 to 2050
	2010	2015	2020	2025	2030	2035	2040	2045	2050	
Acrolein	1,244	805	476	318	258	247	264	292	322	-74%
Benzene	18,995	10,195	6,765	5,669	5,386	5,696	6,216	6,840	7,525	-60%
Butadiene	3,157	1,783	1,163	951	890	934	1,017	1,119	1,231	-61%
Diesel PM	128,847	79,158	40,694	21,155	12,667	10,027	9,978	10,942	11,992	-91%
Formaldehyde	17,848	11,943	7,778	5,938	5,329	5,407	5,847	6,463	7,141	-60%
Naphthalene	2,366	1,502	939	693	607	611	659	727	802	-66%
Polycyclics	1,102	705	414	274	218	207	219	240	262	-76%
Trillions VMT	2.96	3.19	3.5	3.85	4.16	4.58	5.01	5.49	6	102%

Source: EPA MOVES2010b model runs conducted during May – June 2012 by FHWA.

Project-Specific MSAT Information

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled, “A Methodology for Evaluating Mobile Source Air Toxic Emissions among Transportation Project Alternatives,” (FHWA 2012).

For each alternative in this document, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under the Build Alternative than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the freeway sections that would be built at the intersection of SH 71 and FM 973, and the intersection of SH 71 and SH 130. However, the magnitude and the duration of these potential increases compared to the No Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, over time will cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be substantially lower than today.

Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine

insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain IRIS, which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (EPA 2013). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA’s Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings, cancer in animals, and irritation to the respiratory tract including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI 2008) or in the future as vehicle emissions substantially decrease (HEI 2009).

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the EPA’s approach to addressing risk in its two-step decision framework.

Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable. Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Conclusion

In this document, a qualitative MSAT assessment has been provided relative to the various alternatives of MSAT emissions and has acknowledged that the Build Alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

2.13.4 Construction Emissions

During the construction phase of this project, temporary increases in air pollutant emissions may occur from construction activities. The primary construction-related emissions are particulate matter (fugitive dust) from site preparation. These emissions are temporary in nature (only occurring during actual construction); it is not possible to reasonably estimate impacts from these emissions due to limitations of the existing models. However, the potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression techniques, sprinkling, covering loaded trucks, and other dust abatement controls, as appropriate.

The construction phase of this project may generate a temporary increase in MSAT emissions from construction activities, equipment and related vehicles. The primary MSAT construction-related emissions are particulate matter from site preparation and diesel particulate matter from diesel-

powered construction equipment and vehicles. However, considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be utilized, it is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area.

2.14 Hazardous Materials

A review of selected federal and state regulatory databases was conducted to determine the potential for encountering hazardous materials and substances within the proposed project area. In addition, a field investigation of the proposed project area was conducted on July 10, 2013 to confirm the location of selected listed facilities and to observe the general environmental conditions at these sites and within the project area. The regulatory listings are limited and include only those sites that were known to the regulatory agencies, at the time of publication, to be contaminated or in the process of evaluation for potential contamination. The databases were searched within the standard search radii of the project area per the American Society for Testing and Materials (ASTM) standard 1527-05 requirements. The databases consist of the following:

Federal Databases

- Aerometric Information Retrieval System/Air Facility Subsystem
- Biennial Reporting System
- Clandestine Drug Lab Locations
- EPA Docket Data
- Federal Engineering Institutional Control Sites
- Emergency Response Notification System (ENRS)
- Facility Registry System (FRS)
- Hazardous Materials Incident Reporting System
- Integrated Compliance Information System
- Integrated Compliance Information System National Pollutant Discharge Elimination System (NPDES)
- Material Licensing Tracking System
- NPDES
- PCB Activity Database System
- Permit Compliance System
- CERCLIS Liens
- Section Seven Tracking System
- Toxics Release Inventory
- Toxic Substance Control Act Inventory
- No Longer Regulated RCA Generator Facilities
- RCRA-Generator Facilities
- Brownfield's Management System (BSA)
- CERCLIS Information System
- Land Use Control Information
- No Further Remedial Action Planned Sites
- No Longer Regulated RCRA Non-CORRACTS TS Facilities

- Open Dump Inventory
- RCRA-TSD Facilities
- Delisted National Priorities List
- Department of Defense Sites
- Formerly Used Defense Sites
- No Longer Regulated RCRA Corrective Action Facilities
- National Priorities List
- Proposed National Priorities List
- RCRA-Correcting Action Facilities
- Record of Decision System

State Databases

- Groundwater Contamination Cases
- Historic Groundwater Contamination Cases
- TCEQ Liens
- Municipal Setting Designations
- Notice of Violations
- State Institutional/Engineering Control Sites
- Texas Spills Listings (SPILLS)
- Dry Cleaner Registration Database
- Industrial and Hazardous Waste Sites (IHW)
- Permitted IHW
- Petroleum Storage Tanks (PST)
- Affected Property Assessment Reports
- BSAs
- Closed & Abandoned Landfill Inventory
- Innocent Owner/Operator Database
- Leaking Petroleum Storage Tanks (LPST)
- Municipal Solid Waste Landfill Sites
- Railroad Commission VCP and Brownfield Sites
- Radioactive Waste Sites
- Tier II Chemical Reporting Program Facilities (TIER II)
- Voluntary Cleanup Program Sites
- Recycling Facilities
- State Superfund Sites

Tribal Databases

- Underground Storage Tanks (UST) on Tribal Lands
- Leaking UST on Tribal Lands
- Open Dump Inventory on Tribal Lands
- Indian Reservations

Based on the regulatory database review and field observations of the proposed project area, all sites identified were characterized as posing a low risk to the proposed project area. There are two fueling stations located at the intersection of FM 973 and SH 71; these properties will be acquired as part of the FM 973 project.

Low risk sites would include undeveloped lands, residential properties, agricultural properties, and light retail/commercial operations. In addition, modern facilities and sites with known contamination that are either down gradient or a substantial distance from the project boundary can be classified as low risk. Moderate risk sites are those where the nature of potential contamination is known, are not extremely toxic, and any remedial approaches are straightforward. These moderate risk sites are typically located within or immediately adjacent to the project limits and that may impact the project during construction. High risk designation applies to hazardous waste sites with a high potential for adverse effects to the proposed construction areas due to evidence of substantial contamination, having long histories of industrial or commercial use, and being located on, adjacent, or up-gradient of the project area.

Table 2-30 summarizes the review of the hazardous materials sites identified in the standard ASTM databases and during the site visit. This summary includes distance and gradient from the proposed project area and a brief summary of the sites' regulatory status. Many of the regulated facilities are listed in more than one database. **Figure 2-12** details the locations of each of these sites identified in the database search and site visit. A copy of the regulatory database radius report prepared by GeoSearch is on file at the Austin District office. Bergstrom Air Force Base (Map ID#1) has 46 listings in the database report. The database lists all of the sites associated with the Air Force base as being 0.001 mile from the project corridor. Further review of these sites has eliminated all but one of the sites from consideration due to their actual distance being farther from the project area and/or its regulatory status. Only the Groundwater Contamination Case (GWCC) is included in **Table 2-30** and the discussions in the following sections.

Table 2-30: Hazardous Materials Site Summary

Map ID#	Name and Location	Regulatory Database(s)	Distance/ Gradient (mi)	Comments
1	Bergstrom Air Force Base US 71 Austin, TX 78743	GWCC (66002)	0.001/ SW Up	Groundwater plume associated with release of Trichloroethylene (TCE) from an industrial drain system. The TCE concentrations in monitoring wells near the project corridor are well below the MCL and the groundwater is approximately 40 to 50 feet below the ground surface. The potential to impact the project is low. Current Status: Active. There are currently numerous PST, LPST and remediation programs on-going at Austin-Bergstrom International Airport (previously Bergstrom Air Force Base)
2	Spill US 71 and FM 973 SE Austin, Travis County	Spills (9/9/90002)	0.010/ NW Cross	300 gallon JP-4 spilled into roadside ditch. 1990. Due to the age of the spill, the potential to impact the project is low. Current Status: Unknown. There is insufficient information from the electronic database to determine current regulatory status.

Map ID#	Name and Location	Regulatory Database(s)	Distance/ Gradient (mi)	Comments
3	Interport Floodplain Improvements Onion Creek at State Hwy 71	FRSTX	0.020/ E Cross	No data provided. Due to the type of database listing, the potential to impact the project is low. Current Status: Unknown. FEMA data center is currently closed due to government shut-down.
4	Del Valle Plant 2935 Highway 71E Del Valle, TX 78617	PST (66824)	0.030/ N Down	Two Diesel ASTs for fleet refueling. Installed 2001. Database states that they are currently in use; however, the site visit shows the property is abandoned. The potential to impact the project is low. Current Status: Active. The database shows active fleet fueling operation but the site is vacant.
5	Del Valle Grocery 3148 Highway 71 E Del Valle, TX 78617	PST (00842) LPST (103150)	0.040/ SW Up	Three USTs removed from ground in 1992. Three others installed in 1992. Current tanks are each 8,000 gallon gasoline. 1992 LPST case for diesel release. No impact to groundwater or impacts to receivers. Case closed. The property is in the acquisition process for a separate project (FM 973 project) at the intersection of SH 71 and FM 973, and is covered under the FM 973 project and is not a concern for the SH 71 Express Project. Current Status: LPST Closed in 1992. PST Unknown. There is insufficient information from the electronic database to determine currently regulatory status.
6	Highway 71 Food and Fuel 2777 Highway 71 E Del Valle, TX 78617	PST (255535)	0.040/ N Down	Three active USTs installed in 1987. One 6,000 gallon gasoline and two 8,000 gallon gasoline tanks. No issues reported. New inside lanes are proposed near this site. The potential to impact the project is low. Current Status: Unknown. There is insufficient information from the electronic database to determine currently regulatory status.
7	Speedy Stop 7-Eleven Store 36560 3208 Highway 71 E Del Valle, TX 78617	PST (10993) LPST (98570)	0.050/ SW Up	Three 10,000 gallon active USTs installed in 1985. Two gasoline and one diesel tanks. LPST site reported in 1991. Gasoline release. Groundwater impacted. Case closed. The property is in the acquisition process for construction of the FM 973 project and is not a concern for the SH 71 Express Project. Current Status: LPST Closed in 1991. PST Active program.

Map ID#	Name and Location	Regulatory Database(s)	Distance/ Gradient (mi)	Comments
8	Airport Express/Exxon 2511 Highway 71 E Del Valle, TX 78617	PST (67980) BF (67843) LPST (117952)	0.050/ N Down	Three former USTs removed from the ground in 2009. Brownfield's site with Phase II ESA performed in 2008. Property houses a closed service station. Petroleum, VOCs, and PAHs reported. Groundwater affected with groundwater cleanup required. LPST site in 2008. Groundwater impacted, case closed. The site visit shows the structures have been demolished. The potential to impact the project is low. Current status: LPST and Brownfield Closed in 2008. Inactive PST program. There is insufficient information from the electronic data base to determine current regulatory status.
9	Mikes Automotive 3049 Bastrop Highway Del Valle, TX 78617	IHW (61838)	0.050/ N Down	Conditionally exempt small quantity generator. Inactive status. No other information reported. Potential to impact the project is low. Current status: IHW Inactive. There is insufficient information from the electronic data base to determine current regulatory status.
10	Shoppers Mart 6/Circle K 2453 Bastrop Highway Del Valle, TX 78617	LPST (91829) LPST (95400) PST (34915) IHW (75669)	0.060/ NW Down	Two LPST cases. One in 1988 and another in 1990. Groundwater impacted for both, cases are both closed. Four active USTs installed in 1975. One 6,000 gallon diesel and 6,000 gasoline, and two 10,000 gasoline USTs. Conditionally exempt small quantity generator. Inactive status and no other information provided. Potential to impact the project is low. Current status: IHW Conditionally Exempt small quantity Generator Inactive. Active PST program. There is insufficient information from the electronic data base to determine current regulatory status of LPST.
11	Raymond Ramsey & Jerry R Reed/ Deal Tire 2415 Bastrop Highway Del Valle, TX 78617	PST (38370) IHW (61805)	0.160/ NW Down	Three USTs removed from ground in 1993. Conditionally exempt small quantity generator. Inactive status no other information provided. Due to its distance from the subject property, the potential to impact the project is low. Current status: IHW program Inactive. PST program listed as inactive. There is insufficient information from the electronic data base to determine current regulatory status.
12	Allied Waste/BFI 3424 FM 973 Del Valle, TX 78617	PST (48200) Tier II IHW (40036)	0.180/ SW Up	One UST removed from the ground in 1989. One active AST and one out of use AST. Active tank is 20,000 gallon gasoline. Storage of diesel, gasoline, motor oil, and lubricating oils on site. Conditionally exempt small quantity generator. Status inactive. Due to its distance from the subject property, the potential to impact the project is low. Current status: Active. There is currently an active PST and TIER II Chemical Reporting program. The data reports that the IHW Conditional Small quantity Generator status is inactive.

Map ID#	Name and Location	Regulatory Database(s)	Distance/ Gradient (mi)	Comments
13	Del Valle ISD 2454 Cardinal Loop Del Valle, TX 78617	PST (49562) Tier II LPST (108816)	0.210/ N Down	<p>Three USTs removed from ground in 1994. Three active USTs installed 1992-1994. 2,000 gallon diesel and gasoline, and one 6,000 gallon gasoline. All three in use. LPST site in 1994. No groundwater impact or threat to receivers. Case closed. Due to the distance from the project, the potential to impact the project is low.</p> <p>Current status: Active. There is currently an active PST program and TIER II Chemical Reporting program. A LPST site was closed in 1994.</p>
14	TXDOT Aviation 10335 Golf Course Rd Austin, TX 78719	Tier II	0.440/ SW Cross	<p>Lists numerous tanks for aviation fuel. Due to distance from the project, the potential to impact the project is low.</p> <p>Current status: Active. There is currently an active TIER II Chemical Reporting program. Aviation fuel storage is reported but no TCEQ PST listing was found in the regulatory data base.</p>
15	Austin Bergstrom Airport 2716 Spirit of Texas Dr. Austin, TX 78719	Tier II	0.470/ W Up	<p>Numerous chemicals reported stored at the airport. Due to distance from the project, the potential to impact the project is low.</p> <p>Current status: Active. There is currently an active PST program and a TIER II Chemical Reporting program.</p>

Source: GeoSearch, Radius Report, 2013.

Note: the current status of some sites is listed as “unknown” because no new information is available in the TCEQ database.

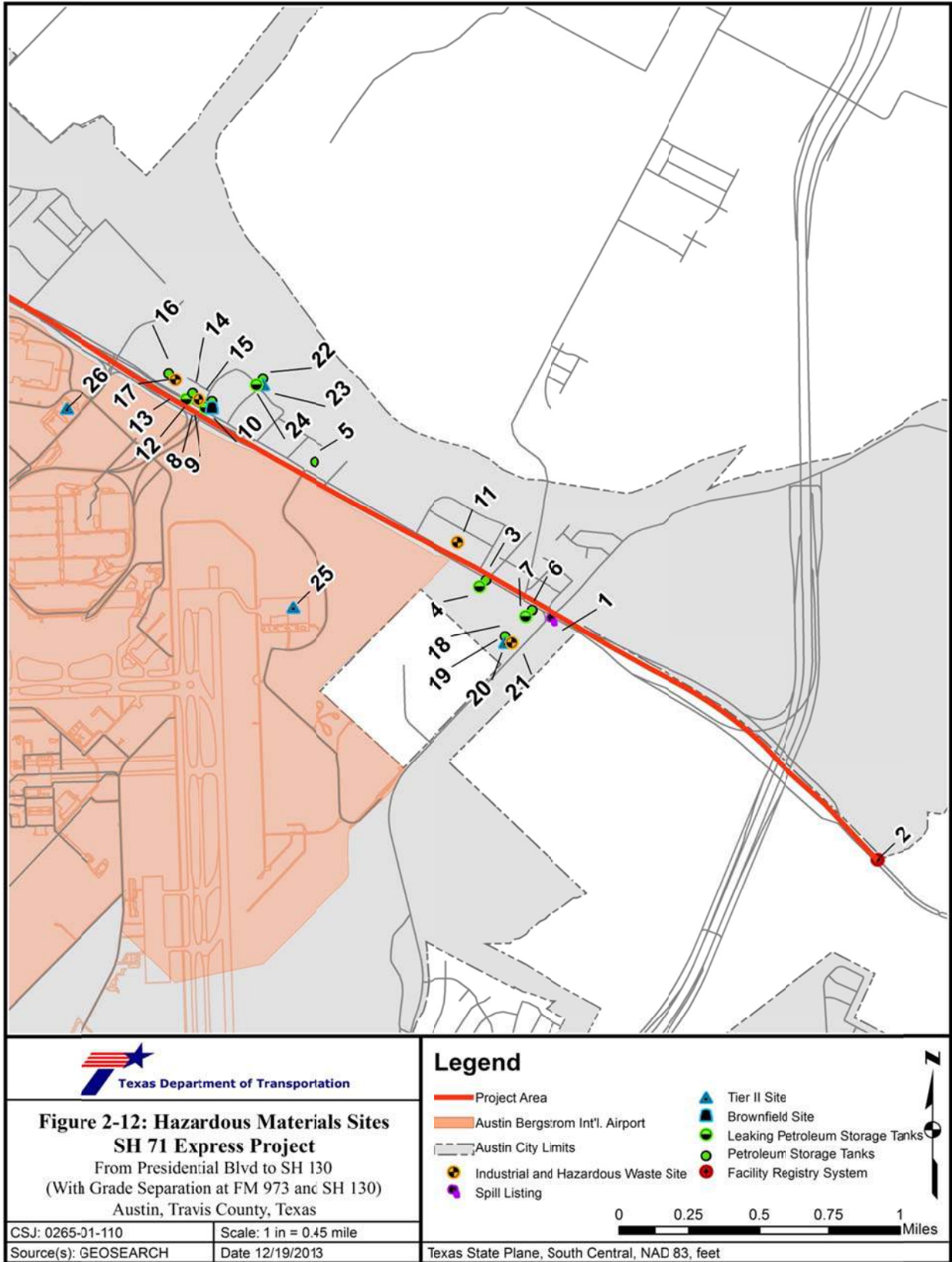


Figure 2-12: Hazardous Materials Sites

During the site visit performed on July 10, 2013, no stained soils or pavement, unusual odors, distressed vegetation, or other evidence of hazardous materials or releases was observed within the project area. The following paragraphs give a brief description of each regulatory database that had at least one site identified within the ASTM search radius. In addition, a brief summary of any impacts associated with these sites is presented.

BF - The United States Brownfield's Management System (BF) is a listing of Brownfield's sites. Brownfield's are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The EPA maintains the activities, including grantee assessment, cleanup and redevelopment of the various Brownfield grant programs through the BF database. There was one BF site, State Highway 71 E 2511, listed within a 0.5-mile search distance of the project area and was determined to have a low likelihood of impacting the project.

BSA - The BSA database includes relevant information on contaminated Brownfield's properties that are being cleaned. One unable to be located site, Grove Landfill, was listed within the search radius and was determined to have a low likelihood of impacting the project.

ERNS - The ERNS database contains data on reported releases of oil and hazardous substances. The data comes from spill reports made to the EPA, U.S. Coast Guard, the National Response Center (NRC) and/or the DOT. Two incidents, both of which were unable to be located, were listed in the project area. These sites were determined to have a low likelihood of impacting the project.

FRS - The EPA's Office of Environmental Information developed the FRS as the centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. The FRS replaced the Facility Index System, or FINDS database. One listing was found within the search radius and was determined to have a low likelihood of impacting the project.

GWCC - This report contains a listing of GWCC that were documented for the 2011 calendar year. Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities. The agencies reporting these contamination cases include the TCEQ, Railroad Commission of Texas, Texas Alliance of Groundwater Districts, and the Department of State Health Services. One listing was found for the project area associated with the Bergstrom Air Force Base located to the south of the project corridor. There is a groundwater plume that extends under SH 71 associated with the former sanitary sewer system designated as Solid Waste Management Unit 76 (SWMU 76) Area 1 (Site SS031). The sanitary sewer system consisted of a network of underground sanitary and industrial wastewater pipes extending throughout developed portions of the base. Facilities that potentially discharged industrial wastewater into the sanitary sewer system were identified in the RFA and Base-wide Environmental Baseline Study (Tetra Tech 1993). The chemical of concern is TCE. There were numerous remedial activities performed from 2000-2005. These included excavation of the 5,600 cubic yards of soil from the source area for the TCE. Recent groundwater monitoring of the four wells near the source area

(which is about 2,500 feet from SH 21) have shown an increase in TCE concentrations since the remediation systems were shut off in 2005. The system was shut off because of the TCE levels had dropped to below the maximum contaminant levels (MCLs). Due to the recent increase in TCE concentrations above the MCL of 5 µg/L, additional remediation activities are now planned which includes injection of potassium permanganate to help with the natural breakdown of the TCE and possible additional soil removal. The most recent analytical data for the monitoring well located near SH 71 is from May of 2005. Two of the monitoring wells were non-detect for TCE and one had TCE detected at a concentration 0.32 µg/L, which is well below the MCL for TCE of 5 µg/L. Based upon this information and the fact that the groundwater is approximately 40 to 55 feet below the ground surface; the likelihood of impacting the project is low.

IHW - The Texas IHW database includes owner and facility information for these sites. Industrial waste is waste that results from or is incidental to operations of industry, manufacturing, mining, or agriculture. Hazardous waste is defined as any solid waste listed as hazardous or that possesses one or more hazardous characteristics as defined in federal waste regulations. Four listings were found within the search radius and were determined to have a low likelihood of impacting the project.

LPST - The Texas LPST listing is derived from the PST database and is maintained by the TCEQ. This database includes facilities with reported LPST. Seven listings, one of which was unable to be located, were found within the search radius for the subject property. All but two of these sites were determined to have a low likelihood of impacting the project. These two sites are the Del Valle Grocery (#5) and the Speedy Stop (#7). These two sites are located in the footprint of the proposed alignment near the intersection of SH 71 and FM 973. Both sites are active gas stations and both sites were reported as LPST sites in the early 1990s. Both LPST cases are closed; however, there still may be residual contamination associated with these cases. These two sites are being addressed as part of the FM 973 project and have been determined to pose a low risk to the subject project.

NOV - This database, maintained by the TCEQ, contains listings of Notice of Violations (NOV). An NOV is a written notification that documents and communicates violations observed during an inspection to the business or individual inspected. One listing, which is unable to be located, was found within the search radius and was determined to have a low likelihood of impacting the project.

PST - The Texas Underground Storage Tank listing is derived from the PST database which is administered by the TCEQ. Both UST and aboveground storage tanks (AST) are included in the report. Twelve listings, three of which were unable to locate, were found within the search radius. All but two of the sites were determined to have a low likelihood of impacting the project. These two sites, Del Valle Grocery (#5) and the Speedy Stop (#7), were previously discussed in the LPST section and were determined to have a moderate likelihood of impacting the project.

SPILLS - SPILLS is a TCEQ database of information that includes releases of hazardous or potential hazardous chemical/materials into the environment. One SPILLS site was identified within the search radius and this site were determined to have a low likelihood of impacting the project.

TIER II - The Texas Tier II Chemical Reporting Program in the Department of State Health Services is the state repository for Emergency Planning and Community Right to Know Act (EPCRA) required Emergency Planning Letters, which are one-time notifications to the state from facilities that have certain extremely hazardous chemicals in specified amounts. The Program is also the state repository for EPCRA/state-required hazardous chemical inventory reports called Texas Tier II Reports. Five listings were found within the search radius and were determined to have a low likelihood of impacting the project.

Shallow soil excavation would be required for this project; however, the potential to encounter contaminated soil or water would be low. Should hazardous materials/substances be encountered, TxDOT would be notified and steps would be taken to protect personnel and the environment.

2.15 Visual and Aesthetic Qualities

Visual sensitivity is a relative measure of concern that a roadway viewer may have in response to change. Viewer sensitivity is determined by evaluating the type of land uses and viewing duration. Residential land uses are most sensitive to change and a view of a roadway is generally perceived as negative; whereas, commercial uses generally perceive increased visibility as positive.

The SH 71 Express Project would be built within existing ROW. No displacements would occur which would alter the visual and aesthetic condition of the corridor. A portion of the SH 71 toll lanes would be built approximately 45 feet above grade in order to cross over the SH 130 toll lanes and under the direct connector between SH 71 eastbound the SH 130 northbound. The elevated SH 71 segment would add to the existing elevated roadway infrastructure at the SH 71 and SH 130 intersection which includes flyovers that are taller than the proposed project; this addition would not substantially change the visual condition. In addition, there are no residential or commercial land uses in proximity to the SH 71 and SH 130 intersection so no adverse visual impacts would occur. Aesthetic enhancements of the SH 71 roadway infrastructure are programmed for this project that would result in beneficial visual and aesthetic impacts. The aesthetic treatments, which may include landscaping, lighting, and/or decorative details, would be informed using Context Sensitive Solutions (CSS) public involvement. CSS is a collaborative, interdisciplinary approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions (AASHTO 2007). See **Section 6.1.4 – CSS Workshops** for more information about the workshops and **Section 5.6 – CSS** for more details about the CSS commitments. The agreed upon aesthetic treatments would be incorporated into the final design of the SH 71 Express Project.

3. Indirect Effects

This section describes the indirect impacts analysis prepared for the proposed improvements to SH 71 in Austin, Travis County, Texas. This analysis was conducted in accordance with Council on Environmental Quality (CEQ), FHWA, and TxDOT regulations and guidance documents. The CEQ (40 CFR 1508.8) defines indirect impacts as:

“...effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”

There are three general categories of indirect effects:

- Encroachment-Alteration Effects, which are those that alter the behavior and functioning of the physical environment and are related to project design features, but are separated from the project by time and/or distance. An example of this type of effect would be a change in habitat regime and nesting patterns of a bird species due to the installation of a bridge.
- Access-Alteration Effects or Induced Growth Effects are also known as Project-Influenced Effects or the Land Use Effect and involve changes in land use resulting from changes in traffic, access, and mobility. Also referred to as induced growth, Access-Alteration Effects can result from highway projects that may promote an increased rate of development. An example would be development (i.e., new subdivision) in an area that was previously inaccessible prior to construction of a new road.
- Effects Related to Project-Influenced Development, or Induced Growth-Related Effects, are those effects that are attributable to the induced growth itself.

The methodology for the indirect impact analysis is based on the findings in the National Cooperative Highway Research Program (NCHRP) Report 466, *Desk Reference for Estimating Indirect Effects of Proposed Transportation Projects* and the TxDOT *Guidance on Preparing Indirect and Cumulative Analyses* (revised September 2010). For this analysis, TxDOT methodology was employed, which has been adapted from the findings set forth in NCHRP Report 466 to include the following seven steps:

Step 1: Scoping. The basic approach, effort required, and geographical boundaries of the study area are determined.

Step 2: Identify the Study Area’s Goals and Trends. Information regarding the study area is compiled with the goal of defining the context for assessment.

Step 3: Inventory the Study Area’s Notable Features. Additional data on environmental features are gathered and synthesized with a goal of identifying specific environmental features that are valued, vulnerable, or unique. This step also contributes to defining the context for the analysis.

Step 4: Identify Impact-Causing Activities of Proposed Action and Alternatives. Fully describe the component activities of each project alternative.

Step 5: Identify Potentially Substantial Indirect Effects for Analysis. Indirect effects associated with project activities and alternatives are cataloged, and potentially significant effects meriting further analysis are identified.

Steps 6: Analyze Indirect Effects. Qualitative and quantitative techniques are employed to estimate the magnitude of the potentially significant effects identified in Step 5 and describe future conditions with and without the proposed transportation improvement.

Step 7: Evaluate Analysis Results. The uncertainty of the results of the indirect effect analysis is evaluated for its ramification on the overall assessment.

Step 8: Assess Consequences and Develop Mitigation. The consequences of indirect effects are evaluated against the context of the project to determine their importance. Strategies to avoid or lessen any effects found to be unacceptable are developed. Effects are reevaluated in the context of those mitigation strategies.

3.1 Step 1: Scoping

Scoping is a process used to determine the extent of the analysis needed to evaluate the indirect impacts of the project and to define the study area or Area of Influence (AOI). The SH 71 Express Project is located in Travis County within the city of Austin. The project proposes to reconfigure the existing SH 71 facility and frontage roads from Presidential Boulevard to SH 130. The total length of the project is approximately 3.9 miles, including transition zones and would be constructed within the existing ROW. The project would widen the main lanes of SH 71 from Presidential Boulevard to west of FM 973, and construct toll managed lanes (one eastbound and one westbound) and non-toll frontage roads (same number of non-toll lanes as the existing condition) from east of Presidential Boulevard to just west of SH 130. Overpasses would be built over FM 973 and SH 130. A 10-foot-wide shared-use path would be constructed on the south side of SH 71 beginning east of the traffic signal at Spirit of Texas Drive through the FM 973 and SH 130 interchanges and terminating at the Onion Creek Bridge. A 10-foot-wide shared-use path would also be constructed on the north side of SH 71, beginning east of Cardinal Loop and connecting to the existing bicycle and pedestrian facilities constructed as part of the FM 973 Interchange project at Terry Lane. The existing SH 71 facility is highly congested during rush hour, as described in the Purpose and Need for the project. The managed lanes would allow traffic to bypass some congestion-causing locations such as signaled intersections while the non-toll lanes would ensure access within the project corridor to adjacent land uses and cross streets.

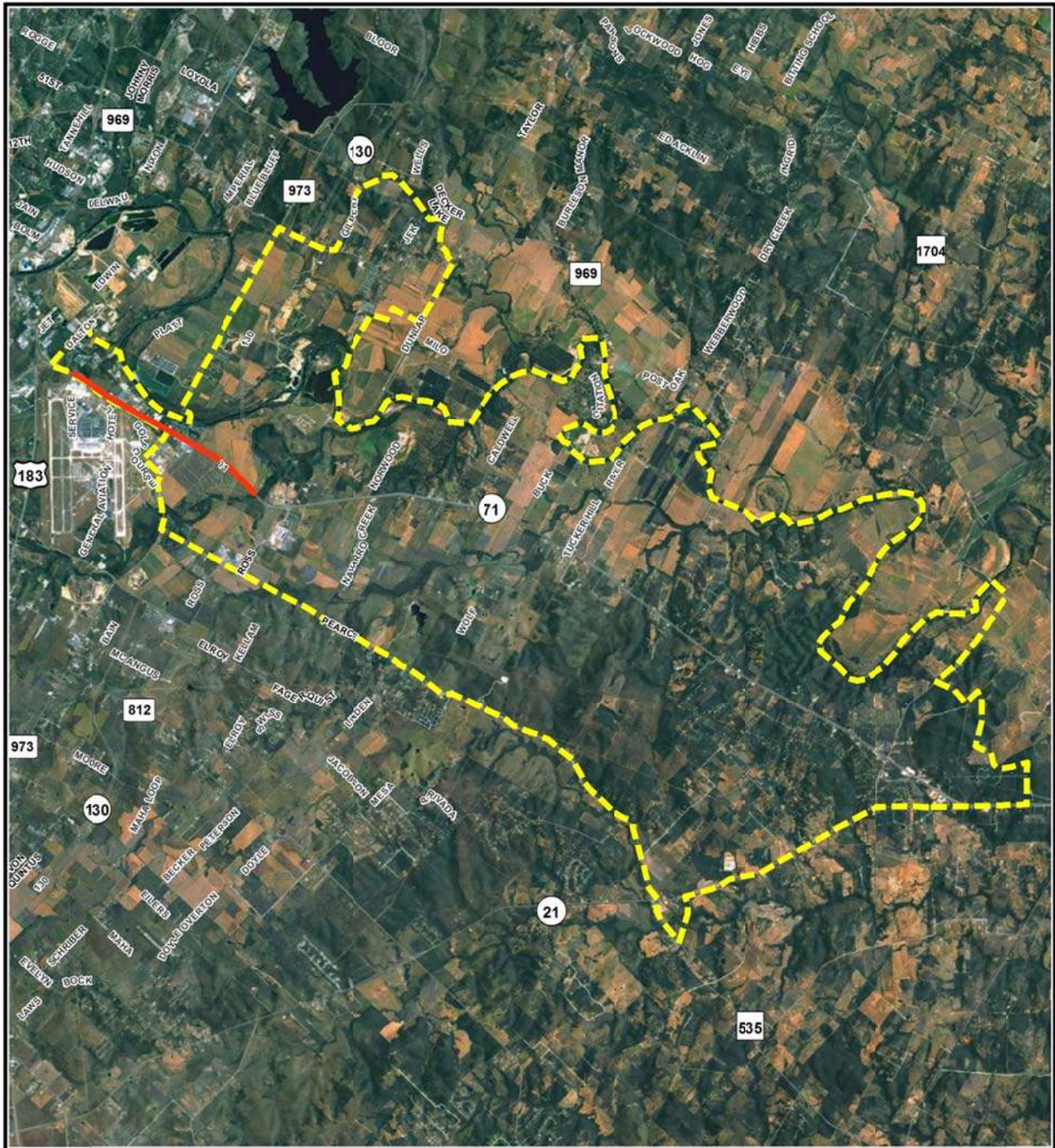
3.1.1 Study Area Boundaries: Area of Influence

The AOI for indirect impacts was delineated to include the proposed project and the area in which the project could potentially influence traffic or land development patterns. Several factors were considered when developing the AOI including projected growth, traffic patterns, demographic characteristics, the existing roadway network, and physical barriers such as the Colorado River.

CAMPO produces regional demographic projections to 2035 for the purposes of transportation planning. According to these projections, population and number of households are anticipated to grow the most east of the project area between SH 130 and the city of Bastrop. And, major changes

in employment are projected to occur west of the project area along US 183, and in and around the city of Bastrop. These anticipated changes suggest that travel frequency between the Bastrop area and east Austin will increase (CAMPO 2012). According to TxDOT Austin District's 2011 Traffic Map, the AADT was 40,000 on SH 71 within Bastrop city limits. At the interchange of SH 71 and SH 21, 29,000 SXSU vpd continue west on SH 71 towards Austin and 9,500 divert south on SH 21. Those travelers that continue on SH 71, west of SH 21, would likely be impacted by the SH 71 Express Project. Based on a review of the direct impacts of the project, minority and low-income populations (EJ populations) are one of the primary resources that could be impacted. Many of the community areas within ¼ mile of SH 71 and between east Austin and Bastrop are predominantly EJ. As such, it is assumed that these EJ populations use the project corridor during a portion of their commute. Physical limits such as the Colorado River, and competing parallel roadways were used in combination with the above characteristics to draw the boundaries for the AOI. Areas outside the AOI are not considered to be indirectly affected because these areas are better served by alternate roadways. The boundaries of the AOI are described below and illustrated on **Figure 3-1**.

- **North:** The northern boundary is generally the Colorado River. Most commuters that live north of the river cannot easily access SH 71 and would likely take Webberville Road/FM 969 to Austin; moreover, the majority of land north of the river is agricultural. However, several residential EJ communities are north of the Colorado River and included in the AOI. Commuters from these neighborhoods would likely take FM 973 to SH 71 to access southeast Austin and would therefore use the proposed project facility.
- **West:** On the west, Dalton Lane represents the westernmost boundary of residential neighborhoods adjacent to SH 71. Travelers from communities any further west would likely use US 183 or another alternate route to access southeast Austin, and therefore would not use the proposed facility. The residential communities west of the project limits are included to account for those eastbound travelers who may use the proposed project.
- **South:** The southern boundary is a route parallel to SH 71 via Pearce Lane/FM 535 to SH 21; it provides an alternate route between south Austin and Bastrop. Travelers living north of the route likely choose between this parallel route and SH 71; whereas, travelers living further south have other alternatives such as FM 812 to access SH 45 or US 183 and not likely to use SH 71.
- **East:** The junction of SH 71 and SH 21 serves as the eastern boundary of the AOI. It includes the residential neighborhoods in Bastrop adjacent to this intersection. SH 21 was selected as the eastern boundary based on traffic. SH 71 loses approximately 8,000 vpd to SH 21.






 Texas Department of Transportation		<p>Legend</p> <ul style="list-style-type: none"> — Project Area — Area of Influence 	
<p>Figure 3-1: Area of Influence Boundary SH 71 Express Project From Presidential Blvd to SH 130 (With Grade Separation at FM 973 and SH 130) Austin, Travis County, Texas</p>			
CSJ: 0265-01-110	Scale: 1 in = 3 mile		
Source(s): ESRI	Date 12/18/2013	Texas State Plane, South Central, NAD 83, feet	

Figure 3-1: Project AOI

3.1.2 Timeframe for the Indirect Effects Analysis

The temporal boundary for the analysis of indirect impacts was determined to extend through the horizon year of 2035 which is consistent with CAMPO's RTP and other Texas regional transportation and planning organizations and planning horizons. In addition, it is also appropriate to include historical demographic information in order to describe the trends that have occurred in the AOI; these are presented in Step 2 and refer back as far as 1980.

3.2 Step 2: Identification of Study Area Goals and Trends

The AOI boundary for the SH 71 Express Project is located within the planning boundaries of CAMPO and encompasses parts of several jurisdictions including Travis and Bastrop counties, the cities of Austin and Bastrop, and Del Valle and Bastrop ISD. Following is a description of past and current characteristics of the AOI as well as the future trends and goals likely to influence growth and development within the AOI.

3.2.1 Demographic Trends

Between 1980 and 2010 the racial and ethnic diversity of Travis and Bastrop counties has increased. In 1980 approximately 30 percent of the population identified themselves as a minority race or ethnicity and by 2010 almost half of the population identified themselves as a minority. Within this same timeframe, median household incomes have risen; however the share of people living below the poverty line has grown by 1.8 percent in Travis County and declined by 3.7 percent in Bastrop County (**Table 3-1**).

Table 3-1: Historic Demographic Characteristics in Travis and Bastrop County

Category	1980	1990	2000	2010	1980-2010 Change
Travis County					
Total Population	419,573 100.0%	576,407 100.0%	812,280 100.0%	1,024,266 100.0%	604,693 144.1%
Total Minority	124,524 29.7%	201,128 34.9%	354,463 43.6%	506,622 49.5%	382,098 306.8%
White only	295,049 70.3%	375,279 65.1%	457,817 56.4%	517,644 50.5%	222,595 75.4%
Black/African American	44,988 10.7%	63,173 11.0%	75,247 9.3%	87,308 8.5%	42,320 94.1%
Hispanic/Latino	72,288 17.2%	121,689 21.1%	229,048 28.2%	342,766 33.5%	270,478 374.2%
Median Household Income*	\$20,514	\$27,488	\$46,761	\$55,452	\$34,938
Share of Individuals Living Below the Poverty Line	14.4%	16.0%	17.6%	16.2%	1.8%
Bastrop County					
Total Population	24,726 100.0%	38,263 100.0%	57,733 100.0%	74,171 100.0%	49,445 200.0%
Total Minority	7,689 31.1%	11,598 30.3%	19,969 34.6%	31,725 42.8%	24,036 312.6%
White only	17,037 68.9%	26,665 69.7%	37,764 65.4%	42,446 57.2%	25,409 149.1%
Black/African American	4,259 17.2%	4,512 11.8%	5,072 8.8%	5,772 73.8%	1,513 35.5%
Hispanic/Latino	3,402 13.8%	6,933 18.1%	13,845 24.0%	24,190 32.6%	20,788 611.1%
Median Household Income*	\$12,437	\$23,967	\$43,578	\$52,882	\$40,445
Share of Individuals Living Below the Poverty Line	17.8%	17.9%	11.6%	14.1%	-3.7%

Source: U.S. Census Bureau, 1980, 1990, 2000, and 2010 Census, and 2007–2011 ACS.

* The 2010 median household income is reported in 2011 dollars.

In 2010, the AOI was home to almost 31,500 people and 9,000 households. Of this population, 64.9 percent have identified themselves as a minority race or ethnicity. The predominant minority group is people of Hispanic or Latino ethnicity (48.4 percent), followed by people who identify themselves as racially black or African American (14.3 percent). The average household size in the AOI was 3.22 people per household in 2010. Overall, the 2011 median household income in the AOI ranged from \$21,161 to \$79,671. The 2013 poverty guideline is \$19,530 for a three-person household and \$23,550 for a four-person household. While the median household incomes are above the poverty guidelines, there are low-income households in the AOI. The U.S. Census Bureau collects household income in brackets; the closest reported household income to the poverty guideline includes households that earn less than \$24,999. There are 1,387 households (15.4 percent) that earn an annual income that is less than \$24,999 in the AOI; these household are considered low-income (**Table 3-2**).

Table 3-2: Demographic Characteristics of the AOI (2010)

Characteristic	Number	Share
Race and Ethnicity		
Total Population	31,495	100.0%
Total Minority Population	20,427	64.9%
Total Hispanic or Latino	15,229	48.4%
White (non-Hispanic/non-Latino only)	11,068	35.1%
Black or African American	4,490	14.3%
American Indian and Alaska Native	376	1.2%
Asian	310	1.0%
Native Hawaiian and Pacific Islander	40	0.1%
Some Other Race	5,174	16.4%
Two or More Races	1,040	3.3%
Household Income*		
Total Households	8,996	100.0%
Less than \$10,000	409	4.5%
\$10,000 to \$14,999	320	3.6%
\$15,000 to \$19,999	454	5.0%
\$20,000 to \$24,999	204	2.3%
\$25,000 to \$29,999	447	5.0%
\$30,000 to \$39,999	1,202	13.4%
\$40,000 to \$49,999	972	10.8%
\$50,000 to \$59,999	770	8.6%
\$60,000 to \$74,999	1,325	14.7%
\$75,000 to \$99,999	1,409	15.7%
\$100,000 to \$124,999	760	8.4%
\$125,000 to \$149,999	340	3.8%
\$150,000 to \$199,999	233	2.6%
\$200,000 and more	151	1.7%

Source: U.S. Census Bureau, 2010 Census, and 2007–2011 ACS.

* Household income is reported in 2011 dollars.

The Texas Education Agency keeps track of student characteristics for the school districts in the state of Texas. Portions of the service area for Del Valle and Bastrop ISDs are within the AOI. Between 1996 and 2011 the student population in the Del Valle ISD has more than doubled and has grown almost 70 percent in Bastrop ISD. As the size of the student body has grown, the share of the student body considered economically disadvantaged (reported as eligible for free or reduced-price meals or other public assistance) has also grown. In 1996, 45.3 percent of the total student body in Del Valle ISD and 43.5 percent in Bastrop ISD were reported as economically disadvantaged, and in 2011 these shares were reported as 86.9 percent and 65.1 percent respectively. These statistics suggest that the number of low-income households in the AOI have increased over the past 16 years (Table 3-3).

Table 3-3: Student Enrollment Characteristics in the AOI

Category	1996	1999	2002	2005	2008	2011	1996-2011 Change
Del Valle ISD							
Total Student Enrollment	4,745	5,625	7,035	7,728	9,159	10,673	124.9%
Economically Disadvantaged Students*	2,149 45.3%	3,786 67.3%	4,960 70.5%	5,734 74.2%	7,254 79.2%	9,275 86.9%	331.5%
Bastrop ISD							
Total Student Enrollment	5,338	5,844	6,758	7,730	8,521	9,043	69.4%
Economically Disadvantaged Students*	2,322 43.5%	2,454 42.0%	2,845 42.1%	4,058 52.5%	4,780 56.1%	5,887 65.1%	153.5%

Source: Texas Education Agency, <http://ritter.tea.state.tx.us/perfreport/snapshot/download.html>.

* Economically disadvantaged students are those who are reported eligible for free or reduced-price meals under the National School Lunch and Child Nutrition Program, or other public assistance. Students reported as eligible may or may not be enrolled in assistance programs.

According to demographic characteristics gathered by CAMPO, the AOI was home to almost 30,000 people and 9,200 households, and provided for almost 9,500 jobs in 2005. By 2035, the AOI is projected to be home to more than 80,000 people and 26,000 households and will employ almost 20,000 people. As shown in **Table 3-4**, most of this growth is expected to occur in the City and County of Bastrop portion of the AOI.

Table 3-4: Historic and Projected Growth in the AOI

		AOI	City of Austin	Travis County	City of Bastrop	Bastrop County
2005	Population	29,591	774,659	896,753	15,587	69,516
	Households	9,194	316,292	359,160	6,401	25,327
	Employment	9,466	511,993	533,232	6,399	12,340
2015	Population	41,177	966,681	1,105,083	27,400	102,289
	Households	13,092	391,121	439,960	11,316	37,251
	Employment	12,017	680,670	707,253	12,479	23,526
2025	Population	56,221	1,147,480	1,318,041	62,012	149,185
	Households	18,009	463,295	524,805	22,794	54,555
	Employment	15,671	792,640	843,546	20,121	37,296
2035	Population	80,347	1,326,478	1,555,281	110,386	215,452
	Households	26,171	534,412	619,325	39,884	79,008
	Employment	19,665	971,371	1,026,485	31,796	58,172
2005-2035 % Change	Population	171.5%	71.2%	73.4%	608.2%	209.9%
	Households	184.7%	69.0%	72.4%	523.1%	212.0%
	Employment	107.7%	89.7%	92.5%	396.9%	371.4%

Source: CAMPO 2035 Projections, GIS, 2012.

The Texas State Data Center uses migration patterns and birth and death rates to describe the future racial and ethnic composition of the population in Texas. According to these projections, the share of minority population will grow in the Travis and Bastrop counties to approximately 60 percent of the total population by 2035. The most change will occur in Bastrop County; between 2010 and

2035 the minority population will grow by 124.2 percent. The share of white and black or African American populations will reduce over the next three decades while the Hispanic or Latino population and those who identify themselves as another race will grow. The most substantial change is predicted to be the growth in Hispanic or Latino populations in Bastrop County; by 2035 they will represent more than half of the population (Table 3-5).

Table 3-5: Projected Racial and Ethnic Composition of the Population in Travis and Bastrop Counties

Category	2010*	2015	2020	2025	2030	2035	2010-2035 Change
Travis County							
Total Population	1,024,266 100.0%	1,113,392 100.0%	1,200,883 100.0%	1,278,723 100.0%	1,348,207 100.0%	1,415,236 100.0%	38.2% 0.0%
Total Minority	506,622 49.5%	570,421 51.2%	636,302 53.0%	703,683 55.0%	774,366 57.4%	848,922 60.0%	67.6% 10.5%
White only	517,644 50.5%	542,971 48.8%	564,581 47.0%	575,040 45.0%	573,841 42.6%	566,314 40.0%	9.4% -10.5%
Black/African American	85,805 8.4%	86,652 7.8%	90,350 7.5%	93,354 7.3%	95,516 7.1%	96,900 6.8%	12.9% -1.6%
Hispanic/Latino	342,766 33.5%	390,293 35.1%	439,296 36.6%	490,831 38.4%	545,978 40.5%	605,087 42.8%	76.5% 9.3%
Other Race	81,051 7.9%	93,476 8.4%	106,656 8.9%	119,498 9.3%	132,872 9.9%	146,935 10.4%	81.3% 2.5%
Bastrop County							
Total Population	74,171 100.0%	81,196 100.0%	89,066 100.0%	98,024 100.0%	107,906 100.0%	118,100 100.0%	59.2% 0.0%
Total Minority	31,725 42.8%	37,246 45.9%	43,754 49.1%	51,611 52.7%	60,867 56.4%	71,129 60.2%	124.2% 17.4%
White only	42,446 57.2%	43,950 54.1%	45,312 50.9%	46,413 47.3%	47,039 43.6%	46,971 39.8%	10.7% -17.4%
Black/African American	5,535 7.5%	5,990 7.4%	6,448 7.2%	6,966 7.1%	7,494 6.9%	7,973 6.8%	44.0% -0.7%
Hispanic/Latino	24,190 32.6%	29,011 35.7%	34,829 39.1%	41,883 42.7%	50,219 46.5%	59,548 50.4%	146.2% 17.8%
Other Race	2,000 2.7%	2,245 2.8%	2,477 2.8%	2,762 2.8%	3,154 2.9%	3,608 3.1%	80.4% 0.4%

Source: Texas State Data Center, 2012 Population Projections by Age Group by Sex by Race/Ethnicity, Scenario 0.5.

* 2010 data are sourced from the Texas State Data Center projections and therefore differ from other tables in this document that present 2010 data sourced from the U.S. Census Bureau.

3.2.2 Transportation and Land Development Trends

Transportation and land use are interrelated. Land use affects the level of transportation service that is needed and the level of transportation service affects the kind of land use that is likely to develop around it. Given the relationship between transportation and land use, decisions about needed transportation facilities and programs take into account the demands of the growing population and economy.

The commuting patterns in the AOI were gathered from the U.S. Census Bureau's Longitudinal Employer-Household Dynamics tool, *OntheMap*. According to this tool, approximately half of the population that lives in the AOI commuted to work in Austin from 2002 to 2011 (Figure 3-2). While

the number of employees commuting to Austin from the AOI has grown overall, the share of the total work force making that commute has declined somewhat. SH 71 is the major east-west commuter corridor connecting the AOI to Austin.

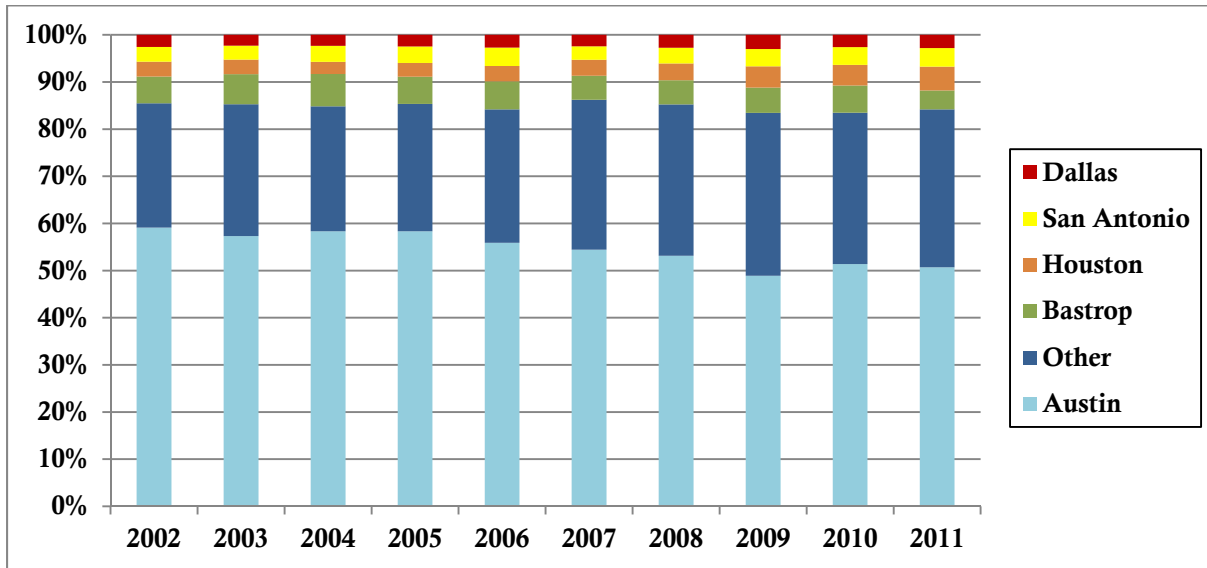


Figure 3-2: Work Location for Population in the AOI – 2002 to 2011

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics, *OntheMap*.

Between 1980 and 2012, Travis County has seen the addition of almost 212,000 housing unit, a growth of 216.1 percent; whereas Bastrop County has grown by almost 3,000 housing unit but this growth demonstrates a 381.7 percent change. In Travis County, single-family residential units account for more than half of the housing units built between 1980 and 2012 followed by multi-family buildings with more than five units. In Bastrop County more than three-quarters of the housing units built in this time frame were single-family units (**Table 3-6**). The differences between the counties are generally a function population size and presence of the city of Austin.

Table 3-6: Permitted New Housing Units 1980 to 2012

Property Type	Total Number of Units Permitted				
	1980 to 1989	1990 to 1999	2000 to 2009	2010 to 2012	Total
Travis County					
Single Family	36,393	46,606	64,120	10,860	157,979
Multi-family (2 to 4 unit bldgs.)	11,067	1,341	4,842	341	17,591
Multi-family (5+ unit bldgs.)	50,619	32,488	39,907	11,444	134,458
Total Units	98,079	80,435	108,869	22,645	310,028
Bastrop County					
Single Family	424	407	1,749	155	2,735
Multi-family (2 to 4 unit bldgs.)	198	18	310	2	528
Multi-family (5+ unit bldgs.)	128	70	152	0	350
Total Units	750	495	2,211	157	3,613

Source: Texas A&M University, Real Estate Center, Building Permits by County, <http://recenter.tamu.edu/data/bp/>.

3.2.3 Goals

City of Austin – Imagine Austin 2040

Between 2003 and 2010, the total acreage of the city of Austin and its extraterritorial jurisdiction (ETJ) has grown 0.4 percent to more than 403,000 acres. Despite this modest growth of the ETJ, there was 11.7 percent more developed land in 2010 compared to 2003. The most substantial changes include the reduction of total acres dedicated to utilities (-54.8 percent) and large lot single family parcels (-44.1 percent), and the addition of total acres that are industrial land uses (41.0 percent) and transportation uses (34.6 percent). The conversion to more intensive land uses has been occurring predominantly outside the urban core of Austin and has outpaced infill development. In 2010, Austin was less dense than most major cities in Texas as well as other peer cities around the U.S. Given the projected population and employment growth anticipated in Austin and the larger region, less developed land uses (agricultural, large lot single family) are anticipated to continue to convert to other, more intensive land uses, particularly as land values increase. The western portion of Austin and its ETJ is less susceptible to intensive land use change due to environmental constraints; as such land use changes are most likely to occur north of downtown Austin and into Williamson County (between Loop 1 and SH 130), and within the southern and eastern portion of the city and its ETJ (between I-35 and ABIA and along SH 71). The completion of SH 130 and the proximity to downtown and ABIA have all affected the location or type of development planned around the SH 71 Express Project. Currently, retail/commercial, warehouse/industrial, and multi-family are proposed for development along SH 71 between FM 973 and SH 130 (City of Austin 2012).

Austin-Bergstrom International Airport Master Plan Update

The airport is within Austin's city limits and is bordered by SH 71 to the north, US 183 to the west, Burleson Road to the south, and FM 973 to the east. The scope of work included in the 1993 Airport Master Plan was updated in 2003, by the city of Austin Department of Aviation. The ABIA Master Plan Update (finalized in October 2003) was developed to satisfy the high growth forecast of enplanements through the year 2020. At the time of the master plan update, ABIA was classified as a medium hub airport, which enplanes between 0.25 and 1 percent of the total U.S. enplanements (about 1.8 to 7.1 million enplanements based on calendar year 2000 traffic data published by FAA). Substantial proposed improvements to the existing ABIA campus and facilities were included in the Airport Layout Plan (ALP) and Land Use Plan; featuring:

- Addition of a third parallel runway and additional access taxiways to accommodate increased demand as well as the next generation of large commercial aircraft
- Construction of a consolidated rental car facility on the north side of SH 71 (85 acres)
- (New) south unit passenger terminal (approximately 140 acres)
- A second airport hotel
- Development of a new west side cargo area, and facilities on the west side of the airport (accessible by US 183) (140 acres); 51 acres south of existing cargo area
- Additional structured parking
- Additional surface parking lots
- Six to seven aircraft maintenance hangars (37 acres)

The plan also identifies the "need for a fly-over exit ramp for westbound traffic on SH 71 to relieve congestion on SH 71 at peak times" as well as 109 acres of land identified as not required for airport/aviation related functions, which may be considered for non-aviation development. This land is primarily located in an area formerly occupied by the golf course and contains a substantial amount of frontage along SH 71, including approximately 17 acres at the intersection of SH 71 and Presidential Boulevard (Austin-Bergstrom International Airport 2003).

Bastrop County - Comprehensive Transportation Plan – January 2010

According to the Comprehensive Transportation Plan, more than 50 percent of Bastrop County workforce works outside of the county, with a large share traveling towards the cities of Austin and Houston for employment. These trends are expected to change and the city of Bastrop and areas around it grows. The land use in Bastrop County is expected to continue changing from agricultural and rural lands to more commercial and residential; much of the growth will occur in the unincorporated areas of Cedar Creek and along US 290 and SH 71. Transportation improvements planned for the County include grade separations along SH 71 and widening of roadways that connect to SH 71 (Bastrop County 2010).

City of Bastrop – 2000 to 2010 Comprehensive Plan

Bastrop has experienced periods of both population growth and decline during the previous century, including notable population loss early in the century, substantial growth in the 1940s, another period of lesser decline in the 1950s, and vigorous growth during the 1990s, based on the latest

population estimates from the Texas State Data Center. Bastrop's population is expected to more than double to over 12,000 by 2020 (City of Bastrop 2001).

Population growth and ongoing urban development are inevitable for Bastrop. Therefore, a major aim of comprehensive planning is to achieve a growth pattern that is economically viable, fiscally responsible, well-coordinated with planned infrastructure improvements. Bastrop sees its key Land Use Issues as the following:

- Planning for development (new roads, potential annexation activity) in Bastrop's ETJ
- Protecting older neighborhoods, preserving the pedestrian nature of established areas, and ensuring adequate zoning to protect historic areas
- Planning for additional schools as new development and school population growth occurs
- Locating a junior college campus in Bastrop for people who cannot get to Austin and need higher education opportunities
- Dealing with the impacts of Austin's growth
- Addressing the need for all levels of housing (more subdivisions) plus commercial, office (mixed use)
- Ensuring quality development (high standards)
- Maintaining a small community versus "big city" character
- Saving green space
- Developing a strong tax base (commercial/economic development)
- Providing health care facilities (need adequate land)
- Needing good places to work
- Needing a movie theater
- Needing a grocery store closer to downtown
- Expanding/replicating traditional downtown
- Studying potential commercial "down-zoning"
- Presenting a better entry image from Austin (SH 71 development)

3.3 Step 3: Inventory of Study Area's Notable Features

Following are the notable features in the AOI. Notable features include sensitive, valued, vulnerable, or unique elements of the environment that are less able to bear impacts. Land use in the AOI consists largely of transportation uses (including ABIA, parking facilities, and roadway facilities) and vacant spaces, including open space, parks, agricultural land and other undeveloped land (Table 3-7 and Figure 3-3).

Table 3-7: Notable Features in the AOI

Notable Feature	Description
Austin-Bergstrom International Airport 3600 Presidential Boulevard Austin, TX 78719	ABIA is located on the old site of the Bergstrom Air Force Base and is owned and operated by the city of Austin. The airport covers 4,242 acres and includes 2 runways and 3 helipads. Passenger service opened in 1999. In 2012, 9,430,314 total passengers passed through ABIA, an increase of 4% from 2011. 150 daily departures leave ABIA and go to 41 destinations. Cargo service started in 1997. In March 2013 cargo totaled 12,403,437 pounds, a decrease of 3% from 2012. Cargo service providers include: Baron Aviation Services, FedEx Express, UPS Airlines, and DHL Express. ABIA supports 48,662 jobs which accounts for 7 percent of the total jobs in Austin and has an economic impact of \$2.4 billion to the Central Texas region (ABIA 2013).
Travis County Correctional Complex 3614 Bill Price Road Del Valle, TX 78617	The Travis County Correctional Complex opened in 1977. The campus covers 130 acres including 12 inmate-housing facilities as well as a warehouse, healthcare facility, kitchen with on-site working garden, non-denominational church, and facilities for inmate property, maintenance, and marketable skills school (Travis County Sheriff's Office 2013)
Southeast Metropolitan Park 4511 SH 71 Del Valle, TX 78617	This park includes a 2-mile concrete multi-use trail; a 3-mile hiking trail; general recreational areas with playscapes; baseball fields (7); basketball courts (1); and soccer fields (4). CapMetro operates a bus park-and-ride at this park (Travis County Parks Department 2013).
South Austin Regional Wastewater Treatment Plant 13009 Falwell Lane Del Valle, TX 78617	The South Austin Regional Wastewater Treatment Plant is one of two wastewater treatment plants (the other is Walnut Creek) that serve the Austin Water Utility. This facility discharges into Colorado River after processing. Sludge from the plant is sent to Hornsby Bend Biosolids Management Plant where sludge is converted into compost (City of Austin 2013).
Colorado River	The Colorado River is 862 miles and travels southeast from Dawson County and through Marble Falls, Austin, Bastrop, Smithville, La Grange, Columbus, Wharton, and Bay City before it empties into the Gulf of Mexico at Matagorda Bay. The river is an important source of water for farming, electrical production and water supply. There are several man-made reservoirs on the river referred to collectively as the Highland Lakes. The river is also used for recreation, and provides habitat for a myriad of aquatic and terrestrial species.
Texas Fatmucket	Surveys for the freshwater mussel for the Austin District of TxDOT in 2010 found the Texas fatmucket in Onion Creek (Wilkins et al. 2011). According to the 2012 TCAP Species of Greatest Conservation Need (SGCN) list, the Texas fatmucket is listed as G1 and S1, which is critically imperiled at a global and state conservation rank.
EJ Communities	Of the people that live in the AOI, approximately 64.9 percent consider themselves a minority race or ethnicity, and approximately 15.6 percent of the households earn less than \$24,999 per year and are therefore considered low-income. There are 15 TAZs in the AOI that are considered EJ; all of them are located in the Travis County portion of the AOI.

Source: Study Team 2013.

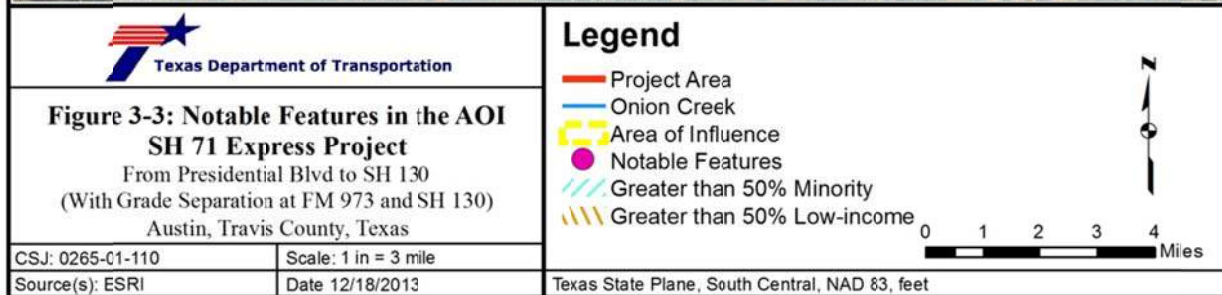
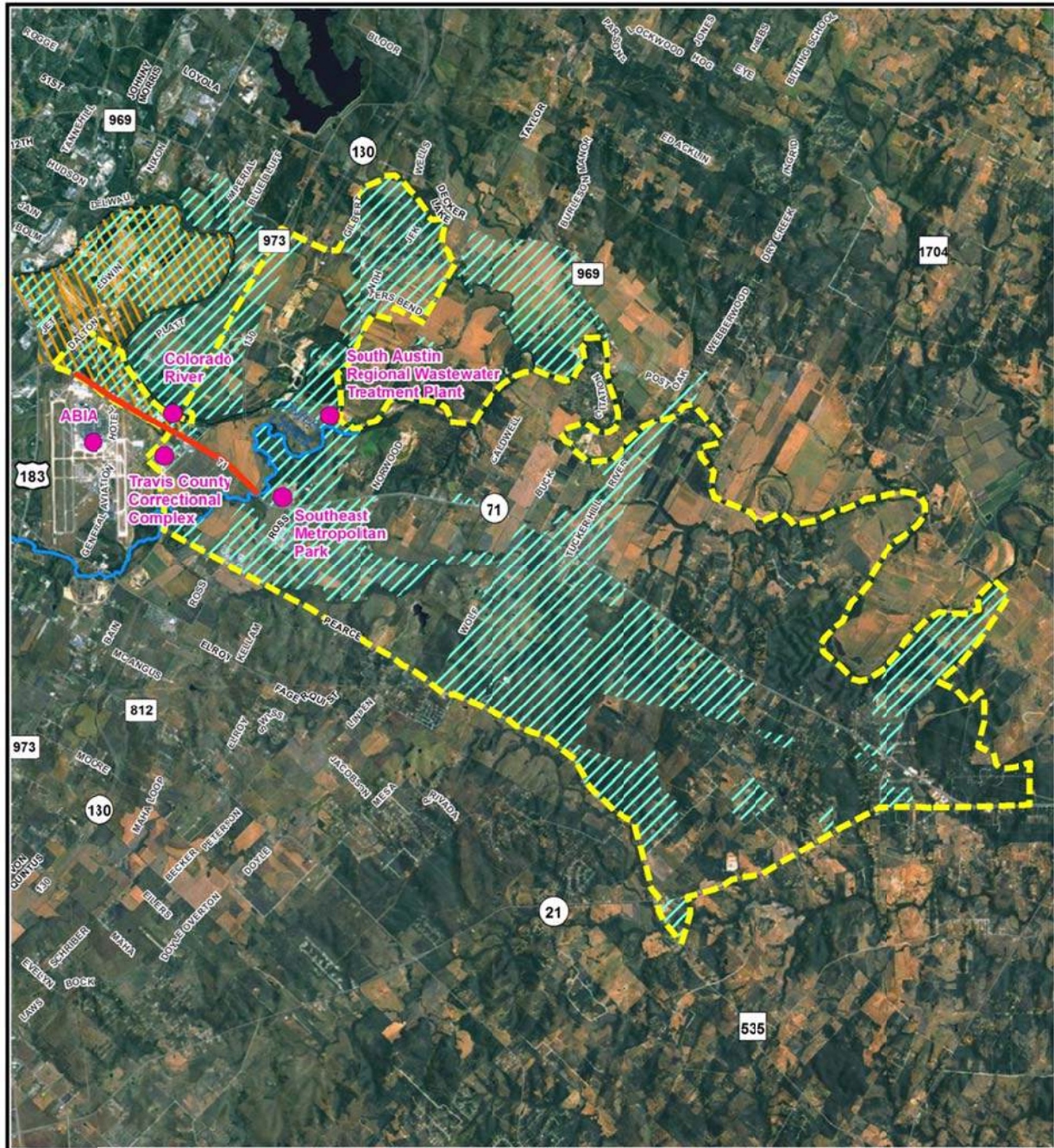


Figure 3-3: Notable Features in the AOI

3.4 Step 4: Identification of Impact-causing Activities of the Proposed Action

The project would widen the main lanes of SH 71 from Presidential Boulevard to west of FM 973, and construct a freeway section of access-controlled toll lanes and non-tolled main lanes from FM 973 to SH 130 with transitions at each end. The total length of the project is approximately 3.9 miles. NCHRP Report 466 identifies 10 general categories of impact-causing activities, and what follows is a description of the impact-causing activities and includes all of the activities involved in the proposed project.

Table 3-8: Type of Impact Causing Activity

Type of Activity	Project Specific Activity	Relevant Details
Modification of Regime Effects	Modification of Habitat	The project would be within existing ROW; however, the eastbound bridge over Onion Creek would be widened. Impacts would include drill shafts in stream channels, embankments, and retaining walls.
Modification of Regime Effects	Alteration of Groundcover	Clearing of grasses, shrubs, and trees would occur within existing ROW.
Modification of Regime Effects	Alteration of Drainage	New drainage structures (detention) would be placed as necessary to control storm water runoff.
Land Transformation and Construction	Expanded Transportation Facility	Construction of two new controlled access toll lanes within the existing ROW including construction of a new interchange at FM 973.
Land Transformation and Construction	Free Lanes	The number of non-tolled lanes would be equal to or greater than the existing facility
Land Transformation and Construction	Cut and fill	Cuts would be made where subgrading would be prepared to facilitate new pavement for interchanges, the Onion Creek Bridge, culverts, new lanes, as well as utility relocation. Fill would occur in areas where grading is necessary and in locations where bridges are constructed/widened and culverts are added/extended.
Resource Extraction	Surface excavation	Proposed excavation would be minimal in areas where grading cuts would be made in conjunction with vertical shifts in alignment.
Land Alteration	Erosion Control	In areas where construction is proposed (i.e., Onion Creek and a minor Colorado River tributary) BMPs would be utilized to minimize sediment events into sensitive environmental areas and may include sand bags, silt fence, and sediment traps.
Resource Renewal Activities	Revegetation	In areas where vegetation is cleared during construction and there is no new pavement, efforts would be made to revegetate/reseed these areas with native plants and seed stock.

Type of Activity	Project Specific Activity	Relevant Details
Changes in Traffic	Automobiles and Trucks	The Build Alternative would entail limited disruption to traffic and would include various construction activities over the build-out period. To alleviate this disruption, the proposed project would be constructed in phases, and a detailed traffic control plan would be developed and implemented for each of the construction phases. It is anticipated that once the proposed improvements to SH 71 are complete, the facility may experience an increase in car and truck traffic through the horizon year of 2035.
Access Alteration	New Access to Undeveloped Land	There is no new access to undeveloped land provided by the proposed SH 71 Express Project.
Access Alteration	Alter Travel Times	Median closures may cause greater travel time within the corridor for local use, due to turn-around points that would be limited to signalized intersections. The construction of the proposed toll lanes would provide a faster route for regional travelers who are willing to pay, by avoiding the at-grade facility with slower speed limits and traffic lights at interchanges.
Access Alteration	Alter Travel Costs	Regional and local travelers who opt to use the proposed relief routes would have to use an electronic toll tag affixed to a vehicle or would be billed by mail resulting in higher travel costs.

3.5 Step 5: Identification of Potentially Substantial Indirect Effects for Analysis

A comparison of the previously described impact-causing actions to the goals, trends, and notable features identified in the AOI resulted in the following potentially substantial indirect impacts caused by the proposed project. Potential impacts found to warrant further analysis will be discussed in detail in Step 6, whereas impacts found to be insubstantial will not require further assessment for indirect impacts.

3.5.1 Threatened and Endangered Species

There is habitat for the Texas fatmucket in Onion Creek within the project area. The eastbound bridge over Onion Creek would be widened by the proposed project. Direct impacts would include drill shafts in stream channels, embankments, and retaining walls. Coordination with TPWD and TxDOT would ensure conservation measures would be taken before construction: mussels would be moved upstream through the Programmatic Agreement in coordination with TPWD prior to any construction disturbances.

Because the known population (current distribution) of the Texas fatmucket occurs only at the Onion Creek crossing within the AOI, there would be no indirect impacts from induced growth upon this species; however, there could be indirect encroachment impacts incurred from storm water runoff during operations from increased impervious cover. This resource is therefore further analyzed in Step 6 below.

3.5.2 Environmental Justice Communities

Of the 39 TAZs in the AOI, 15 meet the definition of EJ; all of them are in Travis County (**Figure 3-4**). As discussed in the direct impacts to EJ populations, the Build Alternative offers minor travel time savings to all candidate travelers passing through the corridor (those originating from EJ and non-EJ TAZs alike), and regardless of whether they choose to take a toll path or not. A traveler originating from an EJ TAZ would save between 0.72 and 1.45 minutes if they use a non-toll path and between 1.21 and 2.14 minutes if they select a toll path, depending on their destination. In comparison, a traveler originating from a non-EJ TAZ would save between 1.84 and 1.94 minutes on a non-toll path and 2.07 to 2.08 on a toll path. Direct effects to EJ populations would be adverse for those that travel within the project area. Local use travelers are less likely to use the toll lanes within the project area and would be subject to longer travel times and distances than the existing condition because the Build Alternative would limit turning movements to signalized intersections and because the main lanes would offer lower posted speed limits when compare to the toll lanes. Within the AOI there are EJ travelers that may use the project area for local use as well as for through-travel. These EJ travelers would be subject to a slight time savings, just like any other user of the facility.

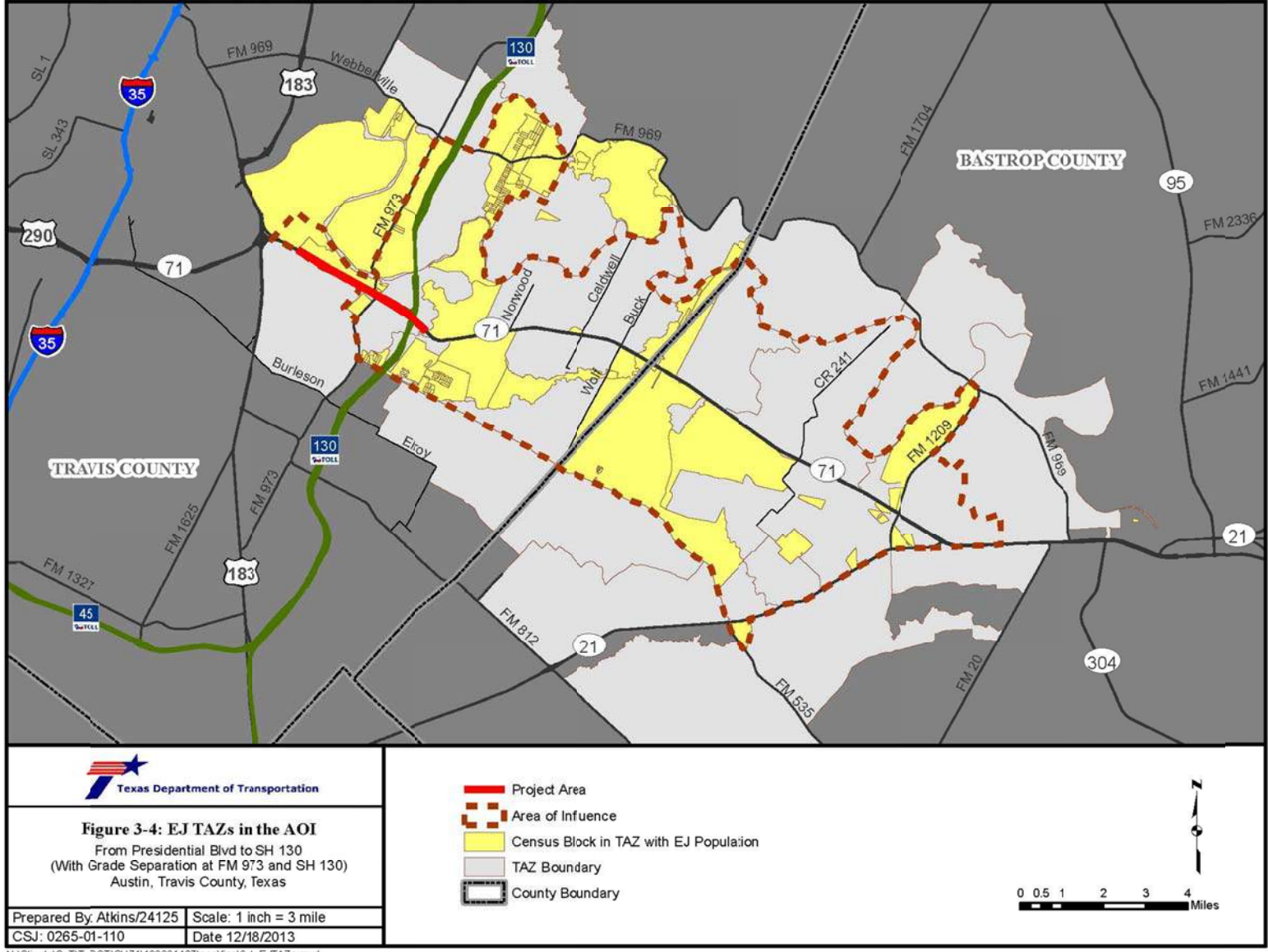


Figure 3-4: EJ TAZs in the AOI

Low-income populations would be more adversely impacted by tolling because the toll costs would account for a larger share of their household income when compared to the general population. **Table 3-9** presents the economic impact of the toll costs assuming a person makes 250 round trips on the 3-mile SH 71 toll lanes each year. This impact is further analyzed in Step 6 below.

Table 3-9: Economic Impact of the SH 71 Toll Lanes

Toll Range	Cost per Trip	Cost per Year	Block Groups in AOI		Travis County		Bastrop County		US Poverty Guideline		
			Med HH Income*	Share	Med HH Income*	Share	Med HH Income*	Share	4-Person HH**	Share	
Low	\$0.54	\$270	\$21,161 to \$79,671	1.2% to 0.4%	\$55,452	0.5%	\$52,882	0.5%	\$23,550	1.1%	
Mid-range	\$0.78	\$390		1.6% to 0.5%						0.7%	1.7%
High	\$0.96	\$480		2.0% to 0.6%						0.9%	2.0%

Source: Mobility Authority, 2013 Level 1 Traffic and Revenue Study, U.S. Census Bureau, 2007–2011 ACS, Median Household Income, HHS, 2013 Poverty Guidelines.

* Reported in 2011 dollars.

** Reported in 2013 dollars.

The cost to use the SH 71 toll lanes could range between 0.3 and 2.3 percent of the median household income in the AOI. According to research conducted by the Center for Neighborhood Technology, household spending on transportation account for approximately 25 to 30 percent of a household’s annual income in the AOI (Center for Neighborhood Technology 2011). This is comparable to somewhat higher than the average for auto-dependent households in the U.S. (25 percent) (FHWA 2013). The additional costs of tolls would present a greater burden on low-income households compared to the general population. While toll path users would receive a greater time savings benefit than non-toll path users, the time savings difference between the toll and non-toll paths is very small (between 0.49 and 0.69 minutes).

3.6 Step 6: Analysis of Indirect Effects and Evaluation of Results

3.6.1 Texas Fatmucket

The known population (current distribution) of the Texas fatmucket within the AOI occurs only at the Onion Creek crossing. It was determined in Step 5 that storm water runoff from operations due to increased impervious cover could indirectly impact the species. The proposed project includes a drainage system that would be regulated under the MS4 permit held by TxDOT. The MS4 program is used to determine that storm water runoff that is discharged to local water-bodies is properly managed to protect the receiving streams. It is not anticipated therefore that storm water runoff, induced by the build alternative, would cause substantial indirect impacts to the Texas fatmucket; therefore, further discussion in Step 7 is not necessary.

3.6.2 Environmental Justice Communities

The SH 71 Express Project is not anticipated to induce growth in the AOI because it does not provide new access when compared to the existing condition. In addition, the development of

vacant land in the AOI has already been planned for and will occur whether or not the project was built. The project would result in encroachment effects as a result of changes in travel patterns; these effects would impact all people, including EJ populations. The economic burden of the toll lanes on low-income households and the changes in accessibility within the project area may result in the redistribution of traffic to other roads and/or change travel patterns within the AOI.

3.7 Step 7: Assessment of Consequences and Consideration of Mitigation

In recent years, the CAMPO Board has adopted several policies and resolutions that minimize or mitigate impacts to EJ communities related to tolling. These policies affect project funding, design, operation, and revenue while striving to avoid or minimize inequities. CAMPO refined these policies and resolutions during the process of developing the CAMPO 2035 Regional Transportation Plan. Adopted CAMPO toll policies that affect EJ communities with the AOI are summarized as follows:

- **Plan Policy 14:** Any existing roadway to which additional tolled capacity should continue to provide the same amount or more non-tolled capacity as the roadway currently provides.
- **Plan Policy 15:** The initial operation of tolled facilities should allow rapid bus traffic, and consideration should be given to dedicating future lanes to bus and high occupancy vehicle traffic.
- **Plan Policy 16:** Unless the toll project is included by the CAMPO Board on a list of approved “system eligible projects”, surplus revenue from toll projects should generally remain in the corridor within which the toll is collected.
- **Plan Policy 17:** Jobs created by implementation of the regional toll network should be available to all segments of the population. CAMPO encourages the use of minority-owned, women-owned, and economically disadvantaged businesses (DBEs) and other Historically Underutilized Businesses (HUBS) for all Mobility Authority and TxDOT projects.

Mobility Authority toll collection policies include:

- A 10 percent discount from the cash toll rate for TxTag customers;
- A toll waiver for public transit vehicles and registered car/van pools (as defined by the latest CAMPO and/or Mobility Authority policy);
- A violations policy that allows a chance to pay delinquent tolls prior to assessing an administration fee and fines up to \$250; and,
- Pre-payment options using cash, credit and debit cards and the ability to set up a TxTag account over the internet, by phone or at the customer service center.

The tolling policies provide mitigating effects by minimizing potential negative impacts and providing benefit to the EJ community. According to the Texas Transportation Institute (TTI) Toll Road Opinion Survey, the EJ population is more likely to use transit than the non-EJ population. Waiving the toll for transit could result in a faster, more reliable trip at no additional cost for the EJ transit user. The potential indirect travel time benefit to transit users would be limited to those that take a transit route that passes through the entire corridor and could therefore make use of the toll lanes. While limited, these travel time savings would benefit all transit users including EJ communities that rely on transit for their transportation needs. Other potential benefits include jobs

created by the toll projects and opportunities for EJ community businesses. Providing the same capacity as the existing condition minimizes negative impacts by ensuring a non-toll alternative route is maintained. This gives EJ and all travelers a viable alternative if they choose not to pay the tolls. Maintaining a non-toll alternative also would minimize traffic diversion to adjacent neighborhoods. Within the AOI there are EJ travelers that may use the project area for local use as well as for through-travel. These EJ travelers would be subject to a slight time savings, just like any other user of the facility. Negative impacts can also be minimized by thorough consideration of EJ and especially low-income travelers when setting toll rates and collection methods, as called for in CAMPO policy.

4. Cumulative Effects

The cumulative impact assessment prepared for the proposed project was conducted in accordance with CEQ, FHWA, and TxDOT regulations and guidance documents. The CEQ regulations (40 CFR § 1508.7) define cumulative impacts as:

“...the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.”

The analysis considers the magnitude of the cumulative impact on the resource health. Health refers to the general overall condition, stability, or vitality of the resource and the trend of that condition. Therefore, the resource health and trend are key components of the cumulative impacts analysis. Laws, regulations, policies, or other factors that may change or sustain the resource trend will be considered to determine if more or less stress on the resource is likely in the foreseeable future. Opportunities to mitigate adverse cumulative impacts will be described.

The methodology for the analysis of potential cumulative impacts follows the process recommended in the *TxDOT Guidance on Preparing Indirect and Cumulative Impact Analyses* (revised June 2009). TxDOT developed an eight-step approach to evaluate cumulative impacts. These steps include:

1. Identify the resources to consider in the analysis.
2. Define the study area for each affected resource.
3. Describe the current health and historical context for each resource.
4. Identify the direct and indirect impacts that may contribute to a cumulative impact.
5. Identify other reasonably foreseeable future actions that may affect the resources.
6. Assess potential cumulative impacts to each resource.
7. Report the results.
8. Assess and discuss mitigation issues for all adverse impacts.

The TxDOT eight-step process is intended to provide an efficient, consistent, and logical method of evaluating cumulative impacts of a project. The following describes each of the steps used in this cumulative impacts analysis.

4.1 Step 1: Identify Resources to Consider

The first step in conducting a cumulative impacts analysis, according to the current TxDOT guidance, is to identify impacted environmental resources and determine the stability and health of those resources. A review of the direct and indirect effects sections above was undertaken to identify two resources that may be cumulatively affected by the SH 71 Express Project, and other projects.

A review of the direct and indirect effects sections above was undertaken to identify:

1. Resources that are substantially impacted by the proposed project.
2. Resources that are impacted to some degree but are in poor or declining health or are at risk, even if project impacts (either direct or indirect) are relatively small.

Given these criteria, the resources deemed appropriate to analyze in the cumulative impacts analysis for the SH 71 Express Project include the Texas fatmucket, which is a candidate species for Endangered Species listing under the ESA, and EJ communities that could be affected by tolling.

4.2 Step 2: Define the Study Area for each Affected Resource

4.2.1 Texas Fatmucket

Suitable habitat for Texas fatmucket includes moderately sized rivers with mud, sand, gravel or mixtures of the three substrates. The Texas fatmucket may also occur between crevices in bedrock slabs. The mussel prefers relatively shallow water, no more than 1.5 meters (4.9 feet). Sites with one or both banks that are relatively low are ideal due to reduction in damage from flooding such as scouring. This species is intolerant of deep, slow-moving water such as ponds, lakes and reservoirs; therefore, the Resource Study Area (RSA) for the Texas fatmucket includes Onion Creek, the Colorado River, and other perennial Colorado River tributaries. The temporal boundary was determined to extend from 1992, when TPWD began studying the species, to 2010, when the current distribution was gathered.

4.2.2 Environmental Justice Communities

The RSA for EJ communities includes the six-county CAMPO planning region (Williamson, Travis, Hays, Bastrop, Burnet and Caldwell counties). This RSA was selected to be consistent with the geography studied by CAMPO to analyze the regional effects of tolling on EJ populations. Two of CAMPO's studies of its planning area included "Demographic Analysis and Development of Population and Employment Forecasts," as well as "Environmental Justice Impacts and Analysis." The temporal boundary was determined to extend from 1980, to provide historical context, through the horizon year of 2035, which is consistent with CAMPO's RTP and other Texas regional transportation and planning organizations and planning horizons.

4.3 Step 3: Describe the Current Status/Viability and the Historical Context for each Resource

4.3.1 Texas Fatmucket

Historical Distribution

The Texas fatmucket occurred historically in at least 18 rivers in the upper Colorado, Guadalupe and San Antonio River systems; however, it has been extirpated from many of the streams within its historical range. Within the upper Colorado, populations ranged from Travis County upstream approximately 320 kilometers (200 miles) to Runnels County in the Colorado River. It also was found within many tributaries of the system including, the Pedernales, Llano, San Saba, and Concho Rivers and Jim Ned, Elm and Onion Creeks. Populations within the Guadalupe River systems occupied approximately 240 kilometers from Gonzales County upstream to Kerr County as well as the North Guadalupe River, Johnson Creek, and the Blanco River. Populations in the San Antonio River range from its confluence with the Medina River in Bexar County upstream to the city of San Antonio, as well as in the Medina River and Cibolo Creek. Neither the Brazos River basin nor its western tributaries are known to have any populations of the Texas fatmucket (USFWS 2011).

Current Distribution

In comparison with historical data, the current data for Texas fatmucket populations proves that the species has declined substantially in all of its range. It only occurs in nine streams of the Colorado and Guadalupe River systems and in very little numbers. Most populations are represented by only one or two individuals and are neither stable nor reproducing successfully.

Today, the Texas fatmucket is not found within the main stem of the Colorado River. It only has individuals occurring in the system's tributaries. In the South Concho River shell fragments were found in 1997. In Spring Creek in Irion County, one individual was found in 1997 and one was found farther downstream in Tom Green County, and one was found upstream in Twin Buttes Reservoir. Much of the upstream populations are believed to have been eliminated, due to the creek drying in 1999 and 2000. The Llano River is another of the tributaries with live individuals, including eight found in 2011 in Llano County, two found in Mason County in 2009, one found in Kimble County in 2009, and four found in Threadgill Creek in 2004 (in Gillespie and Mason Counties). One live specimen was found in Live Oak Creek, a Pedernales River tributary in 2003, and 11 shells discovered in the same tributary in 2002. This population is believed to be small, but persisting. A survey conducted for TxDOT in 2010 found three live individuals in Onion Creek, near the SH 71 Bridge. Ten live individuals were found in 1993 in Elm Creek, a Colorado River tributary, two were found in 1995, and then one was found in 2008 at a site downstream from the known population. Three live individuals were found in the San Saba River in 1997 and one was found in 2005. It is believed that the population at the San Saba River site has declined due to overgrowth of aquatic macrophytes which have degraded the mussel habitat. There are even fewer remaining populations in the Guadalupe River System with the population of two live individuals found in Kerr County below a dam believed to no longer persist. There was a population of six live individuals found at the same location in 2005, though (USFWS 2011). Although the Texas fatmucket, among other freshwater mussel species, was considered for listing as "endangered" by the USFWS, following review, it was precluded from listing as other species were determined to have a higher priority (USFWS 2011).

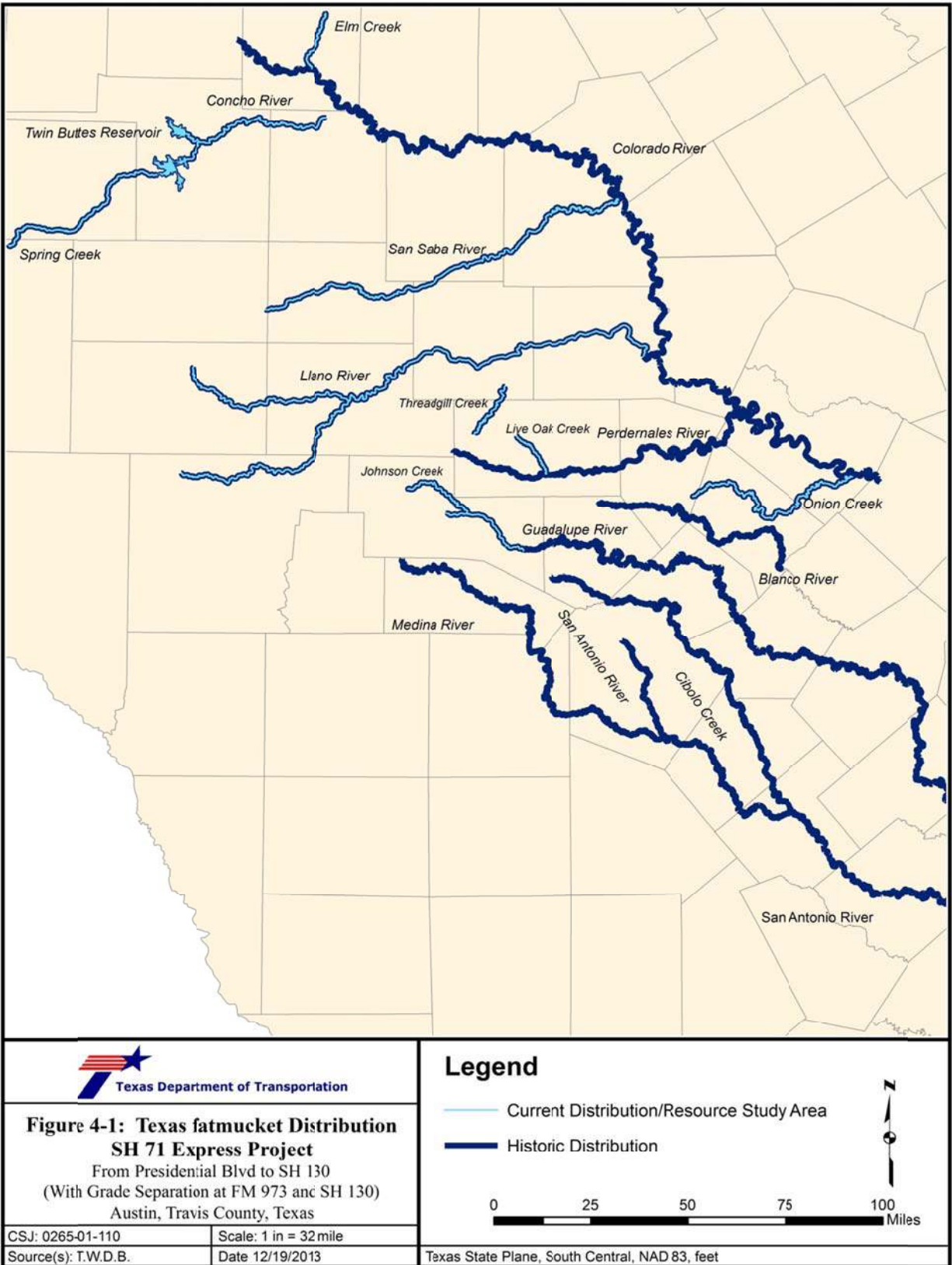


Figure 4-1: Distribution of the Texas fatmucket

4.3.2 Environmental Justice Communities

The EJ RSA consists of the six counties within the CAMPO planning area. As shown in **Table 4-1** the minority population in the RSA has grown between 1980 and 2010 and is projected to continue to grow through 2035 and will account for a larger share of the total population. By 2035, more than 1.3 million of the total 2.7 million people in the RSA will be a minority race and/or ethnicity; Travis and Williamson County will be home to most of these minority populations (approximately 1.1 million people).

Table 4-1: Minority Populations in the RSA (1980 to 2035)

County	1980	1990	2000	2010	2035	1980-2035 Change
Minority Population / Share of Total Population						
Bastrop	7,689 31.1%	11,598 30.3%	19,969 34.6%	31,725 42.8%	71,129 60.2%	63,440 825.1%
Burnet	1,625 9.1%	2,863 12.6%	6,130 18.0%	10,220 23.9%	20,065 36.2%	18,440 1,134.8%
Caldwell	11,869 50.2%	12,845 48.7%	16,265 50.5%	21,225 55.8%	36,023 65.6%	24,154 203.5%
Hays	13,758 33.9%	20,953 31.9%	34,644 35.5%	65,045 41.4%	161,416 49.6%	147,658 1,073.3%
Travis	124,524 29.7%	201,128 34.9%	354,463 43.6%	506,622 49.5%	848,922 60.0%	724,398 581.7%
Williamson	14,459 18.9%	28,827 20.7%	66,120 26.5%	153,198 36.2%	375,252 49.6%	360,793 2,495.3%
RSA Total	173,924 28.9%	278,214 32.0%	497,591 38.8%	788,035 44.8%	1,512,807 55.5%	1,338,883 769.8%

Source: U.S. Census Bureau, 1980, 1990, 2000 and 2010 Census, Texas State Data Center, 2012 Population Projections by Age Group by Sex by Race/Ethnicity, Scenario 0.5.

The median household incomes in the RSA have been above the poverty guideline for a three or four person household between 1980 and 2010. In this timeframe, the share of individuals that earn incomes below the poverty line have decreased overall and in all counties in the RSA except Travis County. Within the RSA, median household incomes have grown the least in Caldwell County and the greatest in Williamson County.

Table 4-2: Median Household Income and Poverty in the RSA (1980 to 2010)

County	1980	1990	2000	2010	1980-2010 Change
Poverty Guidelines					
3-person household	\$6,565	\$10,419	\$13,738	\$17,374	\$10,809
4-person household	\$8,414	\$13,359	\$17,603	\$22,314	\$13,900
Median Household Income* / Share of Population Below the Poverty Line					
Bastrop	\$12,437 17.8%	\$23,967 17.9%	\$43,578 11.6%	\$52,882 14.1%	\$40,445 -3.7%
Burnet	\$14,117 16.0%	\$21,420 17.7%	\$37,921 10.9%	\$48,291 13.7%	\$34,174 -2.3%
Caldwell	\$17,250 29.1%	\$20,169 30.9%	\$36,573 13.1%	\$43,136 19.6%	\$25,886 -9.5%
Hays	\$12,969 22.2%	\$25,492 20.9%	\$45,006 14.3%	\$58,247 16.4%	\$45,278 -5.8%
Travis	\$20,514 14.4%	\$27,488 16.0%	\$46,761 17.6%	\$55,452 16.2%	\$34,938 1.8%
Williamson	\$19,569 9.9%	\$33,695 10.1%	\$60,642 4.8%	\$71,346 6.5%	\$51,777 -3.4%
RSA Total	\$12,437 to \$20,514 15.1%	\$23,967 to \$33,695 16.0%	\$36,573 to \$60,642 14.3%	\$43,136 to \$71,346 13.8%	\$30,699 to \$50,832 -1.3%

Source: U.S. Census Bureau, 1980, 1990, 2000 and 2010 Census, 2007–2011 ACS, 1980, 1990, 2000, 2010 poverty guidelines.

* 2010 Median household incomes are reported in 2011 dollars.

Step 4: Identify Direct and Indirect Impacts of the Project that Might Contribute to a Cumulative Impact

4.3.3 Texas Fatmucket

The Texas fatmucket could be affected by construction in and around Onion Creek. The Onion Creek Bridge, which is at the eastern end of the proposed construction limits, consists of two independently supported, 765-foot bridge structures to span Onion Creek. Approximately 244 linear feet of Onion Creek are within the existing ROW. Two existing bents appear to be in or close to the channel. The SH 71 eastbound bridge at Onion Creek would be widened on the north side by approximately 12 feet; no work is expected at the westbound bridge. The bridge widening would extend the existing bents, including additional drilled shafts and columns in-line with the existing bents. Girders and/or beams would be used for widening the traffic lanes. Construction activities could affect Onion Creek floodplain and the water quality of Onion Creek, even though temporary erosion and sediment control measures would be used for access to the site for drilling of the shafts, dewatering of the shafts, and clearing of vegetation. Additionally, a temporary stream crossing may be necessary for access.

Due to bridge bent removal and installation, the placement of temporary or permanent dredge/fill material into potentially jurisdictional waters of the U.S. is anticipated and may require a NWP. Construction activity would comply with all general and regional conditions applicable to NWP 14.

During the construction, appropriate measures would be taken to maintain normal downstream flows and minimize flooding. Temporary fills would be placed in a manner that would limit erosion by expected high flows. Temporary fills would be removed in their entirety and the affected area returned to pre-construction elevations and re-vegetated.

4.3.4 Environmental Justice Communities

The SH 71 Express Project would build toll lanes as a component of the improvements. The financial burden of the toll would impact EJ populations (low-income populations, in particular) that chose to use toll lanes; they would pay a larger share of their income on the toll than the general population. EJ populations that live directly adjacent to the project, and those that live further away (within the AOI for indirect effects), would experience this burden. The SH 71 Express Project falls within a network of tolled and managed lanes; this project in addition to other existing and future tolled projects are considered for its cumulative impact. A regional toll analysis was conducted by CAMPO to evaluate this effect.

EJ populations that live within project area would experience the direct effect of travel pattern modifications for local travel; these impacts would directly change community cohesion in the project area and may result in an indirect encroachment effect on EJ populations that live within the AOI if traffic were to be redistributed to other roads. However, maintaining a non-toll alternative would minimize traffic diversion to adjacent neighborhoods. The direct and indirect effects are not likely to result in cumulative effect because the changes in travel patterns would occur predominantly in the project area and may extend into portions of the AOI; these effects would not be experienced at the RSA level. As such, further analysis is not required.

4.4 Step 5: Identification of Other Reasonably Foreseeable Future Effects

Research of the municipalities within the RSA revealed that present and reasonably foreseeable actions within the RSA area primarily consist of commercial/retail development and transportation improvements. Reasonably foreseeable transportation projects within the RSAs were identified through CAMPO’s 2013-2016 TIP and 2035 RTP lists (**Table 4-3**). Research identified several foreseeable non-transportation projects within the area; Table 4-1 shows the proposed development projects in the RSA.

Table 4-3: Planned Projects in the RSA

Project	Location	Open Year	Project Description
Planned Toll Roads and Managed Lanes			
Loop 1 Managed Lanes (phase 1)	FM 734 to Cesar Chavez interchange	2015	One managed lane in each direction.
Loop 1 Managed Lanes (phase 2)	Cesar Chavez to Slaughter Lane	2017	One managed lane in each direction.
US 183 (S)	US 290 to Boggy Creek (Segment 1)	2017	Six lane tolled highway with three lane non-tolled frontage roads in each direction.

Project	Location	Open Year	Project Description
Parmer Lane/ FM 734 Express Lanes	RM 620 to Loop 1	2017	One tolled express lanes in each direction.
SH 71 (W) “Y” at Oak Hill	Silver Mine to US 290 (W)	2017	Two tolled direct connector bridges from US 290 (W) and continuous non-tolled access road lanes.
US 183 (N) Express Lanes	RM 620 to Loop 1	2017	One managed lane in each direction.
US 290 (W) “Y” at Oak Hill	Circle Drive to Joe Tanner Lane	2019	Six lane tolled highway with two lane non- tolled frontage roads in each direction.
US 183(S)	Boggy Creek to Patton Avenue (segment 2)	2020- 2025	Six lane tolled highway with three lane non- tolled frontage roads in each direction.
US 183 (N)	SH 29 to 183A	2026- 2035	Four tolled main lanes.
Planned non-Toll Roads			
SH 71	West of FM 20 to West of SH 304	2014	Reconstruct existing lanes to four lane rural freeway facility.
SH 304	SH 71 to 2 miles south of SH 71	2014	Reconstruct existing two lane to three lane minor arterial.
FM 973 Manor Bypass	Future Braker Lane to US 290 (E)	2015	Construct four lane divided major arterial.
SH 71 (E)	West of Riverside Drive to east of Presidential Blvd	2016	Construct grade separation at Riverside Dr. and remove signal at Thornberry Dr.
SH 71	West of Colorado River to 0.4 mile east of Loop 150 (E)	2017	Reconstruct existing lanes to extend four lane rural freeway facility.
Loop 1	Davis Lane	2017	Grade separation.
Loop 1	Slaughter Lane	2017	Grade separation.
Ross Road	Pearce Lane to Elroy	2020- 2025	Widen to four lane divided major arterial with bike lanes and sidewalk.
Ross Road	SH 71 to Pearce Lane	2026- 2035	Widen to four lane divided major arterial with bike lanes and sidewalk.
FM 969/ Webberville Road	Webberville to SH 71	2026- 2035	Widen to four lane divided major arterial.
FM 969/ Webberville Road	US 183 to Webberville	2026- 2035	Widen to four lane divided major arterial.
Other Projects			
Expansion of ABIA	3600 Presidential Blvd Austin, TX	2012- 2020	Three phase expansion including runway, terminal, and parking facilities
Commercial and Residential Development	Around SH 71, US 183, ABIA, Circuit of the Americas, city of Bastrop	On- going	Development of undeveloped large lot parcels which are for sale and zoned for commercial, residential and mixed uses.
Onion Creek Greenway	Travis County along Onion Creek	On- going	Acquisition of land and development of new park space and trail system.

Source: ABIA, CAMPO, city of Austin, city of Bastrop, Travis County Parks Department.

4.5 Step 6: Identify and Assess Potential Cumulative Impacts

4.5.1 Texas Fatmucket

The Texas fatmucket is a candidate species for listing under the ESA. Construction at the Onion Creek Bridge would potentially impact the habitat of the Texas fatmucket. As a candidate species, the Texas fatmucket is not subject to the legal protections of the ESA. It has been found that the main cause of decline in the mussel populations in Texas is due to the results of habitat loss and degradation (USFWS 2011). A few examples of causes of degradation include impoundments, sedimentation, dewatering, sand and gravel mining and chemical contaminants. Of these causes, impoundments have the greatest effects including blocking upstream and downstream movement, restricting movement of host fish (critical to mussel life cycle), reduction of river flow within impounded area allowing silt and sedimentation deposition, and alteration of downstream water quality such as temperature and oxygen levels (USFWS 2011). Proposed construction that would impact Onion Creek includes the widening of the SH 71 eastbound bridge over Onion Creek, where existing bents would be extended out approximately 12 feet along with no more than two additional drilled shafts and columns in-line with the existing bents. Direct impacts of the project at SH 71 and Onion Creek may be habitat degradation from sedimentation and alteration of creek banks due to construction. Indirect impacts could include storm water runoff from the roadway during operation.

The expansion of ABIA and the Onion Creek Greenway projects are located within the Onion Creek Watershed and therefore have the potential to also directly and/or indirectly (and therefore, cumulatively) impact the Texas fatmucket. These projects could directly impact the species during construction and indirectly impact the species from storm water runoff from operations. Mitigation measures are discussed in Step 8.

In the event that the Texas fatmucket is reconsidered for listing or listed prior to construction, TxDOT would enter into consultations with the USFWS and take measures to avoid affecting the species.

4.6 Step 7: Report Results

Taking into consideration the direct and indirect effects, when added to past, present, and future actions, the proposed project would not have substantial cumulative impacts to the Texas fatmucket and EJ populations.

4.6.1 Texas Fatmucket

Travis County Parks department's Onion Creek Greenway trail system could affect water quality along Onion Creek. The Greenway is being developed in phases and will ultimately link several existing and proposed parks via greenway corridor and a multi-use trail system. Cumulative impacts of the SH 71 Express Project and the Onion Creek Greenway to water quality may occur due to storm water runoff and an increase in impervious cover both from the proposed tolled lanes and widening the main lanes. Potential impacts to water quality would likely be in the form of an increase in pollutant loading into the existing receiving waters (Onion Creek) associated with increased runoff from additional impervious surfaces.

4.7 Step 8: Assess and Discuss Mitigation Issues for all Adverse Impacts

4.7.1 Texas Fatmucket

As a mitigation measure for direct impacts, prior to construction, the Texas fatmucket mussels would be removed from the project area and relocated upstream from the area believed to be impacted from construction. Local development construction effects to water quality would be mitigated by BMPs, which would serve to prevent, minimize, and control spillage of hazardous materials in the construction area as well as remove pollutants and suspended solids from soil erosion during construction in accordance with the Texas Pollution Discharge Elimination System (TPDES). Prevention of permanent soil erosion would include measures taken as early in construction as possible through proper sodding and/or seeding techniques. Following construction, disturbed areas would be restored to their original state and stabilized. The effects of cumulative impacts would be minimized through Travis County's adherence to state water quality standards and application of BMPs to minimize the effects of runoff on Texas fatmucket habitat. The proposed project includes a drainage system that would be regulated under the MS4 permit held by TxDOT. The MS4 program is used to determine that storm water runoff that is discharged to local water-bodies is properly managed to protect the receiving streams. The proposed project would comply with the TCEQ Texas Pollutant Discharge Elimination System General Permit for Construction Storm Water Discharges. An SW3P would be in place prior to the start of construction and would be maintained until the site is stabilized. A Notice of Intent (NOI) stating that a SW3P has been developed would be filed with the TCEQ prior to beginning of construction. The proposed project includes a drainage system that would be regulated under the (MS4) permit held by TxDOT. The MS4 program is used to determine that storm water runoff that is discharged to local water-bodies is properly managed to protect the receiving streams.

4.8 CAMPO Regional Toll Network Analysis Summary

To assess the significance of regional impacts and address the potential need for mitigation of the tolled components of the CAMPO 2035 Regional Transportation Plan (RTP), CAMPO prepared the *Regional Toll Network Analysis Update July 2013* technical memorandum, which can be found in **Appendix H**. The purpose of the analysis is to evaluate the effects of the proposed expansion of the regional toll network in the CAMPO planning area based on the improvements included in the CAMPO 2035 RTP, as amended through June 10, 2013. In March 2013, the CAMPO Transportation Policy Board added Burnet County to the Metropolitan Planning Organization's (MPO) planning area; however, Burnet County is not yet included in CAMPO's travel demand model. As such, this analysis does not consider the regional effects of the existing and planned transportation network in that county. Burnet County will be incorporated into the Regional Toll Network Analysis that will be conducted for the CAMPO 2040 Plan update. Currently there are no tolled roads or lanes in Burnet County and none are planned. The technical memorandum provides the context of the transportation system, planned improvements, potential effects, data limitations, summary, and conclusion. The following summarizes the methodology, effects, and conclusion of the analysis.

Methodology

The *Regional Toll Network Analysis* evaluates potential effects of the 2035 CAMPO regional toll network on EJ populations, land use, and air quality. **Figure 4-2** shows the recommendations for controlled access facilities.

The *Regional Toll Network Analysis* EJ analysis focuses on differential impacts (see **Table 4-4**) between EJ population and non-EJ population at the TAZ geography. CAMPO used the following data to identify EJ TAZs for the CAMPO 2035 Regional Transportation Plan:

- 2005 median family income levels provided by CAPCOG, based on the 2005 Bureau of Economic Analysis Data
- 2008 and 2009 poverty data from the Census Bureau
- 2005 ethnicity data, based on 2000 census data ethnicity ratios applied to 2005 population data.

CAMPO used 2005 data because it corresponded with the 2005 travel demand model base year used for the 2035 plan update and so ensured consistency between model, plan and toll analysis data. Since the poverty data is used for comparison purposes only, CAMPO used the most recent available during 2035 Plan development.

Regional traffic was modeled under three transportation network conditions: 2010 existing, 2035 Plan build out, and a 2035 no-build in which no tolled or managed lanes are developed (2035 demographics on the 2010 network). The 2035 no-build assumes no projects in the Plan are built, including, but not limited to, new tolled or managed lanes.

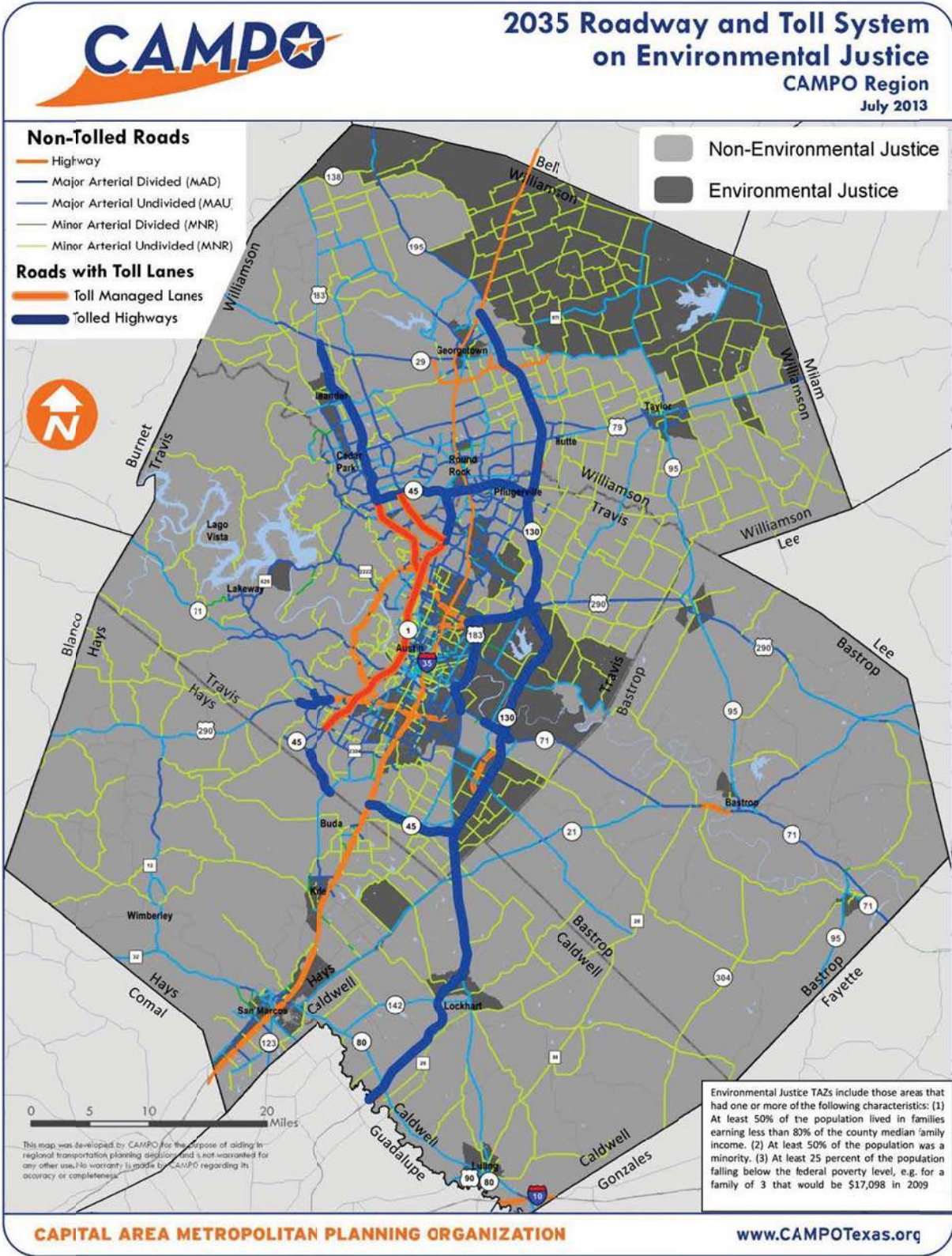


Figure 4-2: 2035 Roadway and Toll System in the CAMPO Planning Area

CAMPO uses a demographic allocation tool to account for the interaction between land use and transportation in the travel demand model. Future year spatially-allocated population and employment data is developed using county level forecast totals for future years, existing spatially allocated data for a base year, and the demographic allocation modeling tool. CAMPO developed county forecast totals for each of the five counties using an average of the State Demographer’s highest (1.0) and medium growth (0.5) scenarios for that county.

Regional Toll System Effects

Table 4-4 lists the resource areas and performance metrics analyzed in the *Regional Toll Network Analysis*. A more detailed analysis of each item is included in the full technical memorandum.

Table 4-4: Analysis of Potential Effects

Analysis	Page(s)	Results
Environmental Justice		
Lane Miles	10	There are fewer tolled lane miles in the EJ area than in the non-EJ area, even if the “adjacent to” ¹ lane miles are added to the EJ lane miles. There are also fewer non-tolled lane miles in the EJ area than the non-EJ area. However, if the non-tolled “adjacent to” lane miles are added to the EJ non-tolled lane miles then there are more non-tolled lane miles in the EJ area than in the non-EJ area.
Travel Time	12-13	CAMPO analyzed travel times for 2005, 2010, and 2035 using output from the travel demand model and representative sample pairs of EJ and non-EJ zones in each county. Because drivers often think of their trips in five-minute intervals, the analysis uses the area covered by a 5-minute interval for the EJ zone and non-EJ zone pair to determine disproportionate differences. Disproportionate differences occur if the travel in any 5-minute interval for the EJ zone covers substantially less area than that of the non-EJ zone. In order to quantify this, CAMPO determined that one-half the area or less would signify a disproportionate difference. Therefore, if the area covered by the EJ zone 5-minute time intervals is one half, or less, of the area covered by the non-EJ zone 5-minute intervals, then the EJ zone may have a disproportionate travel time disadvantage. This analysis was conducted for both the uncongested mid-day period and A.M. peak period where congested conditions exist. All EJ and non-EJ zone pairs had similar travel times, except one zone pair in Bastrop County in the A.M. peak had a probable 2035 EJ travel time disadvantage for the five-minute interval that met the disproportionate threshold. There are no toll roads or managed lanes in that county, so it is reasonable to assume that the toll roads or managed lanes did not cause or contribute to these disadvantages.
Transit	24	Implementation of the 2035 Plan should improve transit service for all travelers, including the EJ community.
Annual Toll Costs	27	Although the expected annual toll cost is relatively low for all users, the proportion of income used for tolls is higher for the low-income EJ population. Persons living below the federal poverty level category would pay roughly four times more of their income for tolls than individuals whose family income is at or above the median for the Austin–Round Rock–San Marcos Metropolitan Statistical Area. The Regional Toll Network Analysis projects that a family of three making less than the federal poverty level would pay 0.3 percent of its income towards tolls in 2035. The effects of dynamic pricing on the economic impact of toll road usage are not included in the Regional Toll Network Analysis due to model limitations.

Analysis	Page(s)	Results
Land Use		
Land Use	44-45	<p>The preferred scenario included in the CAMPO 2035 Plan assumes:</p> <ul style="list-style-type: none"> • Implementation of all projects included in the current Transportation Improvement Program • Implementation of mixed use activity centers throughout the region • Implementation of locally-funded projects as prioritized by project sponsors • Implementation of additional high priority regional projects, including the regional toll network. <p>The CAMPO 2035 Regional Transportation Plan includes the regional toll network, so the land use effects of the regional toll network are accounted for and integrated into the planning process. Further detail is provided in Appendix 3 of the CAMPO 2035 Regional Transportation Plan.</p>
Air Quality		
Federal Air Quality Standards	45	<p>The counties included in the CAMPO planning area are currently in attainment of all Federal air quality standards. The area is close to nonattainment for ground-level ozone and could be designated nonattainment if the US Environmental Protection Agency formalizes a more stringent ground-level ozone standard. CAMPO contracted with the TTI to conduct preliminary emissions analyses of the regional transportation system (including the regional toll network) envisioned by the CAMPO 2035 Regional Transportation Plan. The TTI emissions analysis was not rerun for the amended 2035 RTP. However, the magnitude of the amendments to the 2035 RTP is not expected to result in an appreciable difference in the outcome of the emissions analysis. It is noted that the area is designated attainment and is therefore not required to conduct an emissions analysis.</p>
Transportation Benefits		
EJ Population	45-46	<p>Implementation of the 2035 planned transportation system, including the regional toll network, will benefit the EJ population. The system envisioned by the 2035 Plan expands travel options by implementing rail, more transit, and more bicycle and pedestrian facilities. The 2035 system also includes an emphasis on mixed-use, transit-friendly growth in activity centers, providing more people the opportunity to work and live near-by. The 2035 system will be less car-dependent and travel options will increase. Several activity centers are located in EJ areas, offering economic development and business opportunities.</p>
Quality of Life	45	<p>The 2035 Regional Transportation Plan emphasized mixed-use, transit-friendly growth in activity centers, providing more people the opportunity to work and live near-by.</p>

¹ Lane miles adjacent to EJ zones form a border between EJ and non-EJ areas and so could be considered both in EJ and non-EJ areas simultaneously.

Conclusion of Analysis

The travel time analysis included in the report also provides a measure of the benefit of implementing the planned transportation system. Because drivers often think of their trips in five-minute intervals, the analysis uses the area covered by a five-minute interval for the EJ zone and non-EJ zone pair to determine disproportionate differences. Disproportionate differences occur if the travel in any five-minute interval for the EJ zone covers substantially less area than that of the non-EJ zone. In order to quantify this, CAMPO determined that one-half the area or less would signify a disproportionate difference. Therefore, if the area covered by the EJ zone 5-minute time

intervals is one half, or less, of the area covered by the non-EJ zone 5-minute intervals, then the EJ zone may have a disproportionate travel time disadvantage. This analysis was conducted for both the uncongested mid-day period and A.M. peak period where congested conditions exist. Results of this analysis indicate that travel times for EJ and non-EJ areas are similar for both the existing and 2035 traffic conditions. The general trend for both EJ and non-EJ areas shows slower travel times in 2035 despite 2035 Plan build-out. This is indicative of substantial population growth and insufficient transportation funding to fully compensate for the growth. The travel time analysis identified one zone pair in Bastrop County in the A.M. peak having a disproportionate five-minute interval travel time difference in 2035. Since there are no toll roads or managed lanes in this county it is reasonable to assume that implementation of the toll roads or managed lanes did not cause or contribute to the disproportionate travel time differences.

Implementation of the 2035 planned transportation system, including the regional toll network, will benefit the EJ population. The system envisioned by the 2035 Plan expands travel options by implementing rail, more transit, and more bicycle and pedestrian facilities. The 2035 system also includes an emphasis on mixed- use, transit-friendly growth in activity centers, providing more people the opportunity to work and live near-by. The 2035 system will be less car-dependent and travel options will increase. Several activity centers are located in EJ areas, offering economic development and business opportunities.

Since the *Regional Toll Network Analysis* was developed, there has been only one amendment to the CAMPO Plan. This amendment (October 23, 2013) includes the addition or modification of five projects shown in Table 4-5, where the original scope is provided in the second column (“Project Added or Modified”) and the project amendments are described in the third column.

As part of the October 2013 CAMPO 2035 Plan amendments, the pre-existing project of Kyle Loop West (Project ID #803) was deleted from CAMPO’s Plan, and was replaced by three separate projects of Kyle Loop (West), NF 17, and John W Bunton Trace. It is noted that the three replacement projects were added to the 2035 RTP’s illustrative projects list. Projects included in the illustrative list are generally unfunded and therefore not considered in associated planning analyses such as the Regional Toll Network Analysis. While the deleted project included mileage in an EJ area, no appreciable impacts to the Regional Toll Network Analysis or the conclusions of the Regional Toll Network Analysis are anticipated as a result of this or any of the noted October 2013 RTP amendments.

Table 4-5: CAMPO 2035 Regional Transportation Plan Amendment October 2013

Project	Projects Added or Modified	Amendment Description
Kyle Loop (West)	Construct 4 lane major divided arterial. (Limits = FM 1626 at Robert S. Light Blvd - IH 35 at Yarrington Road)	Add project to illustrative list of CAMPO 2035 Plan.
NF 17	Construct 4 lane major divided arterial. (Limits = FM 150 at Halifax Ranch Road to Kyle Loop (West))	Add project to illustrative list of CAMPO 2035 Plan.
John W Bunton Trace	Construct 4 lane major divided arterial. (Limits = Kyle Loop (West) at Old Stagecoach Road – IH 35 at CR 158)	Add project to illustrative list of CAMPO 2035 Plan.
Kyle Loop West	Delete existing Kyle Loop West (Project ID #803) from the 2035 Plan	Single project deleted and replaced by above 3 projects
Regional Transportation Plan Policy 19 (Pedestrian Policy)	Modification of text/wording associated with the policy	Modify the Regional Transportation Plan Policy 19 (Pedestrian Policy) and associated Plan language.
Pedestrian Priority Districts Map	Modification to map graphics	Modify the Pedestrian Priority Districts Map.

Source: Transportation Policy Board, October 2013; CAMPO 2035 Regional Transportation Plan Amendment, October 2013.

5. Permits and Commitments

5.1 Water

Proposed permanent impacts to waters of the U.S. would be permitted according to NWP #14, Linear Transportation Projects. Each crossing is a single and complete project as defined in 33 CFR 330.2(c)(i). The permanent fill into waters of the U.S. the Onion Creek crossing would not be more than 0.10 of an acre and a pre-construction notification to the USACE would not be required.

The proposed project would disturb more than 5 acres of land; therefore, TxDOT is required to comply with the TPDES General Permit for Construction Storm Water Discharges. A SW3P would be in place prior to the start of construction and would be maintained until the site is stabilized. An NOI stating that a SW3P has been developed would be filed with the TCEQ prior to beginning of construction.

The proposed Build Alternative includes a drainage system that would be regulated under the MS4 permit held by TxDOT. The MS4 program regulates storm water discharges to local water-bodies to protect the receiving streams. The city of Austin operates the MS4 within the city boundaries. TxDOT would provide an NOI for the change to the MS4 permit to the city of Austin and coordination would occur as necessary.

Measures would be taken to prevent and correct erosion that may develop during construction. Temporary erosion controls would be in compliance with TxDOT Standard Specifications and would be in place, according to the construction plans, prior to commencement of construction. They would be inspected on a regular basis to ensure maximum effectiveness.

The following subsections discuss temporary and permanent water pollution control measures.

Temporary Water Pollution Control Measures: Water quality impacts would be minimized during construction of the proposed project through the implementation of a SW3P. These plans would include structural controls and practices that would be followed throughout the construction of the project to minimize water impacts. Guidance documents, such as TxDOT's Storm Water Management Guidelines for Construction Activities, provide a detailed discussion of construction BMPs and additional information on implementation of temporary storm water controls. The controls would include the following:

- Minimize the extent and the duration of disturbed areas. Plan the phases of construction to minimize exposure and use vegetation to stabilize disturbed areas as practicable.
- Apply erosion control practices to minimize the loss of sediment and keep the soil covered and in place as much as possible using temporary or permanent vegetation, erosion control blankets, or various mulch materials. Other practices include diversion structures to channel surface runoff from exposed soils and the use of slope drains where grades may be prone to erosion.
- Apply perimeter controls to minimize the discharge of sediment laden stormwater. This objective relates to using practices that effectively remove sediment from the runoff water and prevent its transport from the site. These controls include silt fences, diversion structures, swales, dikes, sediment traps, rock berms, and vegetative filters.

- Stabilize disturbed areas as quickly as possible after final grade has been attained. Permanent structures, temporary or permanent vegetation, mulch, stabilizing emulsions, or a combination of these measures should be employed as quickly as possible after the land is disturbed.

Permanent Water Pollution Control Measures: Examples of stormwater pollution mitigation measures include detention ponds, wet ponds, sand filters, vegetative filter strips, and grassed swales. The primary mechanisms making these measures effective in removing pollutants from storm water are detention and filtration. The selection, design, and effectiveness of these measures are highly site dependent, but all have been shown to be effective in treating highway runoff. The type and location of appropriate permanent water pollution control measures would be determined during the final design of the proposed project. These measures would be designed for site-specific conditions.

5.2 Threatened and Endangered Species

Prior to construction, the Texas fatmucket mussels would be removed from the project area and relocated upstream from the area believed to be impacted from construction. Coordination between TxDOT and TPWD would occur to develop a relocation plan prior to construction.

5.3 Vegetation

Efforts would be taken to avoid and minimize disturbance of vegetation and soils during construction. All disturbed areas would be re-vegetated, according to TxDOT specifications, after construction is complete. In accordance with EO 133112 on Invasive Species, the Executive Memorandum on Beneficial Landscaping, and the 1999 FHWA Guidance on Invasive Species, only non-invasive species would be planted within the ROW.

5.4 Migratory Birds

In the event that migratory birds are encountered on-site during project construction, every effort would be made to avoid harm of protected birds, active nests, eggs, and/or young. The contractor would remove all old migratory bird nests between September 1 and January 31 from any structure where work would be done. In addition, the contractor would be prepared to prevent migratory birds from building nests between February 1 and August 31. All methods would be approved by the Austin District Biologist well in advance of planned use.

5.5 Federal Aviation Administration Coordination

Due to the proximity of the proposed project to ABIA, coordination with the FAA is required. Form 7460-1, *Notice of Proposed Construction or Alteration*, was submitted electronically to the FAA on December 3, 2013. Coordination is required to take place at least 45 days prior to the start of construction or alteration. Coordination will be complete before construction on the proposed project would begin.

5.6 CSS

The CSS elements, as developed from input obtained during the CSS workshops and described in the CSS Summary Report, would be implemented into the final design of the project. These elements may include:

- Roadway bridge elements
- Colored and textured traffic barriers and railings
- Sidewalks and multiuse trail facilities
- Lighting
- Retaining walls with colored and textured finishes
- Fencing (if needed) of special colors
- Planting design concepts

6. Public Involvement

The SH 71 Express Project is open to comments by any person, and all views on the scope of the improvements proposed on SH 71, alternative projects, environmental impacts, and any other matter related to the proposed project, have been and will continue to be welcome. In addition to the local community, public involvement is on-going with governmental agencies, officials, organizations, and individuals.

6.1.1 Project Website

As a part of the public outreach process, a project website (www.SH71Express.com) was launched on August 5, 2013. Information made available on the website include a project overview, frequently asked questions, project information such as the proposed improvements, latest news, publications, environmental overview, public involvement, CSS, study timeline, project contact information, and an electronic comment form. General inquiries received via the website (between August 5 and August 11, 2013) include:

- Request to be placed on the mailing list
- Support for the project
- Opposition to tolling
- How the proposed project would affect daily commute
- Anticipated start of construction
- Access concerns along the corridor
 - To businesses along SH 71
 - For residents accessing the SH 71 main lanes from side streets

6.1.2 Stakeholder Outreach

Several meetings with stakeholders were conducted to obtain their input on the proposed improvements during project development. A list of the stakeholder meetings conducted since the project inception is listed below. Comments and concerns provided at these meeting have been considered in the development of the proposed project.

- May 28, 2013 ABIA
- July 10, 2013 Capital Metro
- August 9, 2013 City of Austin – Connectivity
- September 11, 2013 ABIA, city of Austin – Connectivity and Transportation, Travis County and Capital Metro

6.1.3 Public Meetings

The first public meeting for the SH 71 Express Project was held on August 13, 2013, from 6:00 PM to 8:00 PM at Del Valle Opportunity Center, 5301 Ross Road, Del Valle, Texas 78617. Official public notices (classified legal and display advertisements) were published in English in the *Austin American-Statesman* and *The Bastrop Advertiser* as well as in Spanish in *El Mundo*. Additional notice was provided in the first edition (Summer 2013) of the project newsletter that was mailed to community members within a 2-mile radius of the project corridor. Social media (TxDOT and Mobility Authority Facebook and Twitter) was also used a tool for notifying the public about the

public meeting. Electronic message signs announcing the event were also placed along the corridor during the week leading up to the meeting.

The meeting was conducted in an “open house” format with project exhibits on display and the project team (TxDOT staff and consultants) was available to provide information and answer questions. The open house was held to inform the public of the proposed corridor improvements and to collect public comment and feedback. During the comment period that extended through August 23, 2013, the public was afforded the opportunity to submit comments electronically via the website and e-mail, in writing via regular mail.

A total of 122 project stakeholders were in attendance, of which 79 were community members, 2 elected officials, 9 represented a public entity, and 33 were TxDOT or Mobility Authority staff and consultants. Each attendee was provided a copy of the first edition (Summer 2013) of the project newsletter and Frequently Asked Questions, a comment form, and an informal meeting evaluation. A total of 13 written comments were received during the 10-day comment period that concluded August 23, 2013. No verbal comments were presented to the court reporter during the open house. The majority of the concerns were based on the improvements ending at SH 130 as opposed to continuing further east to Ross Road, and tolling. Others were concerned about impacts to local businesses. A Public Meeting Summary Report including responses to the comments received, copies of handouts and exhibits, and the outreach approach was prepared and posted to the project website (www.SH71Express.com).

The public was also given the opportunity to use markers to indicate concerns or provide written comments on the project layout exhibits. Comments on the project layout sheets primarily dealt with the relocation of bus stops but also included comments seeking bicycle and pedestrian access and connectivity.

6.1.4 Public Hearing

The Public Hearing for the SH 71 Express Project was held on April 1, 2014, beginning at 6:00 PM at the Del Valle Opportunity Center, 5301 Ross Road, Del Valle, Texas 78617. Official public notices (classified legal and display advertisements) were published in English in the *Austin American-Statesman* and *The Bastrop Advertiser* as well as in Spanish in *El Mundo*. Additional notice was provided through the project website and a postcard that was mailed to community members within a 2-mile radius of the project corridor. Social media (TxDOT and Mobility Authority Facebook and Twitter) were also used a tool for notifying the public about the Public Hearing. Electronic message signs announcing the event were also placed along the corridor during the week leading up to the hearing.

As part of the Public Hearing, an Open House was held at 6:00 PM. The Open House displayed project exhibits for the public to view and the project team (TxDOT staff and consultants) was available to provide information and answer questions. At 6:30 PM, a formal presentation was given by TxDOT staff to inform the public of the Public Hearing rules, the status of the planning efforts, purpose and need for the project, alternatives studied, and the preferred alternative, followed by a public comment period. A 20-minute break was given after the technical presentation to provide attendees with an additional opportunity to ask questions and register to speak for the public

comment period. The public comment period provided registered speakers with the opportunity to provide verbal comments.

A total of 66 stakeholders were in attendance, of which 63 were community members, 2 were elected officials, 1 represented a public entity, and 29 were TxDOT, FHWA, or Mobility Authority staff and consultants. Each attendee was provided a handout packet that included an agenda, project overview with location map, instructions on how to make comments, a comment form, speaker registration card, and an informal hearing evaluation/survey. The Summer 2013 and Fall 2013 editions of the SH 71 Express project newsletter were also made available.

A Public Hearing Summary Report including responses to the comments received, copies of handouts and exhibits, and the outreach approach was prepared (**Appendix I**) and posted to the project website (www.SH71Express.com). During the comment period that extended through April 11, 2014, the public was afforded the opportunity to submit comments electronically via the website and e-mail, in writing via regular mail, and by phone. A total of 17 comments were received; 13 written and 4 speakers gave public testimony at the Public Hearing (note: 2 citizens provided both written and verbal comments). Of those comments, 7 comments expressed opposition to tolling, 5 were concerned with safety or congestion associated with the Ross Road intersection, and 13 commenters expressed concerns over tolling (some commenters addressed multiple subjects).

6.1.5 CSS Workshops

The first CSS Workshop was conducted on August 29, 2013, from 6:00 PM to 8:00 PM at the city of Austin Department of Aviation's Learning and Resource Center, 2800 Spirit of Texas Drive, Austin, Texas 78719. The CSS Workshop was conducted to obtain stakeholder input on the CSS concepts being developed for the corridor.

Stakeholders, including community members and interest groups (City of Austin, Travis County, Department of Aviation, Mobility Authority, Bike Austin, Bike Texas, and Capital Metro) were invited to serve as members of the CSS Advisory Group (CSSAG). Letters of invitation were sent to the CSSAG invitees beginning on July 19, 2013, and an email follow up was conducted on August 9, 2013. Community members were also given the opportunity to sign up for the CSSAG at the August 13, 2013 Open House, and the CSS Workshop event was posted on the project website.

A total of 23 stakeholders attended the workshop, including 8 CSSAG representatives, 3 interested parties, and 12 members of the project team (TxDOT staff and consultants). Three CSS inspirational themes (Welcome to Austin, Music, and Local Culture) were presented at the workshop. The "Welcome to Austin" theme was selected as the preferred theme for carrying forward into the aesthetic design.

A second CSS Workshop was conducted on November 19, 2013, from 6:00 to 8:00 PM at the city of Austin Department of Aviation's Learning and Resource Center. Stakeholders, including community members (who attended the August 5 Open House), homeowners and neighborhood associations, and the CSSAG were notified about the workshop via email on October 24, 2013, November 6, 2013, and November 18, 2013. The CSS Workshop event was also posted on the project website.

A total of 34 stakeholders attended the workshop, including 6 CSSAG representatives, 15 interested parties, and 13 members of the project team (TxDOT staff and consultants). The CSS Workshop was conducted to obtain stakeholder input on the CSS concepts that were developed for the corridor based on the “*Welcome to Austin*” inspirational theme that was selected as the preferred at the August 29 CSS Workshop. The concepts presented for each bridge structure were modified based on comments received and were presented at the Public Hearing.

7. Determination of Assessment

The engineering, social, economic, and environmental investigations conducted thus far for the proposed project indicate that some beneficial, as well as minor adverse effects would result from implementation of the Build Alternative.

Adverse impacts of the Build Alternative would include:

- Impact to riparian vegetation along Onion Creek near the Onion Creek Bridge – the project would not impact the riparian conservation area located approximately 5 miles upstream in McKinney Falls State Park, which is a contributing factor that qualifies this segment of Onion Creek as an ecologically significant stream. The impacts to the riparian vegetation near the Onion Creek Bridge would be minimized by replanting of vegetation, including extensive landscaping developed as part of the CSS process.
- Impact to Texas fatmucket habitat - this mussel is listed as a state endangered species by TPWD and as a candidate species by USFWS. As such it is not subject to the legal protection under the ESA. TxDOT will coordinate with the TPWD and take appropriate conservation measures, such as moving the mussels upstream prior to construction. Moreover, in the event that the Texas fatmucket is reconsidered for Federal listing or is listed prior to construction, TxDOT will enter into consultations with the USFWS and take measures to avoid affecting the species.
- Toll fee - the economic impact of tolling would be minimized by maintaining the same number of free lanes as exist today.
- Increased localized levels of MSAT emissions - the increase in vehicular speeds and reduced congestion along SH 71 would offset these effects. Improved travel speeds and reduced congestion on SH 71 would induce some motorists to take the SH 71 instead of their normal route. MSAT emissions may decrease around the roadways that these motorists would not be using.
- Impact to community cohesion resulting from the closure of several median openings—this would accentuate the north-south barrier effect of the roadway by making it more cumbersome to access the neighborhoods, businesses, and community facilities in the project area. These impacts would be mitigated by the improved connectivity and safety afforded by the addition of bicycle and pedestrian facilities and turnarounds at Spirit of Texas Drive and Presidential Boulevard.

Benefits of the Build Alternative would include:

- Decreased congestion when compared to the No Build Alternative.
- Provision of an accessible diversion route so motorists in queues behind incidents are able to circumvent congestion.
- Minor reduction of travel time.
- Providing additional through lanes to reduce incident response times for emergency services.
- Addition of bicycle and pedestrian facilities to the north and south sides of SH 71, which would create a safer link between the residential neighborhoods, commercial businesses, community facilities, transit stops, as well as other bicycle and pedestrian facilities outside of

the project area. The Build Alternative's bicycle and pedestrian facilities would provide a safer and continuous link to facilities being built as part of the US 183, FM 973, and Onion Creek Greenway projects.

- CSS treatments to bridges, retaining walls, and landscaping that would enhance the aesthetic quality of the community.

As indicated, the Build Alternative would improve the quality of the human environment and result in no significant adverse impacts on the quality of the human environment. As such, the Build Alternative is recommended as the preferred alternative.

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APPENDIX A:
PROJECT PLANS



- LEGEND**
- - - ROW
 - - - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - - - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - ↶ DIRECTION OF EXISTING TRAVEL LANES
 - ↶ DIRECTION OF PROPOSED TRAVEL LANES
 - T CAPITAL METRO STOP TO REMAIN
 - T CAPITAL METRO STOP TO BE REMOVED
 - T PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

MATCHLINE A

**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas

THE PARKING SPOT

OLD BASTROP HWY

SH 71

BRANDT RD

MATCHLINE A

MATCHLINE B

TEJAS MOBILE PLAZA

THE PARKING SPOT

AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

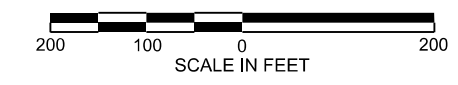
THORNBERRY RD

SH 71

11025+00 11030+00 11035+00 11040+00 11045+00

- LEGEND**
- ROW
 - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - DIRECTION OF EXISTING TRAVEL LANES
 - DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

PRELIMINARY
SUBJECT TO CHANGE



Date of Aerial Photo: 2011

APPENDIX A
PLAN VIEW

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas

MATCHLINE B

MATCHLINE C

FAST PARK & RELAX

AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

SPIRIT OF TEXAS DR

SPIRIT OF TEXAS DR

SH 71

11050+00

11055+00

11060+00

11065+00

11070+00

- LEGEND**
- ROW
 - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - DIRECTION OF EXISTING TRAVEL LANES
 - DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)



**PRELIMINARY
SUBJECT TO CHANGE**



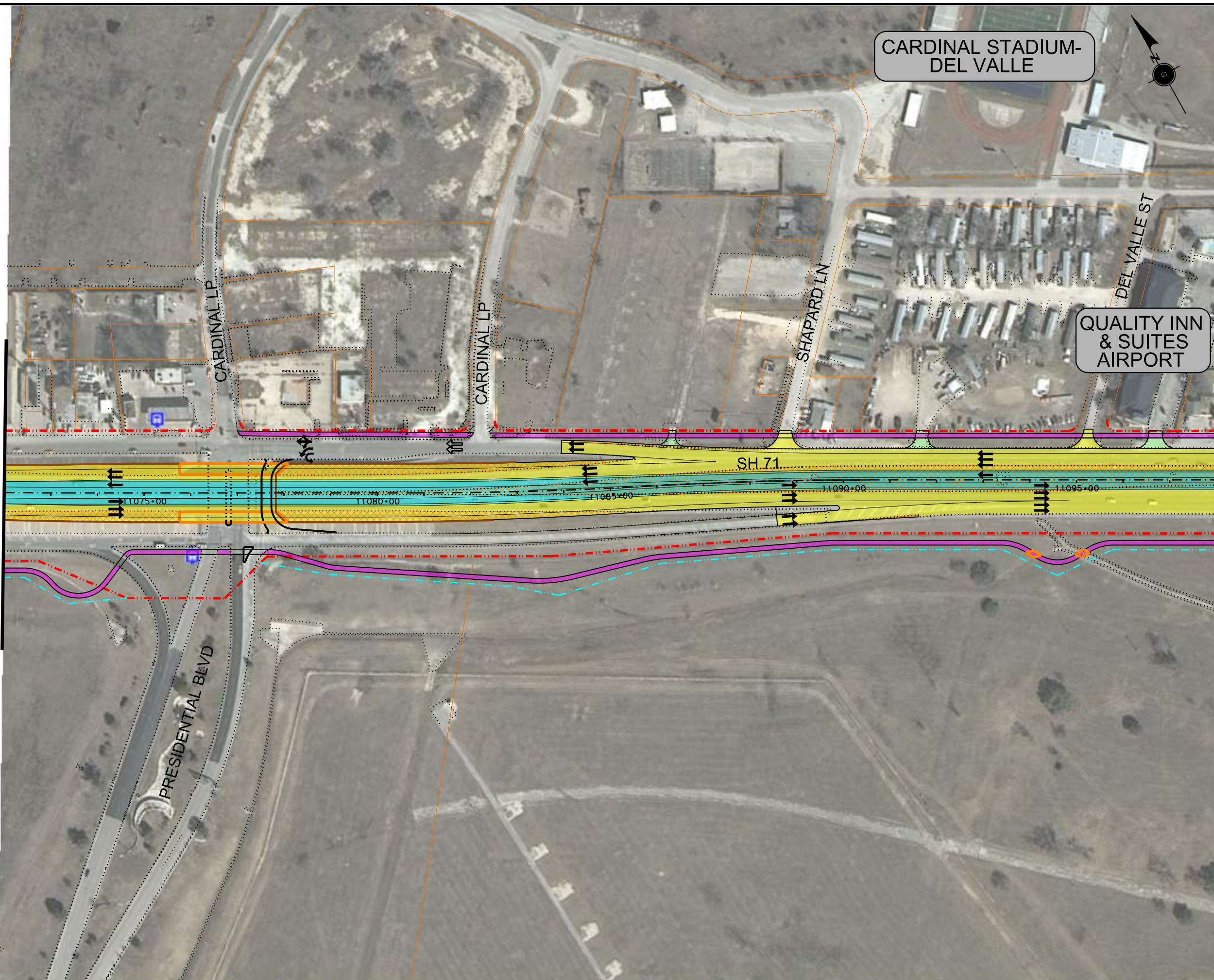
Date of Aerial Photo: 2011

APPENDIX A
PLAN VIEW

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas

MATCHLINE C

MATCHLINE D



CARDINAL STADIUM-
DEL VALLE

QUALITY INN
& SUITES
AIRPORT

- LEGEND**
- ROW
 - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - ↑ DIRECTION OF EXISTING TRAVEL LANES
 - ↑ DIRECTION OF PROPOSED TRAVEL LANES
 - + CAPITAL METRO STOP TO REMAIN
 - + CAPITAL METRO STOP TO BE REMOVED
 - + PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



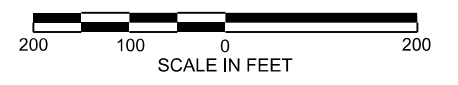
MATCHLINE D

MATCHLINE E

LEGEND

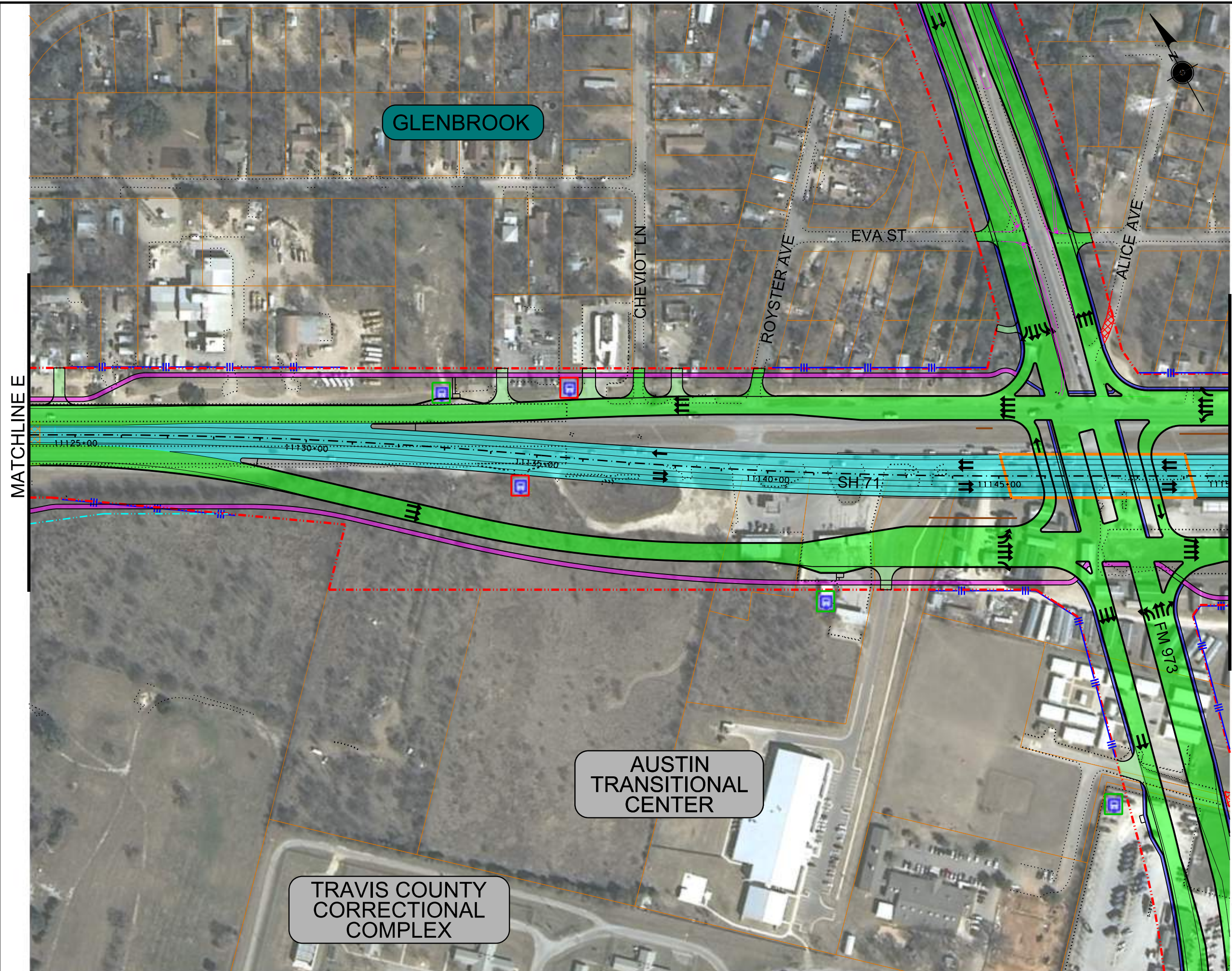
- - - ROW
- - - LIMIT OF SHARED USE PATH CONST
- EXISTING CONTROL OF ACCESS
- FUTURE CONTROL OF ACCESS
- PARCEL LINE
- PROPOSED BASELINE
- - - EXISTING EDGE OF PAVEMENT
- PROPOSED RETAINING WALL
- PROPOSED BRIDGE
- PROPOSED NON-TOLL
- PROPOSED TOLL
- PROPOSED SHARED USE PATH
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
- PROPOSED WIDENING
- PAVEMENT TO BE REMOVED
- ↑ DIRECTION OF EXISTING TRAVEL LANES
- ↑ DIRECTION OF PROPOSED TRAVEL LANES
- P CAPITAL METRO STOP TO REMAIN
- P CAPITAL METRO STOP TO BE REMOVED
- P PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

APPENDIX A
PLAN VIEW
SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



- LEGEND**
- - - ROW
 - - - LIMIT OF SHARED USE PATH CONST
 - - - EXISTING CONTROL OF ACCESS
 - - - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - - - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - ↑ DIRECTION OF EXISTING TRAVEL LANES
 - ↑ DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

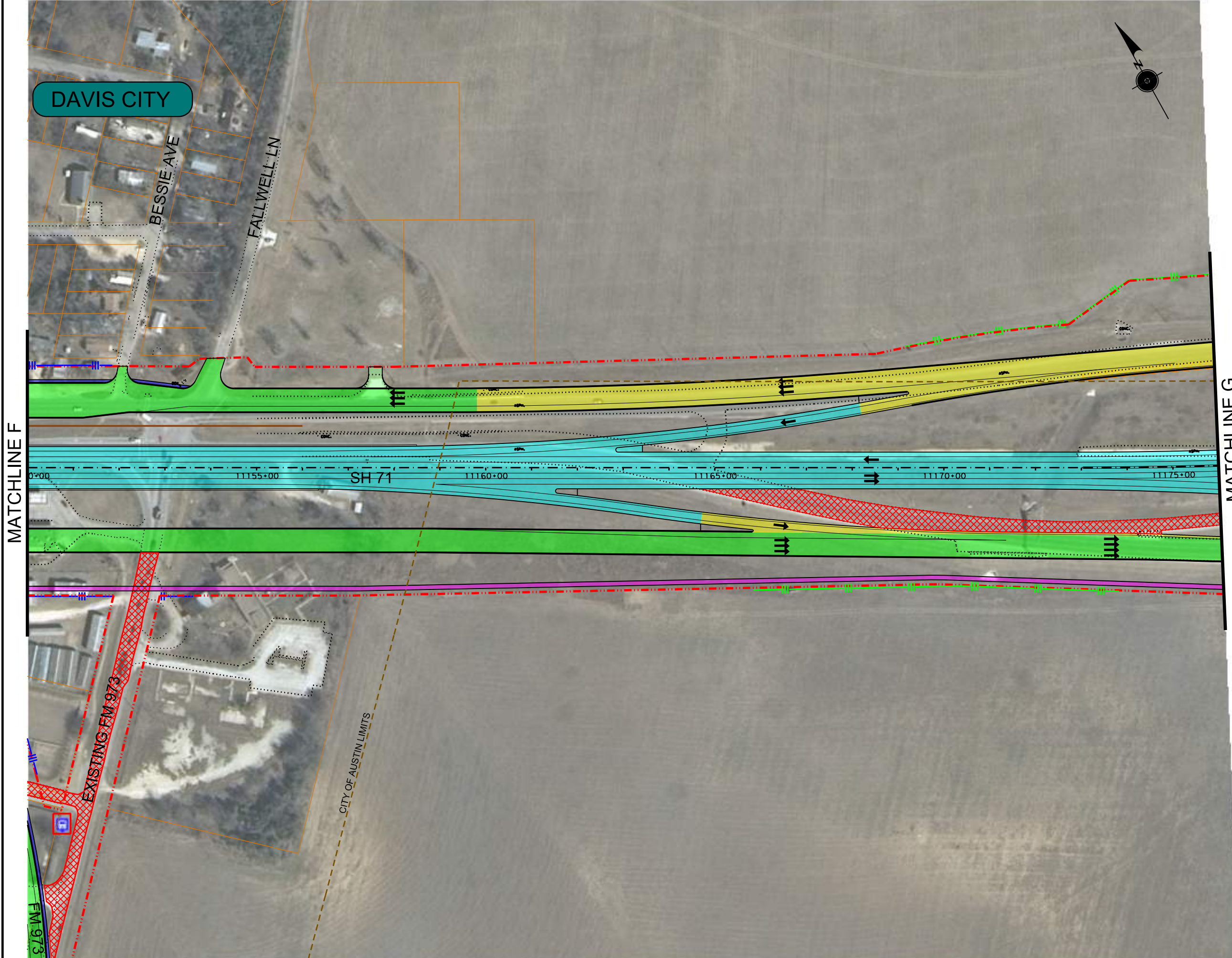
**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



DAVIS CITY

BESSIE AVE

FALLWELL LN

SH 71

EXISTING FM 973

CITY OF AUSTIN LIMITS

11150+00

11155+00

11160+00

11165+00

11170+00

11175+00

- LEGEND**
- ROW
 - - - - - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - ↑ DIRECTION OF EXISTING TRAVEL LANES
 - ↑ DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)



MATCHLINE F

MATCHLINE G

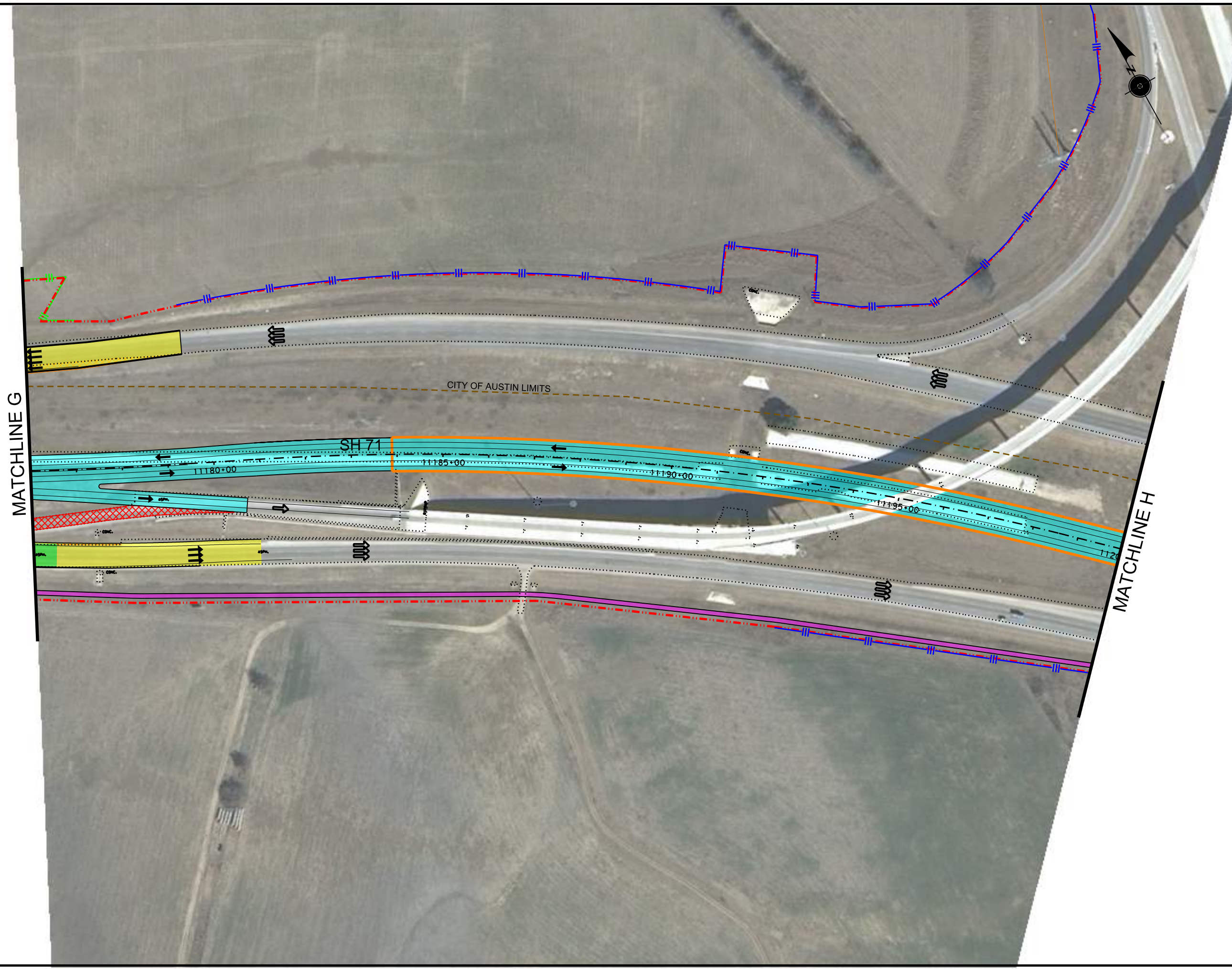
PRELIMINARY
SUBJECT TO CHANGE



Date of Aerial Photo: 2011

APPENDIX A
PLAN VIEW

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



- LEGEND**
- ROW
 - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - DIRECTION OF EXISTING TRAVEL LANES
 - DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

MATCHLINE G

MATCHLINE H

CITY OF AUSTIN LIMITS

SH 71

11180+00

11185+00

11190+00

11195+00

1120+00

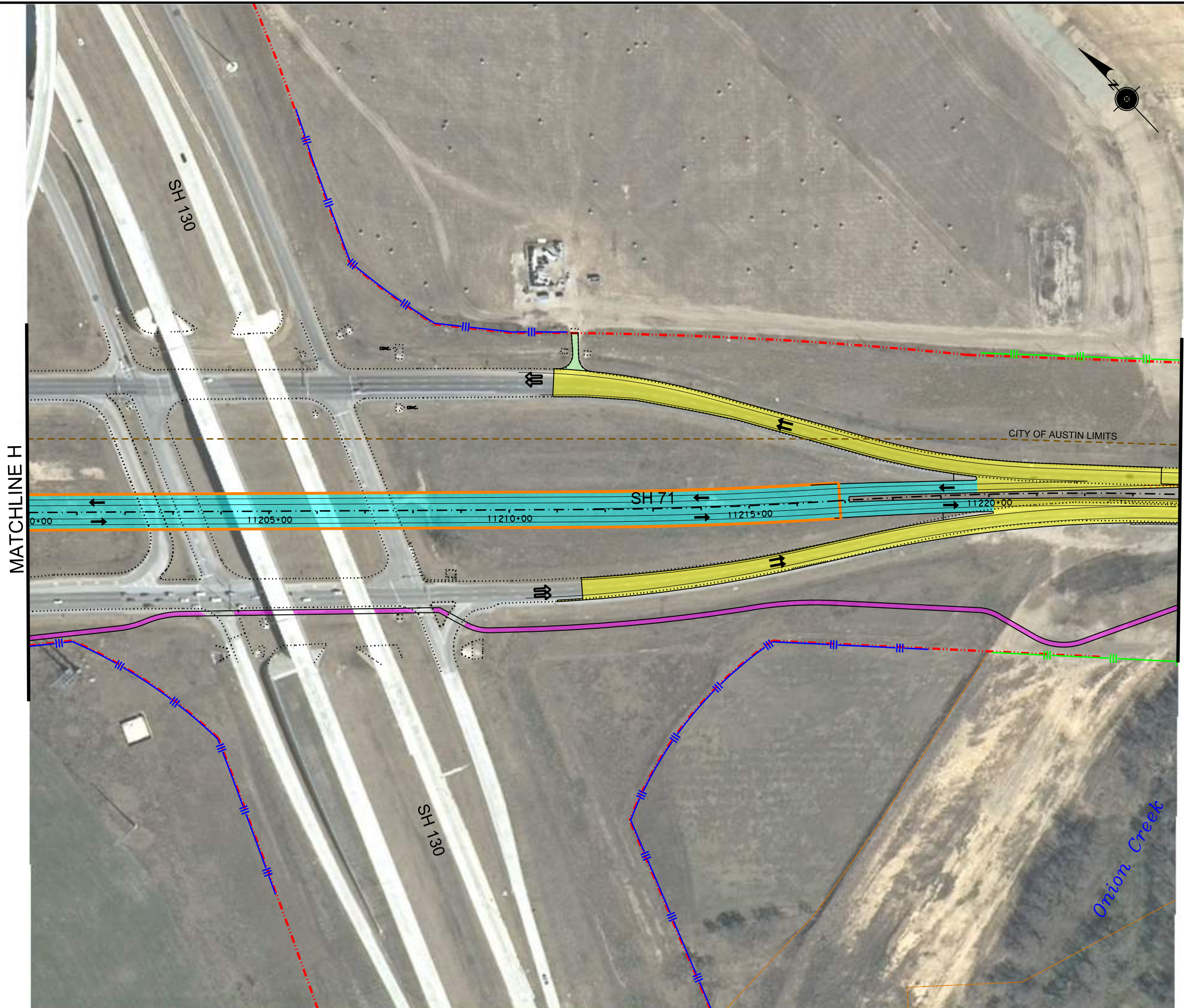
**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



- LEGEND**
- - - ROW
 - - - LIMIT OF SHARED USE PATH CONST
 - - - EXISTING CONTROL OF ACCESS
 - - - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - - - PROPOSED BASELINE
 - - - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - ↔ DIRECTION OF EXISTING TRAVEL LANES
 - ↔ DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

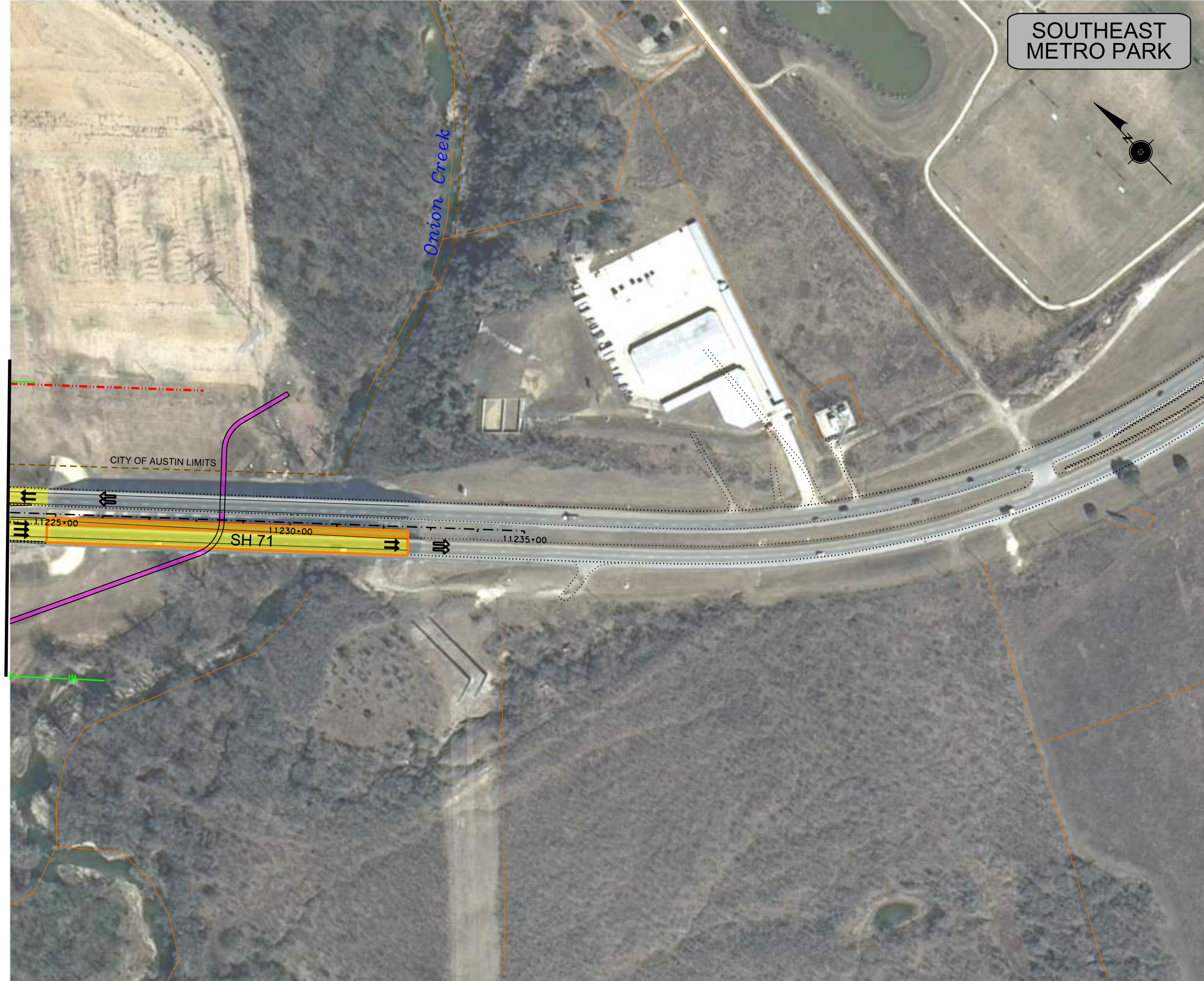
SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas

SOUTHEAST METRO PARK



- LEGEND**
- - - ROW
 - - - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - - - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - PROPOSED BRIDGE
 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - ← DIRECTION OF EXISTING TRAVEL LANES
 - ← DIRECTION OF PROPOSED TRAVEL LANES
 - M CAPITAL METRO STOP TO REMAIN
 - M CAPITAL METRO STOP TO BE REMOVED
 - M PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

MATCHLINE I



**PRELIMINARY
SUBJECT TO CHANGE**

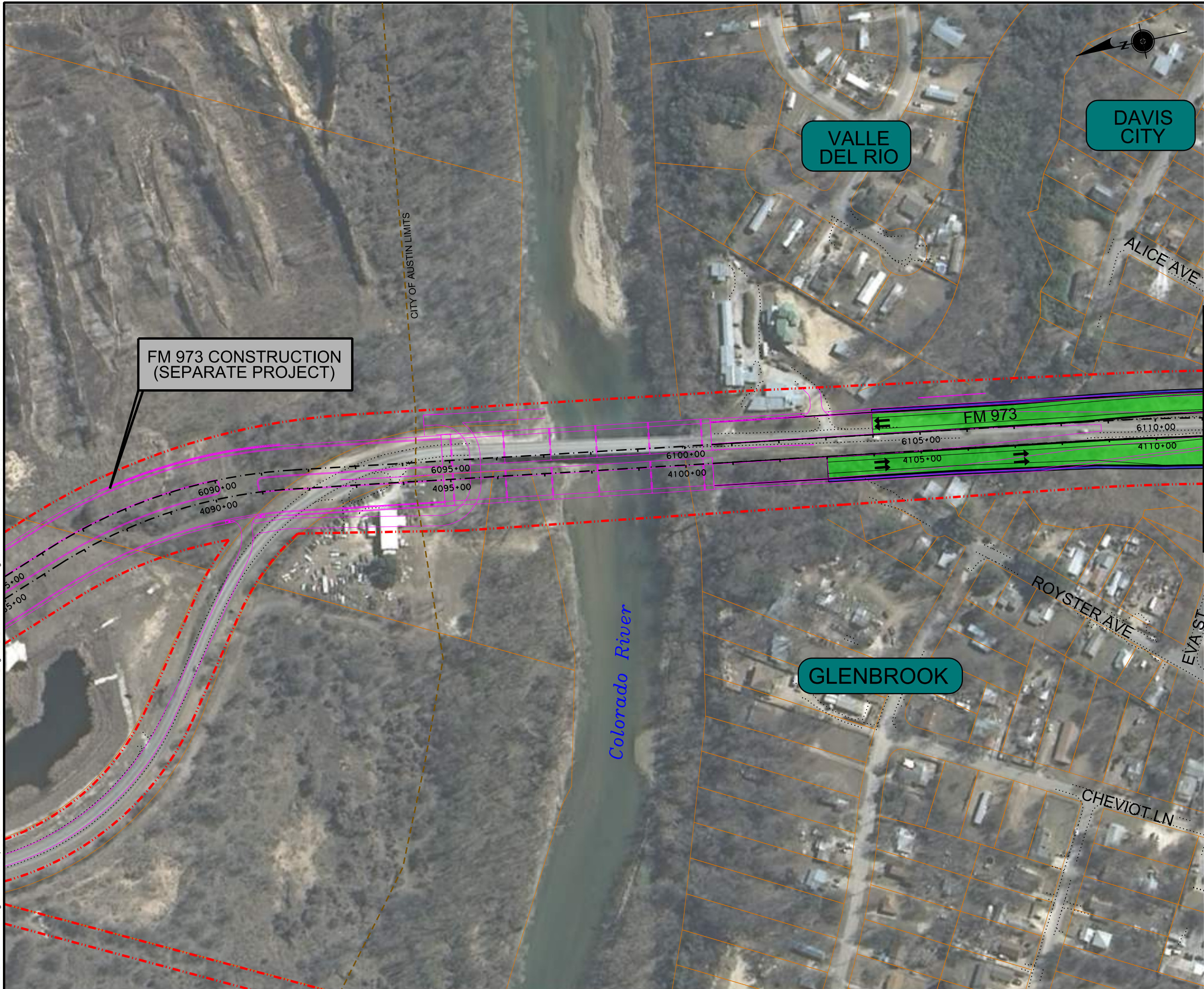


Date of Aerial Photo: 2011

APPENDIX A PLAN VIEW

SH 71 EXPRESS

From Presidential Blvd to SH 130
Travis County, Texas



LEGEND

- - - ROW
- - - LIMIT OF SHARED USE PATH CONST
- EXISTING CONTROL OF ACCESS
- FUTURE CONTROL OF ACCESS
- PARCEL LINE
- PROPOSED BASELINE
- - - EXISTING EDGE OF PAVEMENT
- PROPOSED RETAINING WALL
- PROPOSED BRIDGE
- PROPOSED NON-TOLL
- PROPOSED TOLL
- PROPOSED SHARED USE PATH
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
- PROPOSED WIDENING
- PAVEMENT TO BE REMOVED
- ↔ DIRECTION OF EXISTING TRAVEL LANES
- ↔ DIRECTION OF PROPOSED TRAVEL LANES
- + CAPITAL METRO STOP TO REMAIN
- + CAPITAL METRO STOP TO BE REMOVED
- + PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

NOTE:
THIS SHEET SHOWS THE PART OF THE PREVIOUSLY APPROVED FM 973 PROJECT TO BE CONSTRUCTED WITH SH 71

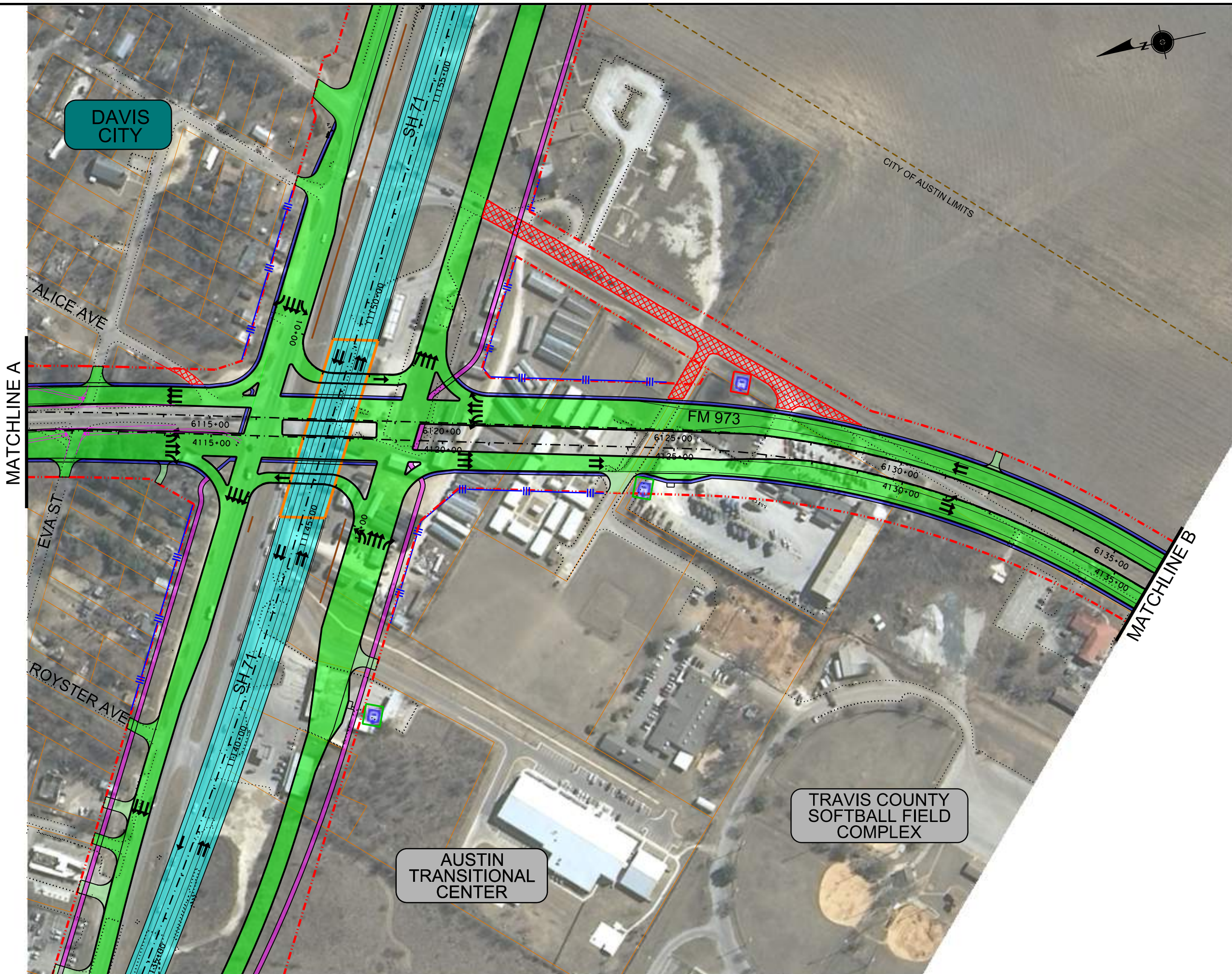
**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



- LEGEND**
- ROW
 - LIMIT OF SHARED USE PATH CONST
 - EXISTING CONTROL OF ACCESS
 - FUTURE CONTROL OF ACCESS
 - PARCEL LINE
 - PROPOSED BASELINE
 - EXISTING EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
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 - PROPOSED NON-TOLL
 - PROPOSED TOLL
 - PROPOSED SHARED USE PATH
 - PROPOSED SIDEWALK
 - PROPOSED DRIVEWAY
 - FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
 - PROPOSED WIDENING
 - PAVEMENT TO BE REMOVED
 - DIRECTION OF EXISTING TRAVEL LANES
 - DIRECTION OF PROPOSED TRAVEL LANES
 - CAPITAL METRO STOP TO REMAIN
 - CAPITAL METRO STOP TO BE REMOVED
 - PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

NOTE:
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**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas

MATCHLINE B



LEGEND

- - - ROW
- - - LIMIT OF SHARED USE PATH CONST
- EXISTING CONTROL OF ACCESS
- FUTURE CONTROL OF ACCESS
- PARCEL LINE
- PROPOSED BASELINE
- - - EXISTING EDGE OF PAVEMENT
- PROPOSED RETAINING WALL
- PROPOSED BRIDGE
- PROPOSED NON-TOLL
- PROPOSED TOLL
- PROPOSED SHARED USE PATH
- PROPOSED SIDEWALK
- PROPOSED DRIVEWAY
- FM 973 (ENVIRONMENTALLY CLEARED, TO BE CONSTRUCTED WITH SH 71)
- PROPOSED WIDENING
- PAVEMENT TO BE REMOVED
- ↔ DIRECTION OF EXISTING TRAVEL LANES
- ↔ DIRECTION OF PROPOSED TRAVEL LANES
- + CAPITAL METRO STOP TO REMAIN
- + CAPITAL METRO STOP TO BE REMOVED
- + PROPOSED CAPITAL METRO STOP (LOCATION SUBJECT TO CHANGE)

NOTE:
THIS SHEET SHOWS THE PART OF THE PREVIOUSLY APPROVED FM 973 PROJECT TO BE CONSTRUCTED WITH SH 71

**PRELIMINARY
SUBJECT TO CHANGE**



Date of Aerial Photo: 2011

**APPENDIX A
PLAN VIEW**

SH 71 EXPRESS
From Presidential Blvd to SH 130
Travis County, Texas



APPENDIX B:
CAMPO TRANSPORTATION IMPROVEMENT
PROGRAM



FYs 2013-2016 Transportation Improvement Program

Adopted: April 9, 2012

Amended: July 10, 2011



www.CAMPOTexas.org

CAPITAL AREA METROPOLITAN PLANNING ORGANIZATION
Travis • Williamson • Hays • Bastrop • Caldwell

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY	PROJECT SPONSOR	YOE COST
AUSTIN	TRAVIS		SH 71	C,E,R,T	CITY OF AUSTIN	TxDOT	\$141,000,000
PROJECT TYPE:	ROADWAY					REV DATE: MPO PROJECT ID: FUNDING CATEGORY: 3, 12 MTP REFERENCE:	
LIMITS FROM:	PRESIDENTIAL BOULEVARD						
LIMITS TO:	EAST OF SH 130						
TIP DESCRIPTION:	ADD TWO TOLL LANES, ONE IN EACH DIRECTION WITH OVERPASSES AT FM 973 AND SH 130.						

REMARKS:
BICYCLE/PEDESTRIAN: BICYCLES AND PEDESTRIAN FACILITIES SHALL CONSIST OF EITHER SHARED-USE PATHS OR SHOULDERS ON THE FRONTAGE ROADS AND SIDEWALKS.

Project History: Amended as new project in 5/2013

Total Project Cost Information:		Cost of Approved Phases:	Authorized Funding by Category/Share:					Funding By Category
			Federal	State	Regional	Local	Local Contribution	
Preliminary Engineering:	\$1,000,000	\$141,000,000						
Right Of Way:	\$20,000,000		3		\$59,000,000			\$59,000,000
Construction:	\$5,000,000		12 (Proj. Development)	\$48,800,000	\$13,200,000			\$62,000,000
Construction Engineering:	\$103,000,000		12 (ROW)	\$16,000,000	\$4,000,000			\$20,000,000
Contingencies:	\$5,000,000							
Indirects:	\$7,000,000							
Bond Financing:								
Total Project Cost:	\$141,000,000		Funding by Share:	\$64,800,000	\$76,200,000			\$141,000,000

DISTRICT	COUNTY	CSJ	HWY	PHASE	CITY	PROJECT SPONSOR	YOE COST
AUSTIN	TRAVIS	0016-01-108	LOOP 275	C	CITY OF AUSTIN	TXDOT	\$8,492,810
PROJECT TYPE:	ROADWAY					REV DATE: 04/2012 MPO PROJECT ID: FUNDING CATEGORY: 7 MTP REFERENCE:	
LIMITS FROM:	EBERHART LANE						
LIMITS TO:	FOREMOST DRIVE						
TIP DESCRIPTION:	RECONSTRUCTION OF EXSITING ROADWAY TO A FOUR-LANE DIVIDED MAJOR ARTERIAL ROADWAY. CAPITAL METRO IS INVESTING \$18M IN BUS RAPID TRANSIT ALONG THIS PROJECT						

REMARKS:
BICYCLE/PEDESTRIAN: BICYCLE: MINIMUM OF WIDE OUTER LANES; PEDESTRIAN: SIDEWALKS

Project History: 1/2011: STP MM ADDED TO FY 2014

Total Project Cost Information:		Cost of Approved Phases:	Authorized Funding by Category/Share:					Funding By Category
			Federal	State	Regional	Local	Local Contribution	
Preliminary Engineering:	\$0	\$8,492,810						
Right Of Way:	\$0		7	\$6,794,248			\$1,698,562	\$8,492,810
Construction:	\$8,492,810							
Construction Engineering:	\$0							
Contingencies:	\$0							
Indirects:	\$0							
Bond Financing:	\$0							
Total Project Cost:	\$8,492,810		Funding by Share:	\$6,794,248		\$1,698,562		\$8,492,810



June 27, 2013

Mr. Greg Malatek, P.E.
District Engineer
Texas Department of Transportation - Austin District
P.O. Drawer 15426
Austin, TX 78761 – 5426


Dear Mr. Malatek:

On June 10, 2013, the Transportation Policy Board took several actions:

- 2035 Regional Transportation Plan amendments (Attachment A) and the
- FYs 2013 – 2016 TIP amendments (Attachment B) and;
- FYs 2014 and 2015 Unified Planning Work Program (Attachment C)

The Plan and TIP amendments were subject to a Tier 2 process as described in CAMPO's Public Participation Program. Copies of the signed resolutions approving the amendments and the FYs 2014 and 2015 Unified Planning Work Program are attached to this letter.

We ask that the State Transportation Improvement Program be updated to include the approved TIP amendments, the Plan amendments be forwarded to FHWA and the UPWP be submitted to the South Region for further processing.

Please call me at 512.974.2275 if you have questions.

Sincerely,



Maureen McCoy
Director

Attachments

copy (email): Robert Tally, FHWA
Jose Campos, FHWA
Robert Patrick, FTA
Donald Koski, FTA Region VI
Ed Collins, TxDOT – Austin District
Karen Dunlap, TxDOT – PTN
Lori Morel, TxDOT – TPP



RESOLUTION

**Acknowledging Transportation Policy Board Adoption of Amendments to the
CAMPO 2035 Regional Transportation Plan**

WHEREAS, pursuant to federal law, the Governor of the State of Texas designated the Capital Area Metropolitan Planning Organization (CAMPO) as the Metropolitan Planning Organization for the Austin region in 1973; and

WHEREAS, CAMPO's Transportation Policy Board is the regional forum for cooperative decision-making regarding transportation issues in Bastrop, Burnet, Caldwell, Hays, Travis and Williamson Counties in Central Texas; and

WHEREAS, CAMPO is required to create a long-range Metropolitan Transportation Plan covering a time period of at least 20 years; and

WHEREAS, CAMPO is required to adapt a new long range plan every five years; and

WHEREAS, CAMPO adapted the CAMPO 2035 Regional Transportation Plan on May 24, 2010 and amended the Plan on January 10, 2011, October 10, 2011, April 9, 2012, October 8, 2012 and April 8, 2013; and

WHEREAS, CAMPO received requests from regional partners to amend the CAMPO 2035 Regional Transportation plan as part of an out of cycle amendment; and

WHEREAS, CAMPO has an adopted Public Participation Plan that identifies public involvement requirements for plan adoption or amendments and the requested amendments were subject to the Tier One public participation process; and

WHEREAS, CAMPO published all requested amendments and supporting information; and

WHEREAS, the CAMPO Technical Advisory Committee met on May 22, 2013 and voted unanimously to recommend approval of requested amendments, including the reduction of project limits on Turnersville Road; and

WHEREAS, CAMPO staff recommends to the Transportation Policy Board approval of the requested amendments, including the modifications to Turnersville Road, as submitted by Hays County on May 29, 2013; and

NOW, THEREFORE BE IT RESOLVED that the CAMPO Transportation Policy Board hereby votes to approve the requested amendments to the CAMPO 2035 Regional Transportation Plan as reflected in the attachment to this Resolution, with a modification to the SH 71(E) project stating that bicycles shall be accommodated either on shared-use paths or shoulders on frontage roads; and

Hereby orders the recording of this resolution in the minutes of the Transportation Policy Board; and

BE IT FURTHER RESOLVED that the Board delegates the signing of necessary documents to the Board Chair.

The above resolution being read, a motion to approve the amendments to the CAMPO 2035 Regional Transportation Plan as shown in the Attachment to this Resolution was made on June 10, 2013 by Lee Leffingwell; duly seconded by Sam Biscoe.

Those voting "AYE":


Will Conley	Lee Leffingwell
Clara Beckett	Valerie Covey for Cynthia Long
Sam Biscoe	Sam Biscoe for Jeff Mills
Lee Leffingwell for Sheryl Cole	John Moman
John Cyrler	Matt Powell
Gerald Daugherty	Chris Riley
Joe Don Dockery	Chris Riley for Bill Spelman
George Garver	David Siebold

Those "Opposed": None

Present and Not Voting: Greg Malatek, Bruce Todd

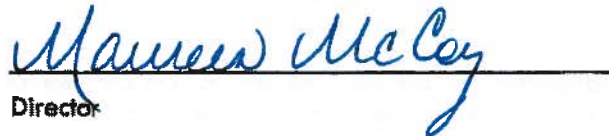
Absent and Not Voting: Victor Gonzales and Daniel Guerrero

SIGNED this 10 day of June, 2013.



Chair, CAMPO Board

Attest:



Director

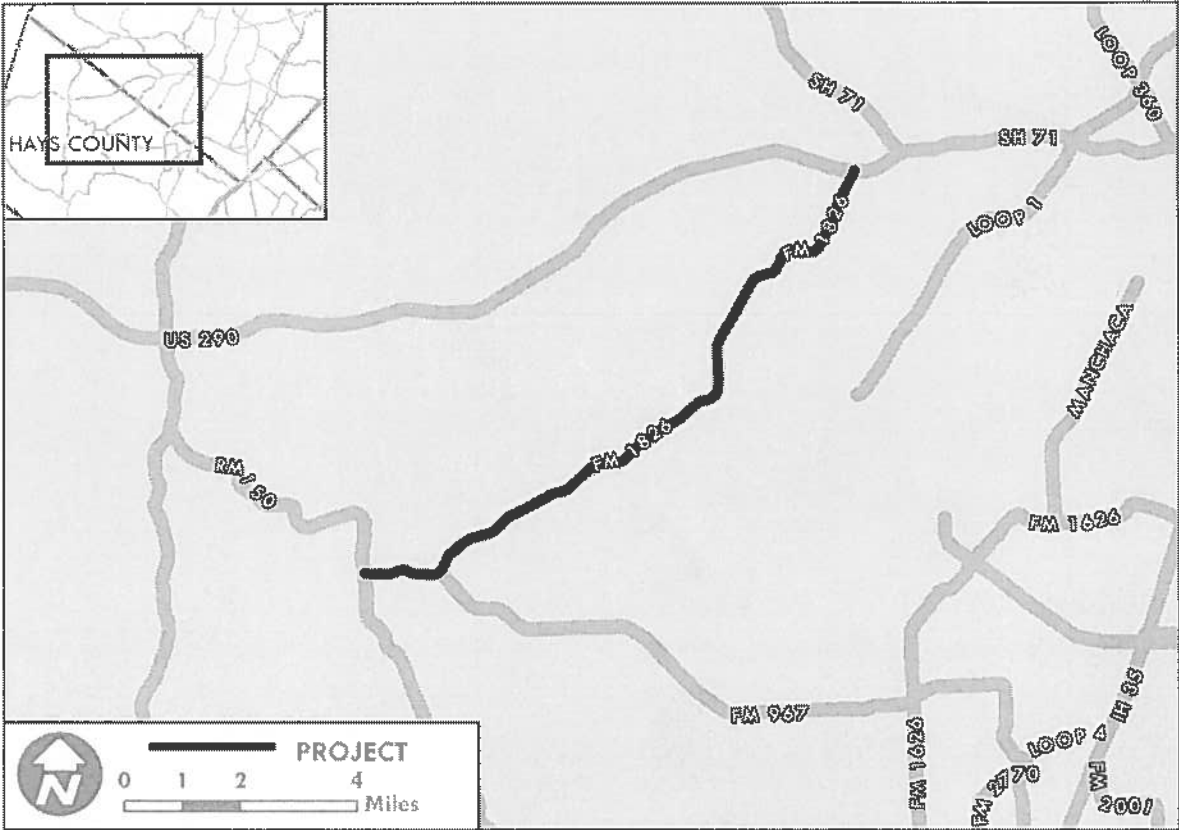
Requested Amendments to the CAMPO 2035 Regional Transportation Plan:
May 2013

Amendment Description	Sponsor	Project	Limits (From)	Limits (To)	Project Description	Proposed/Modified Project Description	Let Date	Open Date	Project Cost and Funding (millions)				Revenue/Cost Savings Offset (millions)					
									Total Project Cost (With Amendment)	2035 Plan Cost Estimate	Additional Cost of Proposed Project	Funding Source 1	Funding Amount 1	Funding Source 2	Funding Amount 2	Funding Source 3	Funding Amount 3	
1 Add project to the Illustrative List	Hays County	RM 1826	US 290 (W)	FM 150	Add project to Illustrative List as a major four-lane divided arterial		N/A	N/A										
2 Add project to the Illustrative List	Hays County	Turnersville Road	Hays/Travis County Line	FM 110	Add project to Illustrative List as a major six-lane divided arterial from FM 150 to FM 2001, and as a major four-lane divided arterial from FM 2001 to the Hays/Travis County Line	Amend Part 1, page 2 of the 2035 Plan by adding two paragraphs after the first paragraph, revising the existing second paragraph to change "five-county" to "six-county," and revising Map 1: Regional Map to include Burnet County. Paragraphs to be added: On March 18, 2013, the CAMPO Transportation Policy Board approved a resolution to the Texas Transportation Commission supporting the inclusion of Burnet County in the CAMPO planning area. On April 25, 2013, the Texas Transportation Commission, serving as the Governor's designee, approved adding Burnet County to the CAMPO planning area. On May 6, 2013, CAMPO initiated the public participation process to amend the 2035 Regional Transportation Plan to include Burnet County. The Transportation Policy Board approved the amendment on June 10, 2013. The five-year update cycle for CAMPO's transportation plan requires a 2040 Regional Transportation Plan to be adopted by the Transportation Policy Board by May 24, 2015. Burnet County will be fully incorporated into the 2040 Regional Transportation Plan and the associated planning process. CAMPO has verified that all Burnet County projects that will be implemented between April 2013 and May 2015 using federal funds and/or requiring federal action are accommodated by the 2035 Regional Transportation Plan's project groupings, and the project groupings include sufficient funding to fund all of these projects.	N/A	N/A										
3 Add Burnet County to the Plan. All projects in Burnet County are considered grouped projects in the 2035 Plan	CAMPO	N/A	N/A	N/A			N/A											
4 Delete existing project ID #596 SH 71 East Access Project for State Complex	TxDOT	SH 71 East Access-Project for State-Complex	East of ABIA-Primary-entrance	West of SH 130	Reconstruct existing 4-lane undivided rural principal arterial to a 6-lane divided urban principal arterial with an overpass at FM 972 and median for future freeway mainlanes. (Contingent on Proposition 1-2 funding)		2015	2017		\$17.4	\$17.4							
5 Add SH 71 East Mobility Improvements Project to the 2035 Plan	TxDOT	SH 71 East Mobility Improvements Project	Presidential Boulevard	East of SH 130	Add two toll lanes, one in each direction, with overpasses at FM 972 and SH 130. Bicycle and pedestrian facilities will consist of either shared use paths or shoulders on the frontage roads and sidewalks.		2014	2016		\$ 141	\$ -	\$ 141	State Funding (SH 130 Concession Funds)	\$59	Strategic Priority (Category 12) Funds and Project Development	\$62	Federal Right of Way Funds	\$20

PROJECT ID: 1

PROJECT: FM 1826

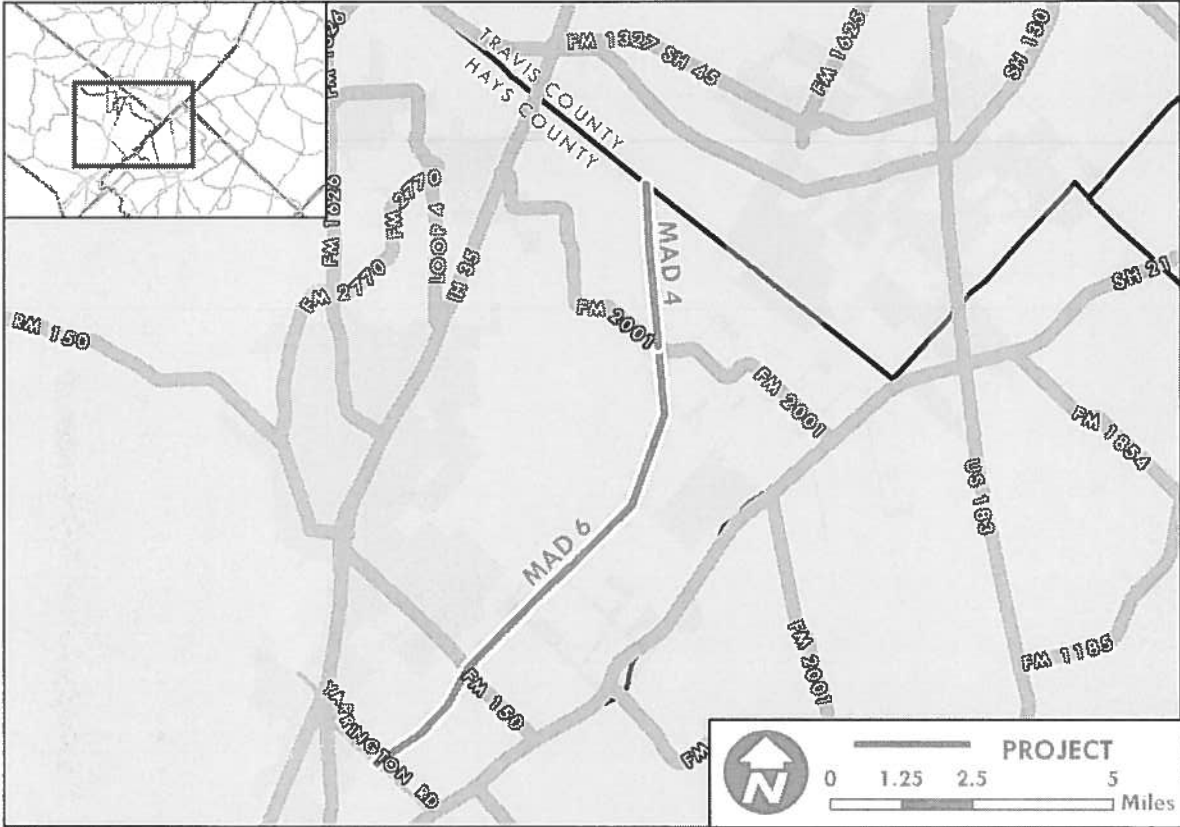
PROJECT SPONSOR(S): HAYS COUNTY



PROJECT ID: 2

PROJECT: TURNERSVILLE ROAD

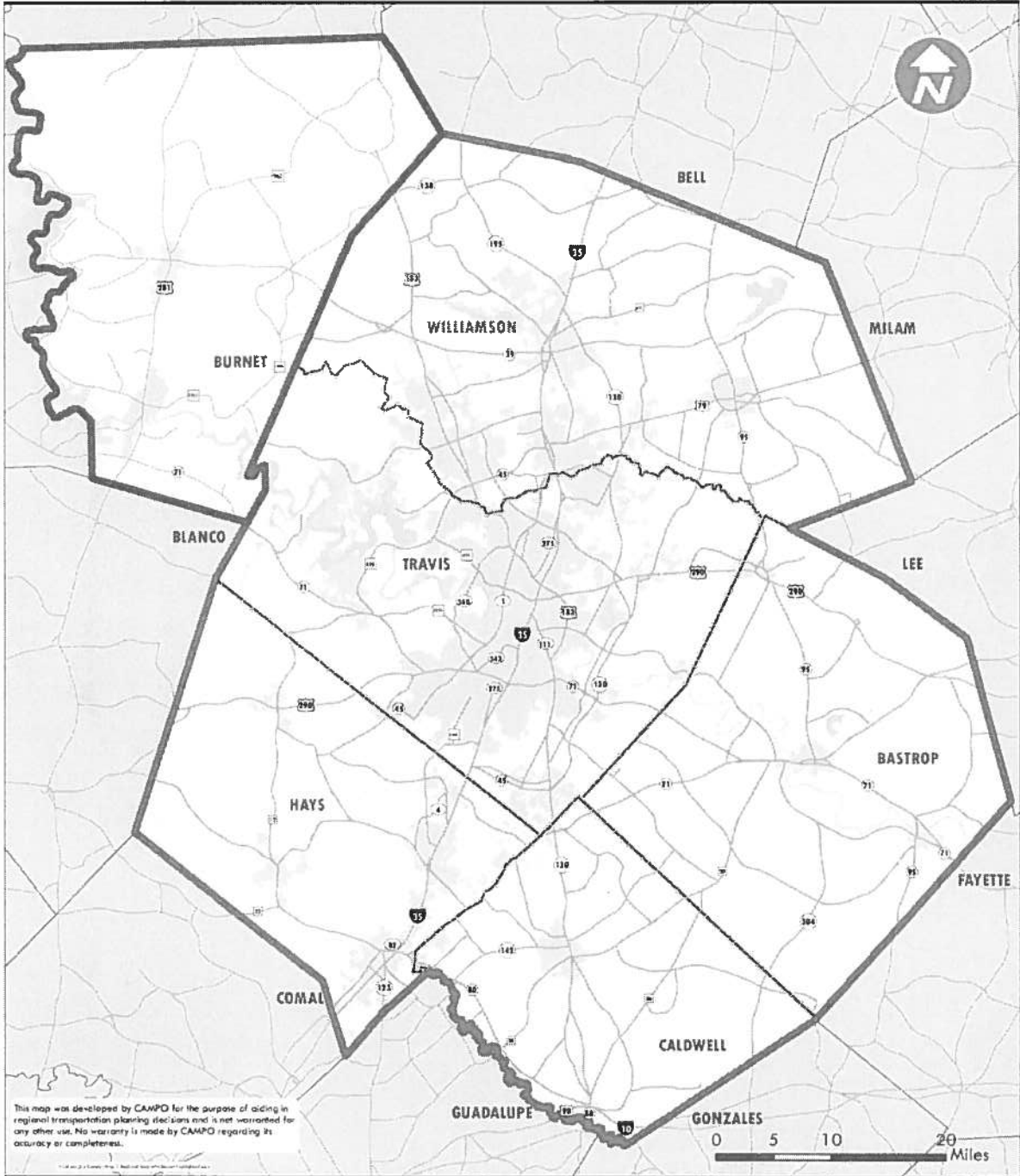
PROJECT SPONSOR(S): HAYS COUNTY



PROJECT ID: 3

PROJECT: ADD BURNET COUNTY AND ASSOCIATED LANGUAGE TO THE PLAN TO ENSURE THE
REGIONAL TRANSPORTATION PROCESS INCLUDES BURNET COUNTY

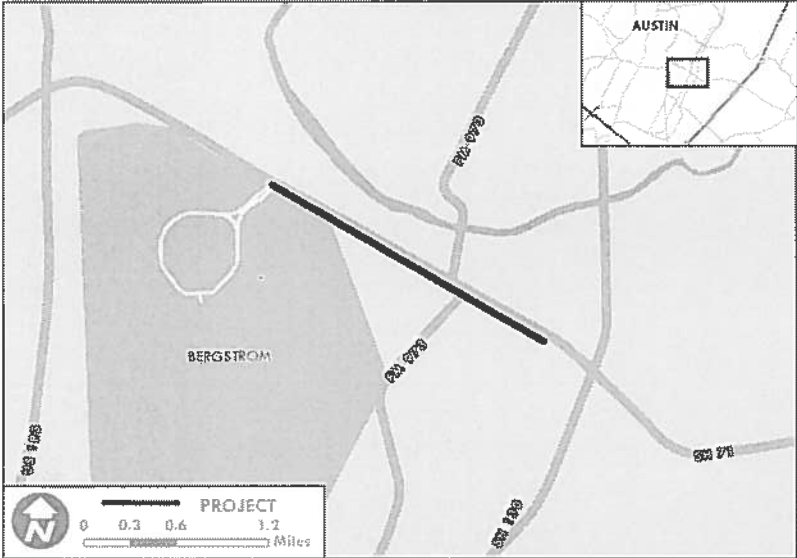
PROJECT SPONSOR(S): CAMPO



PROJECT ID: 4

PROJECT: SH 71 EAST ACCESS PROJECT FOR STATE COMPLEX (DELETE PROJECT)

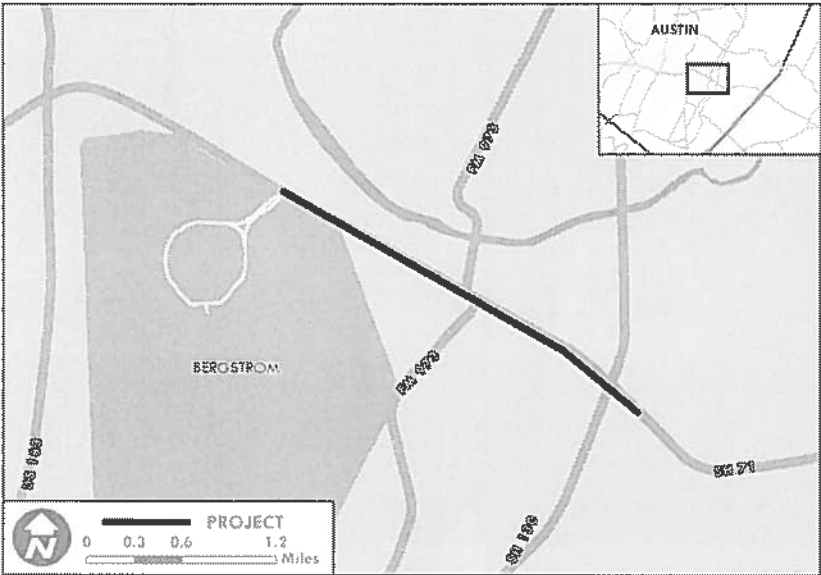
PROJECT SPONSOR(S): TxDOT



PROJECT ID: S

PROJECT: SH 71 EAST MOBILITY IMPROVEMENTS PROJECT (ADD PROJECT)

PROJECT SPONSOR(S): TxDOT





APPENDIX C:
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY
TOLLING POLICY

MOBILITY AUTHORITY POLICY CODE

Chapter 3: OPERATIONS

Article 1. TOLL POLICIES

Subchapter A. TOLL RATES

301.001 Priority of Bond Documents

Notwithstanding any conflicting provision in this subchapter or in a prior resolution adopting the Toll Policies, the toll rates and schedules set forth in this subchapter shall always be sufficient to meet or exceed all covenants and requirements set forth in all applicable bond documents and obligations of the authority. If any conflict arises between the bond documents and this subchapter or a prior resolution adopting the Toll Policies, the covenants and requirements of the bond documents shall control to the extent of such conflict.

301.002 Toll Rates

(a) Each toll established by this section is subject to an adjustment on January 1 of each year under the procedure set forth in Sec. 301.003 (Annual Toll Rate Escalation). The executive director is authorized and directed to edit a toll established by this section to update and certify any change to a toll made pursuant to Sec. 301.003.

(b) The toll for a passenger car (2 axles) charged at each 183A Turnpike toll gantry is as follows:

183A Turnpike Toll Gantry	Transponder Customer Toll (e.g., TxTAG)	Pay By Mail (Video Tolling) Customer Toll
Crystal Falls Ramps	\$0.38	\$0.51
Crystal Falls Mainline	\$0.99	\$1.32
Scottsdale Drive Ramp	\$0.56	\$0.74
Park Street Mainline	\$1.40	\$1.86
Brushy Creek Ramps	\$0.56	\$0.74
Lakeline Mainline	\$0.52	\$0.69

MOBILITY AUTHORITY POLICY CODE

(c) Beginning on the date Phase 1 of the Manor Expressway is open to traffic and ending on the date the entire length of the Manor Expressway is open to traffic, the toll for a passenger car (2 axles) charged at each Manor Expressway toll gantry is as follows:

Manor Expressway Toll Gantry	Transponder Customer Toll (e.g., TxTAG)	Pay By Mail (Video Tolling) Customer Toll
US 183 Direct Connectors	\$0.50	\$0.67
Springdale Road Ramps	\$0.50	\$0.67

(d) Beginning on the date the entire length of the Manor Expressway is open to traffic, the toll for a passenger car (2 axles) charged at each Manor Expressway toll gantry is as follows:

Toll Gantry	Transponder Customer Toll (e.g., TxTAG)	Pay By Mail (Video Tolling) Customer Toll
US 183 Direct Connectors	\$0.53	\$0.71
Springdale Road Ramps	\$0.53	\$0.71
Giles Lane Ramps	\$0.53	\$0.71
Giles Lane Mainline	\$1.06	\$1.41
Harris Branch Parkway Ramps	\$0.53	\$0.71
Parmer Lane Mainline	\$0.53	\$0.71

(e) A vehicle with more than two axles will pay the applicable toll rate for a passenger car (2 axles) times (n-1), with "n" being the number of axles on the vehicle.

MOBILITY AUTHORITY POLICY CODE

301.003 Annual Toll Rate Escalation

(a) The following provisions are fully adopted and made a part of this subchapter and may be incorporated in any Trust Indenture or Supplemental Trust Indenture issued in conjunction with bond financing to be utilized for the financing of the construction and development of projects by the authority (defined terms in these provisions shall be in accordance with the terms and definitions set forth in the Master Trust Indenture and any applicable Supplemental Trust Indenture):

Subject in all instances to the provisions, requirements and restrictions of the Master Indenture, as amended and supplemented from time to time, beginning on October 1, 2012 and on each October 1 thereafter (the "Toll Escalation Determination Date"), a percentage increase in the Toll rates charged on all toll facilities in the Turnpike System will be determined in an amount equal to the Toll Rate Escalation Percentage. The Toll Rate Escalation Percentage, as calculated on each Toll Escalation Determination Date, shall be reported to the board each year at its October board meeting. The percentage increase in the Toll rates shall be effective on the January 1 of the next calendar year, unless at such board meeting the board affirmatively votes to modify the Toll Rate Escalation Percentage. If the board votes to modify the Toll Rate Escalation Percentage, the Toll rate increase to be effective on January 1 of the next calendar year shall be based on the modified Toll Rate Escalation Percentage.

(b) For purposes of determining the Toll Rate Escalation Percentage, the following capitalized terms shall have the meanings given below:

- (1) "Toll Rate Escalation Percentage" = shall mean a percentage amount equal to $[(CPI^t - CPI^{t-12})/CPI^{t-12}]$. In the event the Toll Rate Escalation Percentage is calculated to equal less than 0%, then the Toll Rate Escalation Percentage shall be deemed to equal 0%.
- (2) "CPI^t" = the most recently published non-revised index of Consumer Prices for All Urban Consumers (CPI-U) before seasonal adjustment ("CPI"), as published by the Bureau of Labor Statistics of the U.S. Department of Labor ("BLS") prior to the Toll Escalation Determination Date for which such calculation is being made. The CPI is published monthly and the CPI for a particular month is generally released and published during the following month. The CPI is a measure of the average change in consumer prices over time for a fixed market basket of goods and services, including food, clothing, shelter, fuels, transportation, charges for doctors' and dentists' services, and drugs. In calculating the index, price changes for the various items are averaged together with weights that represent their importance in the spending of urban households in the United States. The contents of the market basket of goods and services and the weights assigned to the various items are updated periodically by the BLS to take into account changes in consumer expenditure patterns. The CPI is expressed in relative terms in relation to a time base reference period for which the level is set at 100.0. The base reference period for the CPI is the 1982-1984 average.

MOBILITY AUTHORITY POLICY CODE

- (3) "CPI^{t-12}" = the CPI published by the BLS in the month that is 12 months prior to the month used to established CPI^t.
- (4) If the CPI is discontinued or substantially altered, as determined in the sole discretion of the authority, the authority will determine an appropriate substitute index or, if no such substitute index is able to be determined, the authority reserves the right to modify its obligations under this section.

301.004 Exemption from Toll

- (a) Users of toll facilities are required to pay the toll established by this subsection unless exempted by state law, or as authorized by the board under state law and the bond documents.
- (b) Pursuant to Sections 370.177, 362.901, and 541.201, Transportation Code, the authority will create technical procedures to ensure that authorized emergency vehicles, as well as state and federal military vehicles, are exempt from paying tolls on the authority's toll facilities.
- (c) Pursuant to Section 370.177, Transportation Code, and to facilitate a multi-modal transportation system that ensures safe and efficient travel for all individuals in Central Texas, public transportation vehicles with a carrying capacity of 16 or more individuals that are owned or operated on behalf of the Capital Metropolitan Transportation Authority or the Capital Area Rural Transportation System are exempt from paying tolls on the authority's toll facilities.

301.005 Discounts and Incentives

- (a) A primary objective of the authority's marketing and public information program is to encourage enrollment of as many customers as possible in interoperable transponder programs. Transponder programs that are interoperable with the authority's facilities currently include the Texas Department of Transportation's TxTag; the North Texas Tollway Authority's TollTag; and the Harris County Toll Road Authority's EZ TAG. The board will determine appropriate introductory and marketing activities on a project-by-project basis by separate resolution, which may include, but not be limited to, those described in subsection (b).
- (b) During the initial start-up phase of tolling on a particular project, incentives to customers may be offered depending on the level of toll tag enrollment, such as the following discounts and incentives:
 - (1) The authority may offer incentives with each new toll project that is opened to encourage ridership.
 - (2) The authority may offer discounts for transponder users from the toll amount paid by Pay By Mail toll customers.

MOBILITY AUTHORITY POLICY CODE

Subchapter B. TOLL COLLECTIONS

301.006 Purpose

This subchapter establishes practices and operations for toll collection systems on designated controlled-access toll roads operating within the turnpike system, and incorporates provisions of Section 370.177, Transportation Code, regarding failure or refusal to pay turnpike project tolls and related penalties and offenses.

301.007 Transponder Account

A customer may establish a transponder account by contacting any interoperable Customer Service Center ("CSC"). A transponder is an electronic device that records the presence of a vehicle on a toll road and is usually attached to the windshield of the vehicle. Each CSC that is interoperable with the authority's toll facilities has its own user agreement concerning requirements to open and maintain a transponder account.

301.008 Unauthorized Transfer of Transponder

A transponder that is interoperable with the authority's toll facilities is for use with one vehicle per transponder, and should not be transferred to another vehicle once the transponder is attached to the original vehicle's windshield. Transfer of a transponder to a vehicle other than the original vehicle is against authority policy. If a transponder is transferred to another vehicle in violation of this section, the authority may refuse to recognize an electronic toll transaction incurred with respect to an unauthorized vehicle.

301.009 Video Billing

(a) The authority offers video billing as payment option for customers that use the authority's toll facilities without a transponder account. The authority, through its Violations Process and Toll Collection Provider (the "Collections Contractor"), will use the license plate information of a vehicle that does not have a valid toll transponder but travels on the authority's toll facilities to determine the registered owner of such a vehicle via an interface with Vehicle Title Registration or similar institution.

(b) The Collections Contractor will send an invoice to the registered owner of the vehicle and accept payment on behalf of the authority. The Collections Contractor will add a \$1.00 handling fee for each invoice. The Collections Contractor will retain the additional toll surcharge and handling fee to cover their cost and forward the toll payments to the authority. All toll bills/invoices require payment within 30 days of the date thereof.

MOBILITY AUTHORITY POLICY CODE

301.010 Establishment of Administrative Fee for Unpaid Tolls

- (a) Section 370.177, Transportation Code, authorizes the assessment and collection of an administrative fee to recover the authority's cost of collecting unpaid tolls. An administrative fee may not exceed \$100.00 per unpaid toll. The authority has determined that such fees may vary depending on how far in the collection process a delinquent account proceeds.
- (b) The current administrative fee shall be applied at each phase of the collection process. This means that upon issuance of a notice of non-payment, a \$15.00 administrative fee shall be collected in addition to the unpaid toll and any other fees that are due.
- (c) If payment is not received in connection with the first notice of non-payment, and a second notice of non-payment is sent, an additional \$15.00 administrative fee shall become due. Therefore, full payment of a second notice of non-payment will require payment of \$30.00 in administrative fees, in addition to all other amounts due.
- (d) If payment is not received in connection with either the first or second notice of non-payment, the unpaid account shall be considered for collection, an additional \$30.00 administrative fee shall become due, and the cumulative administrative fee due shall be \$60.00.
- (e) The board recognizes that the amount of the administrative fee should be subject to periodic change when collection costs and associated matters are considered. Therefore, the board delegates the authority to revise the administrative fee, or any aspect thereof, to the executive director, in consultation with the director of operations, and the executive director may revise an administrative fee by written amendment. The executive director shall give notice to the board of any such revision at the next regularly scheduled board meeting after the revision is put into effect.

301.011 Customer Service and Violation Policies

- (a) A tolerant and customer-friendly approach will be employed towards customers who use the road without paying the required toll. While it is understood that the objective of the authority is to collect revenue and minimize toll violation abuse, the authority believes that a moderate approach towards customers who did not pay the toll ultimately will allow for a period of adjustment as customers begin using the toll roads, and will create new toll customers for the authority.
- (b) The authority will establish a "Violation Processing Center (VPC)" where vehicle images captured at the toll collection point and for which no toll was paid will be reviewed and processed according to authority policies in accordance with the toll enforcement process established by state law. Repeat offenders will be issued notices of nonpayment and will be given the opportunity to make outstanding toll and administrative payments. Failure to respond to the established customer contact process and to satisfy outstanding, unpaid toll amounts will result in the issuance of citation and prosecution in accordance with state law.

MOBILITY AUTHORITY POLICY CODE

301.012 Procedures for Disputing Toll Violations

- (a) A customer may dispute an alleged failure to pay a toll on the authority's web site or by contacting the CSC where a valid transponder account has been established.

- (b) A customer who has contacted a CSC or the authority's collection contractor and has been unable to satisfactorily resolve a dispute regarding a toll violation may submit a written appeal to the authority. Such appeal shall be for the purposes of the customer providing the authority with the information upon which they base their appeal. The authority may or may not determine that there is any merit to such appeal and is not required to undertake any formal proceedings to make such determination.



APPENDIX D:
AGENCY CORRESPONDENCES



March 21, 2013

Mr. Robert F. Tally, Jr., P.E.
Division Administrator
Federal Highway Administration
300 East 8th Street, Rm 826
Austin, Texas 78701

RE: Request for Environmental Classification
State Highway (SH) 71 from US 183 to State Highway (SH) 130
Travis County

Dear Mr. Tally:

The Texas Department of Transportation (TxDOT) is proposing improvements to SH 71 from US 183 to SH 130 in Travis County. The project would consist of interchange reconstruction at the SH 71/FM 973 interchange, widening the main lanes of SH 71 from US 183 to west of FM 973, and construction of a freeway section with managed lanes and frontage roads from FM 973 to SH 130 with transitions at each end. The total length of the project is approximately 4.0 miles.

The TxDOT Austin District (AUS) and Environmental Affairs Division (ENV) request a determination that a Categorical Exclusion (CE) would be the appropriate environmental document for this proposed project. The preparation of a CE is consistent with the promulgation of new federal regulations stemming from the enactment of Moving Ahead for Progress in the 21st Century (MAP-21). In those regulations, Congress categorically excludes projects that may have previously required the preparation of an environmental assessment or an environmental impact statement for any project within an operational ROW (Section 1316 of MAP-21). Considering Congressional directive for these project types and the current rule being undertaken by FHWA for the new regulations, TxDOT believes this project could presently be classified as a categorical exclusion under 23 CFR 771.117(d).

TxDOT believes preparation of a CE is appropriate because the purpose of the proposed improvements is to make improvements that will improve mobility, traffic operations, and safety along this section of SH 71. The project is anticipated to be constructed within the existing right-of-way (ROW) and is not expected to have any significant environmental impacts.

OUR GOALS

MAINTAIN A SAFE SYSTEM • ADDRESS CONGESTION • CONNECT TEXAS COMMUNITIES • BEST IN CLASS STATE AGENCY

An Equal Opportunity Employer

PROJECT DEVELOPMENT

This proposed project is not currently included in the Transportation Improvement Program (TIP) FY 2013-2016 or the 2035 Metropolitan Transportation Plan; however both of these plans would be amended prior to any request for a final action on the categorical exclusion. Additionally, the Capital Area Metropolitan Planning Organization (CAMPO) regional toll analysis will be reviewed and updated, if applicable.

EXISTING FACILITY

Existing SH 71 is a divided highway consisting of main lanes and partial frontage roads and partial access control along this section. This section contains interchanges at Presidential Boulevard and SH 130 and a grade separation at FM 973.

The number of existing travel lanes on SH 71 varies throughout the project limits. From Thornberry Road to Spirit of Texas Drive, SH 71 has four 12-foot wide through travel lanes and a deceleration lane/exit ramp to Spirit of Texas Drive (eastbound) and an entrance ramp west of Spirit of Texas Drive (westbound). Additionally, there is a 12-foot right turn lane and acceleration lane at Thornberry Road. The inside and outside shoulder width through this section varies but is usually 10-foot wide.

From Spirit of Texas Drive to west of Presidential Boulevard, there are three 12-foot wide through travel lanes and an auxiliary lane/exit ramp both eastbound and westbound at Presidential Boulevard. Also, there are entrance ramps to SH 71 west of Presidential Boulevard (for westbound traffic) and east of Presidential Boulevard (for eastbound traffic). The inside shoulder width through this section is 11-foot, while the outside shoulder width varies but is usually 10-foot wide.

From west of Presidential Boulevard to Del Valle Street, SH 71 has two 12-foot wide through travel lanes with a right hand turn lane at Del Valle Street (westbound). There is a 6-foot wide outside shoulder throughout this section and no inside shoulder.

From Del Valle Street to SH 130, there are three 12-foot lanes with a variable inside shoulder width (2-foot to 4-foot) and a 4-foot outside shoulder width. Along this section of SH 71 there are numerous left and right turn lanes both eastbound and westbound, as well as the turning movements associated with the SH 71 superstreet. There is a deceleration lane associated with a right turn at Golfcourse Road and a deceleration lane (eastbound) and acceleration lane (westbound) associated with a U-turn from eastbound SH 71 to westbound SH 71 at SH 130.

SH 71 east of SH 130 has two 12-foot wide through travel lanes with variable inside shoulder widths and a 10-foot wide outside shoulder. Left and right turn lanes exist at Ross Road.

The ROW in this area varies from 270 feet to 550 feet. The existing posted speed on SH 71 is 60 miles per hour (mph). Traffic signals are along SH 71 at FM 973, SH 130, Ross Road and along the frontage roads at Spirit of Texas Drive and Presidential Boulevard.

SUMMARY OF PROJECT PURPOSE

Construction on the current divided SH 71 facility was completed in 1968 and no major improvements have been made to the roadway other than operational improvements including the superstreet project on SH 71 and the FM 973 project currently under construction. The traffic volumes on this section have steadily increased with the ADT from 2011 showing 53,000 vehicles up from 43,000 vehicles 10 years earlier. SH 71 serves as the major roadway leading to Austin Bergstrom International Airport, for daily commuters from Bastrop, and serves as one of two routes for traveling to Houston from the Central Texas area. As the population continues to grow in the Central Texas area, traffic congestion on this facility will only worsen if improvements to operations aren't undertaken. The purpose of the project is to improve traffic operations by:

- Providing additional travel lanes to improve congestion;
- Upgrading SH 71 to current roadway design standards including a proposed interchange at FM 973 and construction of a new bridge over SH 130;
- Providing access from SH 130 to SH 71;
- Providing frontage road continuity throughout the limits of the project; and

PROPOSED FACILITY

Four managed lanes, two in each direction, are being proposed for this facility. The managed lanes would begin east of Presidential Boulevard and end just east of SH 130. Existing and proposed frontage roads would remain as general purpose lanes. There are no managed lanes proposed west of Presidential Boulevard. In this area of the project, an additional westbound lane would be added from Thornberry Road to Spirit of Texas Drive for a total of five lanes: four through traffic lanes and an entrance ramp/acceleration lane.

From Presidential Drive to west of FM 973, four 12-foot main lanes with 10-foot shoulders will be constructed. Improvements to SH 71 from FM 973 to SH 130 will include the addition of two 12-foot managed lanes in each direction. Frontage roads will be constructed through this section consisting of three 12-foot lanes in each direction with 14-foot right turn lanes at intersections.

At SH 130, one 12-foot managed lane would be constructed in each direction with a 4-foot inside shoulder and a 10-foot outside shoulder. Three 12-foot wide frontage road lanes would be constructed in each direction at this location.

The project would transition east of SH 130 to approximately Ross Road from one 12-foot wide managed lane in each direction and three frontage roads in each direction to two 12-foot lanes in each direction.

The proposed project would address bicycle and pedestrian accommodations in accordance with current FHWA, TxDOT and CAMPO guidance.

LOGICAL TERMINI

The logical termini being proposed for the project would be from US 183 to SH 130 with transitions at each end.

POTENTIAL ENVIRONMENTAL ISSUES

Based on information obtained from previous environmental studies conducted in this vicinity, the project is not anticipated to directly, indirectly, or cumulatively induce significant impacts to planned growth; cause significant environmental impacts to natural, cultural, recreational, historic, or other resources; cause significant impacts to air, noise, or water quality; relocate significant numbers of people; or cause significant impacts on travel patterns. Environmental studies are currently underway to determine impacts.

In addition, access changes and managed lanes are often a source of concern to affected businesses, adjacent property owners and the traveling public. Public involvement is scheduled for this project and businesses and property owners, as well as the general public, will be provided an opportunity to provide input and ask questions. It is anticipated that the project would be constructed within existing ROW. No controversy is currently known or anticipated. All findings would be documented in the CE and related project files. A public hearing will be held for this project.

The TxDOT AUS District and TxDOT ENV requests your concurrence to prepare a CE for the proposed SH 71 project from US 183 to SH 130 to be analyzed for added capacity. If a CE classification were determined to be appropriate for the proposed action, it would be prepared using the TxDOT Environmental Affairs Division *Standards of Uniformity for Categorical Exclusions* and submitted for review and approval.

Your consideration and attention to this request is appreciated. Should you have any questions or require additional information, please contact me at 512.416.2734.

Sincerely,



Carlos Swonke, P.G.
Division Director
TxDOT Environmental Affairs Division

Concur: _____ Date: _____
Federal Highway Administration

Jon Geiselbrecht

From: Mike Walker
Sent: Tuesday, April 16, 2013 3:38 PM
To: Jon Geiselbrecht
Subject: FW: SH 71

Would you file this please?

Thanks.

From: Doug Booher
Sent: Tuesday, April 16, 2013 3:27 PM
To: Justin.Ham@dot.gov
Cc: Mike Walker; Vicki Crnich; Sonya Hernandez; Lorena Echeverria de Misi; Marisabel Ramthun; Carlos Swonke
Subject: RE: SH 71

Hi Justin,

Per our discussion at the meeting today, we will revise the project limits to SH 71 from Presidential Blvd to SH 130.

Thanks,

Doug

From: Justin.Ham@dot.gov [<mailto:Justin.Ham@dot.gov>]
Sent: Friday, April 12, 2013 8:44 AM
To: Carlos Swonke
Cc: Doug Booher; Mike Walker; Vicki Crnich; Sonya Hernandez
Subject: SH 71

Mr. Swonke,

We have received your letter requesting environmental classification of the SH 71 project from US 183 to SH 130 dated March 21, 2013. After reviewing the information provided in your letter and subsequent meetings with TxDOT ENV and Austin District staff, we believe the most appropriate NEPA classification is an environmental assessment (EA). We believe an EA will provide a thorough analysis of the proposed project and identify any potential impacts associated with the project. As always, should a significant impact be identified during the process, the proposed project would require the initiation of an Environmental Impact Statement to continue moving forward.

We understand this proposed project is a high priority for the Austin District and has a very demanding draft schedule for completing the NEPA process. We will do everything we can to help streamline the environmental process along the way. We look forward to working with you on this important transportation project.

If you ever have any questions, please don't hesitate to contact me.

Sincerely,

Justin Ham, P.E.
Federal Highway Administration
512-536-5954



MEMORANDUM

TO: 850 File, SH 71; from Presidential Boulevard East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District

re: No Survey Warranted, No historic properties affected

FROM: Jon Budd Staff Archeologist

DATE: July 11, 2013

SUBJECT: Internal review under the First Amended Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation (TxDOT), the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU), as well as the Memorandum of Understanding (MOU) between the Texas State Historic Preservation Officer and TxDOT.

The above referenced proposed project would use federal funds to improve approximately 2.85 miles of the existing State Highway (SH) 71 located southeast of Austin in Travis County. Most of the current SH 71 roadway consists of six 12 foot travel lanes, a 12 to 20 foot wide median, and two 4 foot wide shoulders. However, exit and entrance ramps consisting of 12 foot wide travel lanes are located near US 183 and at SH 130. Most of the proposed roadway would consist of eight 12 foot wide travel lanes (two of them tolled), two 4 foot wide buffers to be located between the tolled and non-tolled lanes, a 24 foot wide median, and two 10 foot wide shoulders. However as SH 71 approaches US 183 and passes SH 130, the proposed SH 71 roadway would consist of eight 12 foot wide travel lanes (2 tolled), two 4 foot wide buffers between the tolled and non-tolled lanes, a 22 foot wide median, and two 4 foot wide shoulders. Some of the travel lanes and or entrance/exit ramps transitioning onto US 183 and SH 130 would be elevated. Six foot wide sidewalks and pavement striping for bicycles may also be included. All cross drainage structures would be widened to accommodate the wider roadway. The project will involve utility relocations. All work would be limited to the existing SH 71 right of way (ROW). No new ROW or easements would be required.

The undertaking's area of potential effects (APE) is defined as the existing 210 to 720 foot wide SH 71 ROW beginning at Presidential Boulevard and extending east 2.85 miles to Onion Creek Bridge. According to typical roadway design, the depth of impacts would be up to 40 feet below the current ground surface for cross drainage and overpass structure supports and no more than 40 inches for the remainder of the project. The APE encompasses approximately 339 acres.

According to the Montopolis (3097-213) and Webberville (3097-213) quads of the Texas Archeological Sites Atlas, 100% of the APE has been previously assessed archeologically. In addition to the information listed on the atlas, TxDOT conducted or sponsored investigations

No Survey Warranted: SH 71; from Presidential Boulevard East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District July 11, 2013

within the current APE. All of the available Texas State Historic Preservation Officer (TSHPO) consultations applicable to the current APE are listed in Table 1 below.

Table 1: Previous Texas State Historic Preservation Officer Archeological Consultation
Austin: Travis: SH 71 from Presidential Boulevard to Onion Creek: CSJ: 0265-01-110
July 10, 2013 Jon Budd – TxDOT Staff Archeologist

TxDOT Letter Date	TSHPO Concurrence Date	Texas Antiquities Permit No.	CSJ(s)	Limits	New Right of Way?	Archeological Sites within Current APE	Comments
1979	Unknown	None Department of Water Resources (EPA)	None	Unknown	NA	41TV443 41TV453	41TV443 initially recorded east of Onion Creek 41TV453 initially recorded west of Onion Creek – No documentation online regarding TSHPO consultation results.
June 5, 1985	3/20/1987 3/30/1987	None TxDOT	0113-08-037 0113-09-030 0113-13-065	SH 71: US 290 West of Oak Hill East to US 183	Yes	None	Although illustrated on the Texas Archeological Sites Atlas extending to FM 973 North, the 1985 coordination letter states US 183 as the eastern terminus. The atlas may be in error.
Oct. 31, 2001	11/7/2001	None TxDOT	0113-04-024	SH 71: West of Woodward Street East to FM 973	No	None	TSHPO concurred with recommendations for no survey and no effect.
April 4, 2002	4/12/2002	2692 PBS&J Now known as Atkins International	0440-06-004 0440-06-005 0440-06-006	SH 130: US 290 South to Lockhart (Segment B: Report B-1)	Yes	41TV443 41TV453	Surveyed only a portion of the current APE located east of FM 973. TSHPO concurred with recommendations for no further work for surveyed areas. 41TV443 and 41TV453 located in non-surveyed areas. Some areas were not surveyed due to ROE issues.
Sept. 9, 2003	9/4/2003	2692 PBS&J Now known as Atkins International	0440-06-004 0440-06-005 0440-06-006	SH 130: US 290 South to Lockhart (Segment B: Report B-2)	Yes	41TV443 41TV453	With this installment of the SH 130 survey, extensive area of the current APE located east of FM 973 has surveyed and coordinated. TSHPO concurred with recommendations for no further work for surveyed areas. In addition, TSHPO concurred that the portions of 41TV443 and 41TV453 overlapping onto SH 130 APE are not contributing elements to the NRHP eligibility and do not warrant designations as SALs. This report also straightened out discrepancies in the reporting of areas subject to survey and areas not surveyed due to lack of permission to enter private properties.
June 7, 2005	June 8, 2005	3001 Hicks and Company	0440-06-005 0440-06-006	SH 130 Additional Properties: Segment B, Segments 3 and 4: Sections 13 and 14:	Yes	41TV453	This investigation surveyed areas added to the SH 130 APE after the PBS&J assessment. The TSHPO

No Survey Warranted: SH 71; from Presidential Boulevard East to Onlon Creek, CSJ: 0265-01-110, Travis County, Austin District July 11, 2013

				Parcel Nos. 354, 360, 361, 362, and 377			concurrent with recommendations of no effect of the areas surveyed and that the portion of 41TV453 overlapping onto the additional SH 130 APE does not contribute elements to the NRHP eligibility and does not warrant designations as SAL.
August 24, 2005	August 24, 2005	3245 HDR formally Paul Price and Associates	0113-13-069	SH 71: From US 183 to FM 973: 38 acres of proposed new ROW	Yes	None	TxDOT assessed all but 11.8 acres of the proposed new ROW and concluded no further work for these areas. TxDOT then contracted HDR to conduct an intensive survey for the 11.8 acres of proposed new ROW at an unnamed tributary of the Colorado River. The TSHPO concurred with recommendations of no effect.
December 2, 2005	December 2, 2005	3001 Hicks and Company	0440-06-005 0440-06-006	SH 130 Additional Properties: Segment B, Segment 3: Sections 13 Parcel No. 359	Yes	41TV453 and 41TV2159	TSHPO concurred with recommendations for no further work in areas surveyed with the exception of the newly recorded multicomponent site 41TV2159. TSHPO also concurred that the portion of 41TV453 surveyed does not contribute to NRHP eligibility and does not warrant designation as a SAL. Further work in the form of archival research recommended for 41TV2159.
April 24, 2005	May 4, 2005	3001 Hicks and Company	0440-06-005 0440-06-006	SH 130 Additional Properties: Segment B, Segment 3: Sections 13 Parcel No. 359	Yes	41TV2159	The TSHPO concurred that the portion of 41TV2159 located within the APE is not a contributing element to the site's NRHP eligibility and does not warrant designation as an SAL. TSHPO also concurred for no further work for the area investigated.
December 19, 2006	December 20, 2006	4239 PBS&J	0440-06-005 0440-06-006	Remote Sensing for Graves in the Southeast Quadrant of SH 130 and SH 71	No	None	The TSHPO concurred that due to negative results for subsurface anomalies, no further work is required.
July 9, 2013	July 9, 2013	6541 Prewitt and Associates, Inc.	1200-03-028	FM 973 North of Colorado River south to SH 71	Yes	None	As allowed under the PA-TU and MOU, TxDOT found "no historic properties affected" and no SALs affected

APE: Undertaking's Area of Potential Effect
 MOU: Memorandum of Understanding (MOU) between the Texas State Historic Preservation Officer and TxDOT
 NRHP: National Register of Historic Places
 PA-TU: First Amended Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings
 ROE: Right of Entry
 ROW: Right of Way
 SAL: State Antiquities Landmark
 TSHPO: Texas State Historic Preservation Officer
 TxDOT: Texas Department of Transportation

No Survey Warranted: SH 71; from Presidential Boulevard East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District July 11, 2013

According to the Texas Archeological Sites Atlas, there have been a total of 37 archeological sites previously recorded within 1 kilometer (0.625 miles) of the APE. These are listed below in Table 2 below. However, only three of these have portions overlapping onto the current APE. They are (41TV443, 41TV453, and 41TV2159).

Table 2. Historic Properties within 1 km of the Project Area

Name	Designation for NRHP/SAL	Within Project APE
Archeological Site 41TV104	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV141	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV142	Determined Ineligible	NO
Archeological Site 41TV143	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV204	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV217	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV410	Determined Ineligible	NO
Archeological Site 41TV414	Determined Ineligible	NO
Archeological Site 41TV416	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV417	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV418	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV419	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV420	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV421	Determined Ineligible	NO
Archeological Site 41TV422	Determined Ineligible within ROW	NO
Archeological Site 41TV440	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV441	Determined Eligible	NO
Archeological Site 41TV443	Determined Ineligible within ROW	YES
Archeological Site 41TV449- <i>Jones-West Side Cemetery</i>	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV450	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV451	Determined Ineligible	NO
Archeological Site 41TV452	Determined Ineligible	NO
Archeological Site 41TV453	Determined Ineligible	YES
Archeological Site 41TV454	Determined Ineligible	NO
Archeological Site 41TV455	Determined Ineligible	NO
Archeological Site 41TV456	Determined Ineligible	NO
Archeological Site 41TV457	Determined Ineligible	NO
Archeological Site 41TV516	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV1625	Determined Ineligible	NO
Archeological Site 41TV1668- <i>Colorado School & Martin Family Cemetery</i>	Eligible/ Designated as a State Antiquities Landmark	NO
Archeological Site 41TV1690- <i>Greenwood Cemetery</i>	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV1691	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV1862	Unknown or Undetermined Eligibility	NO

No Survey Warranted: SH 71; from Presidential Boulevard East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District July 11, 2013

Name	Designation for NRHP/SAL	Within Project APE
Archeological Site 41TV1988	Determined Ineligible	NO
Archeological Site 41TV2034	Determined Ineligible	NO
Archeological Site 41TV2125	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV2159	Determined Ineligible	YES

As documented in Table 1, the Texas State Historic Preservation Officer (TSHPO) concurred that the portions of these three sites overlapping onto the current APE do not contribute to the sites' eligibility for listing on the National Register of Historic Places and do not warrant designation as a State Antiquities Landmark (please see attached letters).

Historical Maps depicting the APE vicinity dating as far back as 1894 were assessed and the relevant sections are attached to this document. The current alignment of SH 71 constituting the APE was constructed between 1936 and 1955. There appear to at least six houses or commercial buildings on the 1936 and earlier maps that were possibly located in or near the current alignment. However, since the entire APE has been previously assessed and coordinated with the TSHPO, it is TxDOT's opinion that minimal potential exists for related historical archeological deposits to be impacted by the current undertaking.

There are no known cemeteries located in or near the APE. In 2006, Mr. Devon Wood, a local Travis County Cemetery advocate, alerted TxDOT that he had suspicions of an unmarked cemetery being present in the existing ROW in the southeast quad of the current SH 71 and FM 973 south alignment. TxDOT contracted PBS&J Inc., to conduct remote sensing in that area. They did not find any subsurface anomalies and recommended no further work. TxDOT agreed with this recommendation. Please note that this remote sensing was conducted under the PBS&J Statewide Antiquities Permit No. 4239. As documented in Table 1 above, the TSHPO concurred with TxDOT recommendations for no further work for this locale.

According to the attached version of the Austin Sheet of the Geological Atlas of Texas (<http://www.twdb.state.tx.us/groundwater/aquifer/GAT/austin.htm>) and the Department of Agriculture and Soil Conservation Service's Soil Survey of Travis County (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>), the geology and sediments underlying the APE are comprised in part of formations and or sediments that have historically demonstrated potential for the presence of buried intact archeological deposits. However, the entire APE has been previously assessed archeologically and coordinated with the TSHPO. Therefore, regardless of geology and or sediment types within the APE, no historic properties shall be affected.

In regards to Native American tribal consultations, the APE has been coordinated with both tribes possessing a programmatic agreement with TxDOT and those who do not. Please see Table 3 below for information regarding tribal consultations conducted for the APE under previous undertakings.

No Survey Warranted: SH 71; from Presidential Boulevard East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District July 11, 2013

Table 3: Tribal Consultations Conducted for the 0265-01-110 APE Under Previous Undertakings.

TxDOT Letter Date	CSJ(s)	Project and Limits	New ROW	Archeological Sites pertaining to SH 71	Comments
Unknown	Unknown	SH 130 from Georgetown to Seguin	Yes	NA	Initial tribal consultation prior to survey. No records of this consultation have been found in TxDOT files. This consultation was however, referenced in a later letter to tribes.
July 15, 2002	0914-00-121 0914-00-122 0914-00-123	SH 130 from Georgetown to Seguin	Yes	NA	This consultation coordinated the entire SH 130 alignment as well as the initial survey report for the Northern Section (A). The section of SH 130 containing the current SH 71 APE was not yet assessed. This is the letter referencing the previous, initial consultation with tribes.
Sept. 25, 2003	0440-06-004 0440-06-005 0440-06-006	SH 130 Segment B from US 290 south to Lockhart Includes SH 71 from east of FM 973 to Onion Creek	Yes	41TV443 41TV453	Recommendations that the portions of 41TV443 and 41TV453 overlapping onto the current SH 71 APE are not eligible for listing on the NRHP. Recommendations for no further work for areas surveyed where no archeological sites recorded.
May 24, 2005	0113-13-069	SH 71 from US 183 east 3.12 miles to FM 973	Yes 34 acres	No	Recommendations for no historic properties affected and no further work or consultation.
January 27, 2006	0440-06-005 0440-06-006	SH 130 Segment B	Yes	41TV453 41TV1259	Recommendations that the portions of 41TV453 and 41TV1259 overlapping onto the current SH 71 APE are not eligible for listing on the NRHP. Recommendations for no further work for areas surveyed where no archeological sites recorded.
Sept. 17, 2008	1200-03-028	FM 973 from Harold Green Drive extending south 2.8 miles south to 0.5 miles south of SH 71	Yes 70 acres	None	Coordination of APE and commitment for additional consultation if potentially significant archeological sites discovered during survey. Survey has since been conducted and not archeological sites recorded.

APE: Undertaking's Area of Potential Effect
 NRHP: National Register of Historic Places
 ROW: Right of Way
 TSHPO: Texas State Historic Preservation Officer
 TxDOT: Texas Department of Transportation

The current APE has been previously coordinated with the TSHPO and with Native American Tribes multiple times. The TSHPO has concurred with no further work required for the area constituting the current APE. As allowed under the First Amended Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings and the Memorandum of Understanding (MOU) between the Texas State Historic Preservation Officer and TxDOT, TxDOT finds that the inventory of the undertaking is complete, that "no historic properties affected", that no State Archeological Antiquities affected, and no additional survey, work, or consultation is required.

Based on the disturbed nature of the proposed project area (from previous highway construction, utilities, and drainage) it is concluded that the proposed project would have "no effect". Thus, the area does not include settings with reasonable potential to contain archeological historic properties (36 CFR 800.16.(1)) or State Archeological Landmarks (13 TAC 26.12). No further archeological research is recommended and none is proposed.

No Survey Warranted: SH 71; from Presidential Boulevard East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District July 11, 2013

In the event of the discovery of archeological remains during construction, work would cease in the immediate vicinity of the discovery and emergency discovery procedures would be initiated.


Attachments

Project Location Maps

- A. Travis County
- B. 7.5 Minute USGS Topographic Quads
- C. Texas Archeological Sites Atlas
- D. Historical Maps 1894 through 1962
- E. Geologic Atlas of Texas – Austin Sheet
- F. USDS/SCS Soil Survey of Travis County

Texas State Historic Preservation Officer Consultation Letter Copies

Native American Tribal Consultation Letters

Approved by  Date July 25, 2013
For FHWA and TxDOT

Cc w/ attachments: 0265-01-110 project file

Cc w/out attachments: Mike Walker, Austin Dist; Vicki Crnich, ENV PM; Barbara Maley, FHWA

MEMORANDUM

TO: Marisabel Ramthun, Mike Williams, and Jon Geiselbrecht (TxDOT Austin District)

FROM: Brandy Harris, Atkins

SUBJECT: Historic Resources Background Review and Project Coordination Request
Information for Proposed SH 71 Roadway Improvements Project, Austin, Texas
(CSJ Nos. 0265-01-110 and 1200-03-033)

DATE: July 8, 2013

CC: Sharon Becca, Atkins

INTRODUCTION

This memorandum includes the results of a historic resources background review for Texas Department of Transportation's (TxDOT) proposed roadway improvements to State Highway (SH) 71 in Austin, Texas (Figure 1). Project components to be considered include:

- Adding two new toll lanes (one in each direction) from Presidential Boulevard to SH 130
- Reconstructing and realigning the Farm-to-Market Road (FM) 973 intersection at SH 71
- Constructing a bridge over SH 130 and connecting ramps between the new toll lanes and the main lanes of SH 71 and SH 130
- Widening SH 71 between Presidential Boulevard and FM 973 to ensure a minimum of six non-tolled through lanes (three in each direction) will be maintained

All required right of way (ROW) is being acquired under the FM 973 improvement project (CSJ Nos. 1200-03-028 and 1200-03-033) (Figure 1). No new ROW is required for the SH 71 project. Some parcels that are being acquired as part of the FM 973 project fall within the SH 71 project area.

The FM 973 (CSJ Nos. 1200-03-028 and 1200-03-033) project area was previously surveyed for historic resources and received a determination that no historic properties were present in the area of potential effect (APE). As a result, no individual coordination with the Texas State Historic Preservation Officer (SHPO) was undertaken as per the First Amended Programmatic Agreement for Transportation Undertakings (PA-TU) among the Federal Highway Administration (FHWA), SHPO, and TxDOT and the Memorandum of Understanding (MOU) between the SHPO and TxDOT.

The SH 71 project includes parcels surveyed as part of this effort. All work adjacent to previously unsurveyed areas will occur within existing ROW, and more specifically, within the existing median.

In addition to summarizing the background review results and providing recommendations regarding the need for additional work, this memorandum includes information required to complete a Project Coordination Request (PCR) for this project including a detailed project description and a map depicting existing ROW, a 150-foot APE, and a larger historic resources study area extending 1,300 feet from the existing ROW (Figure 1). This memorandum also includes three attachments. The first attachment includes representative photographs of the project area including road features and areas of construction. The second attachment includes copies of agency coordination materials for the FM 973 project referenced above. The third and final attachment includes draft profile schematics for the project.

PROJECT DESCRIPTION

TxDOT is proposing improvements to SH 71 from Presidential Boulevard to SH 130 in Travis County. The project would consist of widening the main lanes of SH 71 from Presidential Boulevard to west of FM 973, construction of SH 71 toll lanes over FM 973 and SH 130, and transitions at each project terminus. The total length of the project is approximately 4.0 miles, and it will be constructed within existing ROW.

From Presidential Boulevard to west of FM 973, the existing three-lane roadway will be widened to four 12-foot lanes. The inside lane will be tolled in the future. At FM 973, two 12-foot toll lanes, one serving as a through lane and the second as an auxiliary lane providing connection to SH 130, will be constructed. The through toll lanes, one in each direction, will continue over SH 130.

The transition at the west end of the project includes widening of the westbound and eastbound main lanes west of Presidential Boulevard and widening of the westbound main lanes near Thornberry Road as well as restriping to provide three continuous 12-foot through lanes with 12-foot auxiliary lanes. The project would transition east of SH 130 to the east end of the Onion Creek Bridge, tying the single 12-foot toll lane in each direction to the existing SH 71. The proposed project would address bicycle and pedestrian accommodations in accordance with current FHWA, TxDOT, and Capital Area Metropolitan Planning Organization (CAMPO) guidance.

The project letting date is August, 2014. Historians considered historic-age resources to include those built prior to 1969 to account for a 5-year buffer in the event that the project letting is delayed. As indicated by secondary research, the period of significance for development in this area extends from the 1920s through the mid-1960s.

SUMMARY OF LITERATURE REVIEW RESULTS

Atkins consulted the Texas Historical Commission's (THC) Texas Historic Sites Atlas to identify previously recorded historic resources within 1,300 feet of the project location (Figure 1). The review sought to identify any resources listed in the National Register of Historic Places (NRHP), designated as Recorded Texas Historic Landmarks (RTHLs) or State Archeological Landmarks (SALs), or other resource types including commemorative Official State of Texas Historical Markers (OTHMs) and cemeteries. No such resources were identified within the 1,300-foot study area.

The records review also identified agency coordination regarding a previous survey conducted for proposed improvements to FM 973 at its intersection with SH 71. This document included documentation and assessment of all historic-age resources within the APE for those improvements, which extended from Harold Green Drive to 0.5 mile south of SH 71 on FM 973 and from Terry Drive to Fallwell Lane on SH 71 (see Figure 1). Though a number of historic-age resources (built prior to 1965) were identified within the APE, none possessed architectural significance and/or maintained historical associations that would qualify them for NRHP inclusion under any of the applicable criteria. The TxDOT Environmental Affairs Division (ENV) and SHPO cleared the project with regard to historic resources in 2009 (Attachment 2).

PRESERVATION CONTACTS FOR TRAVIS COUNTY (UPDATED MAY 2013)

As required in the Standards of Uniformity (SOU) for PCR, the preservation contacts for Travis County are listed below:

Archeology Steward Members

- Kenneth Headrick, 6902 Old Bee Caves Road, Austin, TX 78735; (512) 657-1542
(arrowkhead@yahoo.com)
- Roger Johnson, 2213 Yellow Bird Trl., Austin, TX 78734; (512) 791-9046
(rwjman01@yahoo.com)
- Jim Schmidt, 1104 Maufrais Street, Austin, TX 78703; (512) 478-4898
(jimsch9999@aol.com)
- May Schmidt, 1104 Maufrais Street, Austin, TX 78703; (512) 560-8653
(mayschmidt@aol.com)
- Alice Stultz, 11600 Boulder Lane, Austin, TX 78726; (512) 394-6805
(alicestultz@yahoo.com)

- Robert L. Turner, 12501 Longhorn Parkway, A253, Austin, TX 78732; (512) 363-5773
(robertarc2@sbcglobal.net)
- Bob Ward, 1707 Romeria Drive, Austin, TX 78757; (512) 452-7305
(bobward@wardtopia.com)

Certified Local Government

- Barry Hutcheson, 5803 Burrough Drive, Austin, TX 78745 (Bhutch1965@aol.com)
- Alyson McGee, P.O. Box 1088, 505 Barton Springs Road, Austin, TX 78767; (512) 974-7801
(alyson.mcgee@austintexas.org)
- Steve Sadowsky, P.O. Box 1088, Austin, TX 78767; (512) 974-6454
(steve.sadowsky@ci.austin.tx.us)
- Bob Ward, 1707 Romeria Drive, Austin, TX 78757; (512) 452-7305
(bobward@wardtopia.com)

County Historical Commissioner Chair

- Bob Ward, 1707 Romeria Drive, Austin, TX 78757; (512) 452-7305
(bobward@wardtopia.com)

Marker Chair

- May Schmidt, 1104 Maufrais Street, Austin, TX 78703; (512) 560-8653
(mayschmidt@aol.com)
- Bob Ward, 1707 Romeria Drive, Austin, TX 78757; (512) 452-7305
(bobward@wardtopia.com)

State Board of Review Member

- Kevin Miller, 4407 Monterey Oaks Blvd, Building 1, Suite 110, Austin, TX 78749; (512) 476-0891 (kmiller@swca.com)
- Monica Penick, 4101 Sinclair Ave., Austin, TX 78756; (512) 426-3014
(monica.penick@gmail.com)

THC Commissioner

- Earl Broussard, Jr., 9101 S. MoPac, Bldg. II, Ste. 350, Austin, TX 78746; (512)-327-1011
(earl.broussard@tbg-inc.com)

- August W. Harris, III, P.O. Box 302317, Austin, TX 78703; (512) 320-8808 (Harris-THC@cfs-texas.com)
- Steven Highlander, 1120 S. Capital of Texas Highway, Bldg. 1, Ste. 200, Austin, TX 78746 (512) 334-2901; (shighlander@phiplaw.com)
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- Julian O. Read, 3702 Balcones Dr., Austin, TX 78731; (512) 472-4122 (Julian.Read@cohnwolfe.com)
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- Mark Wolfe, P.O. Box 12276, Austin, TX 78711; (512) 463-6383 (mark.wolfe@thc.state.tx.us)

PROJECT AREA DESCRIPTION AND HISTORIC PROPERTY TYPES

The current project is in a semi-urban portion of Austin near the Austin Bergstrom International Airport. The entire southern portion of the project area south of SH 71 is dominated by the airport and associated resources including runways, parking facilities, and the main terminal building. No historic-age resources associated with this facility or with the former military base historically located on the property are visible from the public ROW.

Beginning near the project's eastern terminus at SH 130, both sides of the highway are undeveloped and in use for agriculture. No historic-age structures are visible on the tracts from the public ROW, and the area has already been determined ineligible for inclusion in a rural historic district due to the presence of SH 130 and increased nonhistoric-age development in the area (Attachment 2). The greatest concentration of historic-age resources in the project vicinity is located near the intersection of SH 71 and FM 973; however, as indicated in the clearance letter in the second

attachment, many of the resources were moved to their current location, and all lacked sufficient integrity and/or architectural significance to qualify for NRHP inclusions despite their potential historic associations with an African American community historically located in the area.

Further west, the SH 71 frontage includes a mix of mid-twentieth-century and nonhistoric-age commercial buildings, a nonhistoric-age trailer park, and a nonhistoric-age commercial parking facility used by airport customers. None of the remnant utilitarian mid-twentieth-century commercial buildings appeared to retain sufficient integrity for NRHP inclusion under Criterion C (see representative examples in the attached photographs), and review of historic aerials suggests that most have been highly altered since their original construction and are surrounded by nonhistoric-age infill.

West of the project's intersection with Thornberry Road, the historian noted several nonhistoric-age residential subdivisions and a large undeveloped tract. There is a circa 1965 neighborhood near the project's western terminus; however, it would be outside of the 150-foot APE generally required for historic resource surveys. The only other historic-age resources observed from the public ROW included one bridge carrying SH 71 over Onion Creek (NBI # 14-227-00265-01-051). Though the structure is originally constructed in 1958, it was reconstructed in 1990. As a result, it does not retain sufficient integrity for NRHP consideration and proposed widening activities at this location would constitute no effect to a historic resource. It was not evaluated as part of the TxDOT historic bridge survey as it was not 50 years of age when that survey was conducted.

ASSESSMENT AND RECOMMENDATIONS

As the current project is sponsored by TxDOT and is receiving federal funding, it is subject to the requirements of Section 106 of the National Historic Preservation Act (NHPA) and Section 4(f) of the Department of Transportation Act. These laws require agencies and entities to take into account the effect proposed undertakings may have on historic (NRHP-listed or -eligible) buildings, structures, objects, districts, etc., within a prescribed APE. According to TxDOT standards, the appropriate APE for this project would be 150 feet from the existing ROW as it is on existing location and does not involve ROW acquisition.

A historic resources background study and records review revealed that there are no previously designated historic resources within the APE or a larger study area extending 1,300 feet from the project area. Additionally, a review of previous survey reports and a field visit suggests there are no historic-age resources within the APE that either qualify for NRHP inclusion or that have not already been determined ineligible for NRHP designation as part of the environmental work for the FM 973 improvements project (see the second attachment).

Finally, as all work will occur within the existing median, there is no chance for direct impacts to historic resources that would require consideration under Section 4(f). The setting in the area has

already been altered by nonhistoric-age construction related to the airport and associated parking facilities and the construction of SH 130. Therefore, there would be little chance for adverse indirect impacts to historic properties under Section 106. As a result, it is recommended that this PCR memorandum and the associated photo documentation be considered sufficient with regard to evaluation of effects to historic resources in association with the proposed project.

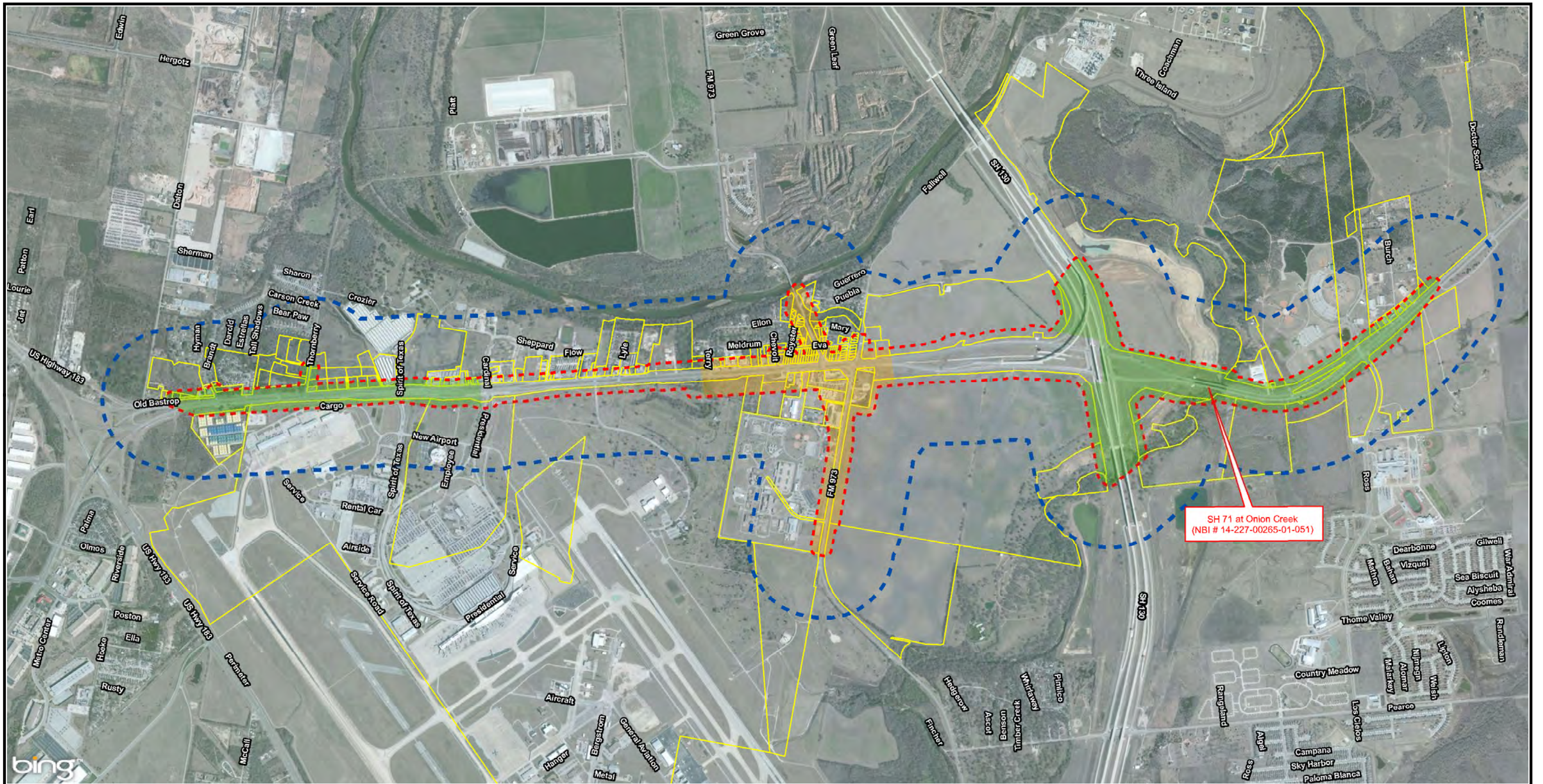
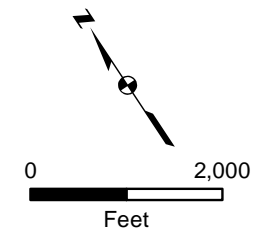


Figure 1
SH 71
Historic Resource Constraints
 Presidential to Onion Creek With
 Grade Separation At FM 973 and SH 130
 Austin, Travis County, Texas

- - - Area of Potential Effects
- - - Study Area
- Area Previously Cleared for Historic Resources
- Transition Area
- Parcels within APE



CSJ: 0265-01-110 and 1200-03-033

Scale: 1 inch = 2,000 feet

Source(s): TNRIS, TARL

Date: 6/26/2013

Texas State Plane, South Central, NAD 83, feet

Attachment 1

Representative Photographs of the Project Area

Attachment 1: Representative Photographs of the Project Area



Setting view from project's eastern terminus towards SH 130, camera facing west



Setting view from project's eastern terminus towards SH 130,
camera facing southwest

Attachment 1 (Cont'd)



Setting view from project's eastern terminus, camera facing east



Setting view from project's eastern terminus, camera facing south

Attachment 1 (Cont'd)



View from intersection of Fallwell and SH 71, camera facing southwest



View towards previously surveyed church (determined ineligible for NRHP inclusion in 2009) at intersection of Fallwell and SH 71, camera facing southeast

Attachment 1 (Cont'd)



View of north side of SH 71 from Fallwell towards previously surveyed neighborhood, camera facing west



North side of SH 71 from FM 973, camera facing southeast

Attachment 1 (Cont'd)



View of previously surveyed dwellings along SH 71 from Royster, camera facing west



Setting view of north side of SH 71 from Royster, camera facing southeast

Attachment 1 (Cont'd)



South side of SH 71 from Royster, camera facing south



View of north side of SH 71 showing examples of mid-twentieth century commercial buildings from Terry Street, camera facing east

Attachment 1 (Cont'd)



South side of SH 71 from Terry Street, camera facing southwest



Representative row of remnant mid-twentieth century commercial resources along south side of SH 71, camera facing east

Attachment 1 (Cont'd)



Example of nonhistoric-age commercial development along south side of SH 71, camera facing north



Setting view, south side of SH 71 towards Del Valle Street showing nonhistoric-age commercial development, camera facing east

Attachment 1 (Cont'd)



Representative view of mobile home park on Shapard Lane, camera facing south



Setting view, south side of SH 71 from Shapard Lane, camera facing south

Attachment 1 (Cont'd)



Setting view from project's western transition area, camera facing southwest

Attachment 2

FM 973 Agency Coordination

File

From: Renee Benn
To: Dennis Nielsen
CC: Bonnie Lister; Carolyn Nelson; Mike Walker
Date: 12/21/2009 1:59 PM
Subject: Travis, FM 973 at SH 71 CSJ: 1200-03-028
Attachments: img-Z21143327-0001.pdf

Dennis,

This project is clear for history! Happy winter!

All:

I note that SH 71 at Riverside has been in the paper. If this will be part of CSJ: 0113-13-093 (SH 71 from Riverside to SH 130) it will be mine to review rather than Carolyn's. Otherwise, send coordination requests to her.

Thanks!

Renee E. Benn
Historic Preservation Specialist,
Environmental Affairs Division,
Texas Department of Transportation
125 East 11th St
Austin, TX 78701

Phone: (512) 416-2611
Fax: (512) 416-2643



MEMORANDUM

TO: 850 File, CRM Project file

District: Austin

County: Travis

CSJ#: 1200-03-028

Highway: FM 973

Project Limits: From Harold Green Dr to 0.5 miles South of SH 71

Project Description: Stipulation VI, widen and realign roadway, construct overpass, replace bridge, 70 acres new ROW, no historic properties in APE

LET: 8/1/2011

FROM: Renee Benn

DATE: December 11, 2009

SUBJECT: Internal review under the First Amended Programmatic Agreement for Transportation Undertakings (PATU) among the Federal Highway Administration, Texas State Historic Preservation Officer, Advisory Council on Historic Preservation, and the Texas Department of Transportation; and the Memorandum of Understanding (MOU) between the Texas Historical Commission and the Texas Department of Transportation

The TxDOT Austin District proposes to widen FM 973 from two lanes with no shoulders to six lanes with open median, shoulders and sidewalks. The substandard intersection of FM 973 and SH 71 is currently at grade and controlled by traffic signals, resulting in severe backups during times of heavy traffic. The north FM 973 intersection with SH 71 is approximately 600 feet to the west of the south FM 973 intersection with SH 71 (see attached maps for clarification). This would be corrected by realigning FM 973 to carry FM 973 over SH 71 using one overpass. FM 973 would also be realigned north of the Colorado River to correct curve geometry. The bridge on FM 973 over the Colorado River would be replaced with two new bridges. Further, SH 71 between Terry Drive and Falwell Lane would be widened to accommodate a future project (CSJ: 0113-13-093). Right-of-way (ROW) of approximately 70 acres is needed to construct the project.

A review of the National Register of Historic Places (NRHP) the list of State Archeological Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHL) indicated that no historically significant resources have been previously documented within the area of potential effects (APE). It has been determined through consultation with the State Historic Preservation Officer (SHPO) that the APE for the proposed project is variable. The APE is 150' where the project follows current roadway alignments and 300' where new location of FM 973 is to be built. A reconnaissance historic resources survey conducted by TxDOT historians revealed that there are 22 historic-age properties (built prior to 1965) within the project APE. The survey included all historic resources on all parcels wholly or partially included within the APE. There are no Official Texas Historical Markers.

History of Project Area:

Del Valle was founded in the late 1870s, with a post office in operation in 1878. By the mid-1880s the community had three churches, a school, a steam gristmill, a general store, two cotton gins, and fifty residents (Smyrl). None of these are extant. By 1900 the population was 75 and in 1907 two schools served about nine white students and 100 black students. The Depression caused a drop in Del Valle's population from 150 in 1927 to 25 in the early 1930s. The construction of the Del Valle Army Air Field

(later known as Bergstrom Air Force Base, now Austin Bergstrom International Airport) in 1942 served to minimally offset the population decline. By the mid-1940s, the population was 125, with 200 residents by the mid-1950s. The majority of the resources in the project area date to this era, as this is when SH 71 was realigned to its present location. The population hovered at around 300 through the 1990s.

Map Research:

TxDOT historians used the Texas Historic Overlay (THO) to conduct historic map research of the project area. The earliest relevant map on the THO is the 1894 Plat map of Travis county, which denotes Del Valle on the Santiago Del Valle land grant.

An 1896 map shows Delvalle as one word, with a road from the Hornsby settlement due south to the Colorado river. The road does not appear to ford the river and is located well east of Delvalle. A road due north from Delvalle terminates at the river. The map also shows nearby communities of Hornsby, Hunter, Garfield, and Webberville, as well as "Moore & Berry's Store" which is a contributing resource of the NRHP listed Moore's Crossing rural historic district.

A 1904 soils map continues to label the community as "Delvalle" with Hunter, Webberville, and Hornsby still extant and much the same road network in place.

A 1931 construction plan sheet for construction of a bridge on SH 71 through Del Valle shows three stores, five houses, a blacksmith shop, and a post office in the community; which was southwest of the project area and has now been absorbed into the Austin International Airport. None of these resources exist today.

On a 1932 map, the road south from Hornsby to the river is no longer in existence. A road to the northeast from Del Valle leads to the "Three Island Ford" and terminates at the river. This map also shows several segregated schools. The Colorado White School, the Colorado Negro School No 2, and the J.B. Norwood Mexican School are all located equidistant from the project area (less than two miles). The built resources of Del Valle are arranged in a linear pattern along the old alignment of SH 71.

Between 1932 and 1936, development along SH 71 became denser with the heaviest concentration of buildings along the north side of SH 71.

During a federal aid project of 1940 (CSJ: 0265-01-010), SH 71 (then known as highway 290) was realigned and the resources of Del Valle proper were eventually absorbed by Bergstrom Air Force Base (AFB). Construction plan sheets show only one structure, labeled as a "shack" (page 16), in the vicinity of this project, with most of the adjoining land used for farming. Three structures are present on the 1932 map in the project area, but none of these match up with locations of extant historic-age resources today. (See attachment). *Therefore, it is highly improbable that any structures dating to prior to this realignment retain integrity of location.* Since the threshold for moved properties is higher than properties that retain their historic location, (Consideration B) the earlier properties in the project area (such as #11 and #13) must retain integrity of design, materials and workmanship or be the surviving structure most importantly associated with a historic person or event. Primary research has not indicated any association of these properties with a historic person or event. Further, these properties are common examples of vernacular architecture and do not demonstrate architectural value.

The neighborhoods along SH 71 on the north side near FM 973 were in place by 1955, and probably developed after the Bergstrom AFB was constructed in 1942. Most of the resources in this project area are small (less than 1000 square feet before non-compatible additions) wood frame residences dating to the 1940s. They are not military/government house types so would have housed civilian personnel if they housed anyone who worked at the base. However, none of the properties demonstrate enough significance to be eligible for NRHP listing due to their common vernacular forms, additions, and lack of design or workmanship.

A 1951 plan sheet for roadside planting project (CSJ: 0265-01-021) is labeled "houses" at the locations of properties 12-18 on the north side of SH 71, west of what was then a county road, now the alignment of FM 973.

On the 1955 USGS map, the road south from Hornsby reappears on the map and terminates at the river. This road would become FM 973 in 1959. It is interesting to note that Bergstrom Air Force Base was built in 1942 yet does not show up on this map.

A 1958 (CSJ: 1200-03-000) construction plan sheet shows few resources, including the Popham school (no longer extant), north of the main driveway into "Bergstrom Field". A small subdivision is shown at the NW quadrant of what would soon become FM 973 (then called "Hornsby Bend Rd" and SH 71).

A 1964 construction plan sheet (CSJ: 1200-03-008) shows the school (#8) in its present configuration and church (#7) at the southeast quadrant of FM 973 and SH 71. The driveway for the church is on FM 973, unlike today, where one accesses the church property from SH 71.

The 1966 USGS map shows heavy development within the boundaries of Bergstrom AFB and is the first map where the base shows up, despite its construction in 1942. There is also a golf course southwest of the project area, still extant today. The FM 973 bridge has been built over the Colorado, with the heaviest residential development to the east and west of FM 973 in small subdivisions, but not directly on the new highway. Heavy residential development is also present along SH 71 as it had been since the mid-1940s.

African American History in project area:

Resources 11 and 13 in the project area are early 20th century wood frame folk architecture dwellings that were most likely moved to their current locations (See above map discussion). Because the area has historically been settled by African Americans, and both the Hornsby and Hunter Plantations were located just across the Colorado from the project area, research was done to see if these resources (#11 and #13) might have associations with these communities north of the river, as homes of tenant farmers. However, historic map research showed two fords at the river located to the east and west of Del Valle proper. The ford west of Del Valle, "Three Island Ford" is near the former Hunter Plantation. No bridge crossed the Colorado at the project location at Del Valle until the FM 973 bridge was constructed in 1958.

Webberville, a historically African American community, is located approximately seven miles away from the project area, too far to have obvious associations with these resources. From these primary sources, one can infer that resources 11 and 13 have slim to no associations with the historically African American communities north of the Colorado. Further, their integrity is such that they are common examples of their type and they are unable to demonstrate significance due to extensive loss of integrity of setting, materials, workmanship, and feeling.

Individual properties of note:

Property #7 is the Del Valle Missionary Baptist church. Built ca. 1940, the rectangular front gabled building features a gable roofed entry, front gabled replacement porch and pyramidal roofed steeple. An addition has been added to the rear and all windows are replacement vinyl. A survey conducted by archeologists of the ROW along SH 71 was negative for unmarked graves. There is no known cemetery associated with this church. The nearest cemetery is located north of the Colorado on the former Hornsby plantation. The building is currently shared by Hispanic and Baptist congregations. A 1995 photo on file at the Austin History Center shows two doors on the north elevation of the building near the rear. One has been filled in, and one has been replaced with a window. As a religious property, the church does not derive primary significance from its architecture or artistic distinction. Secondary histories of the area including the nearby Bergstrom International airport mitigation and the Handbook of Texas online articles on Del Valle, as well as internet sources, revealed no local historical significance. Therefore the property does not meet NRHP Criteria Consideration A for religious properties.

Property #8 is the former Del Valle Opportunity Center. It has been abandoned within the past two years, as a bond was passed in 2007 to relocate the school to another new building. It was sold to a commercial owner who plans to demolish it. The 1957 International style L-plan building has lost substantial integrity of design and materials through the infill of the majority of the windows, most likely for better heating and cooling of the building. An oral interview with the public information officer of Del Valle Independent School District (ISD) confirmed that their records indicate several remodel projects at the property. The architect of the building was Arnold E. Whittmann.

TxDOT historians reviewed the Austin city directories for the years 1930-1960 and found evidence that Mr. Whittmann's offices were located in Austin at 804 E. 45th Street. He first appeared in the street listing for the address in 1935, and last appears in the 1959 directory under the classified business directory. No other information on the work of Mr. Whittmann has been found.

Phone calls to Del Valle ISD facilities personnel revealed that the building replaced the "La Mar Colored School" shown on historic maps. A 1.1 acre site was sold to the Colorado School district in 1939 and contained the La Mar school. In 1957, the Colorado school district bought an additional five acres to build the new school on the property. The Colorado School district became the Del Valle school district in 1962, and the Del Valle community became the center of a large independent school district in 1963 (Smyrl).

The 1955 Quad map denotes the larger "Popham" (named after the superintendent, I. W. Popham) school just north of the entrance to the current Austin airport as well as this property. The 1966 quad map shows an expanded Popham School, a new Del Valle High School adjacent to the Popham school (neither of which are extant), and this property. The Hornsby-Dunlap district was annexed to the Del Valle Independent School District in 1967. (Smyrl)

Because the school has been sold, it no longer demonstrates association with the Del Valle School District. It is not known to be associated with the life of a significant person. It is a common example of a mid-twentieth century International style school building that lacks integrity of materials design and workmanship due to alterations. TxDOT historians have determined this property is not eligible for NRHP listing under any criteria.

Property #22 is the FM 973 bridge at the Colorado River. In compliance with Section 110 of the National Historic Preservation Act and the Memorandum of Understanding between TxDOT and the Texas Historical Commission, TxDOT historians evaluated the bridge to establish its historical significance. In accordance with the registration evaluation criteria established by THC and TxDOT for the 1945-1965 Statewide Bridge Inventory this bridge was determined not eligible for the National Register. The bridge does not possess sufficient design or engineering significance to meet National Register eligibility under Criterion C: Engineering at the state level of significance.

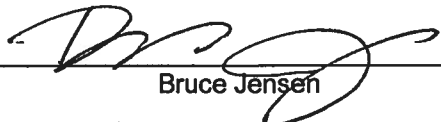
Because the bridge may have local or regional significance TxDOT consulted with the county historical commission (CHC) concerning the historic significance of the bridge. Consultation with the Travis County Historical Commission revealed no local or regional historic significance with respect to the bridge. A copy of the letter, dated November 6, 2007 is included in the attachments. Therefore, this bridge is determined not eligible for listing in the National Register of Historic Places under Criteria A or B.

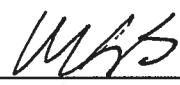
Conclusion:

TxDOT historians evaluated the 17 remaining historic-age properties (consisting of residential and commercial types) and determined that the properties are common designs that lack architectural merit, are not works of a master, and have no known historic associations with important events or persons, and are therefore **not eligible** for NRHP listing under Criterion A, B, or C.

December 11, 2009

Pursuant to Stipulation VI "Undertakings with Potential to Affect Historic Resources" of the PA-TU between the Federal Highway Administration (FHWA), the Texas State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, and the Texas Department of Transportation (TxDOT) and the Memorandum of Understanding (MOU), TxDOT Historians have determined that no historic properties are present and that individual project coordination with SHPO is not required.

Approved by  for TxDOT 12.21.09
Bruce Jensen Date

Lead Reviewer  for TxDOT 12/14/09
M.L.S. Date

Sources:

Texas Historic Overlay (GIS)
Handbook of Texas Online "Del Valle", "Hornsby Bend", "Webberville" and "Bergstrom Air Force Base"
Humphrey, David C. "Austin: An Illustrated History" (used bibliography)
Austin History Center vertical files for Bergstrom Air Force Base and Del Valle, Austin City Directories, Architects files
Texas Historical Commission Atlas
Online: Google maps, Bing maps
TxDOT bridge files
TxDOT historic construction plan sheets
NRHP Nomination "Historic and Architectural Resources of Southeast Travis County"

cc: Dennis Nielsen, Austin District;
Julia Ragsdale, ENV-PM
Adrienne Campbell, THC
Warren Grannis, ENV HIST

Research Efforts

In October 2008, TxDOT staff conducted a windshield survey of this project area as well as the communities of Webberville, Norman's Crossing and Garfield to ensure that no larger rural historic district was present and to see if any cultural landscapes were present. An expert in cultural geography and historic archeology was present for this survey. The area with the greatest concentration of resources that might constitute a possible rural historic district was found near the Hunter Plantation, northeast of the project area and well outside the APE. No cultural landscapes or rural or urban historic districts were found to exist in the APE or study area, and primary research has now confirmed this finding.

During the windshield survey, properties that would require right-of-entry (ROE) during the reconnaissance survey were identified. However, ROE was denied at all properties where requested. It was noted during the windshield survey that construction of SH 130 to the east of the project area possibly undermined the rural nature of the area, as many county roads have been interrupted by this toll road or no longer exist. The circulation patterns of the area have been altered and commercial and residential development brought about by construction of SH 130 has also negatively affected the area's former rural feel.

The reconnaissance survey of historic-age resources in the APE was conducted in October 2009. TxDOT historians conducted research at the Austin History Center in November and December 2009.



MEMORANDUM

SCANNED

10/25/13 lp

ECOS

TO: 850 File, SH 71; from Spirit of Texas Drive East to Onion Creek, CSJ: 0265-01-110, Travis County, Austin District: Construct Shared Use Pathway

re: No Survey Warranted, No historic properties affected

FROM: Jon Budd Staff Archeologist

DATE: October 14, 2013

SUBJECT: Internal review under the First Amended Programmatic Agreement among the Federal Highway Administration, the Texas Department of Transportation (TxDOT), the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU), as well as the Memorandum of Understanding (MOU) between the Texas State Historic Preservation Officer and TxDOT.

Section 106 and Antiquities Code of Texas consultation was previously conducted for this undertaking via an internal review memo dated July 11, 2013 documenting TxDOT's findings that the inventory of the undertaking is complete, that "no historic properties affected", no State Archeological Antiquities affected, and no additional survey, work, or consultation is required. That consultation also documented the undertaking's overall area of potential effects (APE), the geological and sedimentary character of the APE, and the list of archeological investigations and sites previously recorded within 1 kilometer (0.625 miles) of the APE. That memo has been digitally saved in the electronic file of record under CSJ: 0265-01-110.

The proposed undertaking would use federal funds to improve approximately 2.85 miles of the existing State Highway (SH) 71 located southeast of Austin in Travis County between Presidential Boulevard to east of Onion Creek. Since the July 11, 2013 consultation, the project design has changed to incorporate the construction of a shared use path beginning at the Spirit of Texas Drive and extending east to Onion Creek in Travis County, Texas (see attached plan view). The proposed path would be located predominately south of and paralleling SH 71. However a very small amount of it will be located north of SH 71 near Onion Creek. The path will be located both within the existing SH 71 ROW and on proposed new location currently privately owned, and owned by the Austin-Bergstrom International Airport (AIBA). The path will be constructed of concrete and would also include cross drainage structures including a pedestrian bridge that would be installed over an unnamed tributary of the Colorado River. This internal TxDOT memo addresses the Section 106 and Antiquities Code of Texas consultation for the addition of the shared use path to the undertaking.

According to the attached memo and emails, the construction footprint for the shared use path is defined as an area measuring typically 35 feet in width expanding to as much as 90 feet in width at drainage crossings. The path begins at the Spirit of Texas Drive and extends 3.29 miles east. The depth of impacts is estimated to be approximately up to 40 feet below the

current ground surface for cross drainage structure supports and up to 2 feet for the remainder of the project. The construction footprint for the path encompasses a total of approximately 8.75 acres that includes 2.68 acres to be generated from the AIBA property, 1.33 acres of proposed new ROW, and 4.74 acres of existing SH 71 ROW. Please see the attached plan view for more details.

The 4.74 acres of the path that is located within the existing SH 71 ROW is within the footprint of the original APE that was addressed in the above mentioned July 11, 2013 memo. As stated in that memo, the Texas State Historic Preservation Officer (TSHPO) previously concurred with TxDOT recommendations that the portions of the previously recorded archeological sites 41TV453 and 41TV2159 overlapping onto the existing SH 71 ROW do not contribute to the sites' eligibility for listing on the National Register of Historic Places (NRHP) or warrant designation as State Antiquities Landmarks (SAL). Therefore, no further work, survey, or consultation is required for that portion of the current project.

The remaining 4.01 acres are located south of the existing SH 71 ROW on private and ABIA property that has been previously assessed and coordinated under CSJ No. 0113-13-069. That project assessed a total of 38 acres of proposed new ROW located mostly immediately south of the existing SH 71 ROW in an area measuring 88 feet in width and extending east from US 183 to FM 973. The attached project plan view illustrates that the portion of the currently proposed shared use path located south of the existing SH 71 ROW between Spirit of Texas Drive and FM 973 is within that previously coordinated area. On August 24, 2004, the TSHPO concurred with TxDOT recommendations that no further work was required for these 38 acres. A copy of the August 24, 2004 consultation letter is attached.

According to attached sections of the Montopolis (3097-213) and Webberville (3097-213) quads of the Texas Archeological Sites Atlas, there have been a total of 19 archeological sites previously recorded within 1 kilometer (0.625 miles) of the shared use path construction zone. These are listed below in Table 1 below. However, only two of these have portions overlapping onto the shared use path construction zone. They are 41TV453, and 41TV2159. The remaining 17 sites located within 1 kilometer (0.625 miles) are located more than 100 meters away from the construction footprint for the shared use path and will not be impacted.

Table 1. Previously Recorded Archeological Site within 1 km of the Project Area

Name	Designation for NRHP/SAL	Within Construction Zone
Archeological Site 41TV142	Determined Ineligible	NO
Archeological Site 41TV143	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV204	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV217	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV410	Determined Ineligible	NO
Archeological Site 41TV416	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV419	Unknown or Undetermined Eligibility	NO

Name	Designation for NRHP/SAL	Within Construction Zone
Archeological Site 41TV440	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV441	Determined Eligible	NO
Archeological Site 41TV443	Determined Ineligible	NO
Archeological Site 41TV449- <i>Jones-West Side Cemetery</i>	Unknown or Undetermined Eligibility	NO
Archeological Site 41TV451	Determined Ineligible	NO
Archeological Site 41TV453	Determined Ineligible	YES
Archeological Site 41TV455	Determined Ineligible	NO
Archeological Site 41TV457	Determined Ineligible	NO
Archeological Site 41TV1625	Determined Ineligible	NO
Archeological Site 41TV2159	Determined Ineligible	YES
Archeological Site 41TV2347	Determined Ineligible	NO
Archeological Site 41TV2351	Determined Ineligible	NO

The construction footprint for the shared use path where the previously recorded archeological sites 41TV453 and 41TV2159 overlap onto the proposed construction footprint is limited to within the existing SH 71 ROW. These areas are within the previously coordinated SH 71 ROW addressed within the above mentioned July 11, 2013 internal TxDOT memo. Therefore, the portions of 41TV453 and 41TV2159 overlapping onto the construction footprint of the proposed shared use path have previously been determined by the TSHPO as not being contributing elements to these sites' eligibility to the NRHP and do not warrant designation as SALs.

According to the attached 1932 7.5" USGS Topographic Quadrangle Map overlain with the current SH 71 alignment, there were at least two houses or commercial buildings possibly located in or near the shared use construction footprint. However, since the entire construction footprint has been previously assessed and coordinated with the TSHPO, it is TxDOT's opinion that minimal potential exists for significant related historical archeological deposits to be impacted by the current undertaking. There are no known cemeteries located in or near the APE.

According to the current versions of the Austin Sheet of the Geological Atlas of Texas (<http://www.twdb.state.tx.us/groundwater/aquifer/GAT/austin.htm>) and the Department of Agriculture and Soil Conservation Service's Soil Survey of Travis County (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>), the geology and sediments underlying the APE are comprised in part of formations and or sediments that have historically demonstrated potential for the presence of buried intact archeological deposits. However, the entire APE has been previously assessed archeologically and either coordinated with the TSHPO or cleared via an internal TxDOT memo. Therefore, regardless of geology and or sediment types within the shared use path construction footprint, it is TxDOT's opinion that no historic properties shall be affected. Any archeological sites that would be present within the

proposed APE would lack sufficient integrity of location and association to be able to address important questions of prehistory or history (36 CFR 60.4).

The area constituting the construction footprint of the proposed shared use path has been previously assessed archeologically and subject to previous Section 106 and Antiquities Code of Texas consultation resulting in a finding that no further work is required. As allowed under the PA-TU and the MOU, TxDOT finds that the addition of the proposed shared use path to the project design does not change TxDOT's original finding that the inventory of the undertaking is complete, that "no historic properties affected", no State Archeological Antiquities affected, and any additional survey, work, or consultation is not warranted.

TxDOT concludes that the proposed project would have "no effect". Thus, the area does not include settings with reasonable potential to contain archeological historic properties (36 CFR 800.16.(1)) or State Archeological Landmarks (13 TAC 26.12). No further archeological research is recommended and none is proposed.

In the event of the discovery of archeological remains during construction, work would cease in the immediate vicinity of the discovery and emergency discovery procedures would be initiated.

Attachments

Project Location Maps

Travis County

7.5 Minute USGS Topographic Quad(s)

Plan Views

Texas Archeological Sites Atlas

1932 Historical Map

Memos and Emails Stipulating Development Details

Texas State Historic Preservation Officer Consultation Letter Copies CSJ No. 0113-13-069

Approved by _____
For FHWA and TxDOT



Date October 18, 2013

Cc w/ attachments: 0265-01-110 project file

Cc w/out attachments: Mike Walker, Austin Dist; Vicki C. Smith, ENV PM; Barbara Maley, FHWA

SONYA



Federal Aviation
Administration

« OE/AAA

Project Submission Success
Project Name: TXDOT-000260228-13

Project TXDOT-000260228-13 has been submitted successfully to the FAA.

Your filing is assigned Aeronautical Study Number (ASN):

2013-ASW-8968-OE

2013-ASW-8969-OE

2013-ASW-8970-OE

Please refer to the assigned ASN on all future inquiries regarding this filing.

Please return to the system at a later date for status updates.

It is the responsibility of each e-filer to exercise due diligence to determine if coordination of the proposed construction or alteration is necessary with their state aviation department. Please use the link below to contact your state aviation department to determine their requirements:

[State Aviation Contacts](#)

To ensure e-mail notifications are delivered to your inbox please add noreply@faa.gov to your address book. Notifications sent from this address are system generated FAA e-mails and replies to this address will NOT be read or forwarded for review. Each system generated e-mail will contain specific FAA contact information in the text of the message.



<< OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: TXDOT-000260228-13 **Sponsor:** TXDOT

Details for Case : SH 71 at Presidential Blvd

[Show Project Summary](#)

Case Status		Date Accepted: 12/16/2013	
ASN: 2013-ASW-8968-OE		Date Determined:	
Status: Work In Progress		Letters: None	
		Documents: None	
Public Comments: None		Project Documents: None	
Construction / Alteration Information		Structure Summary	
Notice Of: Construction		Structure Type: Bridge	
Duration: Permanent		Structure Name: SH 71 at Presidential Blvd	
if Temporary : Months: Days:		NOTAM Number:	
Work Schedule - Start: 12/01/2014		FCC Number:	
Work Schedule - End: 12/01/2016		Prior ASN:	
<p><i>*For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.</i></p> <p>State Filing:</p>			
Structure Details		Common Frequency Bands	
Latitude:	30° 12' 46.36" N	Low Freq	High Freq
Longitude:	97° 39' 31.37" W	Freq Unit	ERP
Horizontal Datum:	NAD83	ERP Unit	
Site Elevation (SE):	494 (nearest foot)	Specific Frequencies	
Structure Height (AGL):	22 (nearest foot)		
Current Height (AGL):	(nearest foot)		
<p><i>* For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal</i></p>			
Nacelle Height (AGL):	(nearest foot)		
<p><i>* For Wind Turbines 500ft AGL or greater</i></p>			
Requested Marking/Lighting:	None		
	Other :		
Recommended Marking/Lighting:			
Current Marking/Lighting:	N/A Proposed Structure		
	Other : <input type="text"/>		
Nearest City:	Austin		
Nearest State:	Texas		
Description of Location:	The proposed location is the widening of the existing SH 71 bridge over Presidential Blvd.		
Description of Proposal:	The existing SH 71 bridge over Presidential Blvd will be widened as part of the SH 71 Express project. The elevations of the proposed bridge will not change. This is the first of three bridges in the project.		



<< OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: TXDOT-000260228-13 **Sponsor:** TxDOT

Details for Case : SH 71 at FM 973

[Show Project Summary](#)

Case Status		Structure Summary	
ASN: 2013-ASW-8969-OE	Date Accepted: 12/16/2013	Structure Type: Bridge	
Status: Work In Progress	Date Determined:	Structure Name: SH 71 at FM 973	
	Letters: None	NOTAM Number:	
Public Comments: None	Documents: None	FCC Number:	
	Project Documents: None	Prior ASN:	
Construction / Alteration Information		Common Frequency Bands	
Notice Of: Construction		Low Freq	High Freq
Duration: Permanent		Freq Unit	ERP
if Temporary : Months: Days:		ERP Unit	
Work Schedule - Start: 12/01/2014		Specific Frequencies	
Work Schedule - End: 12/01/2016			
<p><i>*For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.</i></p> <p>State Filing:</p>			
Structure Details			
Latitude:	30° 12' 11.38" N		
Longitude:	97° 38' 22.16" W		
Horizontal Datum:	NAD83		
Site Elevation (SE):	463 (nearest foot)		
Structure Height (AGL):	25 (nearest foot)		
Current Height (AGL):	(nearest foot)		
<p><i>* For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal</i></p>			
Nacelle Height (AGL):	(nearest foot)		
<p><i>* For Wind Turbines 500ft AGL or greater</i></p>			
Requested Marking/Lighting:	None		
	Other :		
Recommended Marking/Lighting:			
Current Marking/Lighting:	N/A Proposed Structure		
	Other : <input type="text"/>		
Nearest City:	Austin		
Nearest State:	Texas		
Description of Location:	The proposed location is the intersection of SH 71 and FM 973.		
Description of Proposal:	A new SH 71 overpass will be constructed at FM 973. This is the second of three bridges in the project.		



<< OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: TXDOT-000260228-13 **Sponsor:** TxDOT

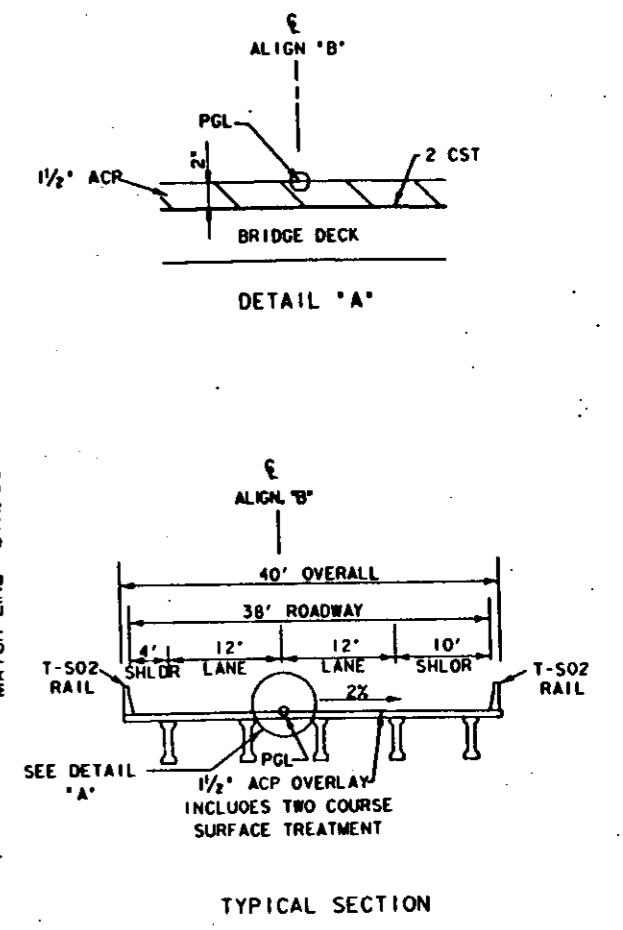
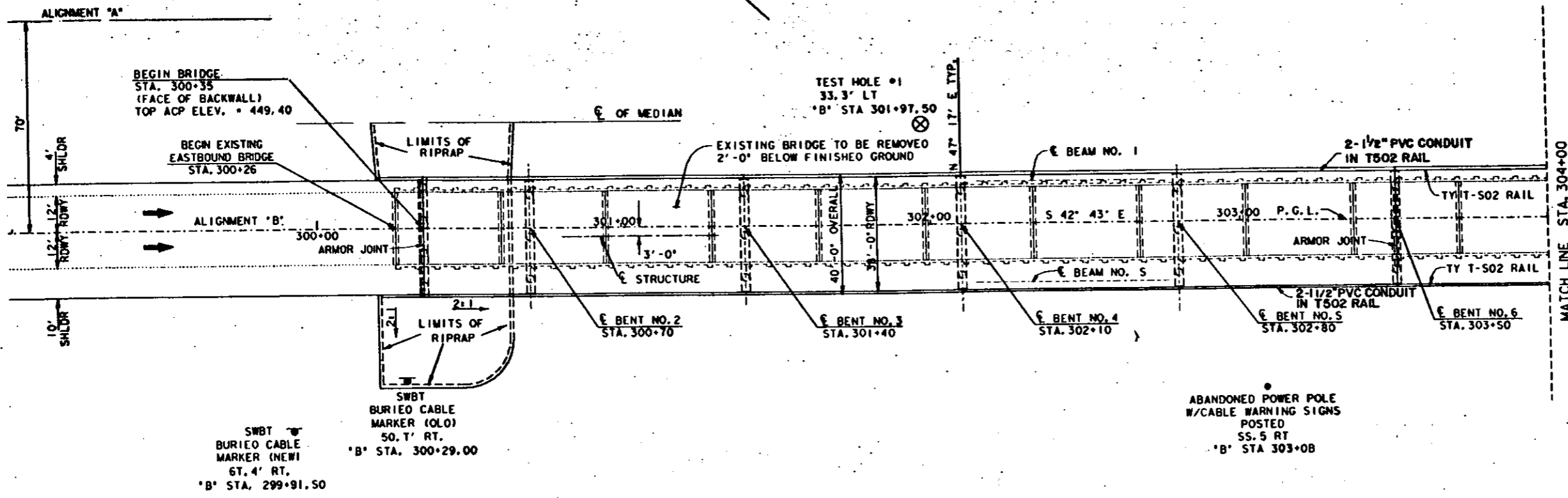
Details for Case : SH 71 at SH 130

[Show Project Summary](#)

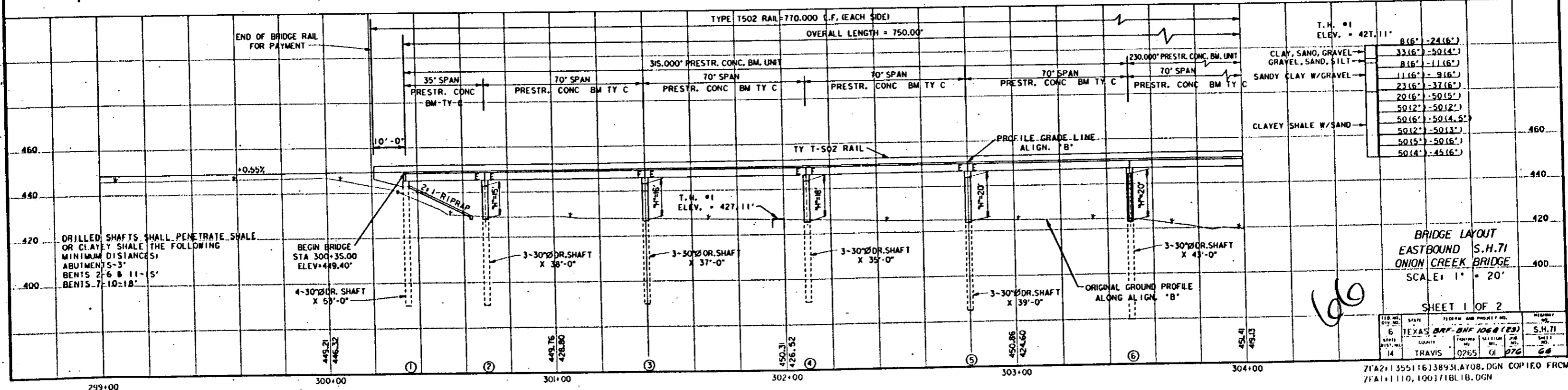
Case Status		Structure Summary	
ASN: 2013-ASW-8970-OE	Date Accepted: 12/16/2013	Structure Type: Bridge	
Status: Work In Progress	Date Determined:	Structure Name: SH 71 at SH 130	
	Letters: None	NOTAM Number:	
Public Comments: None	Documents: None	FCC Number:	
	Project Documents: None	Prior ASN:	
Construction / Alteration Information		Common Frequency Bands	
Notice Of: Construction		Low Freq	High Freq
Duration: Permanent		Freq Unit	ERP
if Temporary : Months: Days:		ERP Unit	
Work Schedule - Start: 12/01/2014		Specific Frequencies	
Work Schedule - End: 12/01/2016			
<p><i>*For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.</i></p> <p>State Filing:</p>			
Structure Details			
Latitude:	30° 11' 39.60" N		
Longitude:	97° 37' 27.04" W		
Horizontal Datum:	NAD83		
Site Elevation (SE):	438 (nearest foot)		
Structure Height (AGL):	61 (nearest foot)		
Current Height (AGL):	(nearest foot)		
<p><i>* For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal</i></p>			
Nacelle Height (AGL):	(nearest foot)		
<p><i>* For Wind Turbines 500ft AGL or greater</i></p>			
Requested Marking/Lighting:	None		
	Other :		
Recommended Marking/Lighting:			
Current Marking/Lighting:	N/A Proposed Structure		
	Other : <input type="text"/>		
Nearest City:	Austin		
Nearest State:	Texas		
Description of Location:	The proposed location is the intersection of SH 71 and SH 130		
Description of Proposal:	A new SH 71 overpass will be constructed at SH 130. This is the third of three bridges in the project.		



APPENDIX E:
ONION CREEK BRIDGE PLANS



NOTE: CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS IN THE FIELD



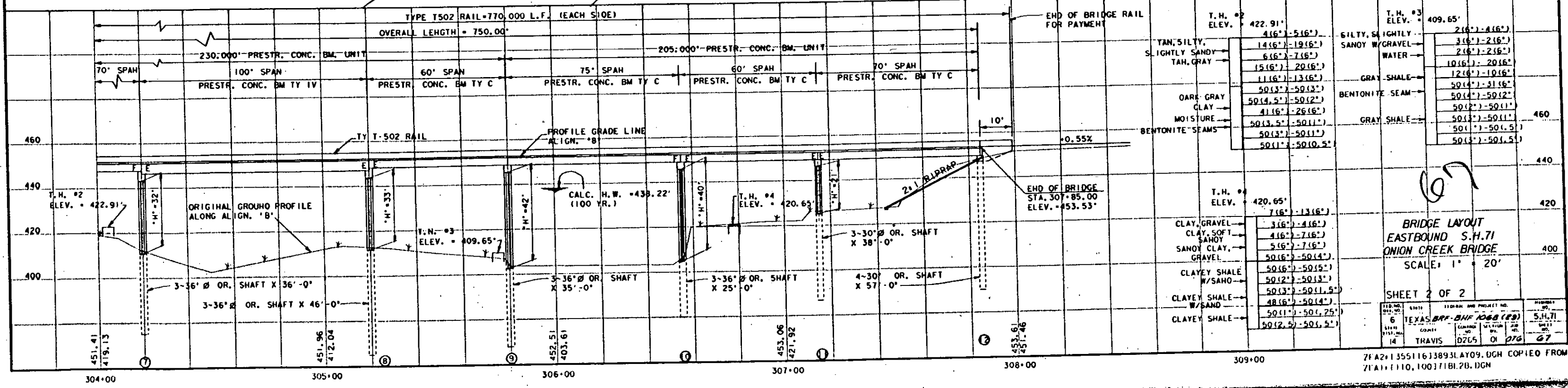
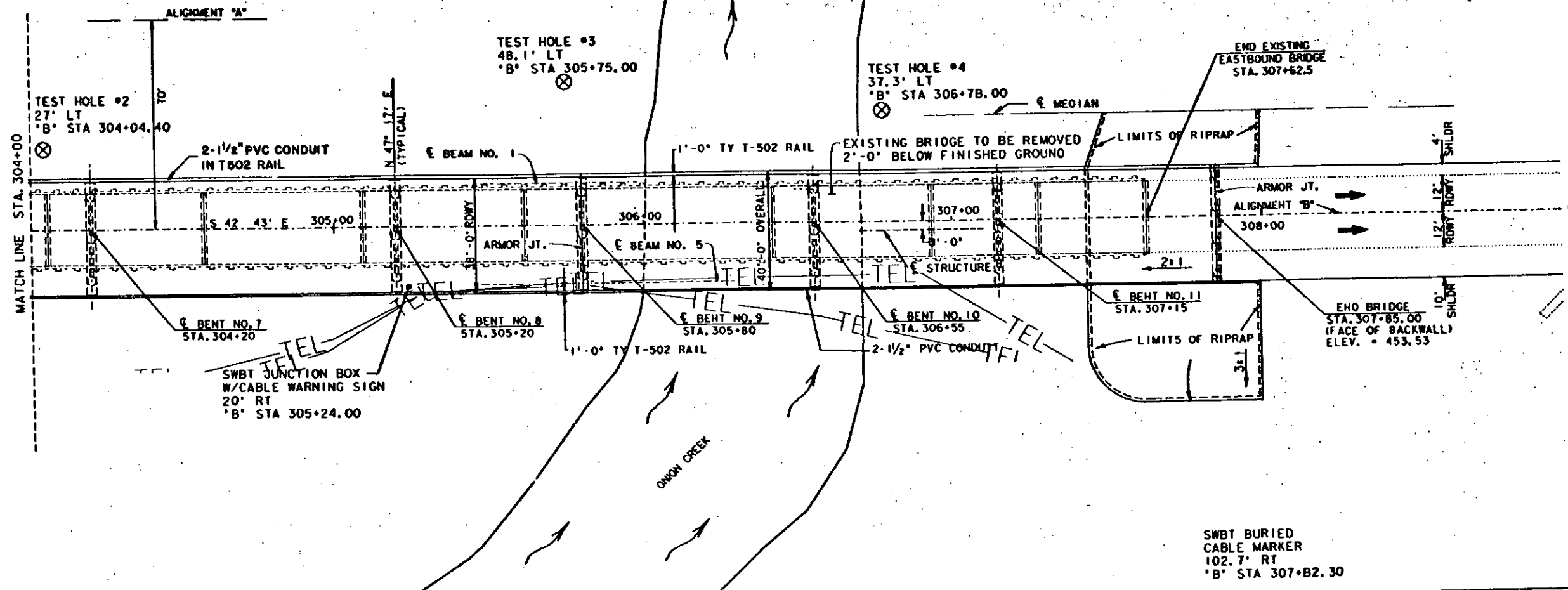
HYDRAULIC DATA

REGIONAL REGRESSION EQUATIONS
(35% FLOOD FREQUENCY REGION 2 AND
65% FLOOD FREQUENCY REGION 5)

- A= 339 SQ. MILES
- Q2 = 7,450. CFS
- Q5 = 19,853. CFS
- Q10 = 32,401. CFS
- Q25 = 52,380. CFS
- Q50 = 71,846. CFS
- Q100 = 94,261. CFS

AT THE (N.W. ELEV FOR 100 YR FLOOD = 438.22'
STRUCTURE V100 = 8.8 FPS THROUGH STRUCTURE

- ENTIRE FLOOD PLAIN & CHAHHEL
- V2 = 5.7 FPS H.W. ELEV. = 417.94'
 - V5 = 6.1 FPS H.W. ELEV. = 425.10'
 - V10 = 6.2 FPS H.W. ELEV. = 429.14'
 - V25 = 7.2 FPS H.W. ELEV. = 432.43'
 - V50 = 7.9 FPS H.W. ELEV. = 434.96'
 - V100 = 8.6 FPS H.W. ELEV. = 437.47'





APPENDIX F:
WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Onion Creek @ SH 71 City/County: Travis Sampling Date: 7/10/2013
 Applicant/Owner: TxDOT State: TX Sampling Point: SP 2
 Investigator(s): Steven Cramer Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Nearly level to rolling Local relief (concave, convex, none): In channel Slope (%): 0-1%
 Subregion (LRR): LRR Lat: 30.1893 Long: -97.6185 Datum: NAD83
 Soil Map Unit Name: Oakall Silty Clay Loam NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation no Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation no Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Sample point taken outside OHWM. Determined not to be a wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus crassifolia</u>	<u>3</u>	Yes	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. <u>Celtis laevigata</u>	<u>3</u>	No	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
<u>6</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>9</u> x 3 = <u>27</u> FACU species <u>12</u> x 4 = <u>48</u> UPL species _____ x 5 = _____ Column Totals: <u>21</u> (A) <u>75</u> (B) Prevalence Index = B/A = <u>3.57</u>
Sapling/Shrub Stratum (Plot size: <u>30'</u>)				
1. <u>Prosopis glandulosa</u>	<u>3</u>	Yes	<u>FACU</u>	
2. <u>Celtis laevigata</u>	<u>3</u>	No	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
<u>6</u> = Total Cover				
Herb Stratum (Plot size: <u>30'</u>)				
1. <u>Sorghum halepense</u>	<u>3</u>	Yes	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Bromus japonicus</u>	<u>3</u>	No	<u>FACU</u>	
3. <u>Ambrosia artemisiifolia</u>	<u>3</u>	No	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>9</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. <u>NA</u>				
2. _____				
% Bare Ground in Herb Stratum <u>50%</u> _____ = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 6/1	100						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR F)**
- 1 cm Muck (A9) **(LRR F, G, H)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- 5 cm Mucky Peat or Peat (S3) **(LRR F)**

- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
 - Coast Prairie Redox (A16) **(LRR F, G, H)**
 - Dark Surface (S7) **(LRR G)**
 - High Plains Depressions (F16) **(LRRH outside of MLRA 72 & 73)**
 - Reduced Vertic (F18)
 - Red Parent Material (TF2)
 - Other (Explain in Remarks)
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 8

Hydric Soil Present? Yes No

Remarks:

Sample point taken outside OHWM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Onion Creek @ SH 71 City/County: Travis Sampling Date: 7/10/2013
 Applicant/Owner: TxDOT State: TX Sampling Point: SP1
 Investigator(s): Steven Cramer Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Nearly level to rolling Local relief (concave, convex, none): concave Slope (%): 0-1%
 Subregion (LRR): LRR Lat: 30.18935 Long: -97.61861 Datum: NAD83
 Soil Map Unit Name: Oakall Silty Clay Loam NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation no Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation no Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Upland comparison point under SH 71 bridge	

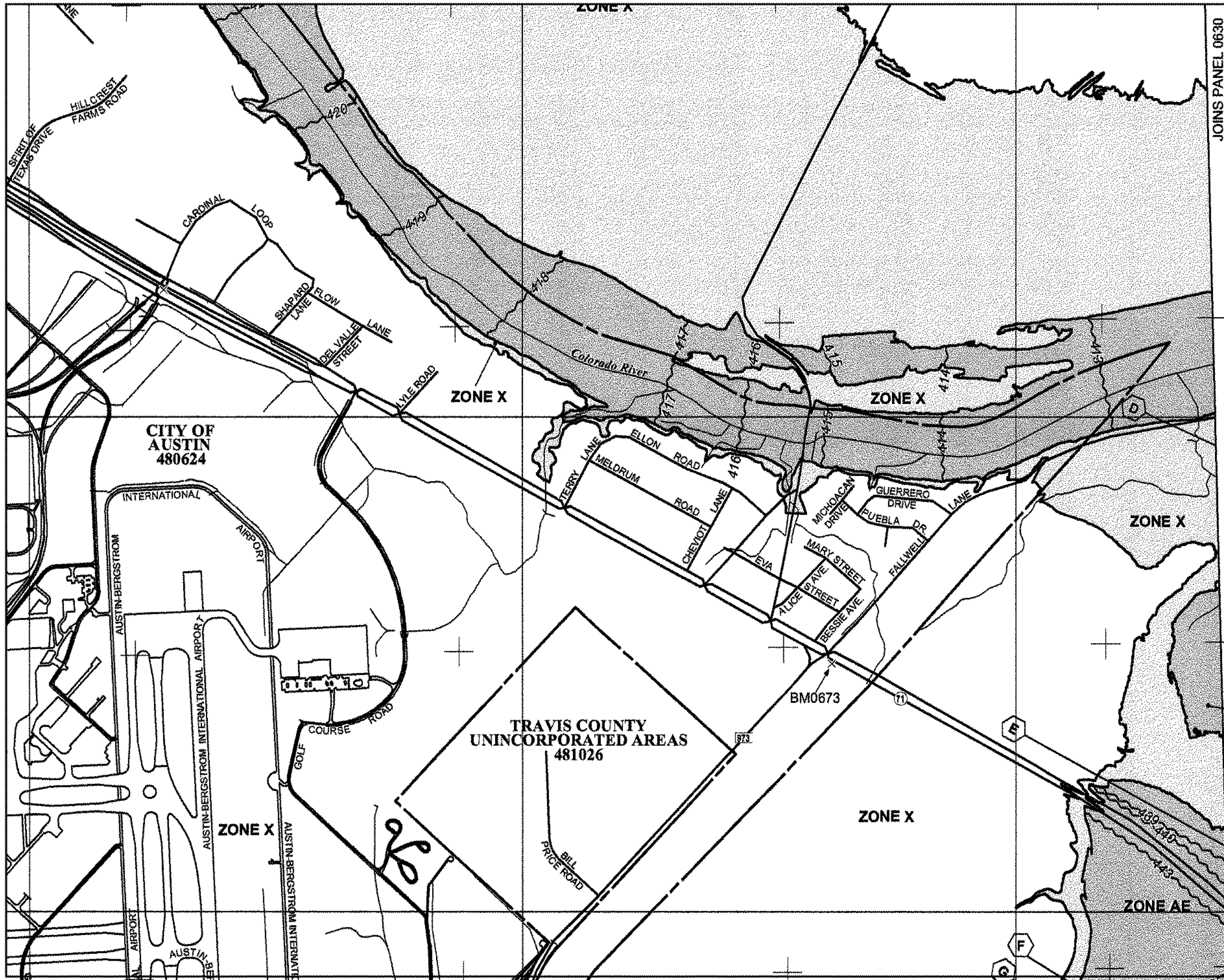
VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Celtis laevigata</u>	10	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) <u>33%</u>																
2. <u>Ulmus crassifolia</u>	10	No	FAC																	
3. <u>Prosopis glandulosa</u>	5	No	FACU																	
4. _____																				
5. _____																				
<u>25</u> = Total Cover																				
Sapling/Shrub Stratum																				
(Plot size: <u>30'</u>)																				
1. <u>Prosopis glandulosa</u>	5	Yes	FACU	Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><u>Total % Cover of:</u></td> <td style="width: 50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>295</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.6</u></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species _____	x 5 = _____	Column Totals: <u>80</u> (A)	<u>295</u> (B)	Prevalence Index = B/A = <u>3.6</u>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species <u>25</u>	x 3 = <u>75</u>																			
FACU species <u>55</u>	x 4 = <u>220</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>80</u> (A)	<u>295</u> (B)																			
Prevalence Index = B/A = <u>3.6</u>																				
2. <u>Celtis laevigata</u>	5	No	FAC																	
3. _____																				
4. _____																				
5. _____																				
<u>10</u> = Total Cover																				
Herb Stratum																				
(Plot size: <u>30'</u>)																				
1. <u>Sorghum halepense</u>	20	Yes	FACU	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Bromus japonicus</u>	20	No	FACU																	
3. <u>Solanum elaeagnifolium</u>	5	No	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>45</u> = Total Cover																				
Woody Vine Stratum																				
(Plot size: _____)																				
1. <u>NA</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																
2. _____																				
% Bare Ground in Herb Stratum <u>5%</u> _____ = Total Cover																				

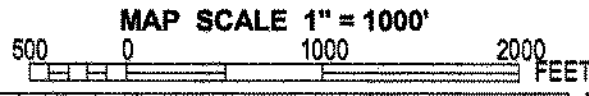
Remarks: (Include photo numbers here or on a separate sheet.)



APPENDIX G:
FEMA FLOOD INSURANCE RATE MAPS



JOINS PANEL 0630



PANEL 0610H

FIRM
FLOOD INSURANCE RATE MAP
TRAVIS COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 610 OF 730
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
TRAVIS COUNTY	481026	0610	H
AUSTIN, CITY OF	480624	0610	H

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

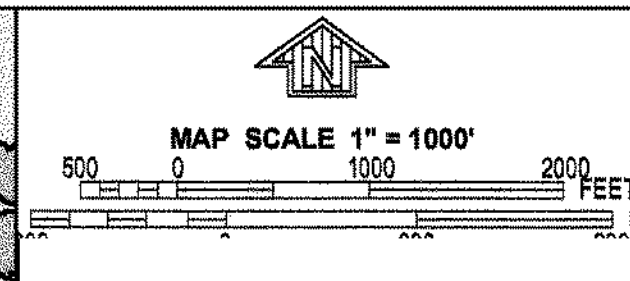
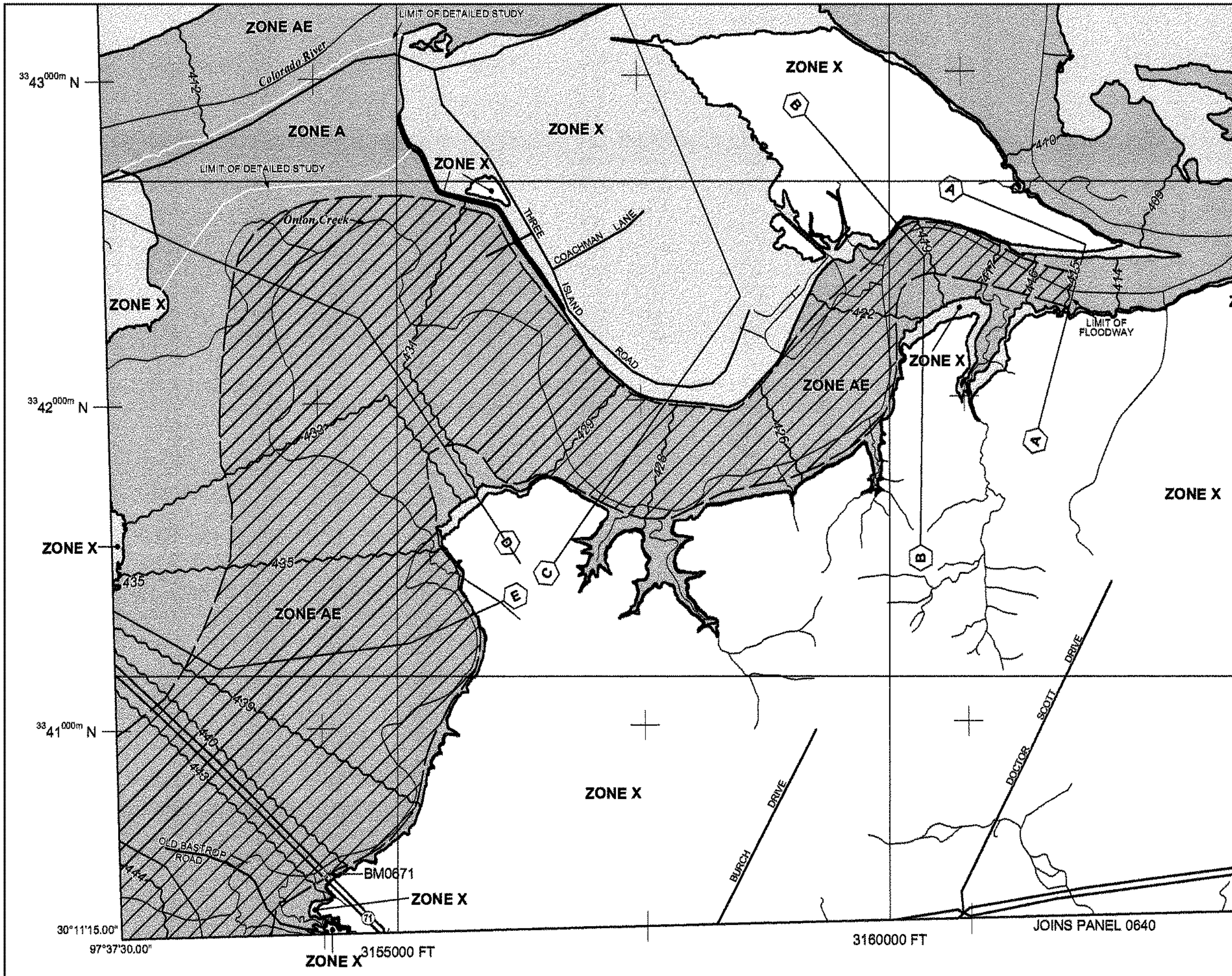


MAP NUMBER
 48453C0610H
 MAP REVISED
 SEPTEMBER 26, 2006

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

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PANEL 0630H

FIRM
FLOOD INSURANCE RATE MAP
TRAVIS COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 630 OF 730
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
TRAVIS COUNTY	481026	0630	H
AUSTIN, CITY OF	480824	0630	H

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MAP NUMBER
48453C0630H

MAP REVISED
SEPTEMBER 26, 2006

Federal Emergency Management Agency

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APPENDIX H:
CAMPO REGIONAL TOLL NETWORK ANALYSIS

CAMPO Regional Toll Network Analysis Update July 2013

The interconnected network of existing and planned toll roads and managed lanes form a regional toll network. Project sponsors, in accordance with the National Environmental Policy Act (NEPA), evaluate individual roadway projects to measure effects of toll roads and managed lanes on the environmental justice (EJ) population. The regional toll network, as a whole, needs to undergo the same analysis to determine its effect on the EJ population.

In April 2009, the Federal Highways Administration (FHWA) and the Texas Department of Transportation (TxDOT) issued joint guidance on conducting a Regional Toll Network Analysis. The guidance calls for the regional toll network analysis to be consistent with the Metropolitan Planning Organization (MPO) long-range transportation plan. Significant changes to the MPO plan trigger the need for a regional toll analysis update. This update to the regional toll network analysis is consistent with the Capital Area Metropolitan Planning Organization (CAMPO) 2035 Regional Transportation Plan, as amended through June 10, 2013, with the exception of the March 2013 amendment by the CAMPO Transportation Policy Board to add Burnet County to the MPO. Burnet County is not yet included in CAMPO's travel demand model, so this analysis currently cannot be conducted for Burnet County. Burnet County will be incorporated into the Regional Toll Network Analysis that will be conducted for the CAMPO 2040 Plan update. Currently there are not any tolled roads or lanes in Burnet County and none are planned.

This update was triggered by the June 10, 2013 amendment to the CAMPO 2035 Plan for SH 71E. This amendment adds 1 tolled lane in each direction on SH 71 E from Presidential Blvd. to east of SH 130, with overpasses at FM 973 and SH 130. Bicyclists are accommodated on a shared use path or shoulders on the frontage roads. Pedestrians are accommodated on sidewalks.

Changes from the initial Regional Toll Analysis as a result of this update are summarized as follows:

- Incorporated the proposed SH 71 E project into the CAMPO travel demand model based on the CAMPO 2035 Plan amendment and current TxDOT assumptions;
- Refined the travel demand model network coding for other existing/planned toll facilities to reflect the most currently available information and consistency with the CAMPO 2035 Plan;
- Refined the travel demand model network coding to reflect all applicable amendments to the CAMPO 2035 Plan through June 2013, excluding the addition of Burnet County;
- Used the latest available CAMPO travel demand model with an updated traffic assignment procedure by time period (resulting in the separate AM and Midday Travel Time Analysis in Table 3A and 3B);
- Updated texts and figures under the "Cumulative Economic Impact to Individuals" section, reflecting the revised travel demand model outputs, as well as the updated median family income and poverty level derived using 2010 data, and also with updated average toll rates and annual toll costs which referenced the historical 2010 rates and 2035 rates projected from current 2013 values;
- Updated text, figures and maps under the "Identification of Potential Users" section, reflecting revised travel demand model outputs;

- Updated the toll rates for existing toll facilities, and the lane miles inside, outside, and adjacent to EJ areas, and;
- Updated other text where appropriate.

In general, the results from this update are substantially similar to the initial analysis. Some noticeable changes are observed, which include the estimates of the cumulative economic impact to individuals, primarily due to a lower estimate of tolled traffic in the current CAMPO model. Most of these minor differences are related to changes in the underlying highway network and the new time-of-day assignment procedures utilized in the CAMPO model. Note that differences, however, do not alter the relationship between the EJ zones and non-EJ zones and that the findings are generally consistent with the initial analysis.

In order to ensure that the updated Regional Toll Network Analysis is consistent with the CAMPO 2035 Regional Transportation Plan, the analysis uses the 2035 Plan defined Environmental Justice Areas and thresholds.

The network analysis uses the following elements in its evaluation of the potential effects of tolling on the EJ population:

- CAMPO EJ Areas
- Transportation System
- Lane Miles
- Travel Time
- Methods of Toll Collection
- Toll Policies
- Transit Usage
- Limited English Proficiency (LEP)
- Growth of the Regional Toll Network
- Estimation of the Cumulative Economic Impact to Individuals
- Identification of Potential Users
- Land Use Considerations
- Air Quality Considerations
- Benefits of Implementing the Planned Transportation System

CAMPO EJ Areas

Identifying EJ areas helps to ensure the transportation planning process addresses effects to the EJ population. The EJ areas (or TAZs) are adopted with each long range planning process, and so the data used to determine the EJ areas is different from the data used to determine the cumulative toll impacts in the region. CAMPO uses demographic data compiled by traffic analysis zone (TAZ) to identify EJ areas. Of the 1413 TAZs in the CAMPO area, 443 are EJ TAZs. EJ TAZs must meet one or more of the following thresholds:

“Low income” TAZs:

- Have at least 50% of the population living in families earning less than 80% of the county median family income: and/or
- Have at least 25% of the population with income falling below the 2009 federal poverty level for a family of three (\$17,098 for a family of 3).

“Minority” TAZs have less than 50% of the population identifying themselves as “White, non-Hispanic”.

CAMPO used the following data to identify EJ TAZs for the CAMPO 2035 Regional Transportation Plan:

- 2005 median family income levels provided by CAPCOG, based on the 2005 Bureau of Economic Analysis Data to calculate low-income thresholds;
- 2008 and 2009 poverty data from the Census Bureau to analyze poverty; and,
- 2005 ethnicity data, based on 2000 census data ethnicity ratios applied to 2005 population data.
- Data for a family of three is used because CAMPO travel demand model indicates that the average household size in the CAMPO region is 2.75 people in 2010 and 2.73 people in 2035. Rounding up to avoid partial people results in an average household size of 3.

CAMPO used 2005 data because it corresponded with the 2005 travel demand model base year used for the 2035 plan update and so ensured consistency between model, plan and toll analysis data. Since the poverty data is used for comparison purposes only, CAMPO used the most recent available during 2035 Plan development.

Transportation System

Map 1 shows the relationship between the EJ areas and the 2035 regional tolled and non-tolled roadway network. Figure 1 provides project details for the planned toll roads and managed lanes and maps 2 through 5 graphically demonstrate the implementation of the toll roads by the years 2010, 2015, 2025 and 2035.

Map 1: 2035 Roadway and Toll System for Environmental Justice Analysis

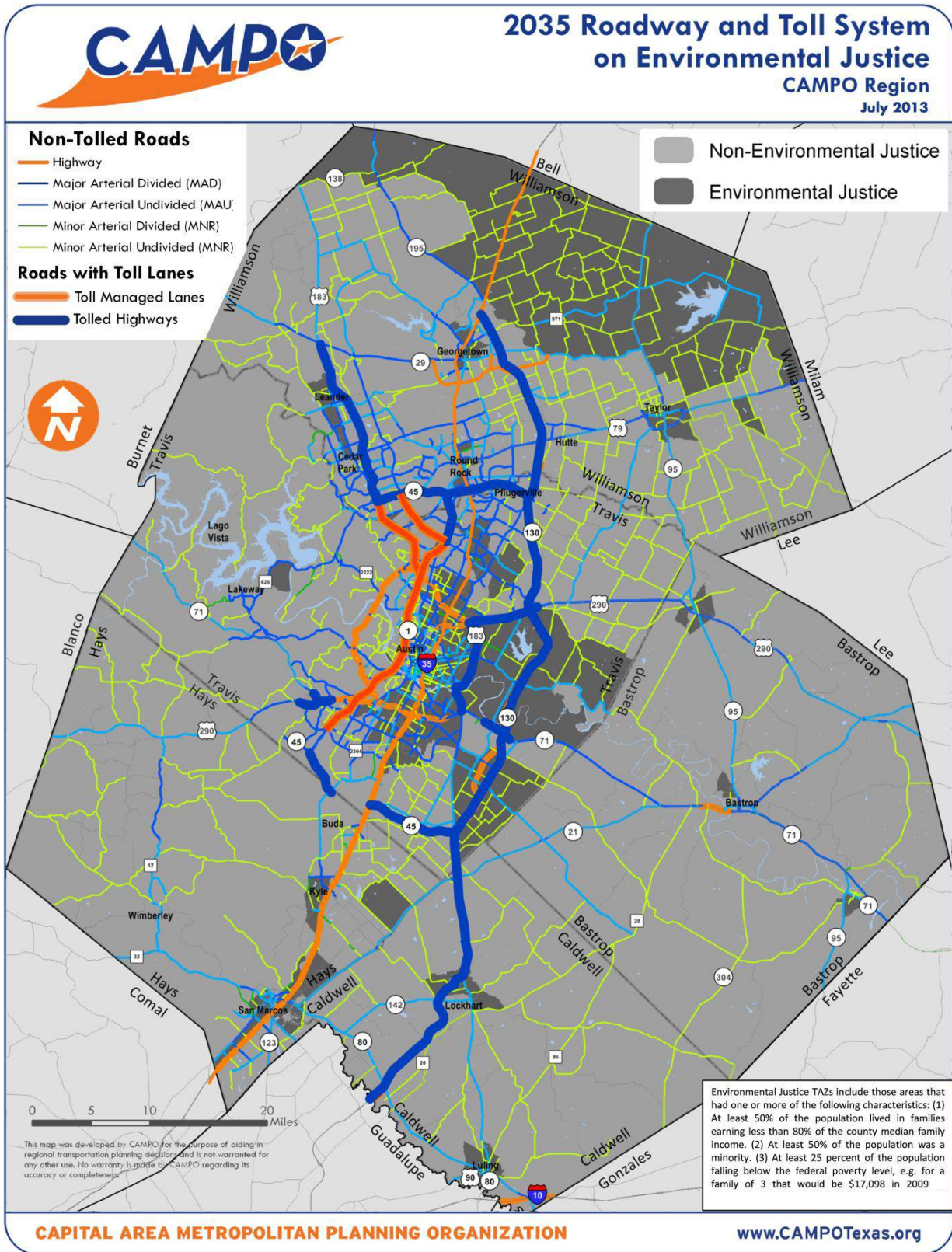
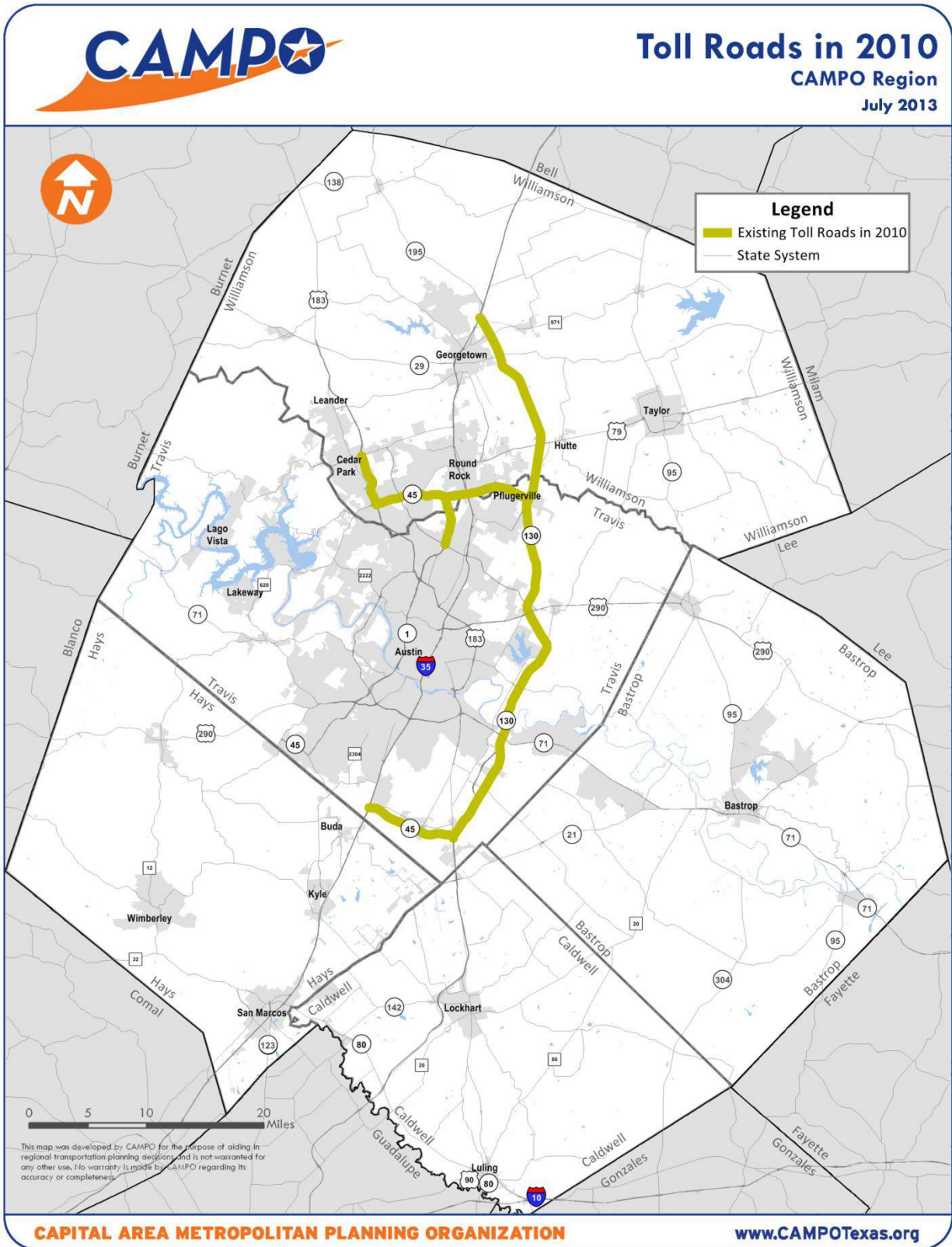


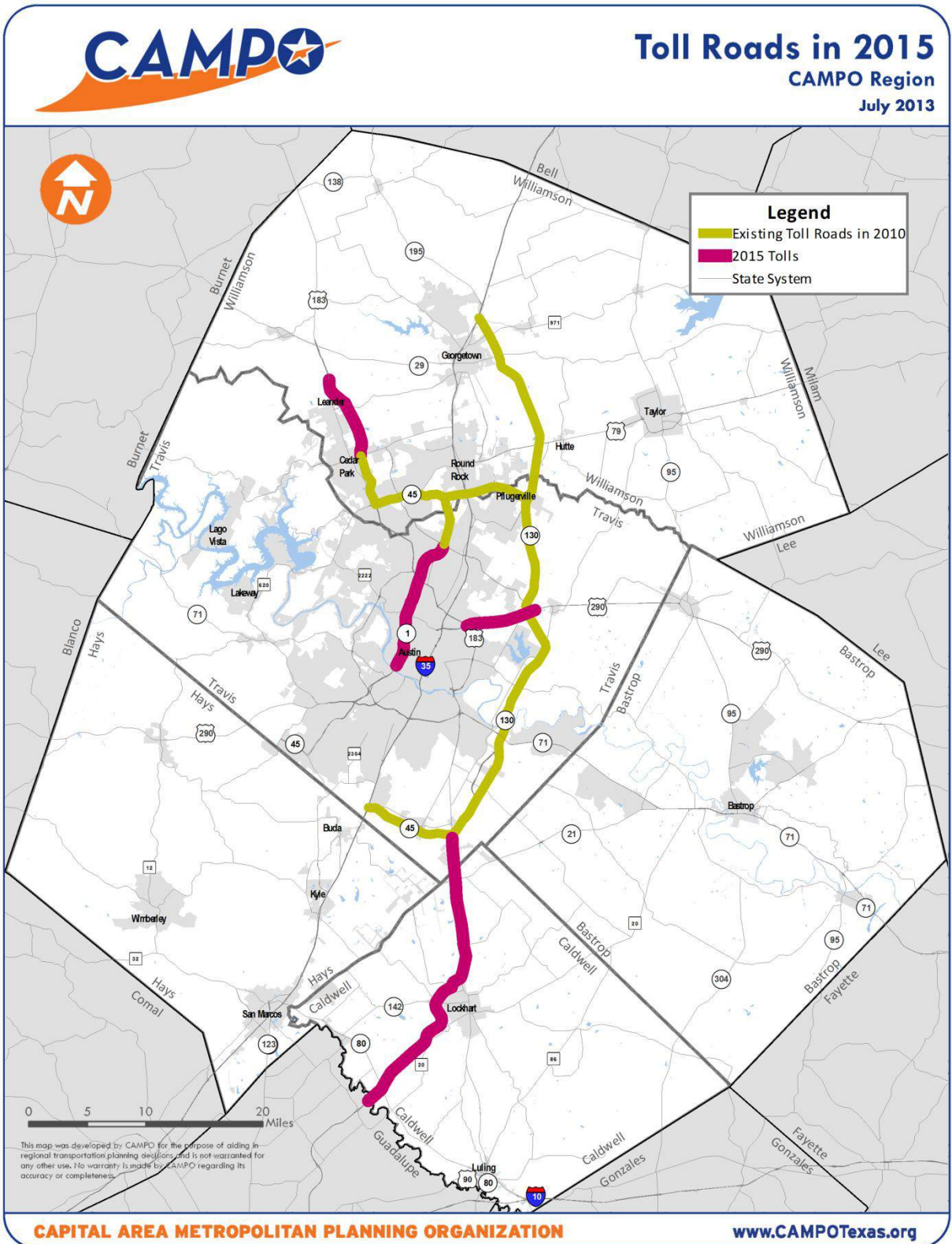
Figure 1: Planned Toll Roads and Managed Lanes

Sponsor	Project	Limits	Open Year	Description
CTRMA	183A North Extension Project:183A-2	0.1 miles N of FM 1431 to 1.5 miles N of RM 2243	2012	Engineering and construction of six tolled mainlanes, access ramps and a shared-use path. Existing continuous non-tolled frontage roads will be maintained.
CTRMA	183A North Extension Project:183A-3	1.5 miles N of RM 2243 to 0.4 miles S of S San Gabriel River	2013	Engineering and construction of six tolled mainlanes, access ramps, and a shared-use path. Existing continuous non-tolled frontage roads will be maintained.
TxDOT - TTA	SH 130, Segment 5	SH 45 SE-FM 1185	2012	Construct 4 lane tolled highway with intermittent frontage roads
TxDOT - TTA	SH 130, Segment 6	FM 1185 – IH 10	2012	Construct 4 lane tolled highway with intermittent frontage roads
TxDOT	US 290(E) direct connectors	US 290(E) at US 183(S)	2012	Construct interchange direct connectors
TxDOT/CTRMA	US 290(E)	East of US 183 to East of FM 734 (Parmer Ln.)	2015	Engineering, ROW acquisition, utility relocation and construction of 6 tolled mainlanes and 6 continuous, non-tolled access road lanes
TxDOT/CTRMA	SH 45 (SW)	Loop 1 to FM 1626	2020-2025	Construct 4 lane tolled highway
TxDOT/CTRMA	US 183(S)	US 290 to Boggy Creek (segment 1)	2017	Engineering, ROW acquisition, utility relocation and construction of ultimate 6 lane tolled highway with 3 lane non-tolled frontage roads in each direction. Project may be phased.
TxDOT/CTRMA	US 183(S)	Boggy Creek to Patton Ave. (segment 2)	2020-2025	Engineering, ROW acquisition, utility relocation and construction of ultimate 6 lane tolled highway with 3 lane non-tolled frontage roads in each direction. Project may be phased.
CTRMA	Loop 1 Managed Lanes (phase 1)	FM 734 to Cesar Chavez interchange	2015	Construct 1 managed lane in each direction
CTRMA	Loop 1 Managed Lanes (phase2)	Cesar Chavez – Slaughter Ln.	2017	Construct 1 managed lane in each direction
Williamson County	Parmer Ln/ FM 734 Express Lanes	RM 620 – Loop 1	2017	Add tolled express lanes (1 in each direction) in median
TxDOT	SH 71 East Mobility Improvements	Presidential Boulevard to East of SH 130	2016	Add two toll lanes, one in each direction, with overpasses at FM 973 and SH 130. Bicycle and pedestrian facilities will consist of either shared use paths or shoulders on the frontage roads and sidewalks.
TxDOT/CTRMA	SH 71 (W) (“Y” at Oak Hill)	Silver mine to US 290 W	2017	Engineering, ROW acquisition, and construction of 2 tolled direct connector bridges from US 290(W) and continuous non-tolled access road lanes.
TxDOT/CTRMA	US 290 (W) (“Y at Oak Hill”)	Circle Drive to Joe Tanner Lane	2019	Engineering, ROW acquisition, utility relocation and construction of ultimate 6 lane tolled highway with 2 lane non-tolled frontage roads in each direction. Project may be phased.
Williamson County/ CTRMA	US 183 N	SH 29 to 183A	2026-2035	Construct 4 tolled mainlanes
TxDOT/CTRMA	US 183 (N) Express Lanes	RM 620 to Loop 1	2017	Construct 1 managed lane in each direction

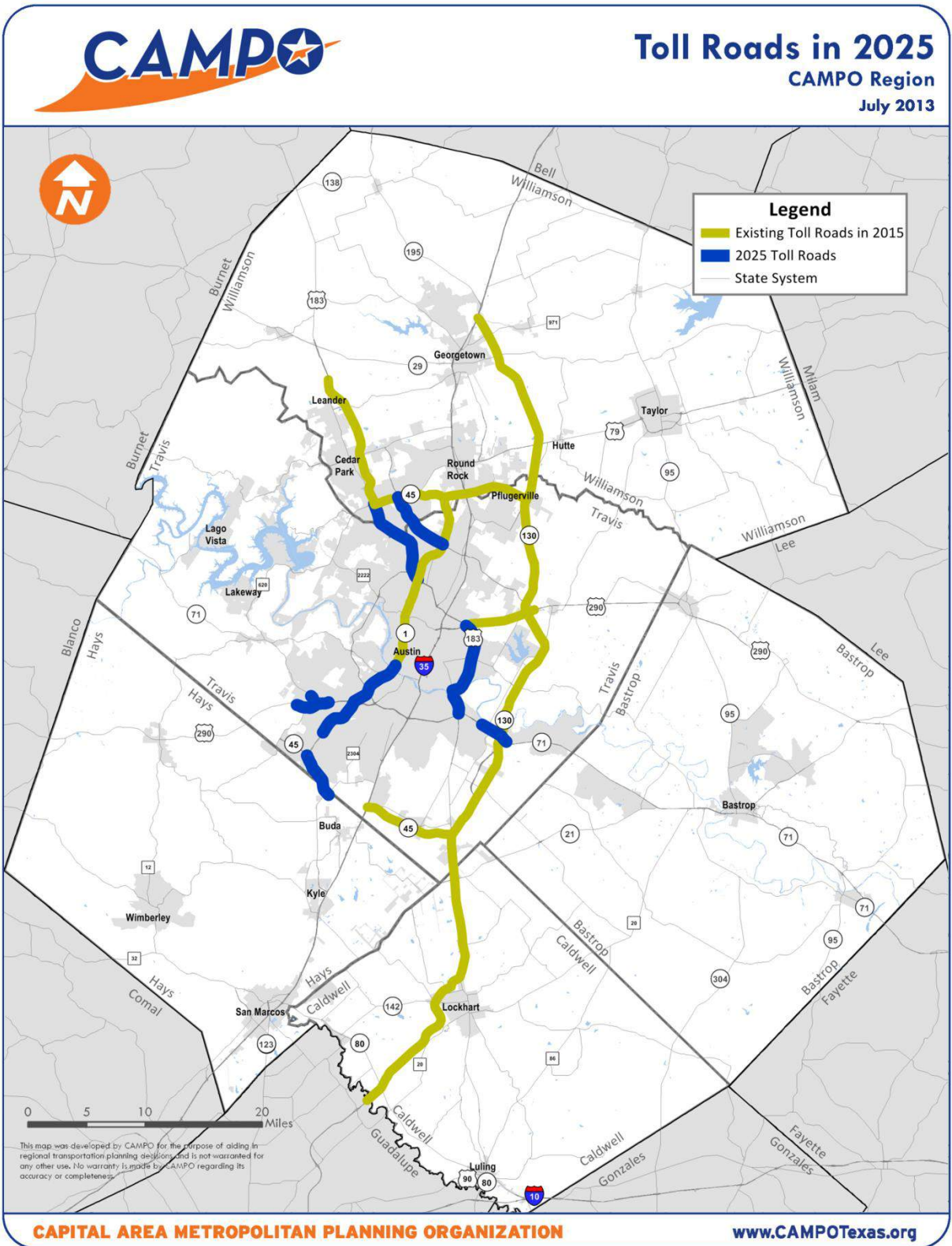
Map 2: Toll Roads in 2010



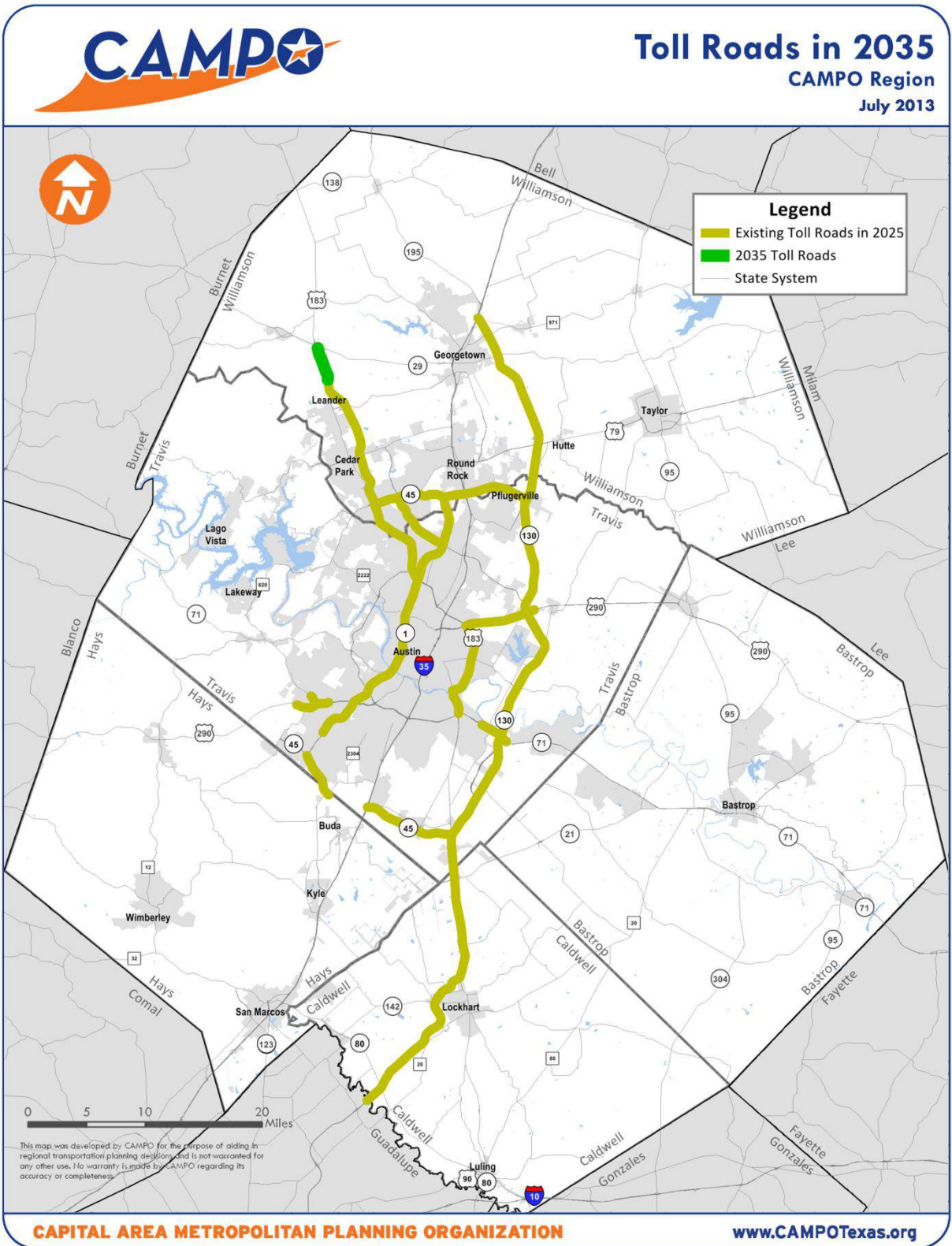
Map 3: Toll Roads in 2015



Map 4: Toll Roads in 2025



Map 5: Toll Roads in 2035



Lane Miles

For the environmental justice assessment analysis, two measures have been established to quantify the impacts of the regional toll network. The first measure, 'lanes miles' provides an indication of the proximity of the EJ zones to the regional network and proposed improvements to both tolled and non-tolled facilities. The second measure quantifies the accessibility EJ and non-EJ zones in terms of square miles that can be reached in 5-minute time intervals using the regional network and proposed improvements.

Lane miles are a unit of measurement for determining the extent of tolling in EJ and non-EJ areas. The analysis requires an enumeration of the non-tolled, tolled and managed lane-miles located inside, outside or adjacent to (in between) EJ and non-EJ areas. Lane miles adjacent to EJ zones form a border between EJ and non-EJ areas and so could be considered both in EJ and non-EJ areas simultaneously. It is more accurate to consider these lane miles as adjacent to EJ zones rather than add these lane miles to both the EJ and non-EJ zone lane miles.

Based on lane mile information, there are fewer tolled lane miles in the EJ area than in the non-EJ area, even if the "adjacent to" lane miles are added to the EJ lane miles. There are also fewer non-tolled lane miles in the EJ area than the non-EJ area. However, if the non-tolled "adjacent to" lane miles are added to the EJ non-tolled lane miles then there are more non-tolled lane miles in the EJ area than in the non-EJ area. Figure 2 shows the non-tolled highway, tolled highway and managed lane-miles in the CAMPO area in 2010 and 2035.

Figure 2: Tolled, Managed and Non-tolled Lane-miles in the CAMPO Area

Tolled Highways - 2010 Existing Lane Miles

Road	Segment	Inside EJ	Adjacent to EJ	Outside EJ	Total
SH 45 N	US 183 N - SH 130	0	10.48	81.72	92.20
SH 45 SE	IH 35 - SH 130	1.74	0	27.13	28.87
SH 130	IH 35 N - SH 45 SE	83.30	0	108.60	191.89
Loop 1	SH 45 N – Scofield Ridge Parkway	0	0	20.75	20.75
183A	West of FM 1431 - SH 45 N	0	0	25.07	25.07
	Total	85.03	10.48	263.26	358.78

Tolled Highways – Planned

Road	Segment	Inside EJ	Adjacent to EJ	Outside EJ	Total
SH 130	SH 21 - S Caldwell County Line	26.67	9.75	70.50	106.92
SH 71 W	Raccoon Run - US 290 W	0	0	6.44	6.44
US 290 W	W. of Scenic Brook to Joe Tanner Ln	0	0	16.13	16.13
US 290 E	US 183 – East of Parmer Lane	4.70	24.86	3.69	33.24
SH 45 SW	LP 1 – FM 1626	0	0	12.98	12.98
US 183 (N)	SH 29 -- 183A	0	1.33	13.59	14.92
US 183 (S)	US 290 E – Patton	43.39	0	0.31	43.71
183A	San Gabriel River – West of FM 1431	0	0	28.65	28.65
SH 71 E	Presidential Blvd – East of SH 130	0	11.59	0	11.59
	Total	74.76	40.84	152.29	267.89

Managed Lanes – Planned

Road	Segment	Inside EJ	Adjacent to EJ	Outside EJ	Total
US 183 N	Lakeline Blvd - LP 1	0	3.92	13.48	17.40
LP 1 N	Parmer Ln - Cesar Chavez	0	2.85	18.54	21.39
LP 1 S	Cesar Chavez - Slaughter Ln	0	2.71	13.25	15.96
Parmer Ln	SH 45 N - LP 1	0	0.0	10.26	10.26
	Total	0	9.49	55.52	65.01

Non-tolled Highways – 2010

Road	Segment	Inside EJ	Adjacent to EJ	Outside EJ	Total
IH 10	Caldwell County	0	0	25.85	25.85
IH 35	Northern Boundary - Southern Boundary	191.12	162.46	166.40	519.99
LP 1	Parmer Ln - Slaughter Ln	0	17.66	94.48	112.14
SH 71 E	IH 35 - W of Riverside Dr	15.91	0	0	15.91
SH 71	W of SH 304 - Colorado River	0	0	8.95	8.95
US 183	SH 45 N - Springdale Rd	24.74	18.24	41.94	84.92
US 290 W	Patton Ranch Rd - IH 35	17.91	9.60	16.63	44.14
US 290 E	Airport Blvd - US 183	14.45	0.25	0	14.70
	Total	264.12	208.22	354.26	826.60

Non-tolled Highways – 2035

Road	Segment	Inside EJ	Adjacent to EJ	Outside EJ	Total
IH 10	Caldwell County	0	0	25.85	25.85
IH 35	Northern Boundary - Southern Boundary	191.12	162.46	166.40	519.99
LP 1	Parmer Ln - Slaughter Ln	0	17.66	94.48	112.14
SH 71 E	IH 35 - Presidential Blvd	24.83	11.94	0	36.77
SH 71	FM 20 – Arena	0	2.25	21.91	24.16
US 183	SH 45 N - Springdale Rd	24.74	18.24	41.94	84.92
US 290 W	Joe Tanner Ln - IH 35	17.91	9.60	16.63	44.14
US 290 E	Airport Blvd - US 183	14.45	0.25	0	14.70
	Total	273.05	224.08	367.22	864.35

Travel Time

Travel time is another measure of transportation equity. The distance traveled in a set amount of time should be approximately the same for trips originating in EJ areas as it is for trips originating in non-EJ areas. If EJ areas have a disproportionate time or distance disadvantage compared to non-EJ areas, there may be transportation system inequities.

CAMPO analyzed travel times for 2005, 2010 and the 2035 Plan using output from the travel demand model. The 2005 model scenario was used because it is the travel demand model base year and it reflects the latest model scenario available in which there were no toll roads in operation. The 2010 model scenario was used because it represents existing conditions, including currently operating toll roads. The 2035 model scenario was used because it reflects the last year of the CAMPO plan, including all existing or planned toll roads or lanes. Travel time analyses for the interim 2015 and 2025 model scenarios were not conducted because analyses of the 2010 and 2035 scenarios did not indicate any disproportionate differences in travel times in counties that include the toll system, so it is highly unlikely that analyses of the interim years would do so. The analysis uses representative sample pairs of EJ and non-EJ zones in Bastrop, Caldwell, Hays, Travis and Williamson counties. EJ zone pairs selected were those with high populations. The selected non-EJ zones had comparable distance from major roads and similar population amounts as the EJ zones. Comparing five-minute travel time intervals (from 5 to 30 minutes) for both the EJ and non-EJ zones for each zone pair shows the area covered (in square miles) for each five minute travel interval. Square miles are used for the comparison in order to capture travel in any possible direction. Comparing the area covered by each of the time intervals for each zone pair reveals potential disproportionate differences between the two.

Because drivers often think of their trips in five minute intervals, the analysis uses the area covered by a five minute interval for the EJ zone and non-EJ zone pair to determine disproportionate differences. Disproportionate differences occur if the travel in any 5 minute interval for the EJ zone covers substantially less area than that of the non-EJ zone. In order to quantify this, CAMPO determined that one-half the area or less would signify a disproportionate difference. Therefore, if the area covered by the EJ zone five minute time intervals is one half, or less, of the area

covered by the non-EJ zone five minute intervals, then the EJ zone may have a disproportionate travel time disadvantage. This analysis was conducted for both the uncongested mid-day period and A.M. peak period where congested conditions exist.

Figures 3A and 3B summarize the results of the travel time analysis for the mid-day and A.M. peak period conditions respectively, which show the incremental increases of area covered by every five-minute interval. In general, the selected EJ and non-EJ zone pairs had similar travel times, indicating that EJ zones are not disproportionately disadvantaged in terms of travel time. Note that one zone pair in Bastrop County in the A.M. peak had a probable 2035 EJ travel time disadvantage for the 5-minute interval that met the disproportionate threshold. There are no toll roads or managed lanes in that county, so it is reasonable to assume that the toll roads or managed lanes did not cause or contribute to these disadvantages.

Updates were made to the model since the previous Regional Toll Analysis. The interim regional model now has four separate time-of-day assignments, and so both midday travel times which are encountered primarily by non-work trips and AM peak travel times which are encountered by work trips, can be analyzed in this RTA. Most regional models (including CAMPO's) use A.M. peak period congestion to control trip distribution and mode choice for work trips because this period reflects travel conditions encountered when traveling from the 'home' or origin end of typical commuter trip. As opposed to analyzing the A.M. and P.M. peaks periods, this analysis uses A.M. peak period trips and mid-day trips, which are available through the new time-of-day assignments, in order to determine the effects of all of the existing and proposed toll/managed lanes in the five county modeling area during different daily travel conditions.

Figure 3A: Travel Time Analysis Results (Mid-day Period)

Mid-day Period

	2005						2010						2035					
	5	10	15	20	25	30	5	10	15	20	25	30	5	10	15	20	25	30
Bastrop																		
EJ 1192	16.20	87.79	175.85	276.69	383.64	308.77	15.87	85.30	173.50	273.87	380.74	302.00	9.62	53.94	124.66	254.94	369.13	287.95
Non EJ 1371	16.94	73.42	157.75	276.90	348.81	295.26	16.73	74.60	158.71	277.35	347.60	294.89	10.27	49.98	125.01	248.06	360.00	281.96
EJ 1217	30.06	109.12	176.86	263.38	330.88	411.01	27.25	108.60	172.49	256.70	338.99	412.56	24.79	106.27	180.18	243.81	351.86	407.18
Non EJ 1223	30.52	108.11	174.90	265.85	327.76	418.23	28.96	107.71	172.15	259.44	338.31	430.31	23.46	103.73	167.91	253.84	343.08	427.69
Caldwell																		
EJ 1293	25.41	109.40	202.77	260.72	306.47	332.58	25.08	106.58	201.58	259.83	310.13	356.40	16.40	93.73	211.48	275.30	309.24	370.82
Non EJ 1298	27.02	111.68	205.71	258.35	313.94	310.26	26.50	109.15	203.75	257.33	316.63	334.04	15.87	89.20	210.59	269.38	312.83	347.86
Hays																		
EJ 590	18.99	70.09	153.27	224.09	311.11	401.54	18.94	67.04	155.44	220.93	303.26	425.25	20.36	67.49	141.79	229.82	301.54	428.65
Non EJ 829	18.90	84.02	164.58	249.69	336.04	366.05	20.73	85.40	163.72	252.39	342.09	367.26	17.34	65.12	151.76	254.73	315.27	337.29
EJ 921	16.87	97.21	141.37	171.26	216.15	263.28	16.57	92.01	139.36	167.57	219.79	266.94	13.68	89.61	137.69	145.27	207.09	244.80
Non EJ 739	14.36	86.76	159.59	174.36	221.64	267.33	13.84	81.64	156.46	170.07	225.40	268.72	21.43	89.09	150.81	157.64	221.40	260.65
Travis																		
EJ 302	17.88	68.71	153.50	241.42	343.96	456.39	16.84	71.83	170.25	262.56	388.72	487.19	11.67	57.18	137.58	232.22	337.62	457.62
Non EJ 226	18.86	85.40	167.28	246.81	344.98	446.43	20.17	91.56	169.35	273.64	377.37	474.26	19.63	72.95	142.54	232.92	310.47	442.16
EJ 457	12.95	76.77	176.43	279.37	388.03	494.92	12.25	71.47	171.02	273.37	373.77	495.14	9.17	50.03	134.80	235.77	315.26	441.49
Non EJ 477	14.66	77.86	184.25	285.97	398.08	503.05	12.50	68.32	173.43	270.42	377.64	495.33	9.91	51.54	136.04	237.59	319.18	450.60
Williamson																		
EJ 125	19.14	78.63	191.24	282.39	374.84	454.02	19.15	76.60	201.14	295.27	377.55	462.65	13.42	53.76	135.28	256.11	365.44	427.03
Non EJ 123	15.82	93.16	201.18	283.33	380.27	473.21	15.53	90.57	209.69	301.77	381.73	486.51	16.63	62.51	146.87	265.15	360.26	450.92
EJ 854	26.43	97.84	150.03	239.11	285.82	345.02	25.63	97.10	146.99	244.09	305.40	353.82	22.07	92.52	150.97	231.17	279.53	347.36
Non EJ 924	26.96	98.67	155.62	243.77	294.15	354.38	26.15	99.12	152.83	249.77	313.47	361.01	21.58	93.60	159.28	235.28	285.39	354.94

Note: Analysis uses 5 minute increments. Amount traveled in each 5 minute increment is measured in square miles.

Figure 3B: Travel Time Analysis Results (AM Peak Period)

AM Peak Period

	2005						2010						2035					
	5	10	15	20	25	30	5	10	15	20	25	30	5	10	15	20	25	30
Bastrop																		
EJ 1192	15.33	79.98	165.00	262.23	372.03	269.86	15.39	80.53	163.46	259.90	368.91	265.01	4.12	19.61	69.07	127.48	229.05	314.46
Non EJ 1371	16.72	69.60	147.00	262.74	336.24	268.64	16.50	71.89	149.43	263.33	335.42	266.62	8.64	35.15	92.50	163.46	287.01	231.67
EJ 1217	29.65	105.49	167.44	243.40	315.62	373.06	26.81	105.81	164.15	235.62	314.41	371.40	21.26	82.72	163.50	210.50	285.26	338.08
Non EJ 1223	30.12	103.80	162.97	245.43	313.22	382.10	28.47	104.00	161.54	236.24	315.67	384.13	21.09	83.34	153.53	218.50	294.26	350.23
Caldwell																		
EJ 1293	24.29	105.97	196.52	250.41	295.13	314.55	23.74	102.27	193.82	244.76	300.26	329.18	12.67	74.42	174.87	266.47	283.68	336.51
Non EJ 1298	26.10	107.57	200.50	251.55	300.42	292.97	25.39	104.02	197.55	247.70	297.24	313.01	11.41	69.04	165.06	242.10	289.45	295.87
Hays																		
EJ 590	18.73	68.54	147.78	212.26	290.48	384.14	18.72	65.69	147.37	210.34	280.67	406.30	20.11	60.23	118.84	212.38	263.26	414.24
Non EJ 829	15.46	73.44	144.60	229.74	309.87	358.28	19.21	76.75	144.83	223.61	315.68	360.79	15.52	52.14	125.88	201.55	277.95	327.74
EJ 921	15.37	91.46	141.64	164.83	208.68	249.66	15.90	87.64	137.38	160.99	210.55	254.14	11.35	82.53	138.01	133.72	190.84	214.27
Non EJ 739	13.59	81.11	160.24	168.82	213.85	251.16	13.33	77.38	155.07	163.19	216.38	255.47	20.51	84.00	147.28	142.51	201.73	226.29
Travis																		
EJ 302	16.84	65.38	146.02	234.89	325.25	448.25	16.05	67.95	164.13	258.16	376.66	480.20	9.67	42.82	112.47	218.49	304.38	419.97
Non EJ 226	18.37	80.15	158.17	233.37	326.45	435.38	18.94	85.06	160.84	263.24	357.69	468.71	15.66	63.18	130.46	217.80	300.16	427.56
EJ 457	11.50	68.64	164.65	265.72	372.31	481.13	10.53	63.85	158.06	257.98	352.55	477.16	6.63	39.98	115.90	207.44	290.78	395.28
Non EJ 477	13.89	71.30	171.07	273.75	382.47	489.58	11.35	61.94	156.63	253.84	362.06	471.93	8.37	43.14	118.30	205.04	306.11	399.39
Williamson																		
EJ 125	18.59	69.61	174.86	265.82	359.46	429.94	18.50	65.93	186.47	280.86	364.74	444.76	10.30	44.30	95.92	211.26	319.26	396.92
Non EJ 123	14.14	80.71	181.55	268.60	358.63	437.53	13.75	75.58	192.55	285.80	365.15	459.23	14.05	45.13	107.51	218.86	326.17	411.41
EJ 854	25.58	93.97	134.49	216.33	246.99	307.74	24.47	92.44	139.13	227.63	283.24	332.94	20.47	85.35	137.80	214.28	238.39	321.41
Non EJ 924	26.08	94.61	139.06	219.18	256.29	318.44	25.11	95.17	144.99	236.24	295.48	339.37	19.22	86.91	147.63	217.78	247.66	321.31

Note: Analysis uses 5 minute increments. Amount traveled in each 5 minute increment is measured in square miles.

Methods of Toll Collection

TxDOT and the Central Texas Regional Mobility Authority (CTRMA) construct and operate the toll roads and managed lanes in the CAMPO area. Additionally, the private SH 130 Concession Company LLC, constructed and operates the southernmost portion of SH 130 (Segments 5 and 6) in partnership with TxDOT. CTRMA, TxDOT, and the SH 130 Concession Company work cooperatively to establish an integrated toll network with interoperable toll collection methods. TxTag is one of several electronic toll collection (ETC) methods that function on all CAMPO-area toll roads, along with the Dallas-area TollTag and Houston-area EZ TAG, it is also accepted on Texas Tollways operated statewide. Drivers establish a TxTag account, pre-pay a specified amount, and receive a TxTag sticker. According to the website www.txtag.org, “The TxTag sticker is a thin device that goes on the inside of your windshield behind your rearview mirror. It is slightly smaller than your vehicle registration or inspection sticker. TxTag uses an electronic chip and your windshield’s glass to send its signal to the electronic equipment above toll lanes.” The TxTag signal electronically debits the user’s account for the toll cost. TxTags enable drivers to travel toll roads without having to slow down to pay tolls. TxTags are available (online, by phone, by mail or in-person) at the TxTag Customer Service Center in Austin and through American Automobile Association (AAA) District offices in Texas. Below is an image of the TxTag.

Figure 4: Image of TxTag



Drivers without an ETC transponder can use the toll roads using a pay-by-mail (PBM) process that uses video recognition of license plates to charge tolls to vehicle owners. Note that all CAMPO-area toll roads do not accept cash. Future toll roads in the region will accept only ETC or PBM payment options and other All-Electronic Tolling (AET) options that may be provided in the future.

With PBM, video cameras photograph vehicle license plates as they pass through the toll plazas. License plate information identifies the vehicle owner, who receives a monthly bill. The toll rate for paying by mail is 33% higher than the rate for paying by TxTag. In addition, paying by mail incurs a \$1.15 monthly administrative fee.

Toll rates vary by road and vehicle type. Typically, the more axles the vehicle has, the higher the toll. This is because the heavier, multi-axle vehicles damage the pavement more than lighter passenger vehicles.

Toll rates can also vary by time of day or traffic condition. This type of variance is generally referred to as variable or dynamic pricing and is used to manage traffic flow on the tolled lanes. While none of the existing toll roads use variable pricing, it may be used for the planned managed lanes. The current CAMPO travel demand model includes a time of day model, and so can be used to evaluate the effects of variable pricing on EJ areas.

Figure 5A shows the current 2013 toll road system in Central Texas, while 5B show the corresponding toll rates and collection methods (original information sourced from website www.texastollways.com, modified to reflect current condition).

Figure 5A: Existing Toll Roads in 2013

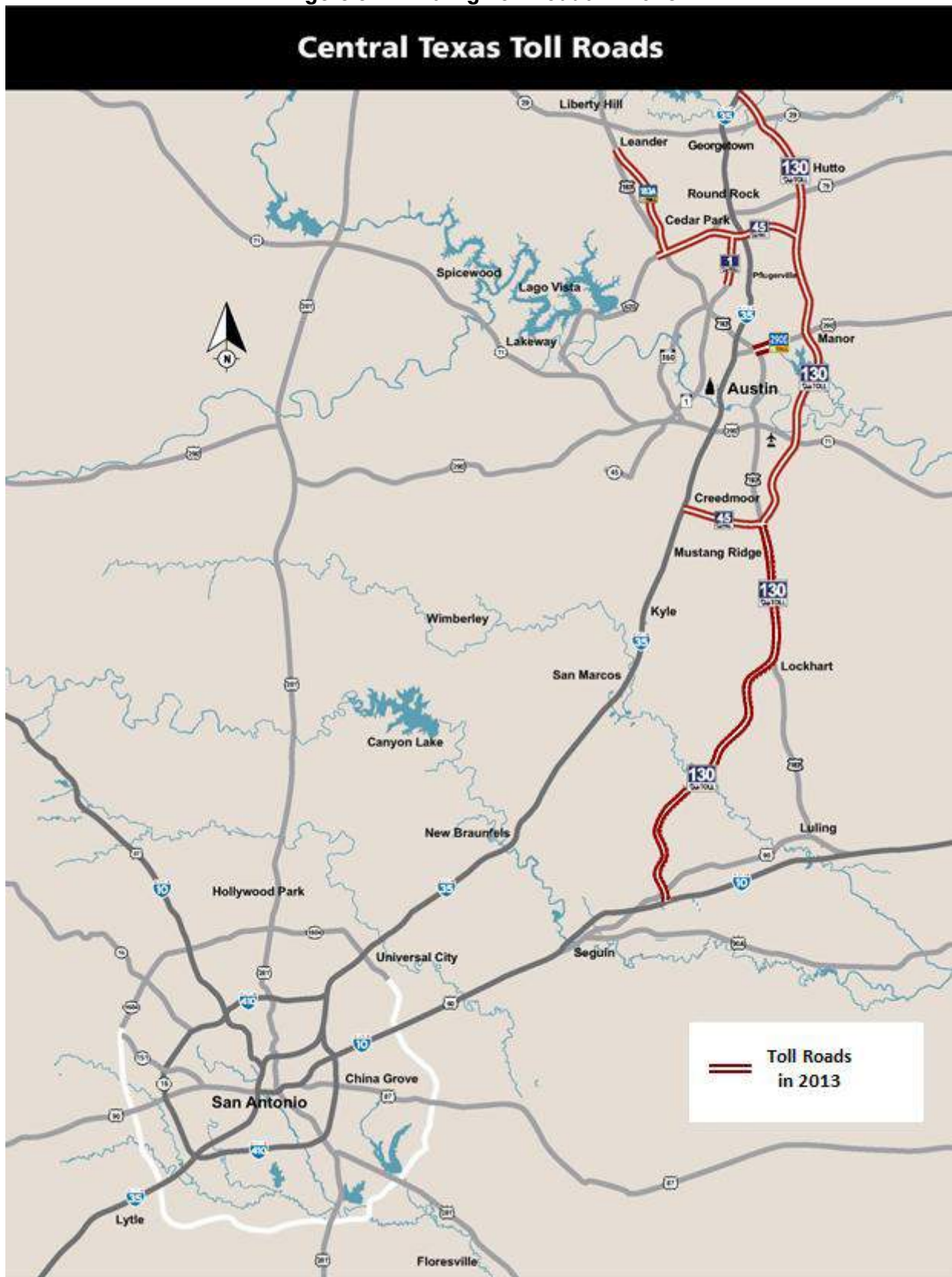


Figure 5B: Existing (2013) Toll Rates and Collection Methods

CENTRAL TEXAS TOLL RATES (as of Jan 1, 2013)		2-axle vehicles		Unibody truck, bus, motorhome*		3-axle vehicles		4-axle vehicles		5-axle vehicles		6-axle vehicles	
		Tag	Pay By Mail	Tag	Pay By Mail	Tag	Pay By Mail	Tag	Pay By Mail	Tag	Pay By Mail	Tag	Pay By Mail
1 SOUTH	Plaza	\$1.02	\$1.36	\$1.02	\$1.36	\$2.04	\$2.72	\$3.06	\$4.08	\$4.08	\$5.44	\$5.10	\$6.80
	Ramps	\$0.68	\$0.90	\$0.68	\$0.90	\$1.36	\$1.80	\$2.04	\$2.70	\$2.72	\$3.60	\$3.40	\$4.50
45 NORTH	Plazas	\$1.02	\$1.36	\$1.02	\$1.36	\$2.04	\$2.72	\$3.06	\$4.08	\$4.08	\$5.44	\$5.10	\$6.80
	Parmer Ln & RM 620 Ramps	\$0.88	\$1.17	\$0.88	\$1.17	\$1.76	\$2.34	\$2.64	\$3.51	\$3.52	\$4.68	\$4.40	\$5.85
	O'Connor Dr Ramps	\$0.90	\$1.20	\$0.90	\$1.20	\$1.80	\$2.40	\$2.70	\$3.60	\$3.60	\$4.80	\$4.50	\$6.00
	Greenlawn & AW Grimes Ramps	\$0.68	\$0.90	\$0.68	\$0.90	\$1.36	\$1.80	\$2.04	\$2.70	\$2.72	\$3.60	\$3.40	\$4.50
	Schultz Ln & Wilke Ln Ramps	\$1.02	\$1.36	\$1.02	\$1.36	\$2.04	\$2.72	\$3.06	\$4.08	\$4.08	\$5.44	\$5.10	\$6.80
45 SOUTHEAST	Plaza	\$1.00	\$1.33	\$3.00	\$3.99	\$2.00	\$2.66	\$3.00	\$3.99	\$3.00	\$3.99	\$3.00	\$3.99
	Ramps	\$0.66	\$0.88	\$1.98	\$2.64	\$1.32	\$1.76	\$1.98	\$2.64	\$1.98	\$2.64	\$1.98	\$2.64
130 SEGMENTS 1-4	Plazas	\$1.69	\$2.25	\$1.69	\$2.25	\$3.38	\$4.50	\$5.07	\$6.75	\$5.07	\$6.75	\$5.07	\$6.75
	SH 29, Blue Bluff, Harold Green & Moore Rd Ramps	\$0.45	\$0.60	\$0.45	\$0.60	\$0.90	\$1.20	\$1.35	\$1.80	\$1.35	\$1.80	\$1.35	\$1.80
	FM 104, Pecan St, Gregg Manor, FM 973, FM 969, Pearce Ln & FM 812 Ramps	\$0.56	\$0.74	\$0.56	\$0.74	\$1.12	\$1.48	\$1.68	\$2.22	\$1.68	\$2.22	\$1.68	\$2.22
	US 79, CR 138, Chandler Rd & Eloy Rd Ramps	\$0.73	\$0.97	\$0.73	\$0.97	\$1.46	\$1.94	\$2.19	\$2.91	\$2.19	\$2.91	\$2.19	\$2.91
	Cameron Rd Ramps	\$1.69	\$2.25	\$5.07	\$6.75	\$3.38	\$4.50	\$5.07	\$6.75	\$5.07	\$6.75	\$5.07	\$6.75
	SH 21 Ramps	\$0.73	\$0.97	\$2.18	\$2.90	\$1.46	\$1.94	\$2.91	\$3.87	\$2.91	\$3.87	\$3.64	\$4.84
130 SEGMENTS 5-6	Skyline Plaza	\$1.94	\$2.58	\$5.79	\$7.59	\$3.87	\$5.15	\$7.72	\$9.52	\$7.72	\$9.52	\$9.65	\$11.45
	FM 1185 Ramps	\$0.41	\$0.55	\$1.20	\$1.60	\$0.80	\$1.06	\$1.60	\$2.13	\$1.60	\$2.13	\$2.00	\$2.66
	SH 142 Ramps	\$0.63	\$0.84	\$1.86	\$2.47	\$1.25	\$1.66	\$2.48	\$3.30	\$2.48	\$3.30	\$3.11	\$4.14
	Bluebonnet Plaza	\$4.23	\$5.63	\$12.64	\$14.44	\$8.45	\$10.25	\$16.86	\$18.66	\$16.86	\$18.66	\$21.08	\$22.88
	SH 80 Ramps	\$2.44	\$3.25	\$7.28	\$9.08	\$4.87	\$6.48	\$9.72	\$11.52	\$9.72	\$11.52	\$12.15	\$13.95
	FM 621 Ramps	\$2.03	\$2.70	\$6.06	\$7.86	\$4.05	\$5.39	\$8.08	\$9.88	\$8.08	\$9.88	\$10.11	\$11.91
	FM 20 Ramps	\$1.04	\$1.38	\$3.11	\$4.14	\$2.08	\$2.77	\$4.15	\$5.52	\$4.15	\$5.52	\$5.18	\$6.89
183A SOUTH	Lakeline Plaza	\$0.51	\$0.68	\$0.51	\$0.68	\$1.02	\$1.36	\$1.53	\$2.04	\$2.04	\$2.72	\$2.55	\$3.40
	Park Street Plaza	\$1.38	\$1.84	\$1.38	\$1.84	\$2.76	\$3.68	\$4.14	\$5.52	\$5.52	\$7.36	\$6.90	\$9.20
	Brushy Creek & Scottsdale Ramps	\$0.55	\$0.73	\$0.55	\$0.73	\$1.10	\$1.46	\$1.65	\$2.19	\$2.20	\$2.92	\$2.75	\$3.65
	Crystal Falls Plaza	\$0.97	\$1.29	\$0.97	\$1.29	\$1.94	\$2.58	\$2.91	\$3.87	\$3.88	\$5.16	\$4.85	\$6.45
	Crystal Falls Ramps	\$0.37	\$0.49	\$0.37	\$0.49	\$0.74	\$0.98	\$1.11	\$1.47	\$1.48	\$1.96	\$1.85	\$2.45
2904 MANOR EXPRESSWAY	US 183 Ramps	\$0.50	\$0.67	\$0.50	\$0.67	\$1.00	\$1.34	\$1.50	\$2.01	\$2.00	\$2.68	\$2.50	\$3.35
	Springdale Road Ramps	\$0.50	\$0.67	\$0.50	\$0.67	\$1.00	\$1.34	\$1.50	\$2.01	\$2.00	\$2.68	\$2.50	\$3.35

*Rates for unibody truck, bus, or motorhome on Loop 1, 45 North, 183A and 130 Segments 1-4 are based on the number of axles.

Promotional rates apply only to SH 130 and SH 45 Southeast for a period of up to one year, effective April 1, 2013. During the promotional period, the 2-axle rate (effective January 1, 2013, as escalated or amended) will be charged to all vehicles, regardless of classification. The purpose of the promotion is to reduce traffic congestion on I-35 and to make Central Texas roadways safer by encouraging greater through trips of trucks on Central Texas toll roads. The Commission has allocated \$5 million to be used to make up the difference in revenue between the temporary toll rates charged to vehicles with more than 2 axles and the standard toll rates. Once the funds are depleted, the discount program will end.

Toll Policies

CAMPO Toll Policies

The CAMPO Board has adopted several policies and resolutions related to tolling. These policies affect project funding, design, operation, and revenue while striving to avoid or minimize inequities. Adopted CAMPO toll policies are:

- 2035 Plan Policy 14. Any existing roadway to which additional tolled capacity is added should continue to be maintained and improved and to provide the same amount

or more non-tolled capacity as the roadway currently provides. To the extent that it is within the authority of the toll operator and the CAMPO Transportation Policy Board, the non-tolled capacity shall have the same number or fewer traffic control devices as the current roadway except where law and/or safety requires otherwise.

- 2035 Plan Policy 15. The initial operation of any tolled facility shown on Map 1 of the Appendices (NOTE: Map 1 of the 2035 Plan Appendices shows US 290E, US 183S, US 290W, SH 71W, and SH 45SW with limits as indicated in Figure 2) shall include rapid bus traffic. At such time that congestion on the tolled facility warrants dedication of a lane to rapid bus and high occupancy vehicles to ensure their swiftest passage, an existing lane will be dedicated and any excess capacity within the dedicated lane shall be available to other vehicles at a tolled rate.
- 2035 Plan Policy 16. At the discretion of the Central Texas Regional Mobility Authority (CTRMA), some or all of the following tolled facilities, and projects within the transportation corridor (as defined below) of these tolled facilities, may be combined into one or more systems for financing purposes:
 - 183A;
 - US 290(E) from US 183(S) to Parmer Lane;
 - US 183(S) from US 290(E) to SH 71(E);
 - SH 71(W) from Silvermine to US 290(W);
 - US 290(W) from west of Scenic Brook to east of Williamson Creek; and
 - Loop 1 Managed Lanes from Parmer Lane (FM 734) to Slaughter Lane (The system eligible projects)

For non-system Eligible Projects, surplus revenue (as defined in Section 370.003(12), Texas Transportation Code), to the extent permitted by law, may be made available for use in the transportation corridor by the CTRMA for the following purposes:

1. Improvement of the alternative non-tolled capacity including improvement of arterials impacting or impacted by the tolled facility;
2. Further implementation of non-tolled access to tolled lanes by high occupancy vehicles beyond that made available in initial operations and any other transportation projects designed to reduce per capita vehicle miles traveled within the corridor;
3. Further mitigation of environmental or community degradation as a result of the tolled facility that was not previously addressed under state or federal requirements; and
4. Other public transportation or air quality benefits within the corridor.

For purposes of this policy, the phrase “transportation corridor” is defined as that area within 1 mile of the midline of the tolled facility and those zip codes from which 10% or more of the peak A.M. toll tag transactions on that facility originate.

In the event the CTRMA determines that a non-System Eligible Project lacks adequate sources of funding, the CTRMA may request, and CAMPO may approve, adding the project to an existing system upon completion of the following:

1. The CAMPO Transportation Policy Board, with the input of the CTRMA, has approved the Statement of Purpose describing the transportation project and need;
 2. CAMPO, in conjunction with the CTRMA, has convened two region-wide community meetings to elicit input regarding the Statement of Purpose; and
 3. After the community meetings described above have been held and one public hearing before the CAMPO Transportation Policy Board has been completed, the addition of the project to an existing system is approved by a majority of the CAMPO Transportation Policy Board.
- 2035 Plan Policy 17. The CTRMA should engage in public outreach efforts to encourage DBE and HUB participation in CTRMA developed projects, and the CTRMA should report to CAMPO about those efforts on an annual basis. The CTRMA should (1) establish a process for outreach to minority-owned, women-owned and economically disadvantaged businesses to achieve appropriate levels of DBE and HUB participation in projects which are part of the Regional Implementation Program and (2) subject to Federal and State law, set specific goals and adopt policies for HUB participation consistent with1 TEX ADMIN. CODE Section 11 1.13 in any DBE/HUB policy finally adopted for the Regional Implementation Program.
 - 2035 Plan Policy 18. State Highway 45 Southwest.
SH 45 SW shall be developed as a toll parkway/freeway 4-lane road;
 - TxDOT and the CTRMA shall implement where feasible, and if approved by federal authorities under existing restrictions governing the State Highway 45 Southwest corridor, the development of a non-tolled alternative within the corridor in the form of free parallel frontage roads;
 - If the US Fish and Wildlife Service and other federal entities found the expansion to not be feasible under environmental concerns, then SH 45 would not be tolled; and,
 - In the event non-tolled frontage roads cannot be developed within the corridor, it is the intent of CAMPO that TxDOT and the CTRMA consider toll rates and policies that promote the use of State Highway 45 Southwest and disincentives for the use of Brodie Lane by thru-traffic and trucks.

TxDOT and CTRMA Toll Policies

TxDOT's toll policy for the Austin region was developed initially in conjunction with the planning for the Central Texas Turnpike System (CTTS). Initial phases of the CTTS were implemented in 2006 and consisted of an eastern bypass of Austin (SH 130), the Loop 1 Toll Road, and SH 45 North. Although each of the roadways served different travel markets the toll rates per mile were similar, as was the toll policies related to truck tolls. When the facilities first opened, toll charges could be paid with either cash and via TxTag transponders. As the system matured, the cash option was eventually discontinued and the pay-by-mail (PBM) tolling option was implemented, consistent with CTRMA's tolling policy. Both TxDOT and CTRMA apply a 33% surcharge to the base toll rates for those patrons using the PBM option. TxDOT also adjusted the toll rates for each facility to better address the demand for each roadway and to achieve certain safety-related policy objectives, such as diverting long-haul truck traffic from IH-35 to SH 130.

Currently, neither CTRMA nor TxDOT has any operational managed lane projects in the Austin region. However, CTRMA's MOPAC managed lane facility is now under construction. The toll policy for this facility is based on dynamic pricing in order to ensure that the facility does not

become congested during peak periods. All vehicles will pay tolls and tolls will be assessed with either TxTag transponders or via PBM. However CAP Metro transit buses and registered nine-person van pools will not be charged tolls.

As part of each agency's toll policy, tolls for CTRMA's toll facilities and TxDOT's CTTs facilities are escalated annually based on inflation trends. Both agencies utilize a formula that uses the 12-month change in the consumer price index – urban (CPI-U) as published by the Bureau of Labor Statistics. The toll increases are implemented on January 1st of each year.

According to the TxTag website, travelers can use TxTag can be used to pay tolls on toll roads statewide, including CTRMA toll roads and toll lanes.

According to the TxDOT Toll Operations website, TxDOT has a toll exemption policy applicable to all state toll roads for:

- Authorized emergency vehicles as defined in Texas Transportation Code, Part A, Section 541.201 (fire department and police vehicles, public or private ambulances, municipal department of public service corporation emergency vehicles, private vehicles of volunteer firefighters or certified emergency medical services employees or volunteers when responding to a fire alarm or medical emergency, industrial emergency response vehicles when responding to an emergency, and vehicles of blood or tissue banks when making deliveries of blood, drugs, medicines, or organs);
- Marked, recognizable military vehicles, except on the Central Texas Turnpike System, where such vehicles may only receive free passage during time of war or other emergency;
- Department contractors working on the construction, improvement, maintenance, or operation of the toll project or system being traveled; and
- Any vehicle in the time of a declared emergency or natural disaster, as determined by the executive director of the department

The 83rd Texas Legislature passed Senate Bill 1792 relating to toll collection of for all toll roads in the state, regardless of the toll road owner/operator. The bill became law on June 14, 2013. This law created enforcement remedies targeted at “habitual violators” those who have accumulated 100 or more unpaid tolls in a year or less and have been issued two notices of nonpayment. Remedies include:

- Public listing of the habitual violators
- A vehicle registration block
- An order prohibiting operation of a vehicle owned by a habitual toll violator on toll highways, violation of which is a Class C misdemeanor
- Vehicle impoundment upon proof of repeated violation of the prohibition order

Habitual violators were notified of their habitual violator status and given an opportunity to challenge that determination through an administrative hearing process with a Justice of the Peace. An additional notice of the final determination that they are a habitual violator is required before remedies can be invoked. A 90 day grace period to pay outstanding tolls at a discount was available, after which the tolls due returned to full price. The law does allow the tolling entities to

enter into toll violation payment plan agreements with the registered owner of a vehicle allowing the person to pay the total amount of outstanding tolls and fees.

CTRMA toll collection policies include:

- A toll waiver for public transit vehicles and registered car/van pools (as defined by the latest CAMPO and/or CTRMA policy)
- A violations policy that allows several opportunities to pay delinquent tolls prior to advancing unpaid tolls to a collection agency and municipal courts, where fees and fines of up to \$250 can be assessed. Similar to TxDOT's toll collection policies, CTRMA can waive certain fees in particular situations, such as cases where patrons may have not received bills in a timely manner.
- Pre-payment options using cash, credit, and debit cards and the ability to set up a TxTag account over the internet, by phone, or at the customer service center.

The tolling policies provide mitigating effects by minimizing potential negative impacts and by providing benefit to the EJ community. The CTRMA policy of waiving transit tolls benefits transit that uses CTRMA facilities, which in turn benefits the EJ community. Both Capital Metro and the Capital Area Rural Transportation System (CARTS) use the existing CTRMA toll road, 183A, and plan to use US 290(E), SH 71(E), US 183, and US 290(W). According to the TTI Toll Road Opinion Survey, the EJ population is more likely than the non-EJ population to use transit. Waiving the toll for transit could result in a faster, more reliable trip at no additional cost for the EJ transit user.

Policies governing the use of toll revenues promote equitable & regional benefits. Limiting use of additional toll revenues to the corridor in which they were accrued can benefit the EJ community living in or adjacent to toll corridors by funding other transportation, environmental and community projects. And, through an interlocal agency agreement between CAMPO and the CTRMA, revenue from the MoPac Managed Lanes project from Parmer Lane to Cesar Chavez can be spent on future non-tolled transportation infrastructure. Other potential benefits include jobs created by the toll projects and opportunities for EJ community businesses. Context sensitive solutions (CSS) techniques provide additional benefit by encouraging community participation in developing the project design concept and considering community needs and concerns in project implementation. The CTRMA uses CSS when developing design concepts. The CTRMA also initiated a Green Initiative to incorporate sustainability aspects into its projects and established a Green Credits Program for its future projects, similar to a LEEDS certification for buildings.

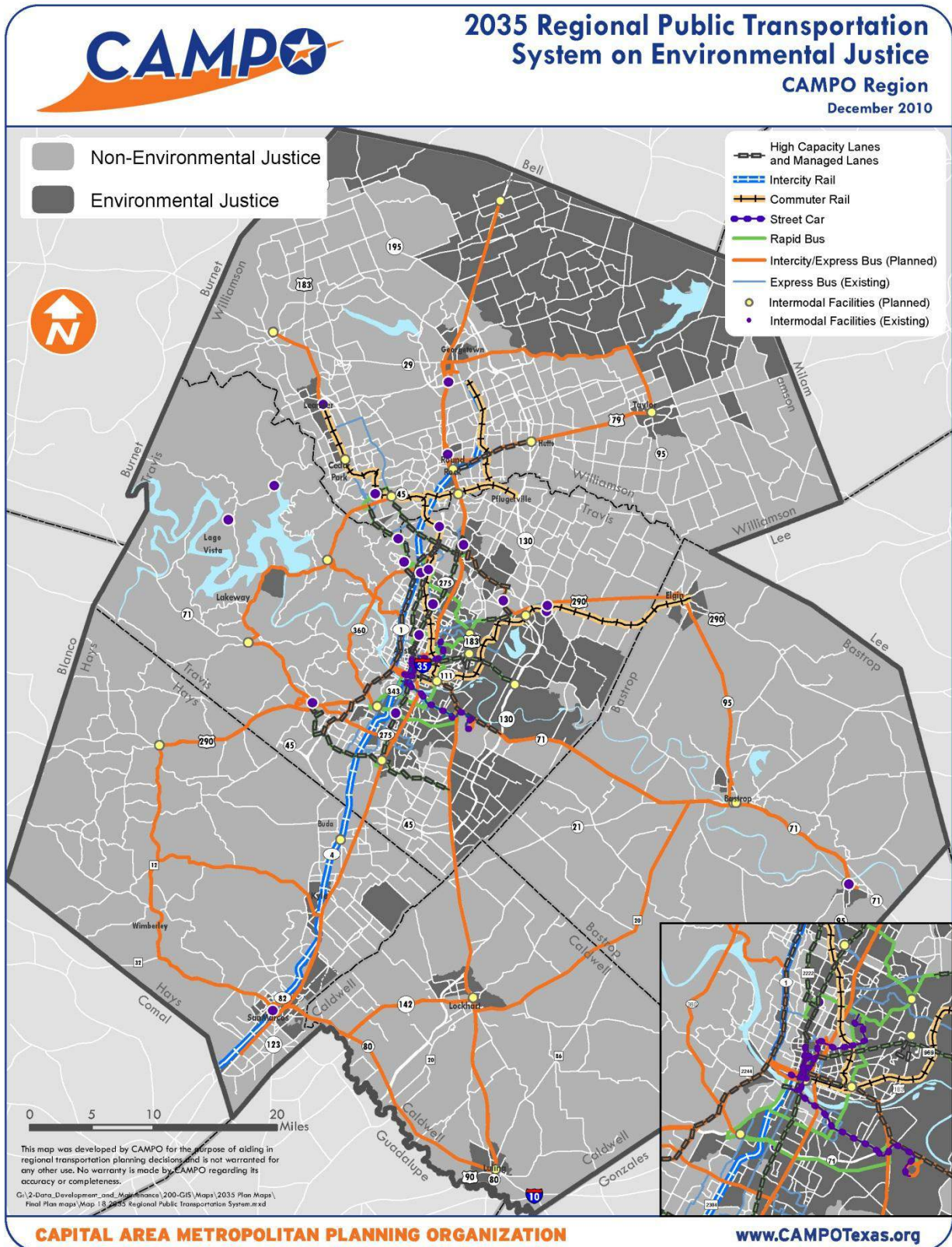
Providing the same, or more, non-toll capacity as currently exists minimizes negative impacts by ensuring a non-toll alternative route is maintained or improved. This gives the EJ population and all travelers a viable alternative if they choose not to pay the tolls. Maintaining a non-toll alternative also will minimize traffic diversion to adjacent neighborhoods.

CAMPO policy supports minimizing negative impacts by considering EJ populations, especially low-income travelers, when setting toll rates and collection methods. TxDOT and CTRMA provide multiple options for rate discounts and for payment methods (TxTag, video-tolling), making it easier for those who do not have a credit card to use the toll roads. For example, a traveler does not need a credit card to purchase and maintain a TxTag. Also, allowing sufficient time to pay a toll bill before accruing additional costs can benefit those without means for prompt payment.

Transit Use

Implementation of the 2035 Plan should improve transit service for all travelers, including the EJ community. The Plan's extensive transit component, coupled with roadway improvements that can enhance transit's travel times and reliability, result in better transit opportunities for much of the region's population. Waiving transit tolls allows transit to use the toll roads and managed lanes at no additional cost, improving travel times and reliability. Preserving existing non-toll capacity will facilitate movement on the road network, minimizing deterioration of transit travel times for local routes that don't use the toll roads. Details on the transit component of the 2035 Plan are located in Appendix A. Map 6 shows the relationship between the EJ areas and the 2035 regional public transportation system.

Map 6: 2035 Regional Public Transportation System for Environmental Justice Analysis



Limited English Proficiency (LEP)

Limited English proficiency (LEP) can be a barrier to effective EJ community involvement and can hinder access to the tolled facilities. Spanish is the second most common language in the CAMPO area. CAMPO, TxDOT, and CTRMA all solicit input and provide information in Spanish, generally summary information on websites or in public notices. CTRMA and TxDOT work together to administer Spanish language services for phone based TxTAG customer service as well as a bilingual website. CAMPO conducts EJ and other surveys in Spanish and English to facilitate public input. Interpreters are often available at public meetings. The TxDOT Customer Service Center has Spanish speaking representatives to assist customers, making it easier for Spanish speakers to use the regional toll network. CAMPO's LEP Plan outlines the process for ensuring that LEP individuals have opportunities to learn about and be involved in regional transportation planning and projects that may affect them.

Cumulative Economic Impact to Individuals

The economic impact of choosing to travel on toll roads or lanes may have a greater impact to low-income individuals because the toll cost is a greater proportion of their income than that of median or higher income users. A quantitative analysis provides:

- An estimate of average annual travel on the toll network;
- The cost of the associated tolls; and,
- The percent of annual income used to pay the average annual tolls for poverty level, low income, and median income users.

The analysis examines expected conditions in 2010 and 2035. Data sources include the travel demand model, the US Census, the Consumer Price Index and various traffic and revenue studies.

The first step in conducting the analysis is to estimate average annual travel on the toll network for 2010 and 2035. The travel demand model estimates average vehicle miles traveled (VMT) on a weekday for the region. The daily toll network VMT is a subset of the daily regional VMT. In order to adjust the average weekday toll network VMT to average annual weekday toll network VMT (AAWDT VMT), the daily VMT is multiplied by 260, reflecting the number of days in a year excluding weekends. Weekend travel patterns and traffic volumes are different from those experienced on weekdays because trip making is largely discretionary. Traffic volumes are typically lower than on weekdays. These factors may influence route choice, making it less likely that the traveler will select a route on a toll road for weekend travel. The CAMPO travel demand model is a weekday model, so no quantifiable information is available for weekend VMT.

Calculation of the AAWDT VMT per capita uses population from the 2010 census data and CAMPO's 2035 population forecast and the estimated AAWDT VMT estimates. Multiplying the AAWDT VMT per capita by three generates total tolled VMT traversed by a typical family, consistent with the family size used in this analysis. The result reflects the annual weekday toll miles driven by a typical family in the region.

The next step identifies income levels for a typical family in the Austin region. The income levels for a typical family are based on the 2008-2010 American Community Survey 3-Year Estimates and use the median family income for a family size of three in the Austin - Round Rock – San Marcos Metropolitan Statistical Area. The forecast of annual income for 2035 uses a 25-year trend line (1985 to 2010) of the annual 'All Urban' Consumer Price Index (CPI) to calculate the

average annual percent change in the CPI. Income levels were inflated to 2035 based on an assumed 2.866% compounded inflation rate.

The next step calculates the existing toll rates for 2010 and toll rates for the year 2035. Note that in 2012, TxDOT adopted a policy of escalating tolls annually. For purposes of this analysis, a rate of 3.0% compounded annually was utilized, consistent with CTRMA’s escalation assumptions for financial planning. For this analysis the 2010 toll rates were initially adjusted for the recent toll increases that were implemented on January 1, 2013 and then increased with a 3.0% escalation rate thereafter.

Finally, the analysis calculates the average annual toll cost for 2010 and 2035 by multiplying the average toll rates by the average annual weekday toll miles driven. The toll to income ratio calculation then determines the proportion of income spent on tolls for each income level (federal poverty level, 80% median family income and 100% median family income). The 2010 poverty threshold for families of three, \$17,373, from Bureau of the Census is used to analyze toll impacts. The results appear below.

Figure 6: Toll/Income Ratio by Income Level and Year for the Austin – Round Rock – San Marcos Metropolitan Statistical Area

	2010	2035
100% Median Family Income (MFI)	0.02%	0.08%
80% Median Family Income (MFI)	0.02%	0.10%
Poverty Level (Federal)	0.08%	0.33%

Existing 2010

Income Level (Family of 3)	Income (\$/year)	Average Toll Rate (\$/mile)	Annual Toll Miles Driven (per capita miles per year*3)	Annual Toll Cost (\$/year)	Ratio (Toll/Income)
Federal Poverty	\$ 17,373	0.14	102	\$ 13.77	0.000792612
80%MFI	\$ 57,365	0.14	102	\$ 13.77	0.000240044
100%MFI	\$ 71,706	0.14	102	\$ 13.77	0.000192035

2035

Income Level (Family of 3)	Income (\$/year)	Average Toll Rate (\$/mile)	Annual Toll Miles Driven (per capita miles per year*3)	Annual Toll Cost (\$/year)	Ratio (Toll/Income)
Federal Poverty	\$ 35,207	0.33	355	\$ 117.62	0.003340854
80%MFI	\$ 116,252	0.33	355	\$ 117.62	0.001011782
100%MFI	\$ 145,315	0.33	355	\$ 117.62	0.000809425

It should be noted that although the expected annual toll cost is relatively low for all users, the proportion of income used for tolls is higher for the low-income EJ population. A comparison of the federal poverty toll cost proportion to the 100% MFI toll cost proportion indicates that those in the federal poverty level category would pay roughly 4 times more of their income for tolls than those in the 100% median family income category, if they choose to use a toll road.

Existing and potential strategies to minimize possible negative effects of tolling on the low-income EJ population include: waiving transit tolls on CTRMA facilities to increase transit reliability and decrease travel times at no additional cost to the transit user, providing the same or more non-toll capacity in the corridor as currently exists to ensure viable non-toll alternatives, and limiting use of surplus toll revenue to the same corridor as the tolled facility to further improve those corridors and provide benefit to the corridor residents.

Identification of Potential Users

Determining the impact of the regional toll network on the EJ population requires measuring the extent to which the EJ population will use the toll roads and managed lanes. The 2008 Toll Road Opinion Survey addresses this question. The survey indicates that the EJ population uses the existing regional toll network to the similar extent as other travelers, with 56.2% of the core (EJ) population not using the toll network and 58.5% of other travelers not using the toll network. The survey also indicates that if a toll road were built between their home and work, the majority of both core (EJ) and all respondents would use the non-toll frontage road or another route. Only 9.7% of core (EJ) respondents and 11.7% of all respondents indicated they would use the toll road.

Another estimate of EJ population use of the planned toll network comes from the travel demand model's select link analysis method, described below.

- Identify network segments (links) representing any tolled roadways.
- Run the CAMPO highway assignment process storing trips that use the 'selected links'.
- Create a file of trips that contains the origin zone and destination zone of all trips that use any of the selected toll road links.
- Aggregate daily auto trip ends by origin for individual EJ and non-EJ TAZs for trips that use toll roads
- Map the resulting trips using GIS.

Three travel demand model scenarios: 2010 existing, 2035 Plan build out, and a 2035 no-build (2035 demographics on the 2010 network) underwent select link analysis. Results indicate that proximity to the toll roads and managed lanes is a determinant in toll road use for both the EJ and the non-EJ population. Traffic analysis zones closest to the toll roads generate more toll trips than those farther away. Over time, as the toll network, the region's population and the amount of roadway congestion grows, trips on the toll roads and managed lanes increase. In 2010, auto-based EJ TAZ toll trips were 15.0% of the total auto-based toll trips. In 2035, assuming implementation of the 2035 Plan, EJ toll trips are expected to be 18.33% of the total toll trips.

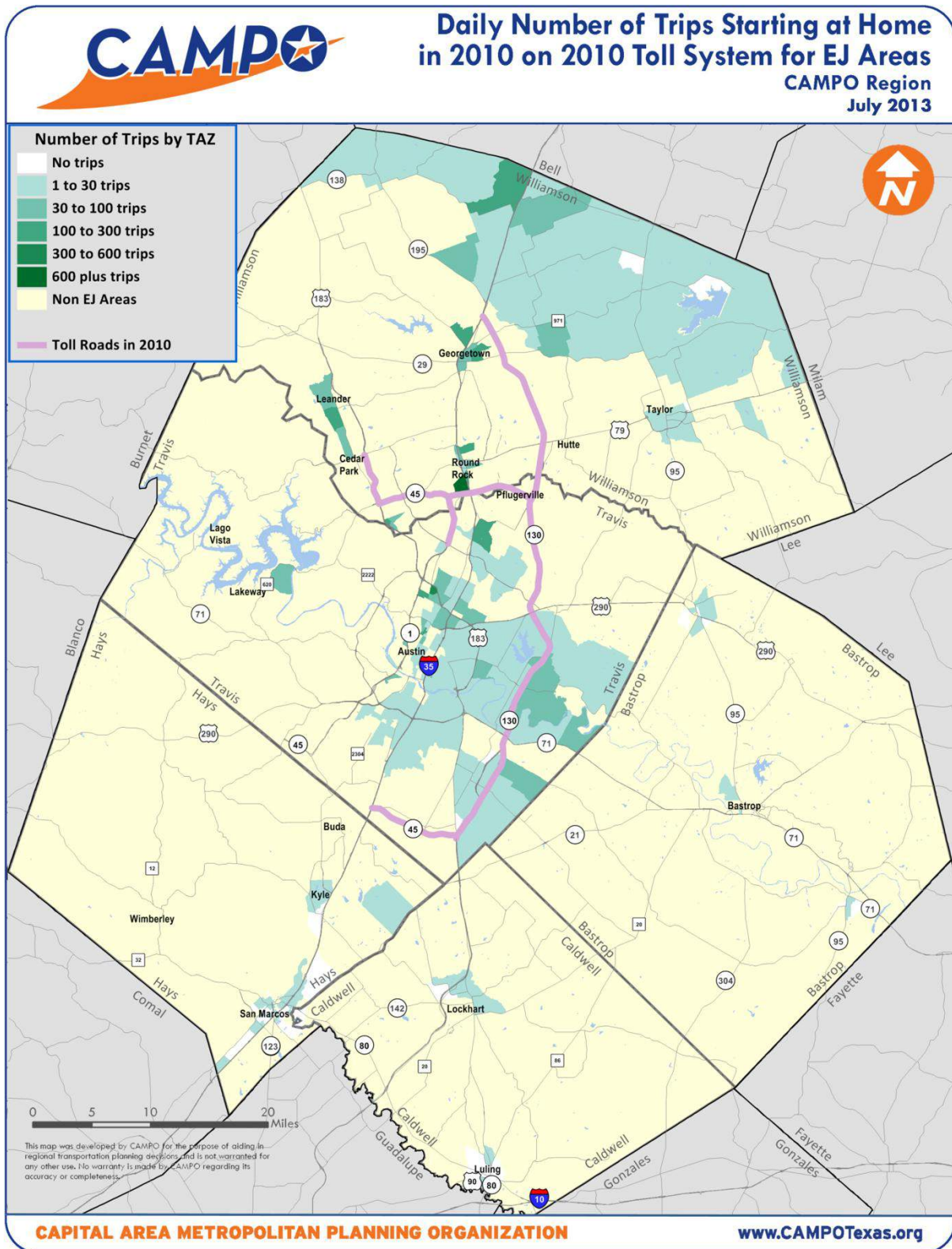
Figure 7 shows the distribution of toll trips originating in EJ TAZs and the distribution of auto toll trips originating in non-EJ TAZs. Maps 7-18 show the number and percentages of tolled trips starting at home for EJ TAZ only, as well as for all TAZs (both EJ and non-EJ). Map 19 shows TAZ boundaries for EJ TAZ and non-EJ TAZ zones.

Figure 7: EJ and Non-EJ TAZ Toll Road Use

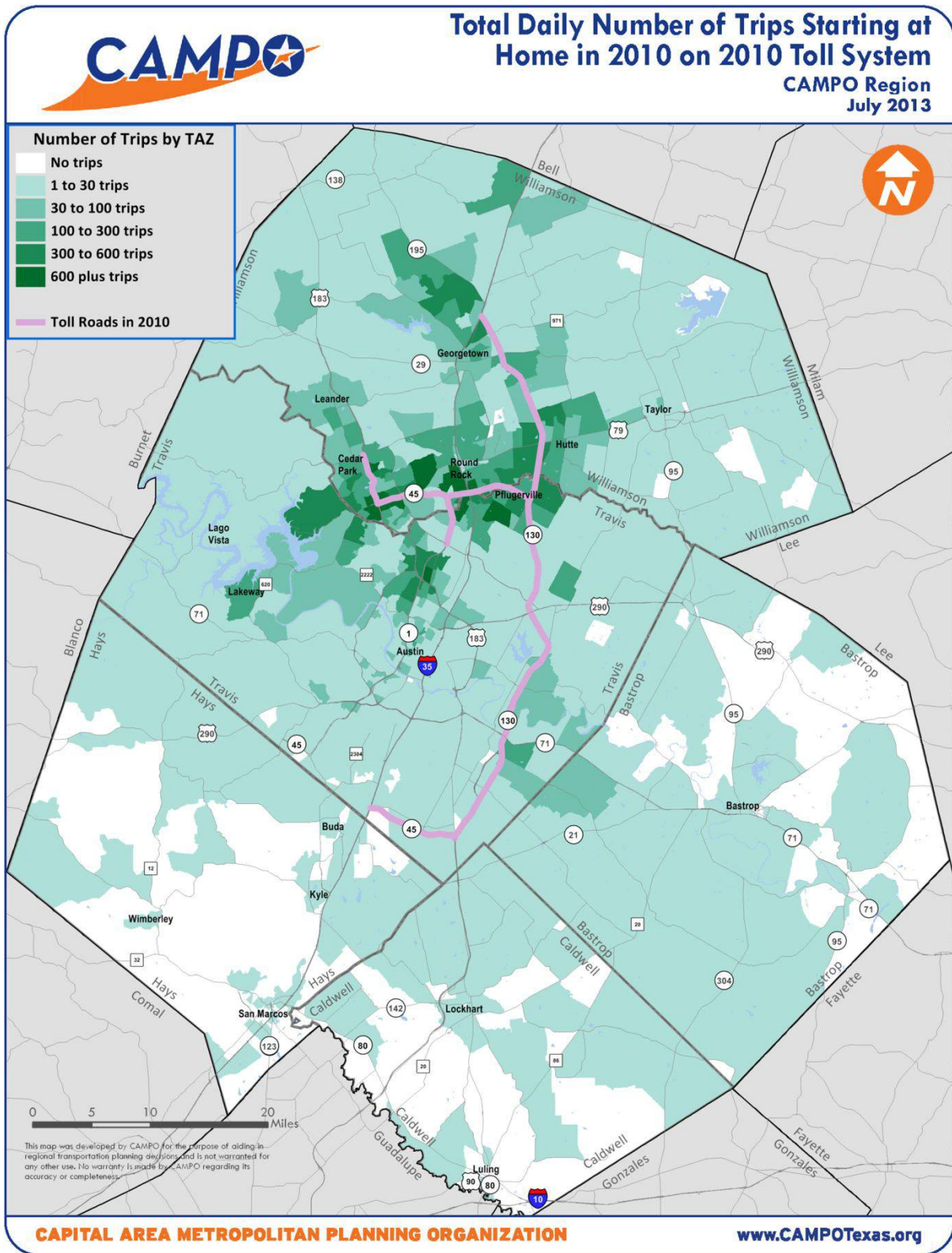
EJ Traffic Analysis Zones (TAZ) and Toll Road Use						
Percentage of EJ Trips on Toll Roads	Existing Network EJ TAZ in 2010		Future Network EJ TAZ in 2035		No-Build Future Network EJ TAZ in 2035	
	Number	Percent	Number	Percent	Number	Percent
0%	58	13.09%	3	0.68%	11	2.48%
>0% to 1.5%	324	73.14%	253	57.11%	307	69.30%
1.5% to 5%	52	11.74%	132	29.80%	67	15.12%
5% to 10%	6	1.35%	45	10.16%	42	9.48%
10% to 20%	3	0.68%	8	1.81%	14	3.16%
>20%	0	0.00%	2	0.45%	2	0.45%

Non-EJ Traffic Analysis Zones (TAZ) and Toll Road Use						
Percentage of Non-EJ Trips on Toll Roads	Existing Network Non-EJ TAZ in 2010		Future Network Non-EJ TAZ in 2035		No-Build Future Network Non-EJ TAZ in 2035	
	Number	Percent	Number	Percent	Number	Percent
0%	171	17.63%	9	0.93%	20	2.06%
>0% to 1.5%	573	59.07%	373	38.45%	562	57.94%
1.5% to 5%	149	15.36%	383	39.48%	225	23.20%
5% to 10%	55	5.67%	127	13.09%	92	9.48%
10% to 20%	18	1.86%	64	6.60%	55	5.67%
>20%	4	0.41%	14	1.44%	16	1.65%

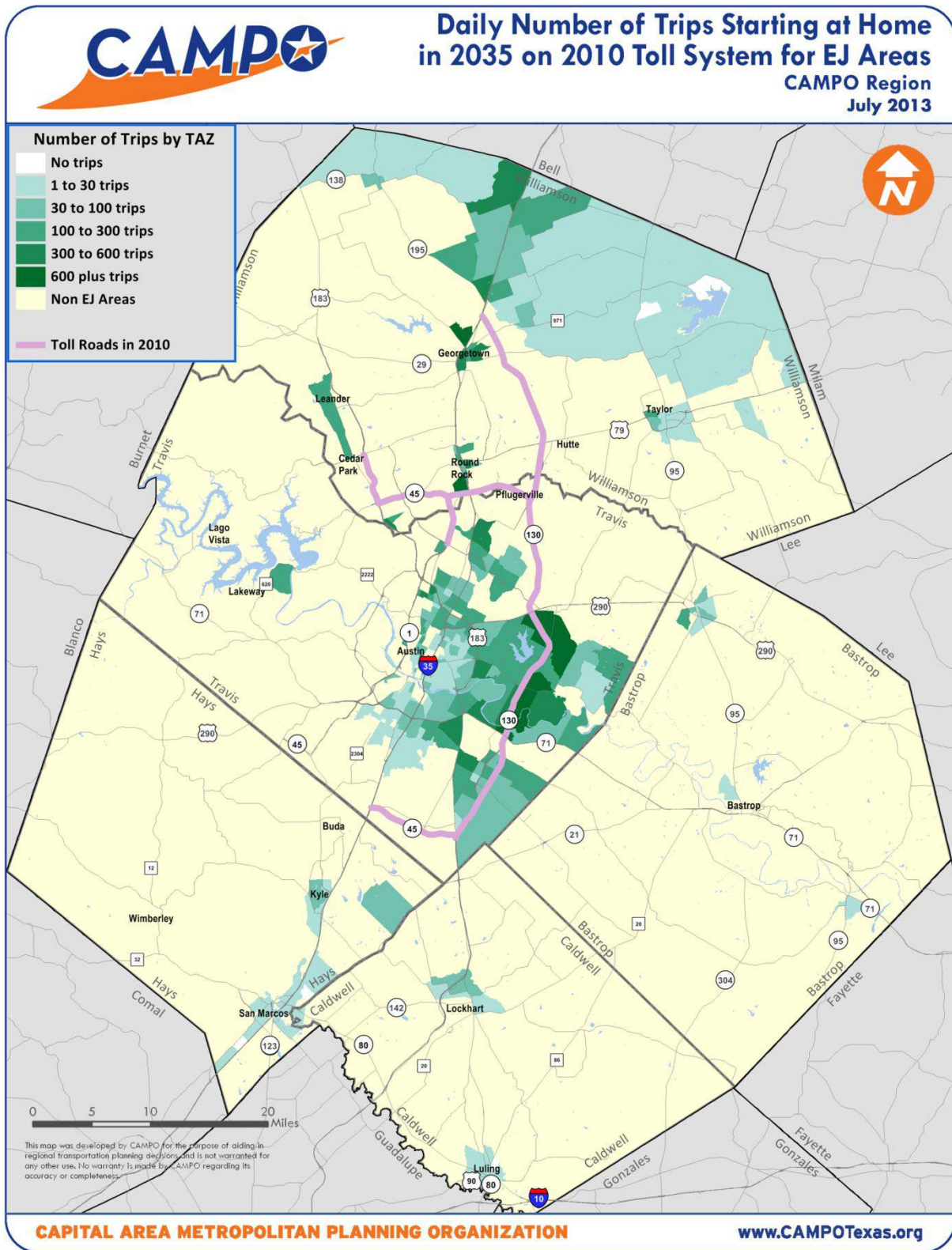
Map 7: Daily Number of Trips Starting at Home in 2010 on 2010 Toll System for EJ Areas



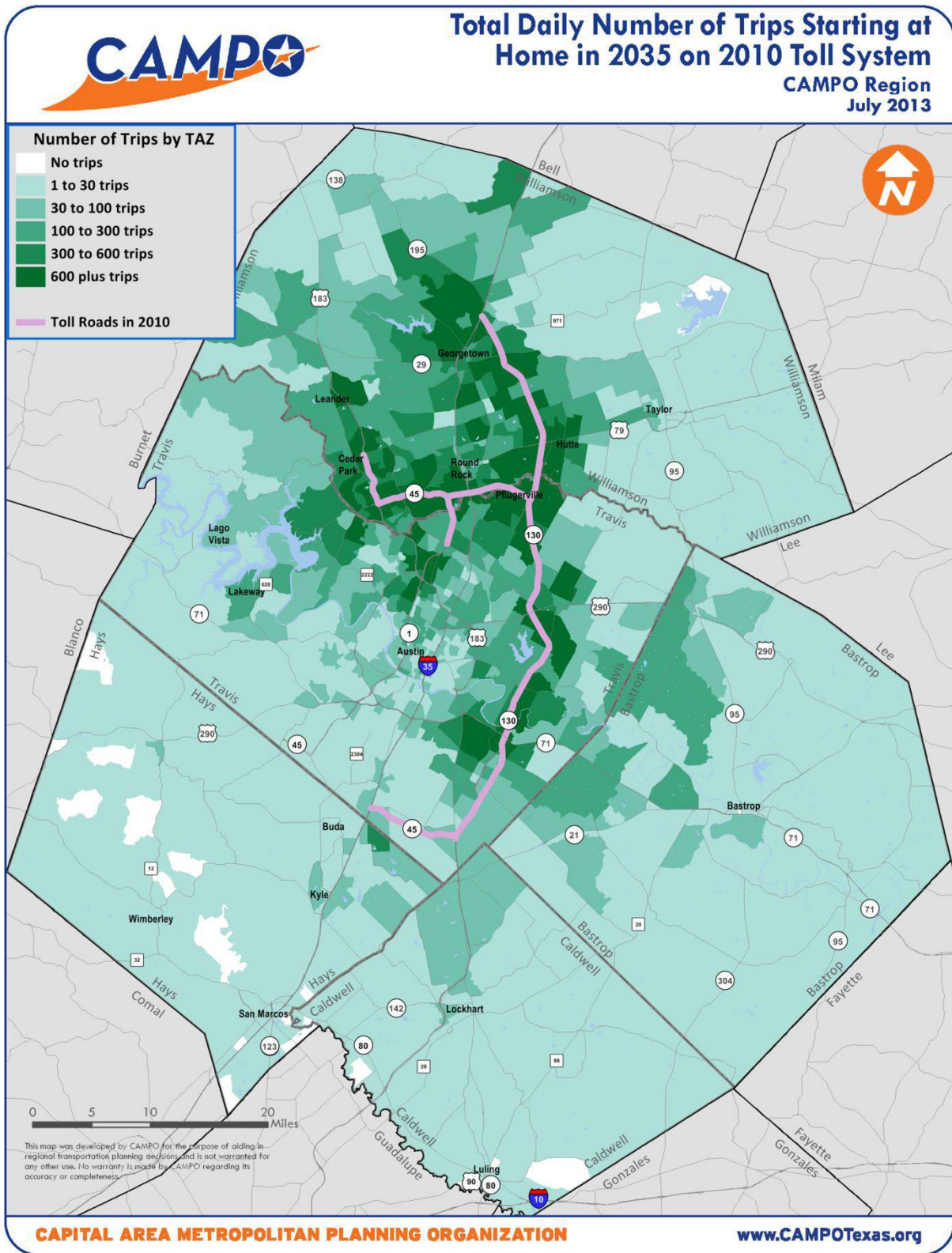
Map 8: Total Daily Number of Trips Starting at Home in 2010 on 2010 Toll System



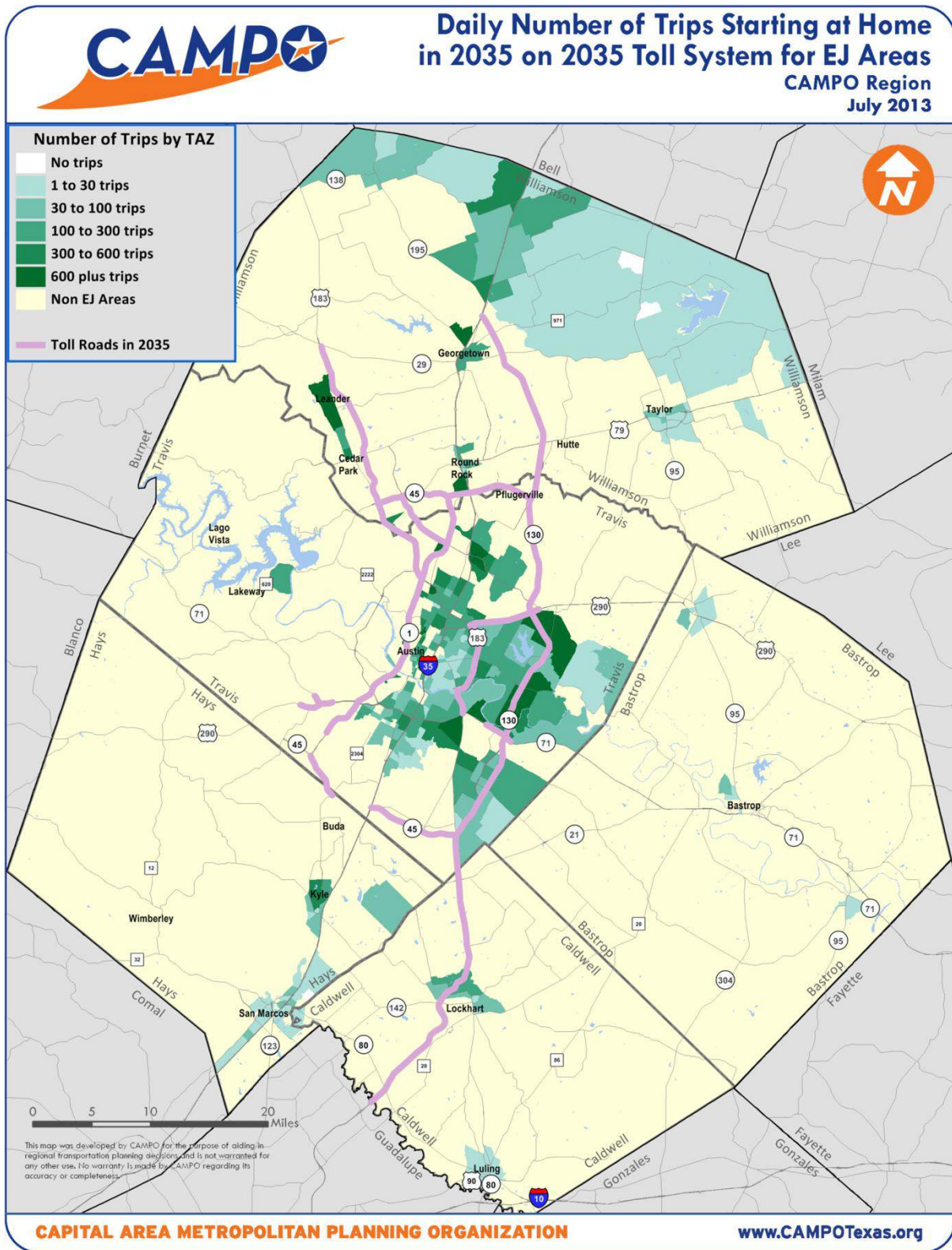
Map 9: Daily Number of Trips Starting at Home in 2035 on 2010 Toll System for EJ Areas



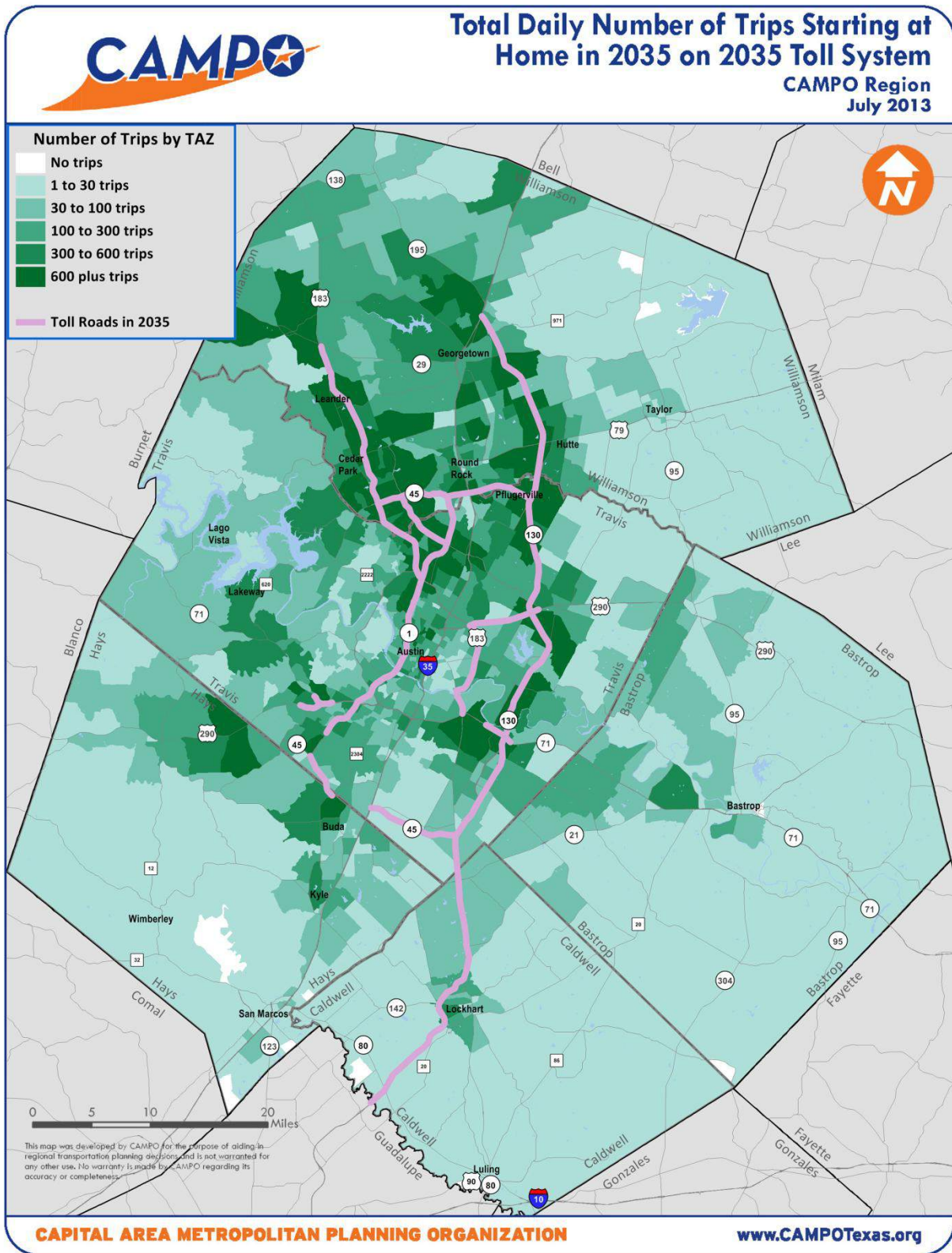
Map 10: Total Daily Number of Trips Starting at Home in 2035 on 2010 Toll System



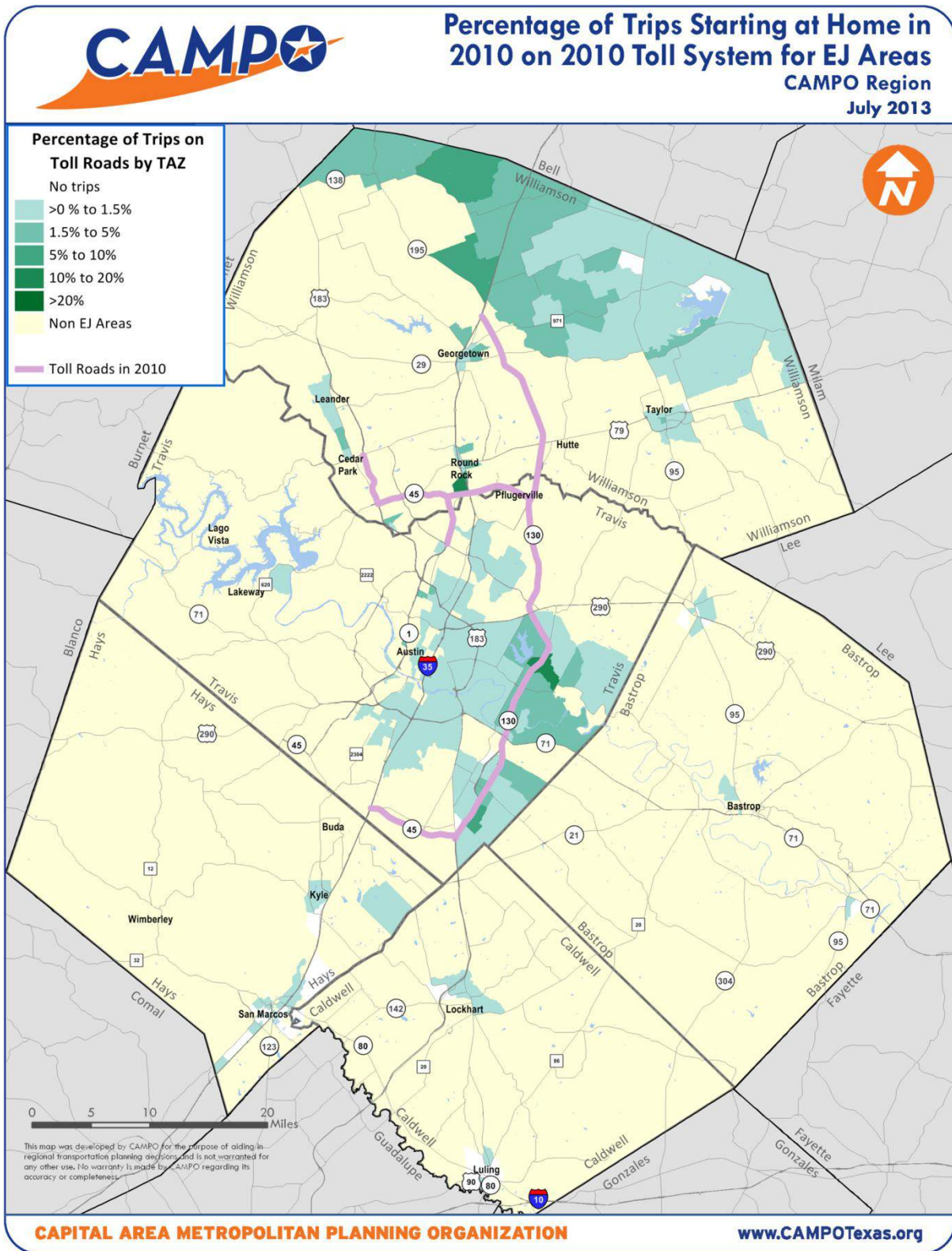
Map 11: Daily Number of Trips Starting at Home in 2035 on 2035 Toll System for EJ Areas



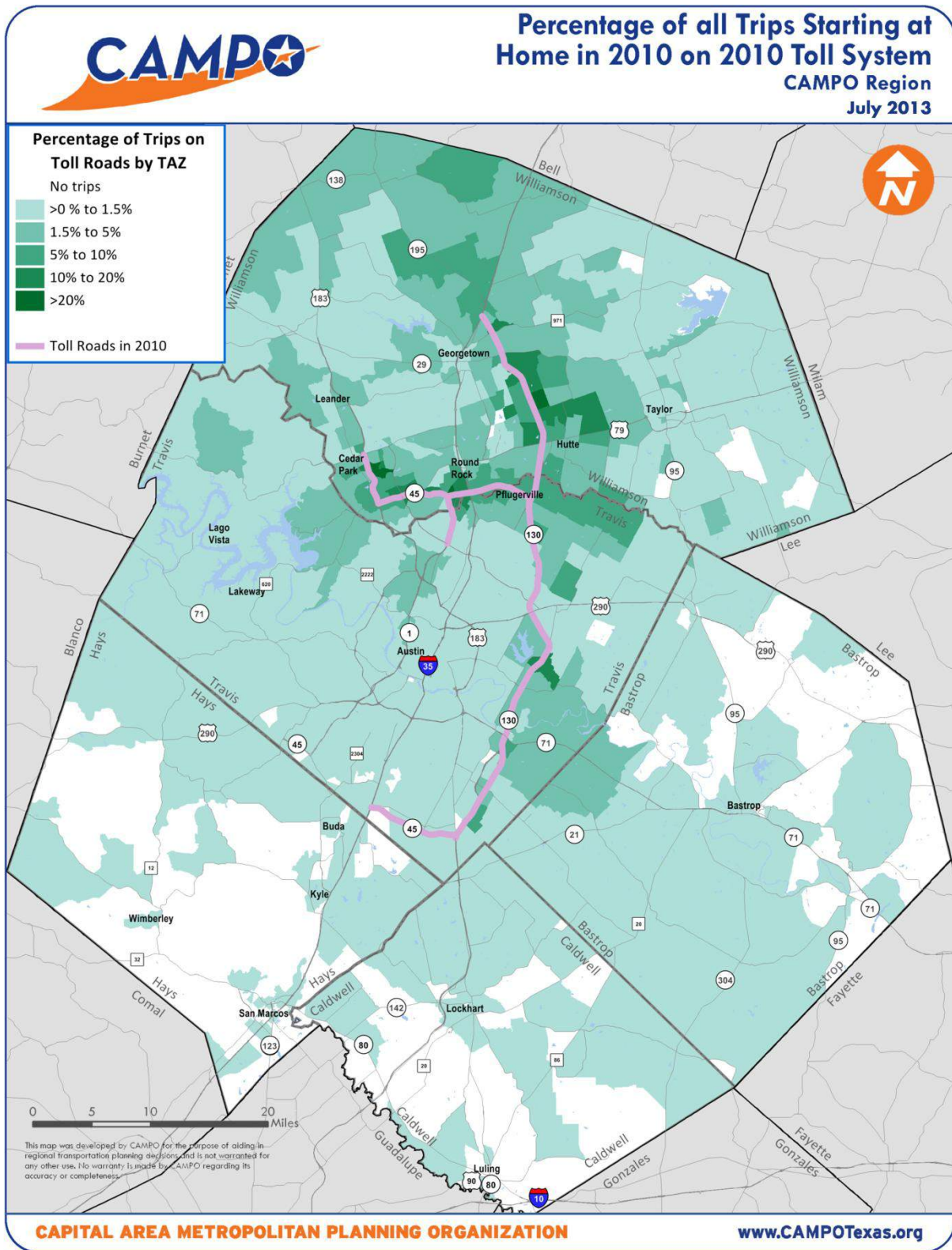
Map 12: Total Daily Number of Trips Starting at Home in 2035 on 2035 Toll System



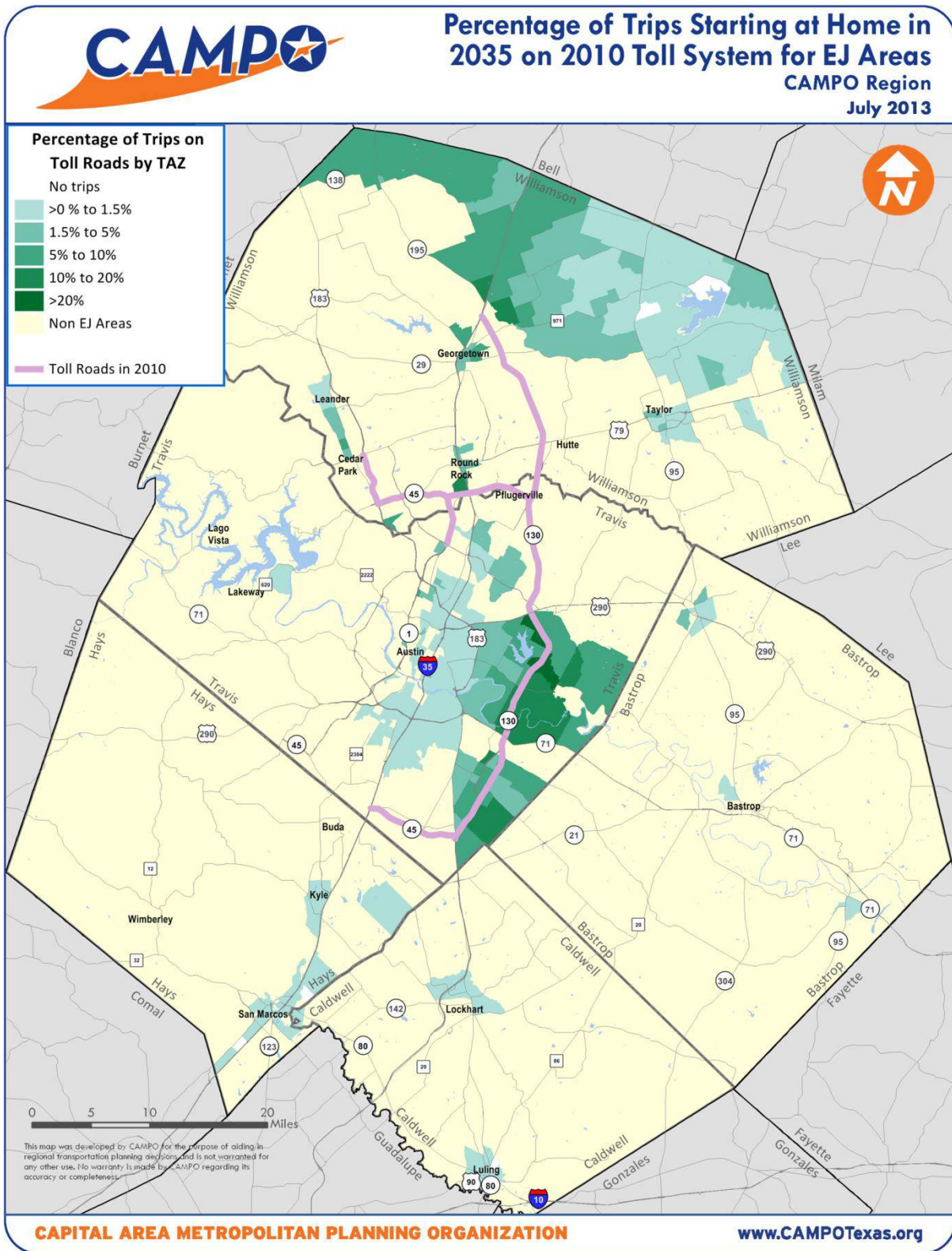
Map 13: Percentage of Trips Starting at Home in 2010 on 2010 Toll System for EJ Areas



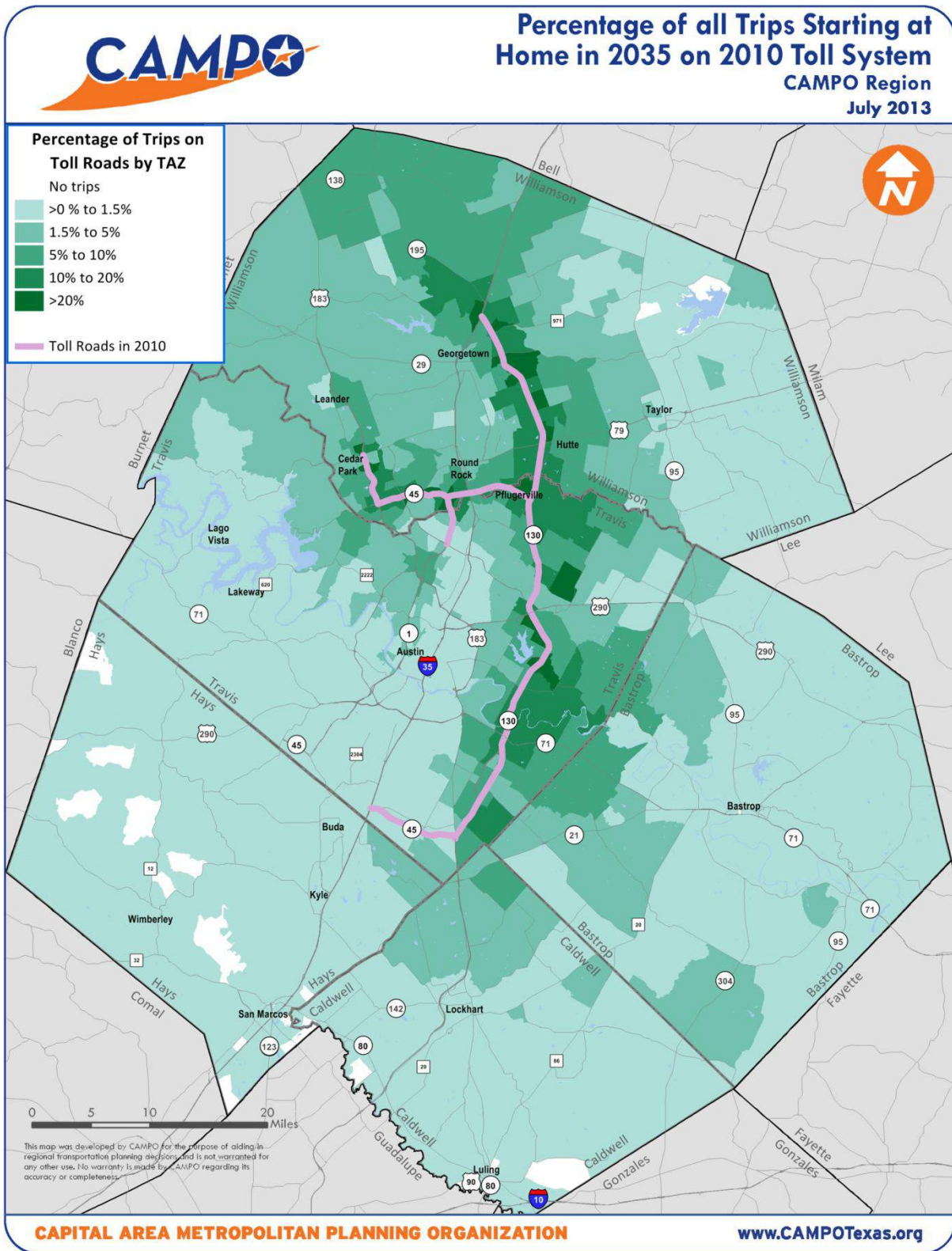
Map 14: Percentage of all Trips Starting at Home in 2010 on 2010 Toll System



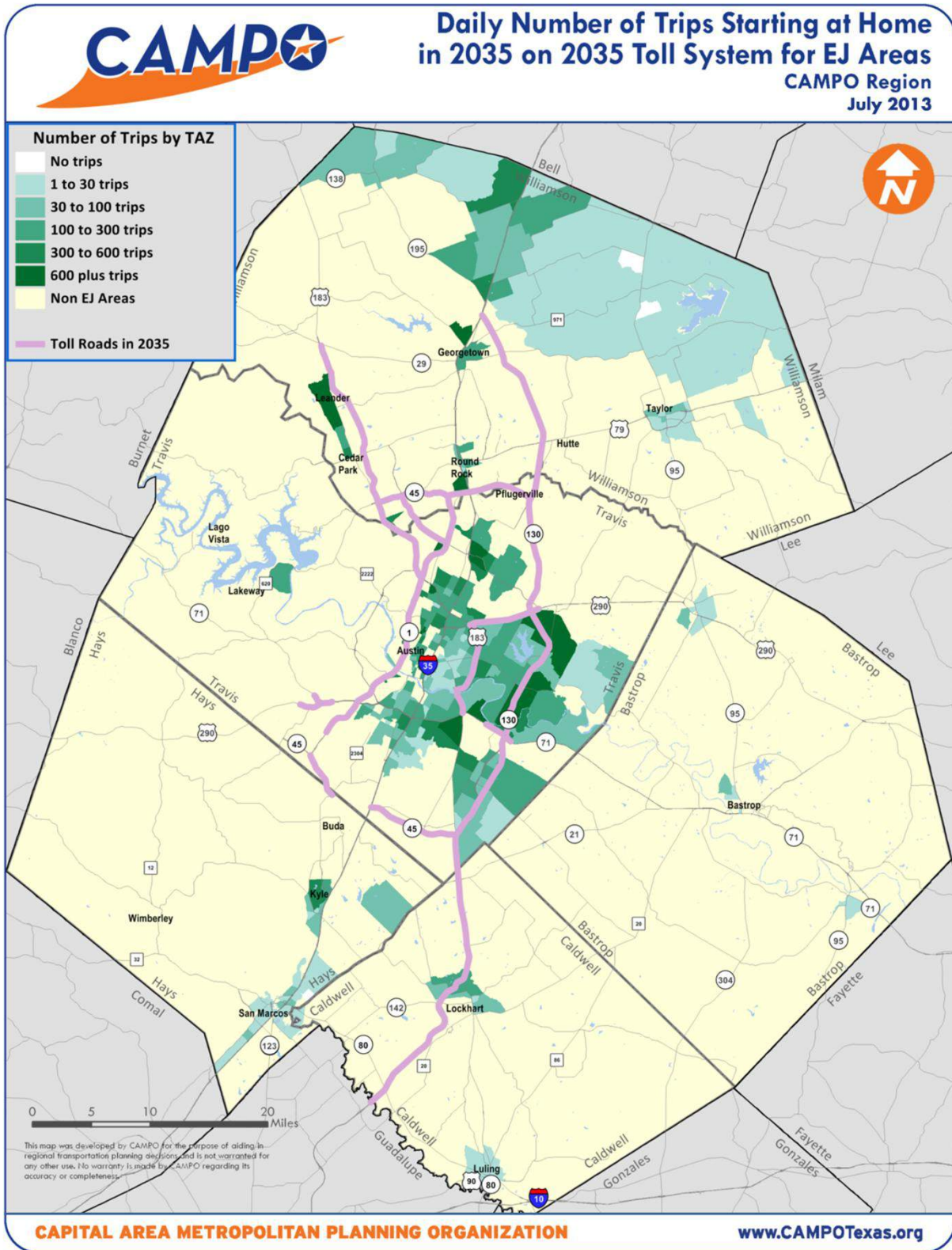
Map 15: Percentage of Trips Starting at Home in 2035 on 2010 Toll System for EJ Areas



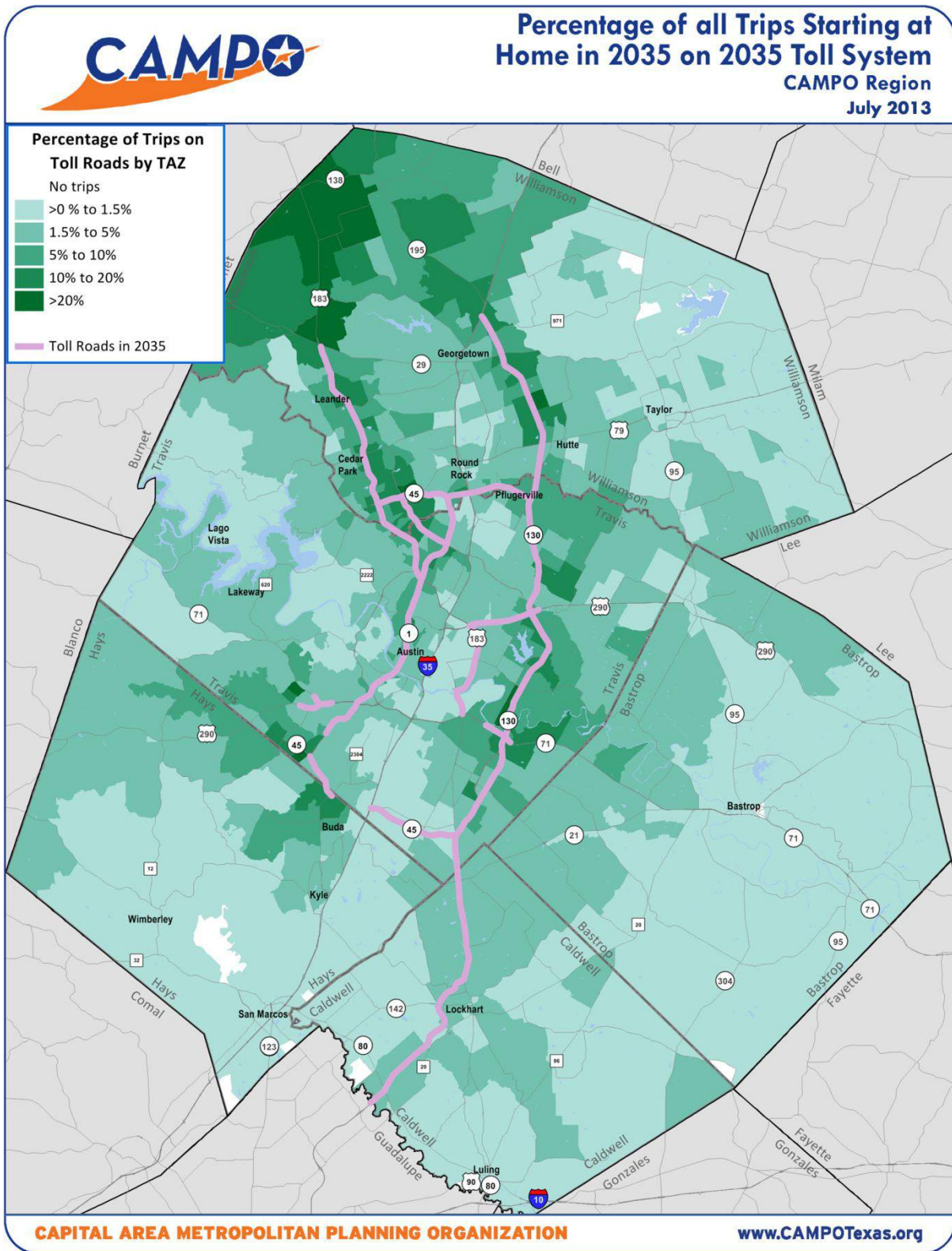
Map 16: Percentage of all Trips Starting at Home in 2035 on 2010 Toll System



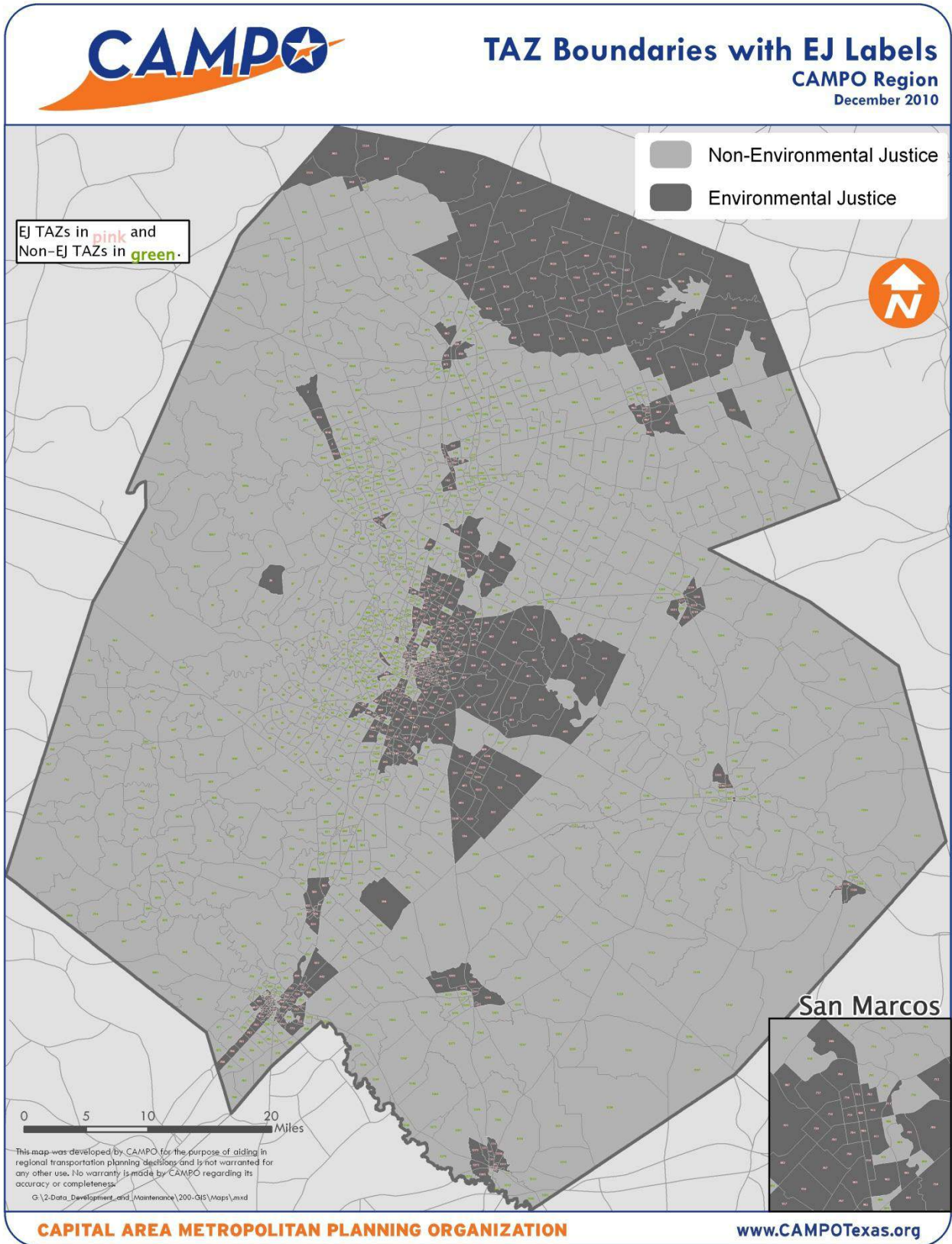
Map 17: Percentage of Trips Starting at Home in 2035 on 2035 Toll System for EJ Areas



Map 18: Percentage of all Trips Starting at Home in 2035 on 2035 Toll System



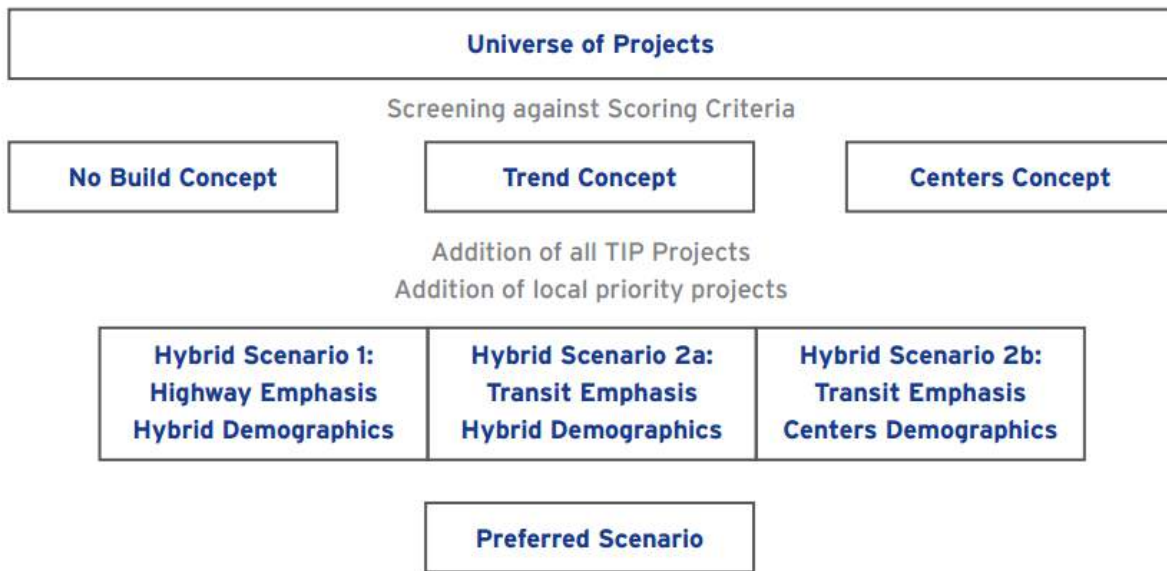
Map 19: TAZ Boundaries with EJ Labels



Land Use Considerations

In order to examine the possible impacts of varied approaches to transportation investment in the region, CAMPO developed and analyzed alternative scenarios for the CAMPO 2035 Plan through an extensive iterative process. Each scenario included a unique combination of transportation projects and land use policies. Investments under all scenarios were roughly financially constrained based on an assumption that the region will have access to approximately \$9.5 billion in revenues for new transit and roadway capacity between 2010 and 2035. The illustration below summarizes the alternative scenarios, followed by further explanation.

Figure 8: CAMPO 2035 Plan Alternative Scenarios



Universe of Projects

As a first step in developing alternative concepts, CAMPO developed a “universe of projects”. The universe of projects reflects the full un-financially constrained list of transportation projects that had been envisioned for development by CAMPO, TxDOT, Capital Metro, local governments and other transportation providers in the 5-county region. Input for this list came from the CAMPO 2035 Plan, Capital Metro All Systems Go Plan, adopted local arterial plans, local plans in progress including the Williamson County Transportation Plan and Bastrop County Transportation Plan, and agency staff. Some additional potential regional transit projects were also included based on input from Capital Metro, CARTS, and the CAMPO Transit Working Group.

No Build Concept

The No Build Concept assumed that growth trends continued in the region and current committed projects are built, but that no investments are made to add capacity to the transportation system between 2010 and 2035. Under this concept all available funding would be invested in additional operations and maintenance activities.

Trend Concept

The Trend Concept assumed that the density, location, and mix of future development will be driven by a continuation of current policies and market trends. The concept also assumed that projects currently in the investment pipeline will be built. Under the Trend Concept, the remaining funding is invested to continue to build out the region's freeway system and to expand state highways and arterial roadways.

Centers Concept

The Centers Concept assumed that the region establishes policies and incentives to accommodate new growth into multiple high-density, mixed use centers around the region. The concept assumed that some of the projects currently in the investment pipeline do not move forward over the next 25 years. Under the Centers Concept, the funding available is invested to expand the region's public transit system (including buses and rail), to implement a network of high capacity roadway lanes, and to build new arterials serving the mixed use centers.

Additional "Hybrid" Scenarios

After analyzing the No Build, Centers, and Trend Concept and receiving considerable input from the public, CAMPO tested several additional scenarios that combined elements of the Centers and Trend Scenarios. Each of the three hybrid scenarios:

- Assumed implementation of all projects included in the CAMPO Transportation Improvement Program
- Assumed implementation of locally funded projects as prioritized by project sponsors, and
- Assumed that the region would move toward Centers-based demographics

Preferred Scenario

The preferred scenario that is included in the CAMPO 2035 Plan assumes:

- Implementation of all projects included in the current Transportation Improvement Program,
- Implementation of mixed-use activity centers throughout the region;
- Implementation of locally-funded projects as prioritized by project sponsors, and;
- Implementation of additional high priority regional projects, including the regional toll network.

CAMPO 2035 Regional Transportation Plan describes the preferred scenario in more detail.

Land Use Assumptions in the CAMPO Travel Demand Model

CAMPO uses a demographic allocation tool to account for the interaction between land use and transportation in the travel demand model. Future year spatially allocated population and employment data is developed using county level forecast totals for future years, existing spatially allocated data for a base year, and the demographic allocation modeling tool. CAMPO developed county forecast totals for the five counties using an average of the State Demographer's highest (1.0) and medium growth (0.5) scenarios for that county.

CAMPO used 2005 base year data from the E-911 phone database to spatially allocate households to traffic analysis zones. Multiplying the estimated number of households in each TAZ by the estimated household size from an ESRI dataset produced the population for each TAZ. The county population totals were then scaled to match the July 2005 Census estimate (proportionally scaling the population down by TAZ, effectively changing the number of households originally estimated). The analysis uses Texas Workforce Commission ES 202 data to spatially allocate employment to traffic analysis zones for the base year.

The demographic allocation tool is then used to create spatially allocated forecast population and employment on top of the 2005 population and employment base year at a 36 acre grid cell geography. The demographic allocation tool also uses spatial data to determine development restraints, such as the location of flood plains, steep slopes, parks, preserves, cemeteries, and right-of-ways. The tool determines the type of development expected to occur using spatial data from cities and counties, including land use and zoning plans, site plans, subdivision plans and other information. Other allocation geography attributes needed include base year households, base and future year household size, future developable acres and future household and/or employment density.

The tool uses attractor settings to determine the allocation geography's attractiveness to development. The attractiveness level determines the amount of household and/or employment growth each grid cell will receive, constrained by county forecast totals and development restraints. Attractiveness attributes include transportation accessibility measures. Attractiveness can be adjusted using attractor points, attractor constants and activity center class ratings to account for other attractiveness variables. The tool is applied iteratively, the results on one future year are used as the base for the next future year (for example, 2015 results are used as the base for 2025 calculations).

Different transportation network scenarios often result in different demographic allocations. For example, the trend transportation network scenario resulted in a more spatially dispersed demographic allocation than the centers transportation network scenario. The preferred scenario used in the CAMPO 2035 Regional Transportation Plan includes the regional toll network, so the land use effects of the regional toll network are accounted for and integrated into the planning process.

Air Quality Considerations

The counties included in the CAMPO planning area are currently in attainment of all Federal air quality standards. The area is close to nonattainment for ground-level ozone and could be designated nonattainment if the US Environmental Protection Agency formalizes a more stringent ground-level ozone standard. CAMPO contracted with the Texas Transportation Institute (TTI) to conduct preliminary emissions analyses of the regional transportation system (including the regional toll network) envisioned by the CAMPO 2035 Regional Transportation Plan. Results indicate that, even with significant population and VMT growth, the emissions will be lower in 2035 than they are in 2010.

Benefits of Implementing the Planned Transportation System

Implementation of the 2035 planned transportation system, including the regional toll network, will benefit the EJ population. The system envisioned by the 2035 Plan expands travel options by implementing rail, more transit, and more bicycle and pedestrian facilities. The 2035 system also includes an emphasis on mixed-use, transit-friendly growth in activity centers, providing more people the opportunity to work and live near-by. The 2035 system will be less car-dependent and travel opportunities will increase. Several activity centers are located in EJ areas, offering economic development and business opportunities.

The travel time analysis included in this report also provides a measure of the benefit of implementing the planned transportation system. Results of this analysis indicate that existing and 2035 travel times for EJ and non-EJ areas are similar. The general trend for both EJ and non-EJ

areas shows slower travel times in 2035 despite 2035 Plan build-out. This is indicative of substantial population growth and insufficient transportation funding to fully compensate for the growth. One zone pair in Bastrop County showed a probable 2035 travel time disadvantage that met the disproportionate threshold. Since there are no toll roads or managed lanes in this county it is reasonable to assume that the toll roads or managed lanes did not cause or contribute to the disadvantage.



APPENDIX I:
PUBLIC HEARING SUMMARY REPORT

**SH 71 EXPRESS PROJECT
FROM PRESIDENTIAL BOULEVARD TO SH 130
TRAVIS COUNTY
CSJ: 0265-01-110**

PUBLIC HEARING SUMMARY REPORT

Public Hearing
April 1, 2014
6:00 p.m.—Open House
6:30 p.m.—Public Hearing
Del Valle Opportunity Center, 5301-B Ross Road in Del Valle, Texas

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 - Press Release*
 - Notice Postcard and Comment Deadline Reminder Postcard*
 - Social Media Posts*
 - Letters to Elected Officials*
- B Sign-in Sheets and Speaker Registration Cards
- C Public Hearing Presentation
- D Exhibits
- E Handout Packet
 - English*
 - Spanish*
- F Photographs
- G Comments Received
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 - General Inquiry*
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1.0 INTRODUCTION

On April 1, 2014, the Texas Department of Transportation (TxDOT), in cooperation with the Federal Highway Administration (FHWA) and the Central Texas Regional Mobility Authority (Mobility Authority), held a Public Hearing for the State Highway 71 (SH 71) project at the Del Valle Opportunity Center, 5301-B Ross Road, Del Valle, Texas. The Public Hearing was held to inform the public of the proposed corridor improvements and to collect public comment and feedback. As part of the Public Hearing, an Open House was held at 6:00 p.m. The Open House displayed project exhibits for the public to view, and the project team (TxDOT staff and consultants) was available to provide information and answer questions. At 6:30 p.m., a formal presentation was given by TxDOT staff, followed by a public comment period. A total of 66 project stakeholders were in attendance. This report provides a summary of the Public Hearing and includes responses to comments received as a result of the public hearing.

2.0 PROJECT OVERVIEW

LIMITS OF PROPOSED PROJECT: The limits of the proposed SH 71 Express Project are from Presidential Boulevard to SH 130 in Travis County. The overall length of the proposed improvements (including transition areas) is approximately 3.9 miles.

The proposed action is consistent with the Capital Area Metropolitan Planning Organization's (CAMPO) 2035 Regional Transportation Plan RTP and the 2013–2016 Transportation Improvement Program TIP, which was adopted on June 10, 2013.

PROPOSED IMPROVEMENTS: The SH 71 Express Project would add two new toll lanes (one in each direction) from Presidential Boulevard to SH 130, build an overpass at Farm-to-Market Road (FM) 973, construct a bridge over SH 130, connect ramps between the new lanes and the existing mainlanes of SH 71, widen SH 71 between Presidential Boulevard and FM 973, and improve bicycle and pedestrian facilities. If constructed, a minimum of six non-tolled through lanes (three in each direction) would be maintained. Additional proposed improvements include a non-signalized turnaround at the Presidential Boulevard Bridge to allow for westbound to eastbound access. The bicycle and pedestrian facilities are proposed on the north and south sides of SH 71. In September 2011, an independent project to reconstruct and realign FM 973 at its intersection with SH 71 received environmental clearance from the FHWA; the reconstruction and realignment of FM 973 could be incorporated into the SH 71 Express Project.

PURPOSE AND NEED: The purpose of the SH 71 Express Project is to improve traffic flow, mobility, and vehicle and pedestrian safety while effectively managing congestion. The proposed project would address the need to relieve congestion from increasing regional population and economic growth, enhance safety, and improve bicycle and pedestrian facilities.

3.0 PREVIOUS PUBLIC INVOLVEMENT

August 2013 Open House: An Open House was held for the SH 71 Express Project on August 13, 2013, from 6:00 p.m. to 8:00 p.m. at the Del Valle Opportunity Center, 5301-B Ross Road, Del Valle, Texas 78617. The Open House was held to inform the public of the proposed corridor improvements and to collect public comment and feedback. A total of 122 project stakeholders were in attendance, of which 79 were community members, 2 elected officials, 9 represented a public entity, and 33 were TxDOT, FHWA, or Mobility Authority staff and consultants. A total of 13 comments were received during the 10-day comment period that concluded on August 23, 2013, of which, 2 were in favor of the proposed improvements, 5 were neutral, and 6 were opposed. The majority of the concerns were based on the improvements ending at SH 130, as opposed to continuing further east to Ross Road, and tolling. Other concerns were about impacts to local businesses.

August 2013 Context Sensitive Solutions (CSS) Workshop: The first of two CSS workshops was conducted on August 29, 2013, from 6:00 p.m. to 8:00 p.m. at the City of Austin Department of Aviation's Learning and Resource Center, 2800 Spirit of Texas Drive, Austin, Texas 78719. The CSS Workshop was conducted to obtain stakeholder input on the CSS concepts being developed for the project corridor. Stakeholders, including community members and interest groups (City of Austin, Travis County, Department of Aviation, Mobility Authority, Bike Austin, Bike Texas, and Capital Metro), were invited to serve as members of the CSS Advisory Group (CSSAG). A total of 23 stakeholders attended the workshop, including 8 CSSAG representatives, 3 interested parties, and 12 members of the project team (TxDOT staff and consultants). Three CSS inspirational themes (Welcome to Austin, Music, and Local Culture) were presented at the workshop, and the "Welcome to Austin" theme was selected as the preferred theme for carrying forward into the aesthetic design.

November 2013 CSS Workshop: The second CSS Workshop was conducted on November 19, 2013, from 6:00 p.m. to 8:00 p.m. at the City of Austin Department of Aviation's Learning and Resource Center. A total of 34 stakeholders attended the workshop, including 6 CSSAG representatives, 15 interested parties, and 13 members of

the project team (TxDOT staff and consultants). The CSS Workshop was conducted to obtain stakeholder input on the CSS concepts that were developed for the project corridor based on the “Welcome to Austin” inspirational theme and to obtain input on the icon design.

4.0 ENVIRONMENTAL DOCUMENT APPROVAL

The FHWA approved the environmental assessment (EA) as “satisfactory for further processing” on February 25, 2014.

Subsequently, revisions to the EA relating to incorrectly labeled shoulder widths, were proposed on March 13, 2014. Upon consultation with the FHWA, it was determined that the proposed revisions were administrative changes on March 20, 2014. The proposed revisions to the Draft EA were announced during the April 1, 2014 Public Hearing presentation, and the Draft EA was revised accordingly.

5.0 PUBLIC HEARING OVERVIEW

DATE: Tuesday, April 1, 2014
Open House—6:00 p.m. to 6:30 p.m.
Presentation and Public Comment Period—6:30 p.m.

LOCATION: Del Valle Opportunity Center
5301-B Ross Road, Del Valle, TX 78617

NOTICE PUBLICATIONS: Official public notices (classified legal and display advertisements) were published in English and Spanish in the following print media in the Austin area.

Austin American-Statesman

Saturday, March 1, 2014 - 30-day Legal Notice
Saturday, March 22, 2014 - 10-day Legal Notice
Saturday, March 29, 2014 - Display Ad

Bastrop Advertiser

Saturday, March 1, 2014 - 30-day Legal Notice
Saturday, March 22, 2014 - 10-day Legal Notice
Saturday, March 29, 2014 - Display Ad

El Mundo

Thursday, February 27, 2014 - 30-day Legal Notice

Thursday, March 20, 2014 - 10-day Legal Notice
Thursday, March 27, 2014 - Display Ad

In addition to the newspaper notices, the following notifications methods were utilized:

- **Elected/public officials letters** – letters of invitation and a project location map were mailed to elected/public officials on March 4, 2014.
- **Postcards** – bilingual postcards were mailed to notify community members residing within a 2-mile radius of the project corridor.
- **Social media** – TxDOT's and Mobility Authority's Facebook and Twitter were also used to promote the Public Hearing. A total of seven Tweets were posted with the first message tweeted on March 21, followed by single Tweets on March 25, March 28, March 31, and three Tweets on April 1. Facebook messages were posted on March 25 and April 1 to notify project stakeholders of the Public Hearing.
- **Email blasts** – email blasts, which included the project advertisement, were sent on March 21 and March 31 to Del Valle Independent School District, neighborhood associations, homeowners associations (HOAs), CSSAG invitees, city of Austin City Council, Austin Chamber of Commerce, Austin Young Chamber of Commerce, Greater Austin Hispanic Chamber of Commerce, Capital City African American Chamber of Commerce, Austin Urban Land Institute, Women in Transportation (Austin Chapter), Travis County, Texas A&M Transportation Institute, Young Professionals in Transportation, Texas Institute of Transportation Engineers, and the elected officials database that was used for the above referenced letters of invitation.
- **Electronic message signs** – message signs announcing the event were also placed along the corridor during the week leading up to the Public Hearing.

After the Public Hearing, two Tweets were posted on April 4 and April 11 to remind the public that Public Hearing comments could be submitted through April 11. A Facebook post on April 11 also informed the public about the comment submission deadline. A bilingual postcard was mailed to community members residing within a 2-mile radius of the project corridor for delivery on April 7 and 8 as a reminder that Public Hearing comments could be submitted through April 11.

Copies of the various notices are provided in **Appendix A**.

PROJECT WEBSITE: As a part of the public outreach process, a project website (www.sh71express.com) was launched on August 5, 2013, and is continuously updated as relevant project information becomes available. Information (date, time, location) on the April 1 Public Hearing was posted on the *Homepage*, *Upcoming Events*, and *Public Involvement* webpages. The *Contact Us* webpage was also updated to encourage public comments for the Public Hearing comment period and to emphasize the April 11, 2014 deadline to submit comments. Following the Public Hearing, all material was uploaded to the project website.

ATTENDANCE: A total of 66 project stakeholders signed in at the registration table in addition to members of the project team. The breakdown is as follows:

- 63 community members
- 2 elected officials
- 1 represented a public entity
- 29 TxDOT/Mobility Authority/FHWA staff and consultants

Copies of the sign-in sheets are provided in **Appendix B**.

PRESENTATION OVERVIEW: A formal presentation was given by TxDOT staff at 6:30 p.m. to inform the public of the Public Hearing rules, the status of the planning efforts, purpose and need for the project, alternatives studied, and the preferred alternative. The presentation was conducted as follows:

- Introduction and Public Hearing format
Chris Bishop
TxDOT Public Information Officer
- Technical presentation
Marisabel Ramthun, PE
TxDOT SH 71 Express Project Manager

A 20-minute break was given after the technical presentation to provide attendees with an additional opportunity to ask questions and register to speak for the public comment period. The public comment period provided registered speakers with the opportunity to provide verbal comments. A copy of the Public Hearing presentation is provided in **Appendix C**.

EXHIBITS: Exhibits were grouped into several stations that included project overview, project layout, environmental, CSS, and next steps. More specifically, exhibits described the purpose of the hearing, the project location, what is being proposed, the purpose and

need for the project, options for the public to obtain project information and for community involvement, options for commenting on the project, the next steps after the Public Hearing, the anticipated project schedule, the environmental process, CSS inspirational themes and design concepts, project layouts of typical sections for the proposed improvements, and an environmental constraints map. These exhibits were also available on the project website at <http://www.sh71express.com/>.

Attendees were given the opportunity to view the exhibits, to ask staff questions regarding the proposed improvements, and encouraged to provide verbal and written comments. Copies of the exhibits are available in **Appendix D**.

HANDOUTS: English and Spanish handout packets provided during the Public Hearing included a cover letter, Public Hearing Agenda with information on how to comment, project overview and location map, comment form, and a Public Hearing evaluation. A copy of the handout packet is provided in **Appendix E**.

The project's two newsletters, *SH 71 Express Project Bulletin – Summer 2013* and *SH 71 Express Project Bulletin – Fall 2013*, were also made available.

PHOTOGRAPHS: A representative sample of photographs taken at the Public Hearing is provided in **Appendix F**.

6.0 SUMMARY OF PUBLIC COMMENTS

A total of 17 comments were received during the public comment period that concluded on April 11, 2014. Four speakers gave verbal testimony at the Public Hearing, and 13 comments were submitted in writing. These comments are summarized in **Table 1**. Copies of the written comments received are provided in **Appendix G** and should be referred to for the actual comments. (Note: two citizens provided both written and verbal comments as indicated in **Table 1**.)

Of those comments received, seven were in favor of the proposed improvements, four were neutral, and nine were opposed. (Comments that favored some elements and opposed other elements were counted as one in favor and one opposed.) The majority of the concerns were based on the improvements ending at SH 130 as opposed to continuing further east to Ross Road, the merging at SH 71 and the Ross Road intersection resulting in increased congestion, and tolling.

A copy of the certified Public Hearing transcript (including the verbal comments received) is provided in **Appendix H**. As documented in the transcript, five persons registered to

speaking at the Public Hearing; however, only four provided verbal comments. One person subsequently declined the opportunity to provide verbal testimony during the public comment period. Copies of the speaker registration cards are provided in **Appendix B**.

Table 1: Summary of Comments Received

No.	Commenter	Verbatim Comment	Response
Public Testimony/Verbal Comments			
1	Isidro Rodriguez	<p>Thank you for getting this project up and off the ground. It's a long time coming. East of Austin has continued to grow further east. My main concern is the area where the old elementary and middle schools were; it looks like a dump. Why don't we work with ABIA or Cap Metro to do a station or park-n-ride?</p> <p>The new pedestrian and bike lanes will likely increase bike traffic, which is great, but we need additional buses and bike racks (on the buses) to handle the traffic.</p> <p>Digital readers are needed on the highway to help with delays especially with the Circuit of Americas visitors coming through this area.</p>	<p>Many of the properties mentioned are outside the control of public agencies involved in this project. Some properties north of SH 71 and east of Presidential are owned by the City of Austin and are included in the Airport Master Plan as future parking.</p> <p>Your comment regarding bus service improvements will be forwarded to Capital Metro for consideration. In addition, Capital Metro can be contacted directly via the contact information found at the following website: https://www.capmetro.org/contact.</p> <p>An Intelligent Traffic System is being implemented with the project that will include equipment to evaluate traffic flow and message signs to communicate messages to roadway users.</p>
2	Ellen Prediger (also submitted written comment)	<p>I'm very excited about the plan to provide protective passage for pedestrians and bicycles and the connection to Travis County trails.</p> <p>My big concern is heading eastbound at the intersection of 130 and then heading east to Ross Road, there are currently four lanes and there is currently a merging problem.</p> <p>From the maps, it looks like the toll lane going to 130 will come down and merge on the left before Ross Road. I'm concerned about the danger this presents with increased merging.</p> <p>Additional concerns include the distance from 130 to Ross Road and coming to a stop at Ross Road. Aren't we pushing a lot of our traffic problems into Ross Road? It is going to become very congested.</p>	<p>Comment noted. The traffic evaluations and analysis indicate that the eastbound merging areas on SH 71 east of SH 130 have sufficient merging distances for the design year traffic.</p> <p>As a result of public comments received, TxDOT is evaluating possible improvements east of SH 130, including Ross Road as a separate project. The traffic evaluations and analysis indicate the proposed project will not add any additional traffic to the intersection over what exists today.</p>

PUBLIC HEARING SUMMARY REPORT

SH 71 Express: From Presidential Blvd. to SH 130, Travis County

CSJ: 0265-01-110

No.	Commenter	Verbatim Comment	Response
3	Vivian Martin (also submitted written comment)	<p>I don't think we need a toll road. A free road will do better to address congestion. The majority of traffic is not using 130; they are going straight on 71. Bridges or overpasses are needed to eliminate the red lights that are slowing the traffic. Before the current roadway set up, there were no red lights and traffic rolled smoothly. When they put the light back at 973, the traffic began to backup for miles.</p> <p>For the cost of booths and all the fancy stuff for tolls, that money should be put somewhere else. People are not going to pay to go home everyday.</p>	<p>Traditional funding has not kept up with mobility needs. Tolls are being charged to provide a funding source for operation and maintenance of this corridor. If excess revenues become available in the future, they can be used for other projects in the region.</p> <p>For those that do not wish to pay a toll, the same number of existing non-tolled lanes will be provided adjacent to the toll lanes.</p>
4	Richard Vasquez	<p>I appreciate the infrastructure that's coming to the Del Valle area. It's been needed for a long time.</p> <p>The price tag of \$141 million for four miles concerns me. The bigger concern is taking traffic going 70-80 miles an hour and putting it at a traffic light at Ross Road. Why not spend some more money and move past this intersection?</p> <p>My concern is traffic flow is going to be disrupted to build up to Onion Creek and later on, you're going to build again causing another delay for residents. It just makes sense to do it now rather than do it a second time.</p>	<p>Comment noted.</p> <p>The project cost provided is an estimate. The actual cost of the project will be determined in competitive design-build procurement, bringing the best value to the state.</p> <p>Also see response to Comment #2.</p>
Written Comments			
5	Barbara Adkins	<p>Please do this presentation in Bastrop as well - maybe at the Cedar Creek or Bastrop High Schools.</p> <p>Your traffic flows in from Bastrop, Cedar Creek, Smithville, Rockne, Red Rock, Rosanky, etc., and they should be informed before this takes place.</p>	<p>We agree that the traffic flows through the project corridor beyond Del Valle. These communities were notified of the Public Hearing in a variety of ways. The Public Hearing notice was advertised in the <i>Bastrop Advertiser</i> on Saturday, March 1, 2014, Saturday, March 22, 2014, and Saturday, March 29, 2014. In addition, the project notice was posted to the project website and social media, and electronic message signs announcing the event were placed along the corridor during the week leading up to the Public Hearing. The presentation can also be found at www.SH71Express.com.</p>

PUBLIC HEARING SUMMARY REPORT

SH 71 Express: From Presidential Blvd. to SH 130, Travis County

CSJ: 0265-01-110

No.	Commenter	Verbatim Comment	Response
6	Robin Baker	<p>I am concerned that the changes will push major congestion to the intersection at Ross Road and 71.</p> <p>I am concerned that the price of the toll lane will motivate people to not use the toll lanes and that "local" lanes will not be less congested.</p> <p>Will the backup in the left turn lane from SB 71 to 973 north be improved?</p>	<p>See response to Comment #2.</p> <p>Toll rates will be set in accordance with local tolling policies. However, for those that do not wish to pay a toll, the same number of existing non-tolled lanes will be provided adjacent to the toll lanes.</p> <p>Expansion of FM 973 to a four-lane divided roadway north and south over SH 71 and construction of two left turn lanes from eastbound SH 71 to northbound FM 973 was environmentally approved as a separate project and would be constructed with the SH 71 Express Project. This should greatly relieve congestion over existing conditions.</p>

PUBLIC HEARING SUMMARY REPORT

SH 71 Express: From Presidential Blvd. to SH 130, Travis County

CSJ: 0265-01-110

No.	Commenter	Verbatim Comment	Response
7	Paul Curtis	<p>One toll lane in each direction for this project is insufficient to handle traffic needs and the plan should call for two toll lanes in each direction instead. More than half of people commuting to Bastrop are likely to want to use the toll lanes during rush hours to avoid traffic lights and related delays. One lane is insufficient to handle this traffic, and it seems very shortsighted to build expensive bridges with only one toll lane and shoulders, when adding an additional toll lane each way can be done now for only a moderate increase in the price.</p> <p>It appears that the on and off ramps to 130 could be marked closer to where the actual 130 ramps separate from SH 71 express lanes, so not a lot of extra road or bridges would have to be added to keep two through toll lanes in each direction. This is critical to keep highway speeds available between the airport and Bastrop during rush hours.</p> <p>It also seems the operators of 130 should have to help pay costs for this project (beyond just their on/off ramps) because it is necessary in part due to the congestion they have caused by adding stoplights on SH 71.</p> <p>Also, SH 71 Express should include on its public website estimates of likely toll prices based on the proposed build plan. If the toll is only about \$1 similar to the north Mopac highway 45 to I-35 section, many people are likely to use it, but if it is \$2 or \$3 most people would avoid it and it will not help traffic much.</p> <p>Austin tolls seem to be about twice of those per mile in Houston and Dallas, which seems like price gouging, so that practice should be avoided on this project and in the future.</p>	<p>The traffic evaluations and analysis indicate the proposed lane configuration at SH 130, including the single SH 71 toll lane in each direction, provides the necessary capacity for the design year traffic. The proposed design allows for restriping to accommodate an additional SH 71 traffic lane in the future if it is warranted for traffic beyond the design year.</p> <p>The placement of toll lane ramps in the current design accommodates traffic weaving along the frontage roads. Other connection options were explored, but were neither cost effective nor necessary due to limited traffic demand turning to and from SH 130.</p> <p>Much of the cost of this project is funded by the SH 130 concession agreement. Also, SH 71 was expanded from four to six lanes at SH 130 to eliminate the capacity constraint due to adding traffic signals. Toll rates will be set in accordance with local tolling policies. However, for those that do not wish to pay a toll, the same number of existing non-tolled lanes will be provided adjacent to the toll lanes.</p>
8	Harold Green	Put a turn lane on 973 to 969 - at least. Thank you.	The FM 973 intersection at FM 969 falls outside the scope of this study.

PUBLIC HEARING SUMMARY REPORT
 SH 71 Express: From Presidential Blvd. to SH 130, Travis County
 CSJ: 0265-01-110

No.	Commenter	Verbatim Comment	Response
9	Scott Groves	I like the proposed changes with the exception of charging a toll. The toll discourages the usage of extra roadway that is meant to alleviate congestion. The recent changes at 71 and 973 caused more problems than it solved.	See response to Comment #3.
10	Joe Jimenez	Impact on FM 973-in both directions, bridge expansion on FM 973, heading to Manor. This area of the highway has been tremendously impacted because many of the residents of Manor, Hornsby Bend, and other subdivisions to the east of FM 969 and 130 are not utilizing the toll road. I have lived near FM 973 for 15 years the immense growth in traffic along FM 973 has caused backups, accidents and dangerous situations. Please consider the effect of what the expansion of Hwy 71 will have on this FM.	Improvements to FM 973 in the vicinity of SH 71 are part of a separate project and have already been approved and will be constructed in conjunction with the SH 71 Express Project. These improvements include a new bridge over the Colorado River, connection of the north and south legs of FM 973 at a common underpass at SH 71, and expansion to four lanes from Harold Green to south of SH 71 as illustrated in the project concept plans (www.sh71express.com)
11	Vivian Martin	Why is a toll road needed to address congestion? Wouldn't a regular bridge or overpass address the congestion issue by eliminating the red lights? I drive SH 71 every day and the problem I see are the lights between Presidential and Ross Road.	See response to Comment #3. The SH 71 Express Project provides an alternative to bypass traffic signals on SH 71 between Presidential Blvd. and Ross Road. An ongoing study is investigating options to improve SH 71 at Ross Road, although this is not part of the SH 71 Express Project.
12	Fred Marvin	Good visuals and good plan, except the toll part. We must stop toll roads and force local governments to stop using road money for everything but roads.	See response to Comment #3. Comment noted.

PUBLIC HEARING SUMMARY REPORT
 SH 71 Express: From Presidential Blvd. to SH 130, Travis County
 CSJ: 0265-01-110

No.	Commenter	Verbatim Comment	Response
13	Jeff Pape	<p>Not clear how rail line to airport connects/works with this project.</p> <p>Request bike access across TX 71 at Spirit of Texas Drive; maps indicates need to for about 100 ft.</p> <p>A lot of merging between SH 130 to half way to Ross Road on TX 71.</p> <p>Toll road length is only 4 miles; by time vehicles reach maximum speed need to stop</p>	<p>A proposed alignment for the airport rail transit line would run between US 183 and Spirit of Texas Drive on the south side of SH 71. The SH 71 Express Project does not construct outside of the existing roadway footprint in this area and thus would not affect the plans for the proposed transit line.</p> <p>An existing sidewalk with ramps does cross under SH 71 along the east side of Spirit of Texas to connect the sidewalk at the northwest corner of the interchange to the planned shared use path at the southeast corner. Additional pedestrian/bicycle enhancements are being proposed throughout the SH 71 corridor.</p> <p>Traffic forecasts and analysis indicated that the eastbound merging areas on SH 71 east of SH 130 have sufficient merging distance to safely function.</p> <p>The SH 71 Express Project, in conjunction with recent interchange and traffic signal removal projects between Montopolis Drive and Spirit of Texas Drive, complete a traffic signal-free expressway from I-35 to Ross Road.</p>
14	Ellen Prediger	<p>Very concerned about the ingress of the east-heading toll road into non-toll Hwy 71 just east of Hwy 130. Also, there will be possibly horrendous congestion on east bound Hwy 71 at Ross Road. There is already a dangerous merge lane on the right side of east-bound Hwy 71 just E of Hwy 130. Now a similar on the left!</p>	<p>The traffic evaluations and analysis indicate that the eastbound merging areas on SH 71 east of SH 130 have sufficient merging distances for the design year traffic. They also indicate the proposed changes do not increase congestion at Ross Road and SH 71 for the design year traffic. Also, see response to Comment #2.</p>

PUBLIC HEARING SUMMARY REPORT

SH 71 Express: From Presidential Blvd. to SH 130, Travis County

CSJ: 0265-01-110

No.	Commenter	Verbatim Comment	Response
15	Ron Rodgers	<p>These proposed improvements would be very beneficial to many who use the airport and highway 71, but I have a question as to why we need toll roads. We pay several taxes that should be used for our road infrastructure. Is that money being appropriated for other uses? If not and we still don't have funds to build roads, then it's sort of like a bubble, we may be living beyond our resources. Selling out to private road companies will only postpone the problem (and do they lobby our legislature for this?). We should re-examine allocations for road improvements, and if that can't be improved with funds on hand, we should create more public funding. The airport does support the state government, so it's not just for local Austin traffic.</p> <p>I also don't understand the idea behind some road improvements in this area. Highway 183 gets rush hour traffic backed up to the north from highway 71 that crosses the Colorado on 183 and also backing up some distance on Caesar Chavez, 5th and 7th streets and Airport boulevard. Five roads funnel into one that intersects 71. There is currently a sizable project to improve the nearby Riverside and 71 intersection for future new business districts on Riverside but no new direct exchanges for 183 and 71, an immediate problem. There may be future plans for this 183 problem (which to me outweighs the need for future Riverside traffic) but it's this sort of problem that allows people to wonder what's going on!?</p>	<p>See response to Comment #3</p> <p>Your issue regarding redirection of road funding to other uses can be addressed through participation in your local government decision making process.</p> <p>The Mobility Authority is developing a project to improve mobility along US 183 from US 290 to SH 71. Please see the Bergstrom Expressway Website for more information (http://www.bergstromexpressway.com). This will include the US 183/SH 71 intersection.</p>
16	Lars Stanley	<p>TxDOT, this new tollroad is not what taxpayers money should be spent on. A rail system is much more prudent for the long term.</p>	<p>The SH 71 corridor east of the Austin Bergstrom International Airport has not been identified as a proposed future rail corridor in any regional plan. The SH 71 Express Project would provide congestion relief and enhanced safety for commuter traffic from Bastrop and other areas east of Austin.</p>
17	Anonymous	<p>Why is everything that you all are building is toll and not free?</p>	<p>See response to Comment #3</p>

Two general inquiries were received during the Public Hearing comment period, which included the following topics:

- Request for project information and to be placed on the mailing list
- Inquiry on the Public Hearing

Copies of these correspondences are also provided in **Appendix G**.

7.0 SUMMARY

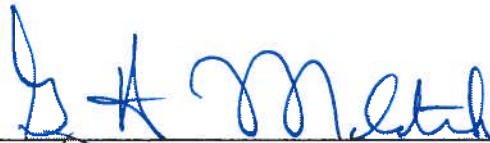
TxDOT has reviewed and responded to the comments received. Comments received during the official Public Hearing comment period will be taken under consideration and incorporated into the project record.

CERTIFICATION OF PUBLIC HEARING

CSJ: 0265-01-110

SH 71 Express Project: From Presidential Boulevard To SH 130
Travis County

1. A public hearing was held on April 1, 2014, to discuss proposed construction of the above-referenced project;
2. The economic and social effects of the project's location and design and their impact on the environment have been considered;
3. In determining economic, social, and environmental effects, the statutory provisions of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987 have been considered;
4. The project's consistency with the goals and objectives of such urban planning as has been promulgated by Travis County has been considered; and
5. The requirements of 43 TAC Rule §2.109 have been met.



Greg A. Malatek, P.E.
District Engineer

4/16/14

Date



APPENDIX J:

**EDITS TO DRAFT EA POST
SATISFACTORY FOR FURTHER PROCESSING**



P.O. DRAWER 15426 AUSTIN, TEXAS 78761-5426 (512) 832-7000

March 13, 2014

NH ()
Travis County
CSJ: 0265-01-110

Justin Ham, PE
Urban Engineer
Federal Highway Administration
300 E. 8th Street, Room 826
Austin, TX 78701

RE: SH 71 from Presidential Boulevard to SH 130

Dear Mr. Ham:

As you are aware, the Draft Environmental Assessment (EA) for the subject project was determined satisfactory for further processing on February 25, 2014. However, we have discovered the need for the following corrections to the Draft EA due to inconsistencies with the schematic design.

Section 1.2 Existing Facility

- The inside shoulders of existing SH 71 at SH 130 were incorrectly labeled as 10 feet in width; these shoulders are 4 feet in width. The shoulders were incorrectly labeled on Figure 1-5 and were also described in the paragraph preceding Figure 1-5 (on page 5).

Section 1.5 Proposed Facility

- The inside shoulders of proposed SH 71 between Presidential Boulevard and FM 973, as shown on Figure 1-13 and described in the paragraph preceding Figure 1-13 (on page 19), were incorrectly labeled as 10 feet in width. These shoulders are proposed to be 4 feet in width.
- The shoulders of existing SH 71 at SH 130 were incorrectly labeled as 10 feet in width on Figure 1-17; these shoulders are 4 feet in width.

Please note that suburban design criteria were applied to the section between Presidential Boulevard and FM 973 because it is a non-controlled access section with both rural and urban characteristics. The 4-foot inside shoulders meet suburban design criteria. In addition, the environmental analysis documented in the Draft EA was evaluated for the 4-foot inside shoulder.

We are therefore seeking your concurrence that these changes are administrative in nature and do not warrant a change to the document being satisfactory for further processing or the April 1, 2014 Public Hearing.

Sincerely,

Marisbel Z. Ramthun

Marisbel Ramthun, PE
Austin District

cc: Vicki Crnich, Strategic Projects Section, Environmental Affairs Section



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

March 21, 2014

300 E. 8th Street, Room 826
Austin, TX 78701-3255
Tel (512) 536-5900
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer to:
HA-TX

SH 71 from Presidential Blvd to SH 130
Travis County
CSJ: 0265-01-110

Ms. Marisbel Ramthun, PE
Austin District
Texas Department of Transportation
P.O. Drawer 15426
Austin, Texas 78701

Dear Ms. Ramthun:

We have received your letter dated March 13, 2014 and clarifying email dated March 20th. In your correspondences you describe several administrative errors that were discovered in the Environmental Assessment (EA) after the document was determined "Satisfactory for Further Processing" (SFP) by Federal Highway Administration. We have reviewed those proposed changes and concur that they are editorial in nature and do not materially alter the EA. We also concur that these changes do not warrant revisiting the document as SFP or modifying the public hearing date, assuming all public involvement requirements have been followed.

We therefore concur with your request to make the proposed modifications at this time and also concur with your recommendation to disclose these changes during the public hearing opening statement.

Please provide an updated printed copy of the draft EA at your earliest convenience.

Please contact me at 512-536-5954 should you have any further questions.

Sincerely,



Justin R. Ham
Urban Programs Engineer

cc: Ms. Vicki Crnich, Strategic Projects Section, Environmental Affairs Section

From Del Valle Street to Golf Course Road, there are two 12-foot-wide main lanes in each direction with right turn only lane drops in each direction, variable inside shoulder width (0 to 4 feet) and variable outside shoulder width (0 to 10 feet). At Golf Course Road, additional eastbound and westbound traffic lanes continue beyond the eastern project limit of SH 130. Between Del Valle Street and Terry Lane, the section of SH 71 contains a grass median of variable width up to 42 feet. The median has breaks at Golf Course Road, Lyle Road and Terry Lane with left turn lanes. One eastbound and one westbound Capital Metropolitan Transportation Authority (CapMetro) bus stop are located in between Golf Course Road and Main Street.

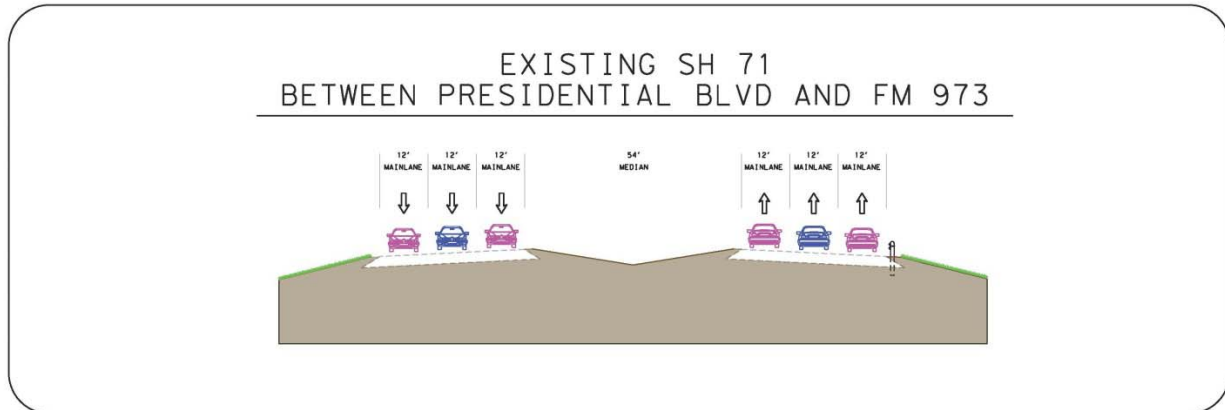


Figure 1-4: Existing Typical Section between Presidential Boulevard and FM 973

The intersection of SH 71 and FM 973 is part of the previously approved FM 973 project described in **Section 1.1 - Project History**. The construction limits for improvements to SH 71 associated with the FM 973 project are from approximately 0.5 mile west of FM 973 to 0.5 mile east of FM 973. FM 973 south of SH 71 will be re-aligned to match the alignment of FM 973 north of SH 71. The overall pavement width for the SH 71 main lanes at the intersection of FM 973 will be 50 feet in each direction, which will accommodate two 12-foot-wide inside travel lanes, a 14-foot-wide outside travel lane, and a 12-foot-wide left turn lane. Approximately 10 acres of ROW will be acquired for the FM 973 project to complete the interchange. Six-foot sidewalks will also be provided on each side of FM 973 at the SH 71 interchange. Where the design allows, a buffer between the sidewalk and the curb and gutter will be provided. The existing culverts along SH 71, within the limits of the FM 973 project, will be lengthened a maximum of 260 feet. Safety end treatments will be added to improve safety at these culvert crossings. CapMetro eastbound and westbound bus stops located west of Cheviot Lane and along Fallwell Lane, south of SH 71, will be relocated as part of the FM 973 project. Final locations will be determined during the final design phase.

East of the FM 973 interchange and approaching SH 130, the SH 71 ROW between eastbound and westbound lanes expands to up to 340 feet as the eastbound, left lane exit ramp to the northbound SH 130 flyover begins to grade-separate from the facility (**Figure 1-5**). The deceleration lane/exit ramp is 15 feet wide, with variable inside and outside shoulder widths from 6 to 25 feet. The flyover exit ramp rises to a height of over 45 feet, to the bottom of the bridge deck, in order to maintain vertical clearance above the SH 130 interchange. SH 71 remains at-grade with three 12-foot main lanes of eastbound and westbound traffic, 10-foot outside shoulders and 4-foot inside shoulders through the SH 130 interchange.

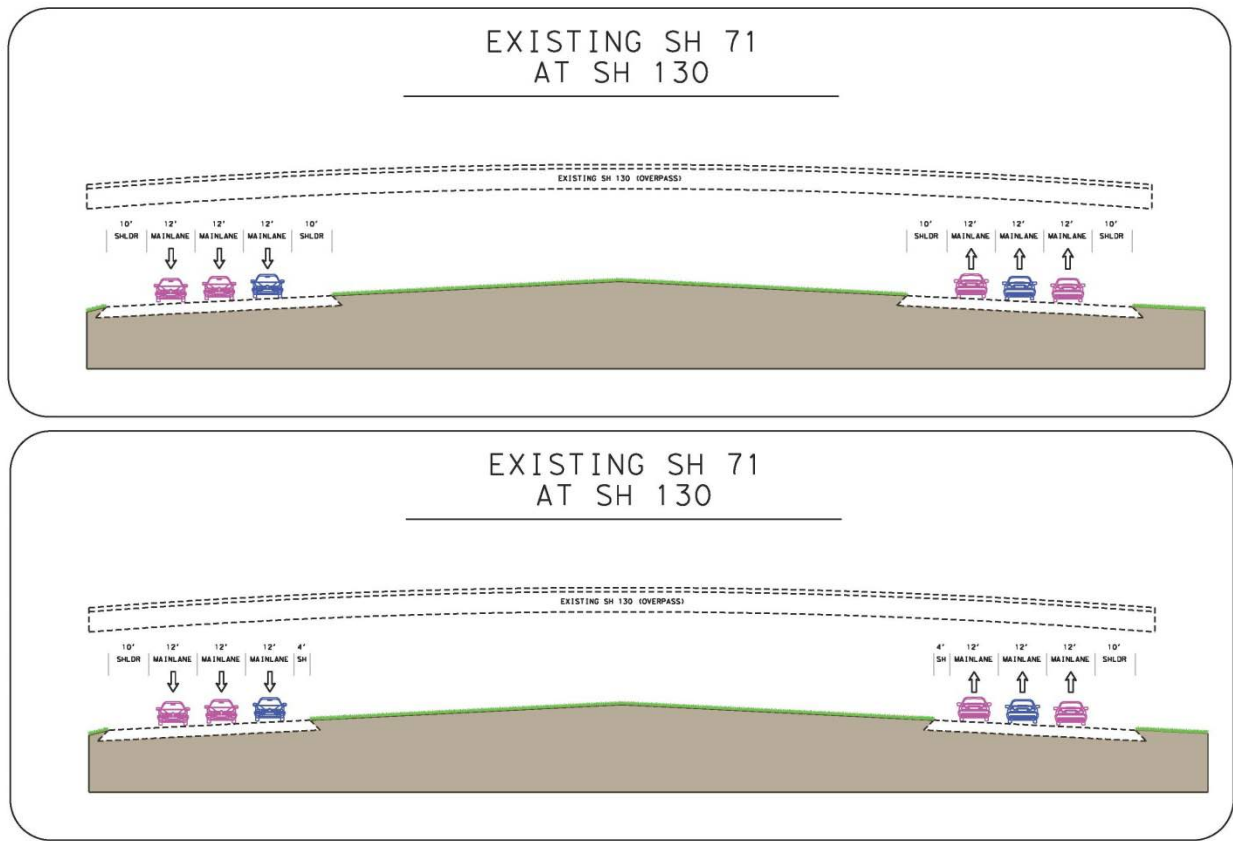


Figure 1-5: Existing Typical Section at SH 130

1.3 Purpose and Need

The purpose of the proposed project is to improve traffic flow, mobility, and vehicle and pedestrian safety within the SH 71 corridor while effectively managing congestion. The need for the proposed project is warranted by the increasing regional population and economic growth, increasing congestion, and decreasing safety.

1.3.1 Increasing population and economic growth

As shown on **Figure 1-1**, the project area serves as a primary collector from north-south expressways (US 183, SH 130, and FM 973) and Interstate Highway 35 (I-35) and connecting the city of Austin and eastern Travis County with the surrounding cities and unincorporated communities. SH 71 is a primary east-west expressway linking residents and employees of the city of Austin and eastern Travis County, as well as Bastrop, Caldwell, and Williamson counties. As shown in **Table 1-1**, from 2000 to 2010, several of the larger population centers saw substantial growth of well over 20 percent. Many of these communities are also emerging employment centers. The continued growth in the professional and technical service industries has produced a greater demand for residential housing than the city of Austin is able to keep pace with. The city is approaching its urban development capacity, and the availability of land in the surrounding communities of unincorporated Travis County are supporting the development of a growing number of corporate and industrial parks outside of the city of Austin limits.

From the Presidential Boulevard interchange to west of FM 973, the eastbound and westbound main lanes converge with the SH 71 facility to result in an eight-lane cross section. Eastbound and westbound lanes would consist of three 12-foot general purpose travel lanes separated from a 12-foot toll lane by a 4-foot buffer. A ~~10~~4-foot inside and 10-foot outside shoulder would be provided in each direction of travel. The existing SH 71 main lanes would be widened in the existing median to construct the newly added toll lanes, buffer and inside shoulder. No existing lanes would be converted into toll lanes. Guardrail would be installed along the outside shoulder, as necessary, of the eastbound and westbound lanes. A concrete traffic barrier would be provided along the inside. Closure of median breaks would occur at Golf Course Road, Lyle Road, and Terry Lane to construct the toll lanes. Accessibility to the opposite direction of travel would be limited to the SH 71 interchanges at the Presidential Boulevard or FM 973 interchanges (Figure 1-13 and Figure 1-14).

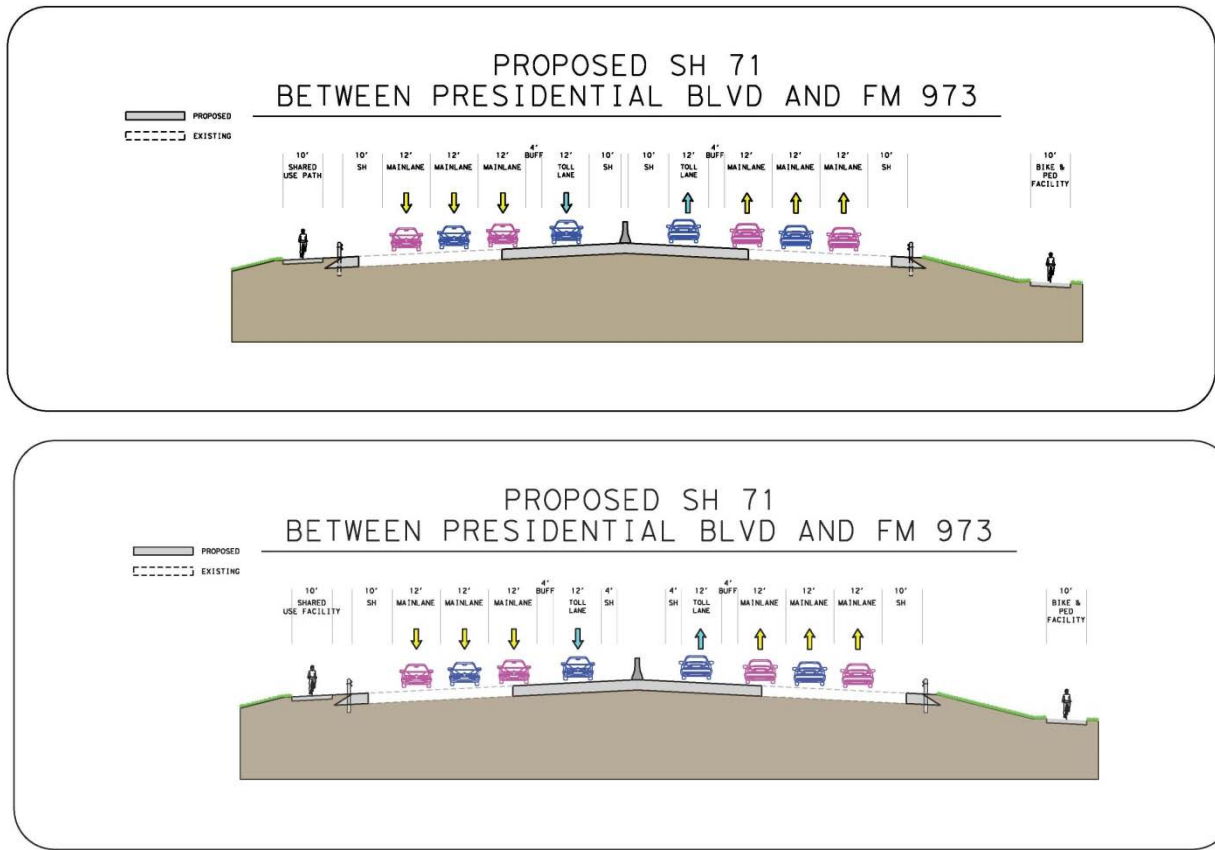


Figure 1-13: Proposed Typical Section between Presidential Boulevard and FM 973

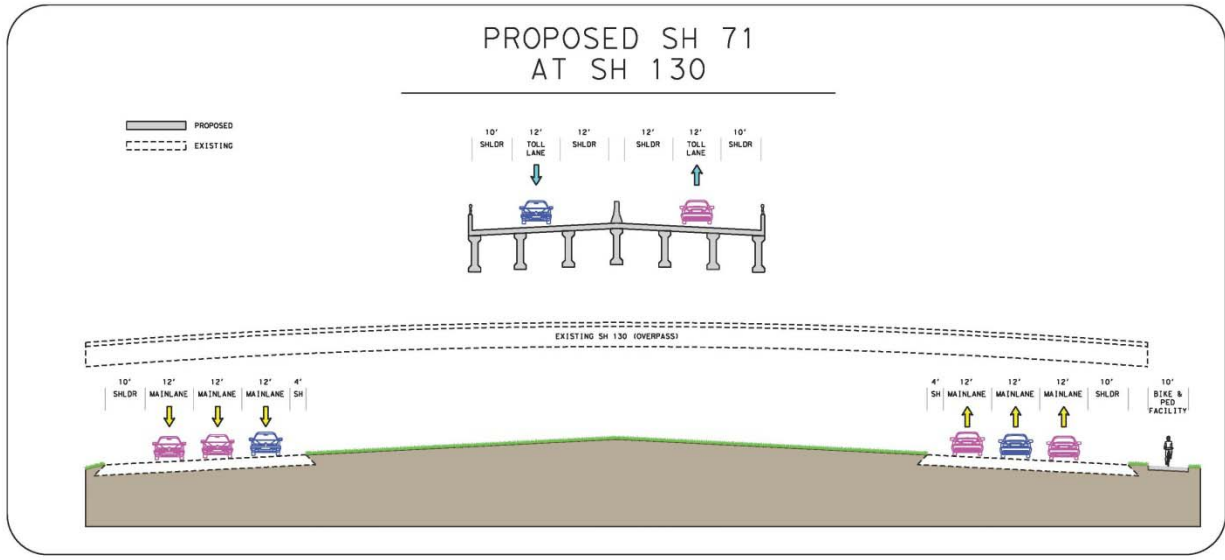
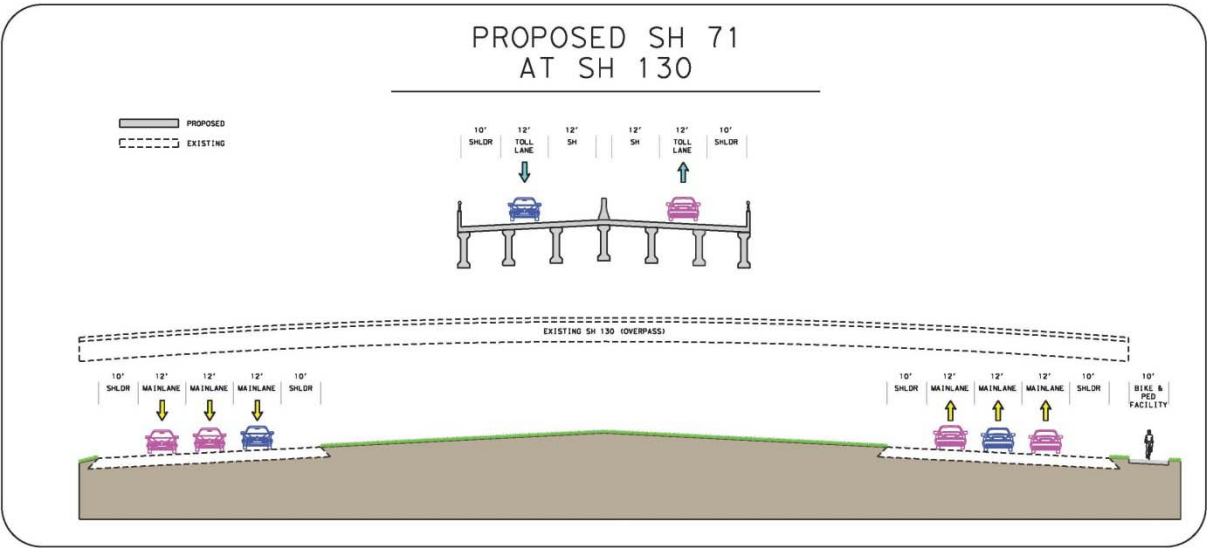


Figure 1-17: Proposed Typical Section at SH 130



Figure 1-18: Aerial View at SH 130

The project would meet the pedestrian and multimodal accessibility needs of the area by adding a combination of bicycle and pedestrian facilities along areas of both the north and south sides of the