

ENVIRONMENTAL ASSESSMENT

UNITED STATES HIGHWAY 183

FROM US 290

TO SH 71

TRAVIS COUNTY

CSJ: 0151-09-036, 0151-09-127
0265-01-080

OCTOBER 2014

PREPARED BY
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND THE
TEXAS DEPARTMENT OF TRANSPORTATION

TABLE OF CONTENTS

1. IMPROVING SAFETY AND MOBILITY	1
1.1 Where is the roadway located?	1
1.2 What does the roadway look like today?	1
1.3 Why does anything need to change?	2
1.4 What has been and is being considered?	7
1.5 What changes are proposed?	8
2. EFFECTS AND CONSEQUENCES	12
2.1 What part of the environment would not be affected?	12
2.1.1 Edwards Aquifer	12
2.1.2 Water	12
2.1.3 Wildlife	12
2.1.4 Wildlife and Waterfowl Refuges	12
2.2 What part of the environment may be affected?	13
2.2.1 Air Quality	13
2.2.2 Cultural Resources	14
2.2.3 The Community	17
2.2.4 Topography, Soils, and Geology	20
2.2.5 Water Resources	21
2.2.6 Vegetation	22
2.2.7 Hazardous Materials Sites	23
2.3 What happens when the effects reach further than the project area?	23
2.3.1 How far do indirect effects extend from US 183?	24
2.3.2 What does the community want to happen within the study area?	25
2.3.3 What is special to the community in the study area?	25
2.3.4 What aspects of the US 183 project could cause indirect effects?	25
2.3.5 What are the indirect effects of the proposed US 183 project?	25
2.3.6 What happens as a result of the indirect effects?	26
2.4 What happens if the effect from the project and those away from the project are combined?	27
2.4.1 What issues will be analyzed for potential cumulative impacts?	27
2.4.2 What is the current status of the issue?	28
2.4.3 What are the cumulative impacts?	28
3. COMMITMENTS	34
3.1 What permits would be obtained?	34
3.2 What will be done to avoid, minimize or mitigate effects?	35
3.2.1 Before Construction	35
3.2.2 During Construction	36
3.2.3 After Construction	37
4. SUMMARY OF PUBLIC INVOLVEMENT	38
5. THE DECISION	38
6. REFERENCES	39

TABLE OF CONTENTS

FIGURES

- FIGURE 1: LOCATION MAP**
- FIGURE 2: EXISTING AND PROPOSED TYPICAL SECTIONS**
- FIGURE 3: PLAN VIEW**
- FIGURE 4: TOPOGRAPHIC MAP**
- FIGURE 5: AERIAL PHOTOGRAPH**
- FIGURE 6: LAND USE**
- FIGURE 7: BUS ROUTES**
- FIGURE 8: BIKE ROUTES**
- FIGURE 9: PROPOSED PLAN BY 2035**
- FIGURE 10: LINE DRAWING OF THE EXISTING & PROPOSED US 183**

APPENDICES

- APPENDIX 1: PHOTOGRAPHS**
- APPENDIX 2: THREATENED OR ENDANGERED SPECIES TABLES**
- APPENDIX 3: AIR QUALITY ASSESSMENT**
- APPENDIX 4: AGENCY COORDINATION LETTERS**
- APPENDIX 5: COMMUNITY ASSESSMENT**
- APPENDIX 6: HAZMAT INITIAL SITE ASSESSMENT**
- APPENDIX 7: SECTION 4(F) DOCUMENTATION**

ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic	NCHRP	National Cooperative Highway Research Program
ABIA	Austin Bergstrom International Airport	NEPA	National Environmental Policy Act
ACHP	Advisory Council on Historic Preservation	NFIP	National Flood Insurance Program
AOI	Area of Influence	NHPA	National Historic Preservation Act
BG	Block Group	NOI	Notice of Intent
Blvd	Boulevard	NRHP	National Register of Historic Places
CAMPO	Capital Area Metropolitan Planning Organization	PA-TU	First Amended Statewide Programmatic Agreement for Transportation Undertakings
CFR	Code of Federal Regulations	Rd	Road
City	City of Austin	RTA	CAMPO Regional Toll Analysis
CO	carbon monoxide	RTP	2035 Regional Transportation Plan
CRIS	Crash Records Information System	RM	Ranch-to-Market Road
CTRMA	Central Texas Regional Mobility Authority	SAL	State Archeological Landmark
Dr	Drive	SH	State Highway
ECOS	Environmental Compliance Oversight System	SHPO	State Historic Preservation Officer
EJ	environmental justice	SIP	State Implementation Plan
EPA	U.S. Environmental Protection Agency	St	Street
FEMA	Federal Emergency Management Agency	SW3P	Storm Water Pollution Prevention Plan
FHWA	Federal Highway Administration	TAZ	Traffic Analysis Zone
FM	Farm-to-Market Road	TCEQ	Texas Commission on Environmental Quality
HOV	High Occupancy Vehicle	TERP	Texas Emissions Reduction Plan
IH	Interstate Highway	THC	Texas Historical Commission
LEP	limited English proficiency	TIP	2013-2016 Transportation Improvement Program
Ln	Lane	TxDOT	Texas Department of Transportation
LOS	Level of Service	US	U.S. Highway
MLK Blvd	Martin Luther King Jr. Boulevard	VMT	vehicle miles traveled
MOU	Memorandum of Understanding	vpd	vehicles-per-day
mph	miles-per-hour		
MSAT	Mobile Source Air Toxics		
NAAQS	National Ambient Air Quality Standards		

1. IMPROVING SAFETY AND MOBILITY

1.1 Where is the roadway located?

The United States Highway (US) 183 extends across Texas; however, this document includes information about studies on approximately 8 miles of US 183 in the city of Austin (the City) in Travis County. The Federal Highway Administration (FHWA), the Central Texas Regional Mobility Authority (CTRMA), and the Texas Department of Transportation (TxDOT) are proposing improvements to US 183 from US 290 to State Highway (SH) 71. Figure 1 is a project location map.

1.2 What does the roadway look like today?

US 183 between US 290 and SH 71 is characterized as a four-lane divided roadway (two travel lanes in each direction). However, the number of travel lanes in each direction varies. Figure 10 is a simple line drawing of the existing travel lanes without the auxiliary or turn lanes. The existing typical sections in Figure 2 represent the number of lanes and turning movements. Figure 3 shows an overhead view or aerial photograph of the existing roadway where the pavement edges have been marked with a dashed/dotted line. Photographs of US 183 and the right-of-way are included in Appendix 1.

The six-lane freeway (Sheet 1 of Figure 3) transitions into a four-lane freeway just north of Manor/Springdale Road (Rd). The existing typical section for Manor/Springdale Rd (Sheet 1 of Figure 2) shows the four main lanes that have already been reduced from the six-lane freeway main lane section. The four main lanes north of Manor/Springdale Rd merge with the one-lane frontage roads into the four-lane divided section north of Loyola Lane (Ln) [Sheet 1 of Figure 10].

The four-lane divided section of US 183 (two lanes in each direction) extends from north of Loyola Ln to just north of the Colorado River. The existing typical section for Loyal Ln (Sheet 2 of Figure 2) represents this four-lane divided roadway.

There is an underpass at Martin Luther King Boulevard (MLK Blvd)/Farm-to-Market Road (FM) 969 and an overpass at Bolm Rd. At the underpass (Sheet 3 of Figure 2 and Sheet 1 of Figure 10) and the overpass (Sheet 4 of Figure 2 and Sheet 2 of Figure 10), there are six lanes of travel (three in each direction).

A three lane section of US 183 (one north and two south) extends from just north of the river to SH 71. The existing typical section at Montopolis Drive (Dr) (Sheet 5 of Figure 2) shows three northbound travel lanes. However, two travel lanes exit onto Airport Blvd and 7th Street (St) and only one travel lane provides continuous northbound travel on US 183. Sheet 2 of Figure 10 shows the location just north of the Colorado River where there is only one northbound through

travel lane. The existing typical section at Montopolis Dr shows three southbound travel lanes; however, one travel lane exits to SH 71 and does not provide through travel to US 183 southbound.

There are turn lanes and auxiliary lanes that provide access at and between intersections located within the corridor. The side streets that pass-under US 183 are Manor/Springdale Rd and Bolm Rd and the two that pass-over US 183 are MLK Blvd/FM 969 and the northbound lanes of Montopolis Dr. At-grade signalized intersections exist at Loyola Ln, 51st St, Techni Center Dr, Vargas Rd, and Thompson Ln. The existing typical sections in Figure 2 show the travel and turn lanes at Manor/Springdale Rd, Loyola Ln, MLK Blvd/FM 969, Bolm Rd, Montopolis Dr, and Patton Ave.

In addition to the local intersecting roadways, there are median crossovers at various locations. These crossovers are visible on the aerial photograph in Figure 3. The sheet number of Figure 3 is included in the following list of crossovers: at about 0.3 mile south of Loyola Ln (3), at Bluestein Dr (6), at Hudson St (7), at Callahan's General Store (13), and at approximately 0.3 and 0.5 mile south of Thompson Ln (13).

Existing driveways are visible on the aerial photograph shown on Figure 3. Two driveways are no longer in use. One is located north of Tracor Ln and is shown on Sheet 5 of Figure 3 and the other is located across from Interchange Blvd shown on Sheet 10 of Figure 3.

Continuous bicycle/pedestrian facilities do not exist along US 183. For pedestrian use, sidewalks exist along the southbound roadway from US 290 to the pedestrian bridge located at Purple Sage Dr (Sheet 2 of Figure 3). In addition, there is a sidewalk attached to the Montopolis Truss Bridge. For bicyclists, the Lance Armstrong Bikeway connects to the sidewalk on the north end of the truss bridge (Sheet 11 of Figure 3) and bicyclists may use the US 183 travel lanes.

The Davidson-Littlepage cemetery is located within the right-of-way of US 183 (Sheet 14, Figure 3). The cemetery is bordered by a fence and would not be impacted.

1.3 Why does anything need to change?

There is a need to change travel movements on US 183 because of the increase in the surrounding population, the traffic volumes, and the vehicle crashes. The purpose for the project on US 183 is to improve safety and mobility.

Drivers travel on US 183 to get to and from the Austin-Bergstrom International Airport (ABIA) but also use US 183 as a local roadway to get to community-focused destinations east and west of US 183. In addition to providing access to ABIA, US 183 provides access to downtown

Austin and areas outside of the City. Much of a traveler’s use of US 183 can be explained by its classification.

TxDOT classifies roadways under their jurisdiction by FHWA standards of functionality. This classification is used for planning purposes as a first indication of the types of access that roadways provide. Arterials connect cities with populations of more than 5,000 people and collectors connect smaller communities and rural areas. Urban principal arterials carry a majority of the travelers making trips to and from the urban area as well as through movements. These arterials also carry the highest traffic volumes and provide the longest continuous trip lengths for urban travelers (FHWA 1989).

US 183 from US 290 to SH 71 is classified as an urban principal arterial and does carry some of the highest traffic volumes in Austin while providing a continuous route from rural to urban areas (TxDOT 2008). US 183, US 290, and SH 71 function as urban principal arterials in Austin. These three roadways transition into rural principal arterials outside of Austin within Travis County. Additionally, these rural principal arterials provide the main routes of travel for people living outside the urban area seeking destinations within the urban area (FHWA 1989) and in this case Austin.

US 183 was constructed in the late 1960s and the populations in the rural and urban areas that it serves have grown tremendously. The following tables show the population growth in the City and Travis County.

Table 1: Population Growth

	1980*	1990*	2000*	2010*	2020**	2030**	2040**
City of Austin	345,890	465,622	656,562	799,846	967,757	1,152,891	1,323,721
Approximate Percent Increase Over 10 Years		35%	41%	22%	21%	19%	15%
Travis County	419,573	576,407	812,280	1,003,253	1,201,256	1,402,153	1,583,068
Approximate Percent Increase Over 10 Years		37%	41%	24%	20%	17%	13%

Sources: *U.S. Census Bureau 1990, 2000, 2010 **Texas Water Development Board 2011.

Within the 30 years from 1980 to 2010, the population of the City increased by approximately 231% and the population of Travis County increased by approximately 239%. It is estimated that the population for the next 30 years in Austin from 2010 to 2040 would increase more slowly resulting in about 165% more people and the population in Travis County would increase by about 158%.

As a consequence of the urban and rural population growth shown in Table 1, travel has increased on US 183 from US 290 to SH 71. Table 2 includes historic and forecasted traffic volumes every 10 years from 1980 to 2010 and predicted traffic volumes for 2015 and 2035.

Table 2: Historic and Predicted Average Daily Traffic Expressed in Vehicles-Per-Day

Location	1980	1990	2000	2010	2015	2035
US 290 to Manor/Springdale Rd	23,000	35,000	70,000	73,000	88,200	116,400
Loyola Drive to MLK/FM 969	22,000	30,000	59,000	57,000	67,000	94,800
Techni Center Dr to Bolm Rd	21,000	26,000	55,000	60,000	69,400	97,400
Bohm Road to Airport Blvd	17,600	23,000	50,000	53,000	69,200	133,400
Airport Blvd to Montopolis	37,000	43,000	73,000	85,000	95,000	117,000
Montopolis to Patton Ave	27,000	34,000	72,000	71,000	82,400	105,000

Source: TxDOT Austin District Traffic Maps and TxDOT TP&P and Atkins US 183 Traffic Analysis

As expected, the traffic volumes have continued to climb within the proposed project limits. However, the volumes almost doubled in every roadway segment within the 10 years from 1990 to 2000. Part of the reason for the increase could be the closing of the Robert Mueller Airport in 1999.

The airport was located east of Interstate Highway (IH) 35 and west of US 183 between 51st St and Manor Rd (Sheet 3 of Figure 5). The former Bergstrom Air Force Base was converted for use as the new public airport and it was renamed the ABIA. ABIA is located east of US 183 and south of SH 71 (Sheet 4 of Figure 5). After the opening of ABIA in May 1999, US 183 provided a more direct route to ABIA than IH 35 for travelers from areas north of SH 71 and east of US 183.

The increase in traffic volumes slowed within the 10 years from 2000 to 2010 and is predicted to follow the same slower rate of increase. However, the vehicle capacity on US 183 is close to being met during peak hours of use.

Over the years since the construction of US 183 in 1960 as a four-lane roadway, there have been turn lanes, auxiliary lanes, and travel lanes added to US 183 to improve mobility. From US 290 to SH 71, the additional travel capacity is limited to the 4 to 6-lane freeway section from US 290 to north of Loyola Ln and the three lanes in each direction at MLK/FM 969, at Bolm Rd, and from the Colorado River to SH 71. The improved mobility has not kept up with population growth and increased traffic. The predicted increase in traffic volumes would continue to affect the operating conditions of US 183.

The American Association of State Highway and Transportation Officials has issued a policy on the *Geometric Design of Highways and Streets 2004* that includes a method to characterize the operating conditions of a facility, i.e. what drivers may experience. This characterization is

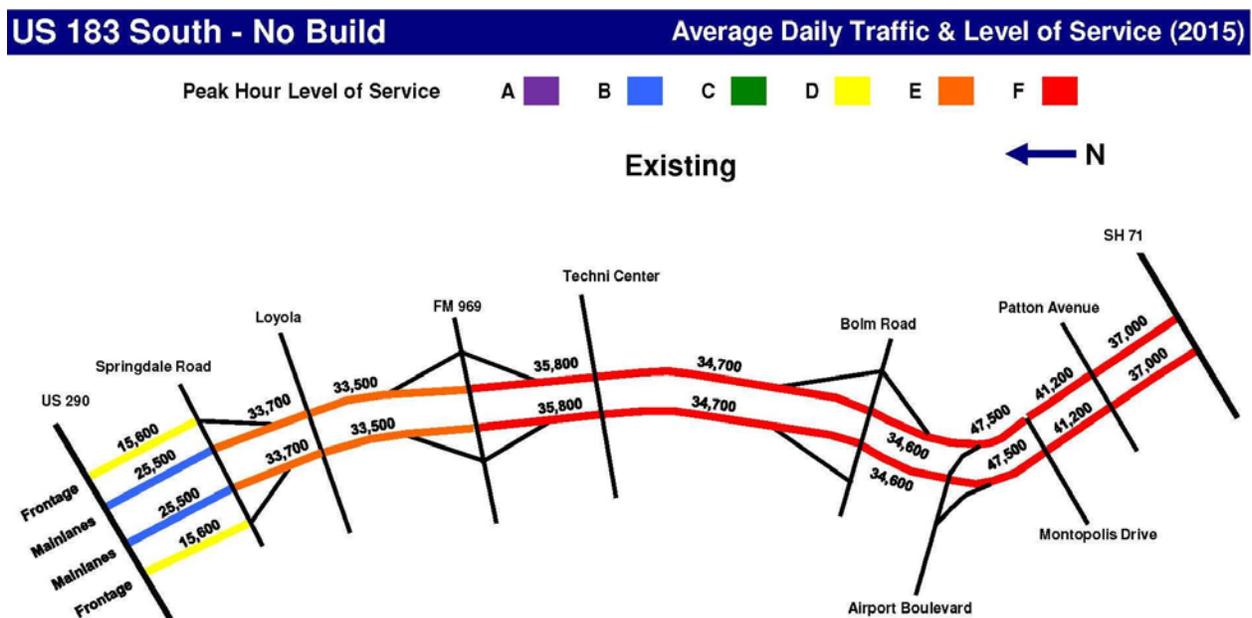
called the level of service (LOS). Table 3 includes the general definitions for each of the letter designations for LOS.

Table 3. General Definitions of Levels of Service

Level of Service	General Operating Conditions
A	General purpose lanes Flow
B	Reasonable General purpose lanes Flow
C	Stable Flow
D	Approaching Unstable Flow
E	Unstable Flow
F	Forced or Breakdown Flow

Source: AASHTO Geometric Design of Highways and Streets 2004

The following is a graphic of the anticipated 2015 LOS within the proposed project limits.



The LOS of E and F are indications that the roadway is operating over its design capacity and operational changes to the roadway and more capacity are needed to improve mobility. Vehicular crashes on a roadway contribute to the unstable, forced or breakdowns in traffic flow. Therefore, it is important to look at the type of crashes that are occurring.

The crash rate for a roadway is defined as the number of crashes per 100 million vehicle-miles-traveled. It is standardized for each type of roadway in Texas and this standard may be compared to the rate for particular roadway. Table 4 includes the crash rates for US 183 from US 290 to SH 71 and the statewide averages for comparable types of roadways.

Table 4: Crash Rate Comparison

Year	US 183	Statewide Average – Urban U.S. Highways	Statewide Average – Urban 4 or More Lanes Divided
2008	131.78	142.44	116.73
2009	133.17	137.69	114.84
2010	117.42	136.42	112.96

Source: TxDOT CRIS 2012

The rates of crashes occurring on US 183 from US 290 to SH 71 are lower than the statewide average for an urban highway but are higher than the rates for an urban four-lane divided facility. Over the 3 years from 2008 to 2010, the TxDOT *Crash Information System* contains records of approximately 679 crashes occurring on US 183 from US 290 to SH 71. More than 50% of the crashes were rear-end collisions and almost 20% were run-off-the-road, fixed object, or overturns (TxDOT 2012a). The crashes on US 183 within the proposed project limits indicate a need to improve operational characteristics and to improve mobility.

There is evidence that pedestrians are using the pedestrian bridge at Loyola Ln and the sidewalks where available. Worn paths within existing right-of-way also indicate pedestrians walk along US 183. Bicyclists sometimes ride along short stretches of US 183 to access the cycling track and training facility located east of US 183 and south of Boggy Creek. Although bicyclists may use the travel lanes of US 183, the City’s bike map does not indicate US 183 is part of the recommended bike routes in the City (Figure 8). These limited facilities for pedestrians and bicyclists make access more challenging for people who wish to walk or bicycle to community-focused destinations.

US 183 needs to be improved to provide vehicles more space to slow and/or stop when needed and to provide access and improved safety for pedestrians and bicyclists. The whole purpose for improving US 183 from US 290 to SH 71 is to improve safety and mobility and this purpose is part of a roadway plan for the region.

Even though US 183 is located in the City it is a state designated roadway. Although the City is not directly involved in the development of the construction plans, they have been involved in the planning process for the project. In addition to the City, other organizations and city, county, and state agencies have been involved with the planning.

Specifically, an organization called the Capital Area Metropolitan Planning Organization (CAMPO) is the designated planning organization for the Austin-Round Rock metropolitan

statistical area (OMB 2013). This area includes Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson counties. The two main products of CAMPO that indicate how roadway funds pay for construction of roads in the area are the *2035 Regional Transportation Plan (RTP)* and the *2013-2016 Transportation Improvement Program (TIP)*. The RTP is a 25-year plan and the TIP is a 4-year program.

A plan was made in the early 1980s to improve US 183 from Ranch-to-Market Road (RM) 620 to SH 71. In 1985, the conversion of US 183 from a four lane divided roadway to a road with six main lanes and six frontage road lanes was approved. Construction on US 183 has occurred in sections based on the amount of money that was available. The freeway is complete from RM 620 to US 290 with a transition to the existing four-lane divided roadway from US 290 to Manor/Springdale Rd.

The estimated total project cost as stated in the CAMPO STIP and the RTP to continue the main lane and general purpose lane improvements from US 290 to SH 71 is about 725.1 million dollars. The estimated total project cost to date is approximately 653 million dollars. Because of the rapid population growth in the CAMPO planning area, many roadways need to be improved. However, there is not enough money to build everything needed in the CAMPO planning area (CAMPO 2009). Therefore, CAMPO considered tolling some facilities to bring in the money needed for improvements. The US 183 project has been included in the RTP and the TIP as a proposed tolled expressway (CAMPO 2013b). Tolling the main lanes would allow investors to help pay for the planned roadway.

1.4 What has been and is being considered?

In 1985, a US 183 six-lane controlled access roadway with three-lane frontage roads was environmentally approved to be constructed from RM 620 to SH 71. Because of the rapid rate of growth and corresponding traffic on US 183 in north Austin and in the cities of Cedar Park, Pflugerville, and Round Rock where roadways connect to US 183 north of US 290, the freeway was started at RM 620 and completed to US 290. To date, this section of US 183 and other main roadways in Austin such as Loop 1, US 290, SH 71 and IH 35 have been and are considered highly congested during peak hours of use (TxDOTb and CAMPO 2009 and 2013b). Therefore, after 29 years of continued growth in the area, many roadways are in need of upgrades once again. Hence, CAMPO has included plans to improve major roadways such as US 183 in Austin in the 2035 RTP.

Not making any improvements on US 183 from US 290 to SH 71 but rather only maintaining the facility is considered the No-build Alternative. However, the No-build Alternative does include the construction of all the other projects listed in the CAMPO RTP. Although the other projects in the CAMPO RTP would address mobility issues in the region, there is still a need to improve US 183 from US 290 to SH 71 because of the continued population growth in the City and Travis County.

The environmental and design studies completed in 1985 for the six-lane controlled access roadway include a consideration of five alternatives. The alternatives that were studied included the No-build, an Improved Existing Alignment, an elevated Central Section, a New River Crossing, and a Transit/High Occupancy Vehicle (HOV) Alternative. The Elevated Central Section Alternative was found to be the Preferred Alternative and was carried forward in the environmental analysis. The Preferred Alternative was a six-lane controlled access roadway with an elevated section between Loop 1 and IH 35. Tolling was not considered part of the Preferred Alternative.

The other alternatives considered in 1985 were eliminated from further study because the improvements in mobility were comparable to the Preferred Alternative but the impacts were much higher. Specifically, the Transit/HOV Alternative was not found to be a preferred alternative due to the need for right-of-way that would result in excessive displacements. Furthermore, the Preferred Alternative would accommodate future development of transit/HOV lanes if they were determined to be warranted in the future.

Growth in Austin and within the CAMPO planning area has resulted in the need for many roadway improvements throughout the region. Therefore, there has been a shift in the view of how much value comes from tolled facilities. This became especially true for the facilities that may be improved within existing right-of-way. The funds needed to complete all the roadway improvements within the CAMPO planning areas have not been available and alternative means of funding have been carefully considered by CAMPO (CAMPO 2009 and 2013b).

Once it was determined that within a 25 year planning period, there would not be enough federal or state money to complete the non-tolled six-lane controlled access roadway from US 290 to SH 71, the option to toll the project was compared to the No-build and the Non-tolled alternatives. It became apparent that improving mobility on US 183 from US 290 to SH 71 sooner rather than later would benefit the residents living along this very congested portion of US 183. After careful consideration, CAMPO included the tolling of US 183 from US 290 to SH 71 in the 2035 RTP. Because the configuration and environmental consideration of the Non-tolled Alternative is very much like the proposed tolled facility, combined with the fact that there is no funding for the Non-tolled Alternative, the Build Alternative to be assessed in this document is the proposed tolled expressway.

1.5 What changes are proposed?

The Build Alternative includes the changes that are proposed, which are the addition of travel lanes and the separation of the travel lanes. The proposed roadway would have six tolled main lanes and four to six non-tolled access road lanes (two to three in each direction). Figure 2 illustrates the proposed typical sections and the plan view on Figure 3 shows an overhead view of the proposed roadway.

Although the project extends about 8 miles from US 290 to SH 71, only about 7 miles would be tolled. The existing transition of the six lane freeway from US 290 to Manor/Springdale Rd would not be tolled (Sheets 1 and 2 of Figure 3). The tolling of the main lanes would terminate just south of Thompson Ln (Sheet 13 of Figure 3) but would begin again at the direct connectors to SH 71. The direct connections to SH 71 west of US 183 would be tolled and would provide two lanes of travel in each direction (Sheets 13 and 14 of Figure 3). These connections would be constructed on bridges.

There are four to six non-tolled access road lanes or general purpose lanes proposed throughout the length of the project. At MLK, two of the general purpose lanes are collector/distributor lanes (Sheet 3 of Figure 2). Therefore, there are six general purpose lanes (three in each direction) at MLK. The same number of general purpose lanes is also proposed at Bolm Road. Overall, the proposed changes would provide as many or more non-tolled travel lanes than currently exist on US 183 (Figure 10). This proposal is in compliance with the *Texas Transportation Code Section 228.201(a)(4)*. Throughout the corridor, a shared-use path, bike lane, and sidewalks are also proposed.

Adding up to six more travel lanes and the associated auxiliary lanes, turn bays, and entrance/exit ramps would allow quite a bit of room for drivers to move out of the travel lanes to slow and/or stop when needed. Traffic on the tolled main lanes would not have to stop at intersections; therefore, a continuous non-stop route to ABIA or to areas north of US 290 is proposed. A continuous, non-stop route would improve mobility and safety.

The tolled main lanes would result in a reduced number of vehicles on the general purpose lanes (TxDOT 2012g). As the traffic redistributes, congestion is reduced and mobility improves. More room to maneuver a vehicle between travel lanes enhances safety and allows vehicles to change lanes, slow, or stop. The improved mobility is estimated using the LOS analysis. There are graphics of the LOS included in section 3.1 of the *Community Assessment* attached in Appendix 5. In summary, the proposed general purpose lanes during peak hours of use would improve the existing LOS of F (forced/breakdown flow) to D (approaching unstable flow). The proposed tolled main lanes would primarily have an LOS of B (reasonable general purpose lanes flow) with LOS C (stable flow) occurring near the ends of the project. The improved LOS indicates the proposed project on US 183 would improve mobility and safety.

The non-tolled general purpose lanes would connect to all the side streets and the tolled main lanes would connect to the non-tolled general purpose lanes. Overall, access across US 183 would become more efficient. Specifically, improvements are proposed at three of the four existing side streets that pass-over or -under US 183. These are the crossings at Manor/Springdale Rd, MLK/FM 969, and Montopolis Dr. The access provided at the overpass at Bolm Rd, the signalized intersections, and the six median crossovers are proposed to be revised. There would be a new underpass at Loyola Ln (Sheet 3 of Figure 3), turn-around lanes

at Boggy Creek (Sheet 8 of Figure 3), and an overpass at Patton Avenue (Sheet 13 of Figure 3). Therefore, mobility and safety would improve for travelers seeking to change directions of travel and/or cross US 183.

The proposed sidewalk and a shared-use path within the right-of-way adjacent to the roadway, and a 5-foot outside bike lane on the general purpose lanes provide a continuous facility of pedestrians and cyclist from US 290 to SH 71. There is a plan to rehabilitate and improve the existing pedestrian bridge at Purple Sage Dr (Sheet 2 of Figure 3). New pedestrian bridges are proposed south of 51st St and at Bolm Rd, which would span US 183 (Sheet 4 and 9 of Figure 3). Overall, the proposed bicycle and pedestrian facilities would provide improved mobility and safety for bicyclists and pedestrians.

The design speed of the proposed US 183 is 65 miles-per-hour (mph) on the main lanes and 45 mph on the general purpose lanes. Although the proposed roadway is designed for a certain speed, the posted speed limits would be determined after the roadway is in use through studies called warrants. Even though the posted speed limit is 55 miles per hour, the current vehicle speed is on average about 33 mph during peak hours of use. Therefore, improved mobility occurs if more travelers are able to drive at the designed roadway speed. The proposed improvements would allow that to happen.

Approximately 4 acres of additional right-of-way and 9 acres of easements would need to be purchased for the proposed improvements to US 183 from US 290 to SH 71 (sheets 4, 5, 7, 8, 9, and 13 of Figure 3). The existing and the proposed usual right-of-way is 450 feet wide. No residential or business displacements would result from the proposed acquisitions. The acquisitions would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

The construction near the Davidson-Littlepage cemetery located within the right-of-way (Sheet 14, Figure 3) would be limited to pavement widening. The proposed design was developed to avoid impacts to the cemetery and the cemetery would not be disturbed.

The tolling of the main lanes would follow the CTRMA's toll policy located at http://www.mobilityauthority.com/monkeewrench/files/resources/Mobility_Authority_Toll_Policy_0113.pdf. In accordance with this policy, transit vehicles with a carrying capacity of 16 or more people that are owned or operated on behalf of the Capital Metropolitan Transportation Authority or the Capital Area Rural Transportation System are not required to pay tolls. Motorcycles would pay the two-axle toll rate.

The rate for the tolls would be set based on a financial analysis and model. It has been estimated that the tolls would range from \$0.20 to \$0.30 per mile.

The tolls would be collected through electronic methods set-up on toll gantries. The toll gantries would be located along the tolled main lanes and at select entrance and exit ramps. A traveler would not need to stop at these gantries because the electronic method of tolling would involve reading of an electronic toll tag or recording the license plate of the vehicle.

The electronic toll tag programs include TxTag, TollTag, or EZTAG. When the toll tags are read at the gantries upon entry and exit of the main lanes, the tolls would automatically be deducted from the tag owner's account. Tag owners receive a monthly accounting of their tag usage.

TxTag is locally available and TxTag accounts may be set-up online at <http://www.txtag.org>, by phone at 1-888-GO-TxTag, or in person at the TxTag Customer Service Center located at 12719 Burnet Road in Austin Texas. The TxTag accounts may be maintained with credit card, check or cash. If a TxTag customer does not enroll in AutoPay using a credit card, the account would be charged a one-time fee of \$13.85. To fund the TxTag account with cash or check, the customer would need to go to the TxTag Customer Service Center. If there are not enough funds in the customer's TxTag account at the time the toll roads are used, the registered owner of the vehicle would be sent a bill in the mail.

If a traveler has not purchased a toll tag, a bill for the tolls would be mailed to the registered owner of the vehicle. Pay by Mail customers are charged a slightly higher rate than electronic tag customers and may incur a processing charge per bill. This Pay by Mail program allows the vehicle owner the option to pay the bill using the mail or to pay with cash or credit card at any ACE Cash Express store location nationwide. ACE Cash Express charges a payment processing fee of \$.75 for payments less than \$19.99 or \$3.00 for payments of \$20.00 or more. The fee is waived for customers at the following location: ACE Cash Express, 5341 Cameron Road in Austin, Texas.

Tolls collected on US 183 would be used to pay expenses identified in the financial model created for the US 183 project from US 290 to SH 71. Any excess toll revenues would be used in compliance with the *Texas Transportation Code Section 370.174, 23 United States Code 129*, and the approved financial model. The tolls would reimburse the investors and pay for roadway maintenance. The CTRMA is responsible for obtaining the money to build the project and they have named the proposed Build Alternative the "Bergstrom Expressway".

2. EFFECTS AND CONSEQUENCES

2.1 What part of the environment would not be affected?

2.1.1 Edwards Aquifer

The Edwards Aquifer does not exist along US 183 between US 290 and SH 71 (TCEQ 2013).

2.1.2 Water

There are no impaired assessment units as identified by the Texas Commission on Environmental Quality that are crossed by US 183 or that are within five miles downstream of US 183 from US 290 to SH 71 (TCEQ 2012; TxDOT 2013a). There are no wild and scenic rivers within the existing and proposed right-of-way. The United States Coast Guard (USCG) was asked if the Colorado River at the US 183 bridge crossings was considered to be navigable under Section 9 of the Rivers and Harbors Act. The USCG responded in a letter dated November 5, 2008 stating that they determined the Colorado River at US 183 to be a non-navigable waterway and not subject to Coast Guard Bridge Administration jurisdiction. A copy of the letter is included in Appendix C.

2.1.3 Wildlife

The assessment of the effects to wildlife that may result from the proposed project alternatives is documented within a draft environmental coordination document that was reviewed by the Texas Parks and Wildlife Department (TxDOT 2012f). The US 183 proposed Build Alternative was reviewed and re-assessed in October 2013, December 2013, April 2014, and June 2014. The effects or impacts to species did not change and the results are documented in memorandums to the file (TxDOT 2013a and b, TxDOT 2014c). The conclusions regarding effect or impacts to threatened or endangered species are included in tables attached in Appendix 2. The effects to wildlife in general under the No-build or the Build Alternative would not change from those that occur today. Migratory birds that are protected under the *Migratory Bird Treaty Act* would be avoided under the Build Alternative. Neither the No-build nor the Build Alternative would have an effect on or have impacts to federal candidate species for listing or federal or state listed species.

2.1.4 Wildlife and Waterfowl Refuges

There are no wildlife and waterfowl refuges located adjacent to or within the proposed project area.

2.2 What part of the environment may be affected?

2.2.1 Air Quality

2.2.1.1 How is air quality evaluated for transportation projects?

The following air quality elements are addressed in transportation projects: conformity to Texas' State Implementation Plan (SIP), a Carbon Monoxide (CO) Analysis, a Mobile Source Air Toxics (MSAT) analysis, a congestion management analysis, and a construction air emissions analysis.

2.2.1.2 How do the project alternatives address Conformity to the SIP?

US 183 from US 290 to SH 71 is located in Travis County, which is in an area in attainment or unclassifiable for all national ambient air quality standards (NAAQS); therefore, the transportation conformity rules do not apply.

2.2.1.3 How do the project alternatives address CO?

Traffic data for the design year 2035 ranges from 94,800 to 133,400 vehicles-per-day (vpd) with the 133,400 vpd occurring within about 0.8 mile of the approximately 8-mile project. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that a CO standard would ever be exceeded as a result of any project with an annual average daily traffic (AADT) below 140,000 (Carter & Burgess, Inc. 2006). The AADT projections for the project do not exceed 140,000 vpd; therefore, a *Traffic Air Quality Analysis* was not required.

2.2.1.4 How do the project alternatives address MSAT?

Due to incomplete and unavailable information, it is not currently feasible to develop a project-specific MSAT health impacts analysis; however, a qualitative assessment of regional MSAT impacts is possible. Please refer to Appendix 3 for the full qualitative MSAT analysis relative to the various project alternatives. In summary, 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, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be lower than today.

2.2.1.5 How do the project alternatives address congestion management?

US 183 from US 290 to SH 71 is located in an area that is in attainment or unclassifiable for all NAAQS; therefore, a congestion management process analysis is not required.

2.2.1.6 How does the Build Alternative address potential construction emissions?

During the construction phase of this project, temporary increases in PM and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles.

The potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. In addition, the Texas Emissions Reduction Plan (TERP) provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction contractors to utilize this program and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at: <http://www.tceq.state.tx.us/implementation/air/terp/>.

However, considering the temporary and transient nature of construction-related emissions, as well the use of fugitive dust control measures and compliance with applicable regulatory requirements combined with contractor incentives to reduce emissions, it is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area.

2.2.2 Cultural Resources

2.2.2.1 What are cultural resources?

Cultural resources are those structures, groups of buildings/districts, objects, cemeteries, and archeological sites that indicate something about human history. The ones that are listed in or are eligible to be listed in the National Register of Historic Places (NRHP) are called “historic properties”. Archeological sites may also be considered State Archeological Landmarks (SALs).

2.2.2.2 Why are historic properties and SALs studied?

Federal and state laws require that agencies such as FHWA and TxDOT study how their “undertakings” or actions may affect historic properties. FHWA’s activity on the US 183 proposed project is to release federal funds to TxDOT to pay for project expenses. The requirement that federal agencies study their actions is located in *Section 106* of the *National Historic Preservation Act of 1966* (NHPA). There are regulations that instruct FHWA how to comply with the NHPA. These are the Advisory Council on Historic Preservation (ACHP) regulations, which are located in *Title 36* of the *Code of Federal Regulations Part 800.4*. The regulations state that FHWA will locate, evaluate and assess the effects that their “undertaking” will have on historic properties. TxDOT is proposing to purchase more right-of-way for the US

183 project, which means there eventually may be disturbance of state owned lands. The study of SALs on state owned lands is required in the *Texas Antiquities Code*.

2.2.2.3 How are historic properties and/or SALs located and evaluated?

There is an agreement between state and federal agencies called the *First Amended Statewide Programmatic Agreement for Transportation Undertakings* (PA-TU). This agreement is between FHWA, the State Historic Preservation Officer (SHPO), the ACHP and TxDOT. It outlines how historic properties are located and evaluated. Also, another agreement that guides the study of historic properties is called the *Memorandum of Understanding* (MOU) between the SHPO and TxDOT. One aspect of both agreements is the identification of an “area of potential effect”. Any historic properties and/or SALs located within this area are evaluated. The evaluations proceed under varying guidance mentioned in the PA-TU and MOU based on the type of historic property.

Archeological Resources

2.2.2.4 What is the area of potential effect to archeological resources?

In the PA-TU, among other things, FHWA, TxDOT, SHPO, and ACHP defined areas of potential effects for various project types that may affect archeological properties. Under this agreement, the area of potential effect to archeological resources only applies to the Build Alternative and is within the existing and proposed right-of-way, including easements.

2.2.2.5 What was found within the area of potential effects?

No archeological sites listed in the NRHP or SALs have been recorded within the area of potential effect. A background study of the area determined that potentially deep alluvial sediments around Boggy Creek may contain buried archeological materials (areas D and E mentioned in archeological coordination documents in Appendix 4). Therefore, a survey of this area is recommended. A coordination memorandum includes a description of the results of past surveys and SHPO. The memorandum is attached in Appendix 4.

2.2.2.6 Would the US 183 Build Alternative affect archeological resources identified within the area of potential effect?

An evaluation of the Build Alternative effects on archeological resources could not be completed because right-of-entry was denied to some properties, preventing archeologists from conducting the necessary field work. However, consultation with federally recognized Native American tribes with a demonstrated historic interest in the area has been completed. No objections or expression of concern were received within the comment period. No objections or expressions of concern were received from other contacted parties, including local governments with jurisdiction and affected property owners.

Work conducted up to this point has identified no archeological resources that would be afforded further consideration under cultural resource laws and that the project would adversely affect. No public controversy exists regarding the project's potential impacts on archeological sites or cemeteries. Therefore, conditional archeological clearance to proceed with project plans including right-of-way acquisition was received for the proposed project. The conditional clearance documentation is included in Appendix 4. Once access to the areas requiring field investigations has been obtained, TxDOT will complete all required investigations and consultation.

Non-archeological Properties

2.2.2.7 What is the area of potential effect to historic sites?

In the PA-TU, among other things, FHWA, TxDOT, SHPO, and ACHP defined areas of potential effects for various project types that may affect non-archeological properties. Under this agreement, the area of potential effect only applies to the Build Alternative and is within 150 feet of the existing and proposed right-of-way, including easements.

2.2.2.8 What was found within the area of potential effect?

In September 2012, qualified historians conducted a survey of the area of potential effect and structures on parcels that intersected with the area. The survey identified 156 historic-age resources (built prior to 1970) on 108 numbered locations within the area. The Davidson-Littlepage cemetery is located within the right-of-way near the northbound mainlane (see Sheet 14 of Figure 3). The cemetery is fenced and there is an Official Texas Historic Marker at the site. The cemetery is not listed or eligible for listing on the NRHP but would be protected and avoided during construction. TxDOT historians determined that three of the historic-age resources meet the standards for the NRHP: the Govalle Wastewater Treatment Plant Historic District, Govalle Plant A, and the residence at 255 US 183 South. The 1938 metal truss Montopolis Bridge is listed in the NRHP.

2.2.2.9 Would the US 183 project affect the historic properties identified within the area of potential effect?

Adverse effects are impacts that would make a historic resource no longer eligible for listing on the NRHP and are defined within *Title 36 of the Code of Federal Regulations Part 800.5(a)(1)*. TxDOT historians determined that the project would cause no adverse effects to the above identified historic properties and SHPO concurred on August 13, 2013. An electronic copy of the survey is in the TxDOT *Environmental Compliance Oversight System*. Copies of all correspondence are in Appendix 4.

2.2.3 The Community

2.2.3.1 What “community” was studied?

TxDOT completed a *Community Assessment* in October 2013 and the report is included in Appendix 5. The proposed project on US 183 is within the limits of the City and its extraterritorial jurisdiction in Travis County. The City and Travis County are within the CAMPO planning area. It is reasonable to assume that a large percentage of the residents in the CAMPO planning area would not be affected on a daily basis by changes on US 183 because they would not use the roadway on a daily basis. Therefore, the communities of people living in areas surrounding US 183 from US 290 to SH 71 are the travelers that probably use US 183 quite frequently.

The communities adjacent to US 183 are located within a study area. The boundaries of the study area for the US 183 project were based on roadways and barriers that would influence someone’s travel to and from destinations within or near the residential areas. The boundaries of the study area are overlain on a 2011 aerial photograph shown on Figure 5 and on an excerpt of the City’s 2010 *Land Use Map* shown on Figure 6. Figure 7 is an excerpt from the on-line bus routes map and Figure 8 is an excerpt from the City’s bike map.

Within the study area, there are community-focused destinations such as churches, community centers, libraries, schools, day cares. These are labeled on Figure 5. “Open Space” on Figure 6 represents many of the parks and recreation areas owned by the City. Within a “Resource Extraction” area on Figure 6 east of US 183 and north of Bolm Rd, the City has purchased land and designated it as parkland. To date, the land is not part of the City’s *Parks & Recreation Long Range Plan for Land, Facilities and Programs*; however, the City plans to include it in the future. There are no existing park amenities or improvements on the land. The existing Southern Walnut Creek Hike and Bike Trail is partly located within TxDOT right-of-way at Boggy Creek. The City manages the trail within TxDOT right-of-way under a *Multiple Use Agreement* with TxDOT (TxDOT 2011).

Residents that would use local roads to get to these community-focused destinations are “local travelers”. Residents living outside the study area have access to community-focused destinations that are easier to get to using roadways other than US 183. When residents outside the study area seek destinations in the City using US 183, they are “through travelers”.

All populations of people in the study area are considered to be part of an Environmental Justice (EJ) population. EJ populations include low-income and minority persons. The demographics of the study area were determined using US Census data (see the census data in the *Community Assessment* in Appendix 5) and methods developed by CAMPO for the *Regional Toll Analysis* (RTA). A copy of the RTA is attached to the *Community Assessment* in Appendix D of that document. A summary of the RTA is provided in section 2.4.3 of this Environmental

Assessment. The RTA maps of the EJ populations were incorporated into the RTP. Figure 9 includes a map from the CAMPO RTP that illustrates the location of the EJ populations.

2.2.3.2 Would there be effects to the community?

Overall, both the No-build and the Build alternatives would result in effects to community member's travel expenses and access. TxDOT completed a *Community Assessment* in July 2014 and the report is included in Appendix 5. This report includes an estimate of how people travel on US 183, what changes would occur to travel patterns. The No-build Alternative would increase travel expenses because of continued traffic congestion and would not improve access for pedestrians and bicyclists.

The Build Alternative would result in changes in travel patterns due to revisions to the intersection of Bolm Rd, Loyola Ln, 51st St, Techni Center Dr, Vargas Rd, Thompson Ln, Patton Ave, and the six median crossovers (Bluestein Dr, Hudson St, at Callahan's General Store, and at approximately 0.3 and 0.5 mile south of Thompson Ln). Although some of the direct crossings of US 183 would be removed at 51st St, Techni Center Dr, Bolm Rd, Vargas Rd, Thompson Ln, and at the median crossovers, the ability to change directions of travel without stopping on the general purpose lanes would be provided through the proposed turn-around lanes at Loyola Ln, MLK/FM 969, Boggy Creek, Levander Lp, and Montopolis Dr,. A new direct signalized crossing of US 183 is proposed at Patton Ave.

Although the Build Alternative would result in a few cases of longer travel routes for travelers using US 183 to access destinations, the alternative would have positive effects by reducing travel expense because of reductions in traffic congestion on the general purpose lanes of US 183, which reduces travel time. The detailed analysis of changes to travel patterns is included in the *Community Assessment* located in Appendix 5. The reduction in travel time under the Build Alternative improves mobility for local travelers to community-focused destinations and for through travelers to ABIA.

The tolling on US 183 would increase travel expenses for anyone traveling on the main lanes. However, the estimated travel time savings of about 33 minutes for travel to and from ABIA would contribute to reducing the cost of travel.

The proposed bicycle lane, shared-use path, and sidewalk under the Build Alternative provide new access for pedestrians and bicyclists. The existing Southern Walnut Creek Hike and Bike Trail would be connected to US 183 at Boggy Creek (Sheet 8 of Figure 3). The shared use path would be connected to community-focused destinations such as the grocery and YMCA. Children may be able to walk or cycle to school more safely across US 183. There are no proposed temporary or permanent changes to the trail that would limit the use of the trail.

The proposed Build Alternative would require the acquisition of approximately 4.4 acre of additional right-of-way and approximately 9.3 acres of easements. The acquisitions would convert the use of the land to “Transportation” uses but there would be no displacement of businesses or residences. The conversion of the easements and proposed right-of-way to transportation uses would require acreage from a publically owned park but not from a publically owned recreational facility, wildlife sanctuary, or historic site. The Davidson-Littlepage cemetery located within the right-of-way (Sheet 14, Figure 3) would not be disturbed.

The proposed shared use path north of Bolm Rd and east of US 183 would require approximately 1 acre of additional right-of-way from the City’s designated parkland. Presently, the publically owned land is vacant, unimproved, and not listed in a City plan. However, the City does intend to include the land in the *Parks & Recreation Long Range Plan for Land, Facilities and Programs*. A letter notifying the City of the intent to make a de minimis finding under Section 4(f) of the *Department of Transportation Act* is included in Appendix 7. A public notice and opportunity for review and comment concerning the effects of the proposed use of parkland was afforded in May and June of 2014. No comments were received. On June 6, 2014, TxDOT sent the City a letter requesting concurrence under Section 4(f). The City concurred with TxDOT’s assessment that the features, attributes, or activities that qualify the park for protection under Section 4(f) would not be adversely affected by the proposed US 183 shared-us path. A copy of this letter is also included in Appendix 7. This documentation supports a de minimis finding under Section 4(f). Furthermore, the proposed pedestrian bridge at Bolm Rd would provide a connection across US 183 of the proposed sidewalks and shared use path.

A *Traffic Noise Analysis* was completed for the project and noise barriers are proposed from approximately 1,000 feet south of US 290 to Manor/Springdale Rd in the University Hills planning area (TxDOT 2013c). A copy of the *Traffic Noise Analysis* report is attached to the Community Assessment in Appendix E.

Overall, the community surrounding US 183 would be able to meet their goals outlined in the 12 neighborhood planning areas more quickly as the Build Alternative provides the new access for pedestrians and bicyclists that would connect to the pedestrian and bicycle facilities that they have planned. The Build Alternative may also accelerate planned development and would be consistent with the City’s plan in *Imagine Austin* (COA 2012g).

2.2.3.3 How would people who do not speak English very well be given information about the project?

Executive Order 13166, “Improving Access to Services for Persons with Limited English Proficiency,” signed by President Clinton on August 11, 2000, calls for all agencies to ensure that their federally conducted programs and activities are meaningfully accessible to limited English proficiency (LEP) individuals. In accordance with the Safe Harbor provisions, written translations of vital documents would be provided for the LEP language group in addition to

other measures assuring meaningful access. The CTRMA has ongoing public involvement and outreach efforts in place for the City toll system, which includes the proposed Bergstrom Expressway. CTRMA, in partnership with TxDOT, has the primary responsibility for implementation of the toll road system in the CAMPO planning area. CTRMA has developed a public involvement program that has a website (www.ctrma.org), including a Spanish version, monthly newsletters and mailings, and a media program that coordinates appearances of a CTRMA spokesperson for interviews with radio, television, other electronic, and print outlets. CTRMA also has a staff of public involvement consultants to gather public input and provide feedback.

Since there are LEP populations living within the areas adjacent to US 183 and in the City, reasonable steps (such as translated notices and language interpreters) have been and would continue to ensure that these persons receive adequate information and are able to participate effectively in the process.

2.2.4 Topography, Soils, and Geology

2.2.4.1 What is the nature of the topography, soils, and geology surrounding US 183?

From US 290 to SH 71, US 183 is located on the western edge of the rolling plains called the Blackland Prairie (TxDOT 2012f). Figure 4 has excerpts from the 1995 *Austin East and Montopolis U.S. Geologic Survey* topographic maps. Figures 5 and 6 show land use in the area and the background of Figures 3 and 5 are 2011 aerial photographs. The soils and geology of the area are typical of rolling plains but almost all of the existing and proposed right-of-way has been altered and is consistent with an urbanized area. Therefore, no prime or unique farmlands are considered to exist within or adjacent to the US 183 proposed project right-of-way.

2.2.4.2 How would project alternatives affect topography, soils, or geology?

If no improvements are made to US 183, it is anticipated that the topography, soils and geology within the right-of-way would not change. However, the development of lands adjacent to the right-of-way may be influenced by the No-build and the Build alternatives but more so by what has already been planned for the adjacent lands (TxDOT 2012f and 2013a). The proposed Build Alternative for US 183 would result in approximately 300 acres of land disturbance, which involves grading and excavation within the existing and proposed right-of-way. This grading and excavation would alter the topography, soils, and geology but these alterations would be consistent with roadways in the City and would be typical of an urban area.

2.2.5 Water Resources

2.2.5.1 What water resources does US 183 cross?

The water resources that US 183 crosses between US 290 and SH 71 are an unnamed tributary to Little Walnut Creek, Little Walnut Creek, three unnamed tributaries to Walnut Creek, Boggy Creek, the Colorado River, Montopolis Tributary, Carson Creek, and the associated floodplains (TxDOT 2012f and 2013a). The water crossings are labeled 1 through 9 on Figure 4 and the floodplains are also labeled. There is approximately 5 acres of floodplains within the existing and proposed right-of-way. Palustrine emergent wetlands within the proposed and existing right-of-way include three wetlands within or adjacent to the ordinary high water mark of the Colorado River and two wetlands within the ordinary high water mark of the Montopolis Tributary. Representative photographs of the water crossings are included in Appendix A.

2.2.5.2 How would the water resources be affected?

All the creeks, the tributaries, and the river are considered to be “waters of the U.S”. These waters are subject to the United States Army Corps of Engineers (USACE) jurisdiction and any affects to the resource may need to be permitted by the USACE. There are special aquatic sites (wetlands) at the Colorado River and Montopois Tributary.

The No-build Alternative would not result in changes. Therefore, there would be no effects to water resources within the existing right-of-way resulting from the No-build Alternative. However, the planned development adjacent to US 183 could result in changes to the water resources that would be managed by the developers.

Under the Build Alternative, at the crossings of Little Walnut Creek (2 on Figure 4), unnamed tributaries of Walnut Creek (3, 4, and 5), Boggy Creek (6), the Colorado River (7), Montopolis Tributary (8), and Carson Creek (9), the channels exhibit an ordinary high water mark and the drainage structures would be altered. No changes are proposed to the structure at the unnamed tributary of Little Walnut Creek (1 on Figure 4). Each numbered water is considered a single and complete project that crosses a waters of the U.S. and since fill would occur at crossings 2, 3, 4, 5, 6, 7, 8, and 9, a USACE permit would be needed at each crossing. Less than a 0.1 acre of fill would occur at each crossing and no special aquatic sites (e.g. wetlands) would be impacted so that proposed activities would meet the conditions of a USACE nationwide permit #14. Additional USACE nationwide permits that may be implemented include #3, #18, or #25. All conditions of the permit would be adhered to; however, a pre-construction notification would not be required at any of the crossings (TxDOT 2012f and 2013a).

To eliminate or reduce erosion of soil and prevent sediment originating from the construction area from entering adjacent waters and lands, TxDOT would comply with the Texas Commission on Environmental Quality (TCEQ) *General Permit to Discharge Under the Texas Pollutant*

Discharge Elimination System issued on February 19, 2013. This compliance includes filing of a *Notice of Intent* with TCEQ and the development of a *Storm Water Pollution Prevention Plan* (SW3P). The SW3P plan includes Best Management Practices, which are used to reduce soil erosion and manage sediment dispersal.

Approximately 4 acres of floodplains would be impacted as a result of the Build Alternative. Roadway encroachments on floodplains have been analyzed to determine any effects caused by the proposed facility should a 100-year flood occur. Inundation of the roadway and drainage structures, without causing significant damage to the roadway, drainage structures, streams, or other property is considered acceptable. The hydraulic design practices of this project are in accordance with current TxDOT and FHWA design policies and standards. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) and Travis County is a participating member of the NFIP. Any changes to base flood elevations caused by potential impacts of the Build Alternative would be coordinated with the local FEMA administrator and the project would be designed so that, at a maximum, the accumulative increases to the 100-year floodplain would be less than 1 foot.

2.2.6 Vegetation

2.2.6.1 What kind of vegetation exists within and along US 183?

The vegetation within the project area is consistent with an urbanized area (TxDOT 2012f and 2013a). There are grasses such as Bermudagrass (*Cynodon dactylon*), Johnsongrass (*Sorghum halepense*), Canada wildrye (*Elymus canadensis*) and King Ranch bluestem (*Bothriochloa ischaemum*). Dominant tree and/or shrub species include cedar elm (*Ulmus crassifolia*), live oak (*Quercus virginiana*), hackberry (*Celtis laevigata*), Japanese privet (*Ligustrum japonicum*), and giant ragweed (*Ambrosia trifida*). The vine layer is dominated by mustang grape (*Vitis mustangensis*), peppervine (*Ampelopsis arborea*), poison ivy (*Toxicodendron radicans*), and southern dewberry (*Rubus trivialis*). Approximately 2 acres of the vegetation within the existing and proposed right-of-way is considered to be riparian vegetation. The riparian vegetation is dominated by trees species including sycamore (*Platanus occidentalis*), cottonwood (*Populus deltoides*), pecan (*Carya illinoensis*), and black willow (*Salix nigra*).

Several large live oaks are located within and adjacent to the existing right-of-way between Vargas Rd and Thompson Ln. Eight have been inspected and three trees were found to have structural issues (Brewer 2014).

2.2.6.2 How will the project alternatives change vegetation?

Vegetation would not be altered under the No-build Alternative within the existing right-of-way. However, as development occurs within the study area, it is anticipated that changes to the vegetation would occur (COA 2012g).

The Build Alternative would result in the removal or replacement of approximately 275 acres of vegetation in an urban area. These 275 acres includes 2 acres of riparian vegetation. Seven of the eight large oak trees located between Vargas Rd and Thompson Ln would be protected during construction. One of the trees would be removed as a part of the Build Alternative. Best management practices would be developed to help nurture and improve the structure of the trees that would remain within the right-of-way.

Landscaping under the Build Alternative would be consistent with the urban vegetation that exists today. In accordance with the *Executive Order 133112: 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 right-of-way of the Build Alternative.

2.2.7 Hazardous Materials Sites

2.2.7.1 What hazardous material sites are located within the existing and proposed right-of-way?

Within the existing and proposed right-of-way of US 183 between US 290 and SH 71, there is lead based paint, landfills, and hydrocarbon contaminated groundwater. There is also the possibility of asbestos containing materials. The Hazardous Materials Initial Site Assessment is included in Appendix 6 without the attached reports and database search records. The reports and database search records are kept in the project file but available for review.

2.2.7.2 What is the effect of the project alternatives on hazardous material sites?

The No-build Alternative would not change the status of the hazardous material sites. The Build Alternative is not anticipated to impact hazardous wastes but investigations within the project limits indicate that solid wastes from historical waste disposal activities might be impacted in the vicinity of Loyola Ln. Procedures/contingencies to manage the anticipated waste concerns would be addressed during the Plan, Specification & Estimates phase prior to construction. Any solid wastes or hazardous materials concerns encountered during construction would be handled in accordance with federal, state, and local laws and regulations.

2.3 What happens when the effects reach further than the project area?

When there is a direct effect to something, any affect that occurs because of the direct effect but later in time (future) or further away (offsite) is considered to be an indirect effect. Only indirect effects that are reasonably expected to occur are studied (NCHRP 2002). There are three types of indirect effects: 1) changes to the behavior and function of the physical environment called “encroachment-alteration effects”; 2) changes resulting from changes in how people travel called

“access-alteration effects”; and 3) changes occurring to land use called “induced growth-related effects”. The first two of these three indirect effects happen because of a project’s design features. Induced growth-related effects only happen when growth is induced on adjacent lands because of access-alteration effects. The following sections include the analysis of “indirect effects”.

2.3.1 How far do indirect effects extend from US 183?

The furthest geographical extent of possible indirect effects was found to be within the study area for the community (*Community Assessment* in Appendix 5). The study area is shown in Figure 5. The boundaries of the study area are the roadways and barriers that would influence someone’s travel to and from destinations within or near the residential areas. Since the changes to travel patterns would result in the farthest off-site effects, the estimated extent to which travel patterns might be influenced by the project on US 183 was chosen as the study area. The boundaries of the study area are overlain on a 2011 aerial photograph shown on Figure 5 and on an excerpt of the City’s 2010 *Land Use Map* shown on Figure 6.

The proposed project on US 183 is within the limits of the City and its extraterritorial jurisdiction in Travis County. However, it is reasonable to assume that a large percentage of the residents in the CAMPO planning area would not be affected on a daily basis by changes on US 183 because they would not use the roadway on a daily basis. Therefore, the communities of people living in areas surrounding US 183 from US 290 to SH 71 are the travelers that probably use US 183 quite frequently. The communities adjacent to US 183 are located within a study area.

The boundaries of the study area for the US 183 project were based on roadways and barriers that would influence someone’s travel to and from destinations within or near the residential areas. The boundaries of the study area are overlain on a 2011 aerial photograph shown on Figure 5 and on an excerpt of the City’s 2010 *Land Use Map* shown on Figure 6.

Within the study area, there are community-focused destinations such as churches, community centers, libraries, schools, and day cares. These are labeled on Figure 5. Residents that would use local roads to get to these community-focused destinations are “local travelers”.

Residents living outside the study area have access to community-focused destinations that are easier to get to using roadways other than US 183. When residents outside the study area seek destinations in the City using US 183, they are “through travelers”.

The details of how travel patterns might change is included in the *Community Assessment* located in Appendix 5. The study of indirect effects of the US 183 project alternatives includes a consideration of plans for the study area between now and 2035. The year 2035 corresponds to CAMPO’s plan for roadways in the region titled the 2035 Regional Transportation Plan (RTP).

2.3.2 What does the community want to happen within the study area?

The document that best summarizes and represents the goals of the study area is the City's comprehensive plan, titled *Imagine Austin*. However, there are additional reports that were reviewed as a part of the *Community Assessment* in Appendix 5. A development and growth trend has been established in the City and Travis County since the construction of US 183 in the late 1960s. Overall, there is very little developable land within the study area that is not already planned for development. The main goal in the area is to improve upon the existing development, provide affordable housing, maintain and improve transportation facilities, create interconnected pedestrian/bicyclist facilities, and to maintain the natural landscapes within trail and park areas.

2.3.3 What is special to the community in the study area?

Minority and low income populations, air, cultural sites, vegetation, water, and wildlife are all features of the study area that are part of the community. The analysis of indirect effects to the community indicates that the 1938 Montopolis Bridge and water quality are features that are special to the community that may be affected indirectly by the proposed project on US 183.

2.3.4 What aspects of the US 183 project could cause indirect effects?

The No-build could cause access-alteration effects or induced growth-related effects. The Build Alternative could result in indirect effects because of the proposed addition of travel lanes, intersection improvements and removals, addition of turn-around structures, installation of the shared-use path and sidewalks, and drainage structure improvements.

2.3.5 What are the indirect effects of the proposed US 183 project?

Changes to how the adjacent physical environment would function or behave are the encroachment-alteration effects. These are characterized as biological or socioeconomic encroachment-alteration effects. There would be no displacements or reconfigurations of the local roadways; therefore, there would be no socioeconomic encroachment-alteration effects as a result of the proposed project. No further analysis of socioeconomic encroachment-alterations is required.

The rehabilitation or replacement of the drainage structures under the Build Alternative could result in siltation of the water bodies in which the drainage structures are located. The siltation downstream of the project would be a biological encroachment-alteration effect. However,

statewide changes to water quality downstream are mitigated (managed) by water quality rules enforced by the Texas Commission on Environmental Quality. These water quality rules require that before, during, and after construction, the use of best management practices would prevent and manage soil erosion, suspended particles, and water contaminants. These practices provide compliance with state water quality standards under the *Clean Water Act*; therefore, no further analysis of indirect effects to water quality is required.

Changes in traffic patterns or access under the Build Alternative would result from the addition of travel lanes, intersection improvements and removals, the addition of turn-around structures, and installation of the shared-use path and sidewalks. These changes in access could influence the location of residents or businesses; therefore access alteration will be analyzed further in the following section.

The No-build Alternative would also result in changes in access due to increased traffic congestion; therefore, this alternative could result in access-alteration effects. The growth that could be induced by changes in access to adjacent lands would result in induced growth-related effects.

2.3.6 What happens as a result of the indirect effects?

The TxDOT *Community Assessment* (Appendix 5) includes a consideration of travel pattern changes (see section 3.1-3.3) and the possible access-alteration effects (land use change) under the No-build and the Build alternatives. TxDOT took a complete look at how changes in access might induce growth (see sections 3.4 of the *Community Assessment*). In summary, to avoid traffic congestion on US 183, a traveler may choose a different route in the study area. The more frequent use of a local route by travelers may increase the appeal of developing the land adjacent to the new route with a business such as a gas station or grocery. On the other hand, along the original routes to and from and along US 183, travelers would no longer be stopping by businesses if re-routing occurs. Therefore, any re-routing of traffic to roadways adjacent to US 183 could result in closures of businesses or changes in land use along the existing routes, which are access-alteration effects. If growth is induced, there could be induced growth-related effects.

It was found that the goals of the study area would influence changes in development within the study area more than the induced growth estimated from the No-build or the Build alternative (see section 3.4 and 3.5 of the *Community Assessment*). However, the Build Alternative is expected to enhance the rate at which the development within the study area would occur. For example, the bicyclist and pedestrian facilities that are proposed in the Build Alternative would connect to the facilities that are planned by the City. These facilities would create a continuous path for bicyclists and pedestrians that would access many more destinations than currently exist. The community surrounding US 183 would be able to meet their goals outlined in the 12 neighborhood planning areas more quickly as the Build Alternative may accelerate planned development.

Although there would be indirect effects that result from either the No-build or the Build Alternative, the effects would not significantly induce growth more than what is planned or significantly alter vegetation in the study area. The things that are considered special to the community would not be significantly indirectly affected; therefore, further consideration of the indirect effects is not warranted.

2.4 What happens if the effect from the project and those away from the project are combined?

The combined effects are called “cumulative impacts”. Cumulative impacts are those that change natural or human resources resulting from past, present, and future actions taken by any agency, developer, or person. Future actions must be reasonably expected to occur (40 Code of Federal Regulations §1508.7).

The No-build and Build Alternatives would not result in substantial direct or indirect effects to resources. However, if a resource is in poor or declining health, then project alternative direct and indirect effects combined with those caused by others are considered even though the effects are not substantial. Effects and impacts were considered from the mid-1960s (the opening of this section of US 183) to 2035 (the planning horizon for the City of Austin). No resources were found to be in poor or declining health; however, there are minority and low-income populations living within the community. Although they are not considered a “natural or human resource”, these populations may experience cumulative adverse impacts. Therefore, the issue of how the project and other actions may impact minority and/or low-income populations was assessed.

2.4.1 What issues will be analyzed for potential cumulative impacts?

The issue which will be examined for potential cumulative impacts is the possible adverse impacts to minority and low-income (EJ) populations. Both minority and low-income populations are protected from disproportionate and adverse impacts by Executive Order 12898.

Since the issue to be examined is the EJ community, the Resource Study Area for cumulative impacts is the same as the study area for the community. The TxDOT *Community Assessment* (Appendix 5) includes a study area where in addition to overall impacts, incomes for families were assessed. The study area is shown on Figures 5 and 6.

2.4.2 What is the current status of the issue?

U.S. Census Bureau data for household incomes indicates some families within the study area have incomes below the Department of Health and Human Services (DHHS) poverty guideline for a family of four (DHHS 2014, TxDOT 2013). A "low-income" person is defined by FHWA as being part of a household that is at or below the DHHS poverty guidelines. The DHHS 2014 poverty guideline for a family/household of four people is an income of \$23,850 a year. Therefore, the data indicates some families in the study area may not have enough money for the basic necessities in life.

Further data indicating some families in the study area have low incomes is found in CAMPO's *Regional Toll Network Analysis*. This analysis indicates there are environmental justice (EJ) populations throughout the study area (Figure 9: Proposed Plan By 2035) (CAMPO 2013a). EJ populations are not only made up of low-income families but also minorities.

2.4.3 What are the cumulative impacts?

Project Level Analysis

When US 183 was opened for traffic in the late 1960s, the study area was used primarily for municipal purposes (landfills) and by industrial businesses. Due to these prevalent land uses, residential properties were generally more affordable and more attractive for families with lower incomes. Continued population growth in Austin has increased traffic on all roadways including US 183. As Austin has grown communities outside of Austin have also experience growth increasing the amount of through traffic as people travel from communities east of Austin on US 183 into the city for work and other activities. Additionally, the opening of Austin-Bergstrom International Airport (ABIA) in 1999 increased the amount of through traffic and continued the pattern of industrial and municipal land use mixed with residential uses.

There are no other major development projects planned for the study area, either in progress or in the reasonably foreseeable future. The City's planning document, *Imagine Austin*, lists among its goals creating Regional, Town, and Neighborhood centers as well as Activity Corridors and Job Centers. The idea behind these is to create connected and "complete" neighborhoods where residents have amenities available to them which may be access not only by car but also through walking, biking, or transit. According to the *Growth Concept Map* in *Imagine Austin* there is a *Job Center* proposed for the southwest intersection of US 183 and 71 but there are no Regional, Town, or Neighborhood Centers planned for the study area. The *Combined Future Land Use Map* in *Imagine Austin* shows the study area continues to have a mix of industrial, single family homes, office, environmental conservation, and civic uses. Therefore, the estimated future land use in the area is much like what exists today. The assessment of the US 183 project indicates it would not contribute to major land use changes that would negatively affect EJ communities (see section 3.4 of the *Community Assessment*).

The proposed Build Alternative would change access to some community facilities but should ultimately improve travel time in the study area. The increased mobility within the tolled main lanes may be more attractive for drivers that are traveling through the study area with no intentions of stopping. This would free-up non-tolled lanes for local travelers attempting to access amenities within their own community. Changes in travel patterns occurring as a result of changes in access under the Build Alternative are not anticipated to alter the historic and existing land use patterns in the study area (*Community Assessment* in Appendix 5). As discussed in the *Community Assessment* there would be some direct, and potentially indirect, impacts to some communities due to the closure of the Bolm Rd. Based on census data the communities directly adjacent to Bolm Rd, that would be most directly affected by the closure, would be considered EJ communities. Travelers from these communities may experience a negative impact while maneuvering through this intersection but should then benefit from reduced travel times once on the facility. Additionally, as discussed above, there are no other reasonably foreseeable changes to access or land use in the project area therefore the proposed project is not anticipated to contribute to cumulative impacts to EJ communities. For local trips, it is assumed that local travelers would use the general purpose lanes but there would be cost if they chose to use the tolled main lanes. Financial impacts for all users, including EJ populations was assessed by CAMPO and is discussed in the following section.

Regional Toll Network Analysis

To assess the significance of regional impacts and address the potential need for mitigation of the tolled components of the RTP, CAMPO prepared the *Regional Toll Network Analysis Update July 2013* technical memorandum (attached to the *Community Assessment* in Appendix 5). 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 RTP, as amended through June 10, 2013. In March 2013, the CAMPO Transportation Policy Board added Burnet County to the CAMPO 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. Information from Map 1 of the *Regional Toll Network Analysis* was used to develop Figure 9 of this document. This figure shows the

roadway network in five of the six CAMPO planning area counties and indicates tolled highways.

The *Regional Toll Network Analysis* EJ analysis focuses on differential impacts 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.

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

The following table 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 5: 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 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 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. 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 4 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 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. 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 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. 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 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 6: 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.

3. COMMITMENTS

3.1 What permits would be obtained?

When the drainage structures such as culverts and bridges are improved, any fill into a waters of the U.S. (Figure 4) would be permitted by a US Army Corps of Engineers *nationwide permit #14* without pre-construction notification. Soil disturbing activities would be permitted under the *General Permit to Discharge under the Texas Pollutant Discharge Elimination System*. A *Notice of Intent* would be submitted to the Texas Commission on Environmental Quality prior to construction and a *Storm Water Pollution Prevention Plan* would be incorporated into the construction plans.

3.2 What will be done to avoid, minimize or mitigate effects?

3.2.1 Before Construction

3.2.1.1 Public Involvement

Upon approval for further processing by the FHWA, TxDOT would schedule a public hearing and would publish a public notice in local newspapers. The public would be invited to this hearing to comment on the environmental assessment and any aspects of the proposed project. Comments received at the public hearing would be considered during the further development of the proposed project. Reasonable steps have been and would continue to be taken to ensure that persons that speak English less than very well would receive adequate access to the programs, services, and project information and that they are able to participate effectively in the process. Traffic noise workshops would also be held to determine if the proposed traffic noise barriers are acceptable to the effected property owners.

3.2.1.2 Hazardous Materials

Several bridges are proposed to be reconstructed or demolished, which may include the removal of steel beams that have the potential to contain lead based paint. Prior to project construction, the steel coatings on the bridges to be demolished will be analyzed for the presence or absence of lead based paint. If lead based paint is discovered, contingencies would be developed to address worker safety, material recycling and proper management of any paint related wastes, as necessary.

Based on historical evidence of landfill activity near the intersection of US 183 and Loyola Lane, and in anticipation of excavation for an underpass at this location, subsurface investigation activities to identify/delineate potential waste issues were completed by a TxDOT-contracted environmental consultant in June 2005 and December 2006. The investigations included 29 soil borings in the vicinity of the proposed underpass. Most of the borings did not show evidence of any waste or hazardous materials contamination, but some concerns were identified in vicinity of the northeast quadrant of the proposed underpass. Results of the investigation are summarized as follows:

- Limited amounts of non-putrescible waste debris (glass, metal, paper, plastic, and fabric) were found in three borings within the footprint of the northeast quadrant of the proposed Loyola underpass.
- Lead and mercury were present above expected background levels in one of the borings containing waste debris. The consultant concluded that the levels detected were lower than the standard for human health risk, but recommended dust control as a precautionary worker safety measure.

- Vapor monitoring results from one of the 2005 bore holes exceeded OSHA limits for Carbon Monoxide (CO). However, all CO levels were below OSHA limits in follow-up vapor samples from the same area in 2006. The consultant concluded that any CO would dissipate quickly into the atmosphere during excavation work, but recommended initial monitoring for CO in the event of confined space work during excavation in the affected area.

Procedures/contingencies to manage the anticipated waste concerns would be addressed during the Plan, Specification, & Estimates development phase prior to construction. The complete subsurface investigation reports are available in the project files.

3.2.2 During Construction

3.2.2.1 Hazardous Materials

Subsurface investigations of an abandoned landfill in the vicinity of Loyola Lane and Springdale Road revealed the presence of low levels of contamination within the right-of-way (TxDOT 2012c). Although the potential for construction worker exposure is low, elevated levels of lead and mercury and the presence of a thin layer of burned refuse/trash at soil boring 03 indicate that precautionary measures should be taken to minimize the potential for construction worker exposure to lead and mercury at this area. TxDOT would also monitor for carbon monoxide when conducting excavation activities along the eastern side of the project corridor near soil boring 02, especially in areas where vapors could accumulate.

If contaminated soil is encountered during construction, the engineer would be notified immediately, all work would cease in the area of suspected contamination, and all applicable rules and regulations would be followed for the appropriate handling of the contaminated media. *Section 6.10 of the General Provisions of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges*, which applies to all highway projects, includes guidelines addressing the contractor's responsibilities regarding the discovery of hazardous materials (TxDOT 2004).

Removal/disturbance of asbestos containing materials would be accomplished in accordance with Occupational Safety and Health Administration and applicable asbestos-related *National Emissions Standards for Hazardous Air Pollutants* standards, including the use of trained personnel working under the supervision of an asbestos competent person.

3.2.2.2 Vegetation

During construction, efforts would be taken to avoid and minimize disturbance of vegetation and soils. Areas within the existing and proposed right-of-way, but outside the limits of construction would not be disturbed. Several large live oaks would remain within the TxDOT right-of-way between Vargas Rd and Thompson Ln and would be protected. All areas disturbed during

construction, would be re-vegetated, according to TxDOT specifications, as soon as it becomes practicable. In accordance with Executive Order 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 right-of-way.

3.2.2.3 Migratory Birds

In the event that migratory birds are encountered on-site during project construction, every effort would be made to avoid take of protected birds, active nests, eggs, and/or young to the maximum extent practicable. If appropriate, 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.

3.2.2.4 Construction Noise

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.

3.2.2.5 Artifacts

In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area would cease and TxDOT archeological staff would be contacted to initiate post-review discovery procedures under the provisions of the PA-TU and MOU.

3.2.2.6 Davidson-Littlepage Cemetery

The cemetery would be avoided and protected during construction.

3.2.3 After Construction

3.2.3.1 Montopolis Truss Bridge

TxDOT would maintain the bridge.

4. SUMMARY OF PUBLIC INVOLVEMENT

The kick-off for getting the public involved in reviewing the No-build and Build alternatives began on September 18, 2012 with an Open House at the Delco Event Center. Most of the comments were about public involvement, proposed tolls, and proposed changes to access.

To enhance public involvement, the stakeholders list has been lengthened and the Bergstrom Expressway website was further developed by CTRMA. The stakeholders list contains almost 200 contacts including individuals, civic departments, neighborhood associations, businesses, and local planning organizations. Over 15 meetings with stakeholders and two open houses in which context sensitive designs were displayed have been held. Project planners received ideas at these meetings for further refining access and preferences for how the landscaping and some featured design elements of the Build Alternative might look if constructed.

Further studies of the tolling and overall access that could be provided under a Build Alternative were evaluated in a Value Engineering Study completed in January 2013. The results of the study included refinements to the access provided in the Build Alternative. These refinements to access were presented at the most recent context sensitive design open house held on October 10, 2013. Meetings with stakeholders will continue throughout the project development process and it is anticipated that a Public Hearing would be held in 2014.

5. THE DECISION

The decision has been made to recommend that the Build Alternative be constructed. This decision is made after indications that improved safety and mobility would occur when some of the through traffic is separated from the local traffic. As shown in Table 10 in the *Community Assessment* (Appendix 5) a total of 11 routes to and from major destinations (grocery stores, school, airport, etc) were analyzed. The Build Alternative would maintain or decrease distance on five of the routes and increase the distance along six. Of the six routes with increased distance, two would have reduced travel time and four would increase travel time (between 0.5 and 1 additional minute). A total of seven out of 11 routes would have reduced travel time and the LOS along the entire corridor is expected to improve. With improved LOS along US 183 (see section 3.1 of the *Community Assessment*), it is more likely that travelers would use the general purpose lanes and the tolled main lanes as opposed to seeking an alternate route along local neighborhood roads (see section 3.2 and 3.3 of the *Community Assessment*). Since delays in travel and traffic congestion increase travel cost, improving mobility would reduce travel cost even though tolls would need to be paid on some routes (see section 3.10 of the *Community Assessment*). Overall, the improvements to mobility would help fulfill the plans for the Community, City, and the region. The purpose and need for the project on US 183 would be met under the Build Alternative but would not be met under the No-build Alternative.

The No-build Alternative would result in increased traffic congestion as the population in the City and region continues to grow. Reduced mobility and safety would continue if nothing is done. The No-build Alternative would not meet the plans for the Community, City, or region. The purpose and need for the project on US 183 would not be met with the No-build Alternative.

6. REFERENCES

- APF 2013. Austin Parks Foundation. <http://www.austinparks.org/> . Last accessed August 6, 2013.
- ASHTO 2004. American Association of State Highway and Transportation Officials. Geometric Design of Highways and Streets. ISBN: 1-56051-263-6. Publication Code: GDHS-5.
- Brewer, P. and Kinslow, S. 2014. Tree Inspection Report-Advanced Assessment. April 15, 2014.
- Bureau of Economic Geology (BEG). 1972. Geologic Atlas of Texas, Austin Sheet.
- CAMPO 2009. Capital Area Metropolitan Planning Organization. People, Planning and Preparing for the Future: Your 25 Year Transportation Plan, Technical Report #1: Needs Assessment Executive Summary. February 2009.
- 2013a. CAMPO Regional Toll Network Analysis Update July 2013.
- 2013b. 2035 Regional Transportation Plan and the Transportation Improvement Program. <http://www.campotexas.org/> . Last accessed August 6, 2013.
- 2013c. Project Connect <http://connectcentraltexas.com/> Last accessed August 6, 2013.
- CapCOG 2012. Capital Area Council of Governments. Data, Maps and Reports. Central Texas Regional Data. <http://www.capcog.org/data-maps-and-reports/central-texas-regional-data/>. Last accessed August 6, 2013.
- CapMetro 2010. Capital Metropolitan Transportation Authority. ServicePlan2020. <http://www.capmetro.org/sp2020/> . Last accessed August 7, 2013.
- Carter & Burgess, Incorporated. 2006. CALINE3 Air Quality Analysis Worst-case Scenario Evaluation of 100,000 and 150,000 AADT. February 2006.
- CTRMA 2012. Central Texas Regional Mobility Authority. Pay Your Tolls. <http://www.mobilityauthority.com/> . Last accessed August 6, 2013.
- COA 2009. City of Austin. Austin 2009 Bicycle Plan Update http://austintexas.gov/sites/default/files/files/Public_Works/2009_bicyclemasterplan.pdf. Last accessed August 6, 2013.
- 2010. Land Use/Zoning/Development Review. ftp://ftp.ci.austin.tx.us/GIS-Data/Regional/coa_gis.html#landuse_zoning . Last accessed August 6, 2013.
- 2011. Austin Texas Bicycle Map. http://www.ci.austin.tx.us/publicworks/downloads/bike_map_fullcoa_2011.pdf . Last accessed August 6, 2013.

- 2012a. Adopted Neighborhood Planning Areas. <http://www.austintexas.gov/page/adopted-neighborhood-planning-areas> . Last accessed August 6, 2013.
 - 2012b. City of Austin Neighborhood Planning Areas. ftp://ftp.ci.austin.tx.us/npzd/Austingo/npstatus_tab.pdf . Last accessed August 6, 2013.
 - 2012c. Community Registry. <http://austintexas.gov/page/community-registry> Last accessed August 6, 2013.
 - 2012d. Community Registry Map Finder. ftp://ftp.ci.austin.tx.us/GIS-Data/Regional/coa_community_registry_map_finder.html . Last accessed August 6, 2013.
 - 2012e. Emerging Projects. <http://www.austintexas.gov/page/emerging-projects> . Last access August 6, 2013.
 - 2012f. Find Your Watershed. <http://www.austintexas.gov/GIS/FindYourWatershed/> . Last accessed November 14, 2012.
 - 2012g. Imagine Austin. <http://www.imagineaustin.net/> . Last accessed August 6, 2013.
 - 2012h. Lance Armstrong Bikeway May http://www.austintexas.gov/sites/default/files/files/Public_Works/lance-armstrong-bikeway-map.pdf . Last accessed November 14, 2012.
 - 2012i. Neighborhood Planning. <http://www.austintexas.gov/department/neighborhood-planning> . Last accessed August 6, 2013.
 - 2014. Parks and Recreation. <http://austintexas.gov/department/parks-and-recreation> . Last accessed April 14, 2014.
- DHHS 2014. Department of Health and Human Services. 2013. 2014 DHHS Poverty Guidelines. <http://aspe.hhs.gov/poverty/13poverty.cfm> . Last accessed March 28, 2014.
- FHWA 1985. Federal Highway Administration and Texas Department of Highways and Public Transportation. U.S. Highway 183: From SH 71, North and West to RM 620, Travis and Williamson County. Final Environmental Impact Statement. September 1985.
- 1989. Federal Highway Administration. FHWA Functional Classification Guidelines. http://www.fhwa.dot.gov/planning/processes/statewide/related/functional_classification/c00.cfm . Last accessed November 14, 2012/
 - 2012a. FHWA Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 6640.23A. July 14, 2012.
 - 2012b. FHWA Planning Guidance: Induced Travel. <http://www.fhwa.dot.gov/planning/itfaq.htm> . Last accessed November 14, 2012.
- Federal Emergency Management Agency. 2012. Flood Plain Maps. <http://www.fema.gov/> . Last accessed November 14, 2012.
- Handy. S. 2002. Accessibility- vs. Mobility-Enhancing Strategies for Addressing Automotive Dependence in the U.S. ITS-Davis, Prepared for the European Conference of Ministers of Transport, May 2002. Publication No. UCD-ITS-RR-02-15.

- Harvey Penick Golf Campus. 2012. <http://www.harveypenickgc.com/> Last accessed November 16, 2012.
- Kockelman, K.M., B. Siethoff, C.M. Walton, and H.S. Mahmassani. 2000. Research on Relationship between Transportation Infrastructure and Increases in Vehicle Miles Traveled: The Effects of Highway Capacity Expansion on Land Development. Center for Transportation Research, the University of Texas at Austin.
- Montopolis Greenbelt Association. 2013. Montopolis Greenbelt. <http://www.montopolisgreenbelt.org/> . Last accessed July 16, 2013.
- NCHRP 2002. National Cooperative Highway Research Program. Desk Reference for Estimating the Indirect Effects of Proposed transportation Projects. Transportation Research Board -National Research Council. National Academy Press Washington. 2002.
- OMB 2013. Office of Management and Budget. OMB Bulletin No. 13-01. Revised Delineations of Metropolitan Statistical Areas, Micropolitan Statistical Areas, and Combined Statistical Areas, and Guidance on Uses of the Delineations of These Areas. Executive Office of the President, Washington, D.C. 20503. February 28, 2013.
- Schrank, D., T. Lomax, and B. Eisele. 2011. TTI's Urban Mobility Report. September 2011.
- TCEQ. 2012. Texas Commission on Environmental Quality. 2012 Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d). <http://www.tceq.texas.gov/waterquality/assessment/12twqi/twqi12>. Last accessed October 28, 2013.
- TTI 2008. Texas Transportation Institute. Toll Road Opinion Survey. December 2008.
- _____ 2012 Urban Mobility Report. December 2012.
- TxDOT 1980. Texas Department of Transportation. Traffic Map.
- _____ 1990. Traffic Map.
- _____ 2000. Traffic Map
- _____ 2004. Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges. June 1, 2004.
- _____ 2006. Guidance on Preparing Indirect and Cumulative Impact Analyses, December 2006.
- _____ 2008. 2000 Update Functional Classification – Austin District. Planning and Programming Division. Data Analysis, Mapping, and Reporting Branch. May 14, 2008.
- _____ 2010. Traffic Map
- _____ 2011. Multiple Use Agreement. August 2, 2011.
- _____ 2012a. Crash Data Summary. Crash Records Information System. May 2, 2012.
- _____ 2012b. Distribution of Texas Motor Fuel Taxes. <http://www.txdot.gov/inside-txdot/forms-publications/publications/finance/accounting.html> . Last accessed November 14, 2012.
- _____ 2012c. Initial Site Assessment. August 31, 2012.

- 2012d. Texas Highway Designation Files. <http://www.dot.state.tx.us/tpp/search/query.htm> . Last accessed May 12, 2012.
- 2012e. Top 100 Most Congested Roadways in Texas. http://apps.dot.state.tx.us/apps/top_100/http://apps.dot.state.tx.us/apps/top_100/ . Last accessed May 7, 2012.
- 2012f. Draft for Agency Coordination: Environmental Assessment. July 2012.
- 2012g. Traffic Analysis.
- 2013a. Memorandum to update the Draft for Agency Coordination: Environmental Assessment. October 23, 2013.
- 2013b. Memorandum to update the Draft for Agency Coordination: Environmental Assessment. December 31, 2013.
- 2013c. Traffic Noise Analysis. October 2013.
- 2013d. Value Engineering Study Texas Department of Transportation US 183 South-US 290 East to SH 71, Austin Texas. April 2013.
- 2014a. Memorandum to update the Draft for Agency Coordination: Environmental Assessment. April 18, 2014.
- 2014b. 100 Congested Roadways. http://apps.dot.state.tx.us/apps-cq/redirect/redirect.htm?path=/apps/top_100/list.htm. Last accessed July 1, 2014.
- 2014c. Memorandum to update the Draft for Agency Coordination: Environmental Assessment. July ??, 2014.
- TPWD 2011. Texas Water Development Board. Population and Water Demand Projections. <http://www.twdb.state.tx.us/waterplanning/data/projections/2012/doc/Population/3CityPopulation.pdf> . Last accessed November 14, 2012.
- USDC 1990. U.S. Department of Commerce. 1990 Census of Population and Housing. Bureau of the Census, Harry A. Scarr, Acting Director 1990 CPH-2-1.
- 2000. 2000 Census. U.S. Census Bureau. <http://www.census.gov/>. Last accessed November 2, 2012.
- 2010. 2010 Census. U.S. Census Bureau. <http://www.census.gov/>. Last accessed November 2, 2012.
- 2012. Texas Dominates List of Fastest-Growing Large Cities Since 2010 Census. U. S. Census Bureau, June 28, 2012. <http://www.census.gov/newsroom/releases/archives/population/cb12-117.html>. Last accessed November 2, 2012.
- USDOT 2001. U.S. Department of Transportation. DOT Guidance to Recipients on Special Language Services to Limited English Proficient Beneficiaries. Federal Register 66 (14):6733–6747.
- URS Corporation. 2007. Traffic Analysis on US 183.
- Urban Land Institute. 2004. Influence of Transportation Infrastructure on Land Use. December 6-8, 2004.

http://www.fhwa.dot.gov/planning/processes/land_use/references/tranlanduse.cfm. Last accessed November 14, 2012.