

ES.0 EXECUTIVE SUMMARY

ES.1 DESCRIPTION OF THE ACTION

This document addresses the purpose and need, alternatives considered, environmental impacts, and public involvement for the proposed construction of Segment C of State Highway (SH) 99 (Grand Parkway) in Brazoria and Fort Bend counties, Texas. In early 1998, the Houston District of the Texas Department of Transportation (TxDOT), assisted by Grand Parkway Association (GPA), initiated a Major Investment Study (MIS) for Segment C-1 of the Grand Parkway. Segment C-1 was a proposed transportation facility located in east central Fort Bend County from United States Highway (US) 59 to Farm-to-Market (FM) 762. The MIS process was approximately 50% complete when two important events changed the scope of the MIS and the approach to preparing the MIS:

- The limits for the study area were extended beyond FM 762 to the east into Brazoria County in early 1998, resulting in project limits from US 59 in Fort Bend County to SH 288 in Brazoria County.
- The Transportation Equity Act for the 21st Century (TEA-21) was signed on 9 June 1998. TEA-21 eliminated the MIS as a separate requirement, and directed that design scope decisions should be integrated into the planning process that is a part of the National Environmental Policy Act (NEPA). In accordance with the Federal Highway Administration (FHWA) input and recommendations, it was determined that the Segment C-1 MIS should be stopped.

Subsequently, in May 1998, the Segment C-1 MIS was stopped by agreement of TxDOT and FHWA, and a combined Draft Environmental Impact Statement (DEIS) and MIS for Segment C of the Grand Parkway was initiated. Information obtained and concepts developed during the Segment C-1 MIS have been incorporated into this DEIS/MIS for Segment C of the Grand Parkway.

The proposed Grand Parkway is a planned scenic highway which would form a 170-mile circumferential freeway around the Greater Metropolitan area of Harris County. Grand Parkway will be constructed as a four-mainlane controlled access freeway in a 300-foot (ft) right-of-way width expanding to 400-ft at the ramps and isolated frontage road locations. It would provide access to radial freeways and would serve as a third loop around the City of Houston, a radial distance of approximately 25 to 30 miles outside the downtown Houston area. The proposed facility would traverse Harris, Montgomery, Liberty, Chambers, Galveston, Brazoria, and Fort Bend counties. This document addresses Segment C of the Grand Parkway, an approximately 26-mile segment in Fort Bend and Brazoria counties, which traverses from US 59 (south) to SH 288. The project's northern terminus is near the intersection of existing Segment D of the Grand Parkway at US 59 in Fort Bend County. The project's southeastern terminus is approximately 25 miles southeast of US 59 at SH 288 in Brazoria County.

ES.2 PURPOSE AND NEED

The Grand Parkway was conceived in the 1960s as a controlled access highway, and included in regional planning studies since the 1980s. Segment C is currently identified in the following county and Houston-Galveston Area Council (H-GAC) transportation plans as a needed highway to address existing and future traffic demand in the region:

- Fort Bend County Mobility Plan Update – identified as one of the top five needed transportation projects
- H-GAC 2022 Metropolitan Transportation Plan (MTP) – identified as a needed short-range priority project
- H-GAC Congestion Management System (CMS) Plan – identified as a needed added capacity project for the region

The purpose of the proposed Segment C of the Grand Parkway is to relieve congestion and increase mobility on local and regional transportation facilities and to supplement existing roadways for hurricane evacuation.

ES.2.1 Mobility and Congestion

Segment C is needed to relieve local congestion which has resulted from high population growth, increased residential development, and increased commercial development within and adjacent to the study area. In addition, this facility is needed to relieve regional congestion, which has resulted from increasing regional development associated with strong Houston, Texas, and US economies throughout the 1990's. Population in Fort Bend County has grown dramatically from 130,962 in 1980 to 324,189 in 1998. The H-GAC forecasts that Fort Bend County's population will reach 618,584 by the year 2022.

Residential and commercial development has kept pace with the growth in population as evidenced by several residential subdivisions located in the study area. There is a great demand for office space and manufacturing facilities in Fort Bend County. Consequently, a number of developers have announced and begun construction of new office buildings and new speculative manufacturing and warehouse buildings in east Fort Bend County. Retail development in the last 36 months has increased by more than 3 million square feet in the County. A 700,000 square foot destination mall, Katy Mills, opened in October 1999. In 1995, 65,035 persons were reported to be employed in Fort Bend County. H-GAC has estimated that in 2022 about 175,300 people will be working within the County.

H-GAC's regional travel demand model of the Houston metropolitan area was used as a basis for determining the projected traffic which would utilize Segment C of the Grand Parkway and existing

roadway facilities in the study area. H-GAC's model provides projected traffic forecasts on roadway facilities based on population and employment forecasts. Major traffic generators in the vicinity of Segment C include:

- the proposed University of Houston, Fort Bend campus, located south of US 59 at University Boulevard;
- the cluster of residential development located south of US 59;
- the Sienna Plantation residential development located on the eastern portion of Segment C;
- the HL&P Power Plant located east of the George Ranch;
- and the proposed Long Point municipal solid waste landfill located on the south side of FM 1994 about 1 mile northeast of the intersection with FM 361 in southern Fort Bend County.

The H-GAC projected traffic on Segment C for the Build scenario ranges from 3,107 to 23,214 daily vehicles in Year 1999 and from 9,110 to 53,197 daily vehicles in Year 2022. An average daily traffic of 5,000 daily vehicles is set forth as a minimum by the Texas State Department of Highways and Public Transportation to justify a four lane highway. For the Year 2022 traffic projections, all portions of Segment C satisfy these minimum requirements.

Analysis of the H-GAC projected traffic volumes for the Build and No-Build scenarios for Year 1999 (current) and Year 2022 indicate that the construction of Segment C will decrease the daily vehicles on the majority of roadway facilities in the study area. Had Segment C been constructed in Year 1999, it would have decreased traffic volumes by up to 4% on US 59, up to 14% on State Highway 6, up to 19% on FM 1462, and up to 21% on FM 521. Construction of Segment C in Year 2022 is projected to decrease traffic volumes by up to 9% on US 59, up to 24% on State Highway 6, up to 25% on FM 1462, up to 29% on FM 521, and up to 14% on State Highway 288.

Overall, construction of Segment C will be necessary to maintain efficient traffic operations throughout the region. The projected traffic on Segment C in the Year 2022 warrants the consideration of a four lane highway as per TxDOT's guidelines for the entire limits of Segment C. Additionally, H-GAC projected growth in the study area through Year 2022 and associated traffic volume increases would increase congestion and delays already experienced by motorists on existing roadways in the study area. As these roadways approach capacity, Segment C of the Grand Parkway would be an alternative route for many of these motorists.

ES.2.2 Hurricane Evacuation

SH 288 serves as the main hurricane evacuation route in Brazoria County. Similarly, IH 45 and SH 6 serve as the main hurricane evacuation routes for Galveston County. The evacuation adequacy of these

routes has been questioned because they lead evacuating traffic into the congested Houston metropolitan area. The Grand Parkway has been identified by local planners to supplement SH 288, SH 6, and IH 45 during a hurricane evacuation so that evacuating traffic from Brazoria and Galveston counties would have the means to bypass the Houston metropolitan area. The construction of Segment C is urgently needed since the existing hurricane evacuation routes currently lead evacuation traffic into already congested transportation facilities in Houston.

An analysis was performed which computed evacuation times for Galveston and Brazoria counties with only Segment C in place and with Segments B and C in place. This analysis assumed that Grand Parkway would be a four-lane controlled access facility. The analysis was performed using population projections for the design year of 2022. The decrease in evacuation times due to the Grand Parkway were as follows:

- Brazoria County
 - Segment C Only - 11 hour reduction (34 hours without Segment C reduced to 23 hours with Segment C)
 - Segments B and C - 7 hour reduction (34 hours without Segments B and C reduced to 27 hours with Segments B and C)

- Galveston County
 - Segment C Only - No reduction (38 hours without Segment C not reduced with Segment C)
 - Segments B and C - 10 hour reduction (38 hours without Segments B and C reduced to 28 hours with Segments B and C)

This analysis shows improvements in the evacuation time from Brazoria County for both scenarios: with only Segment C constructed, and with both Segments B and C constructed. The reduction in evacuation time from Brazoria County with only Segment C constructed is greater than the reduction in evacuation time from Brazoria County with both Segments B and C constructed. This occurs because Galveston County residents will also utilize Segment C when both Segments B and C are constructed.

ES.3 ALTERNATIVES CONSIDERED

Many alternative design concepts were considered during the comprehensive screening process of this project. The process included an evaluation of the following alternative design concepts:

1. No-Build Alternative
2. Transportation System Management (TSM) Alternative
3. Travel Demand Management (TDM) Alternative
4. Modal Alternatives

5. Added Single Occupied Vehicle (SOV) Capacity Alternatives

Each of the alternative design concepts were evaluated relative to the stated purpose and need for this project. A preferred design concept was selected and alternatives for the preferred design concept were identified and evaluated. Each of the alternatives was evaluated based on its ability to meet the purpose and need for the project, at the same time evaluating its impacts on the human and natural environment. The following discussion summarizes the evaluation of each of these alternatives.

ES.3.1 No-Build Alternative

The no-build alternative consists of the existing transportation system plus projects that are committed. The no-build alternative does not include the construction of Segment C of the Grand Parkway. The no-build alternative would cost less and cause less disruption to the existing human and natural environment than the other build alternatives. However, the no-build alternative would also result in higher maintenance costs and additional travel time for local and regional traffic. Existing roadways in the study area will continue to deteriorate due to an increase in local traffic volumes. Traffic disruptions for maintenance purposes would be more frequent with the no-build alternative.

The no-build alternative does not adequately address the issues (congestion relief and additional hurricane evacuation) that define the need for this transportation facility. However, the no-build alternative remains a baseline alternative throughout this study.

ES.3.2 Transportation System Management (TSM) Alternatives

TSM is used to improve existing transportation facilities using low cost transportation improvements in place of, or in addition to, large-scale changes. TSM alternatives include park-and-ride lots, ridesharing, High Occupancy Vehicle (HOV) lanes, traffic signal coordination and intersection improvement. This approach enhances the operation of existing facilities, while minimizing capital outlay. Depending upon the improvements chosen, this approach can have minimal or major effects on traffic.

Under this alternative, the only important facility that could receive low cost transportation improvements is SH 6. A Congestion Mitigation Analysis (CMA) for Segment C of the Grand Parkway was conducted which evaluated improvements to the existing SH 6. The CMA concluded that TSM improvements along SH 6 would not adequately relieve congestion on SH 6, and that construction of a new facility is one way to relieve the SH 6 congestion.

ES.3.3 Travel Demand Management (TDM) Alternatives

TDM involves actions or programs which encourage people to travel at alternative times or using fewer vehicles in order to reduce congestion. TDM focuses on reasons travelers make trips. People

today usually travel alone in a car, but they can be encouraged to change their route, change the time of departure, share a ride in a carpool, use the bus, or sometimes to not make the trip. Although the TDM alternative should be implemented as much as possible, it was determined that it alone would not meet the purpose and need of this project.

ES.3.4 Modal Alternatives

Modal alternatives considered in the analysis include improved bus transit, High Occupancy Vehicle (HOV) lanes, rail, bicycle, and pedestrian. These alternatives are described below.

Houston's Metropolitan Transit Authority (METRO) is not authorized to provide service in Fort Bend or Brazoria counties, but could provide service in the future through inter-county agreements. METRO's recommended concept for future service is to continue the implementation of the Regional Bus Plan. However, METRO has never evaluated expansion of its Regional Bus Plan into Fort Bend and Brazoria counties. Also, the Fort Bend County Mobility Plan Update study found that a bus transit system would not be financially feasible in Fort Bend County because of low ridership projections. The Fort Bend County study suggested implementation of a demand-response bus transit system in Fort Bend County. Connect Transportation, operated by the Gulf Coast Center, and Colorado Valley Transit provide demand-response bus transit in suburban and rural areas of Brazoria County. However, demand-response bus transit is not expected to adequately increase roadway capacity or address hurricane evacuation within the corridor. Therefore, it would not satisfy the need for transportation improvements in the study area.

The HOV lane concept is used on existing roadways which are experiencing high traffic congestion. HOV lanes are most effective when potential ride-sharers have common geographic trip origins and destinations within similar time frames. The HOV lane concept does not meet the project's purpose and need because a congested freeway corridor which could be improved with the addition of an HOV lane does not exist in the study area. Only 1-1/2 miles of US 59 are within the Study Area and HOV lanes are already proposed within that corridor. SH 6, while a congested highway, is not a likely candidate for HOV improvements due to the trip characteristics utilizing SH 6. Also, an HOV lane would not provide additional capacity for hurricane evacuation purposes. HOV lanes are designed to relieve congestion by offering capacity for carpools; this is inadequate capacity to alleviate congestion during hurricane evacuation.

METRO has performed many rail feasibility studies within the region and has no plans to construct a rail facility within the Segment C study area. One such study (Union Pacific-METRO Commuter Rail Project, March 1992) concluded that commuter rail along US 90A would not be feasible because of the combination of low population density and higher income levels.

The feasibility of bicycle and pedestrian alternatives is heavily dependent upon trip length. The trip lengths that would occur as this facility satisfied its purpose and need are greater than feasible bicycle or

pedestrian trip lengths. Therefore, bicycle and pedestrian alternatives do not satisfy the purpose and need requirements of this study.

ES.3.5 Added SOV Capacity Alternatives

Three types of added SOV capacity alternatives were included in the analysis.

1. Widen existing arterial – Several FM highways in the study area could be widened and improved to four-lane arterial standards. However, this action alone would not provide enough additional capacity to effectively reduce congestion nor would it provide an additional hurricane evacuation route. Widening existing SH 6 could cause considerable impacts to existing residential and commercial development and would not meet the purpose and need for the project.
2. Construct new arterials – The construction of new four-lane arterials in the study area would not improve regional mobility and would not provide additional hurricane evacuation capacity, and therefore, would not meet the purpose and need of the project.
3. Construct a new controlled access highway – A new location controlled access highway, as conceived by TxDOT and the GPA, and as included in the various regional planning documents, would meet the need for transportation improvements in the study area. A new location controlled access highway would relieve local congestion, relieve regional congestion, and provide a substantial amount of additional capacity during hurricane evacuation.

ES.3.6 Preferred Design Concept

The preferred design concept for a transportation facility in this study area is a new location controlled access highway. This type of facility is the design concept that would best satisfy the purpose and need of the project: congestion relief, increased local and regional mobility, and increased capacity for hurricane evacuation needs.

The consideration of controlled access highway alternatives, hereafter referred to as alternatives, involves a three-phase screening process. All of the alternatives included in each phase are evaluated with equal levels of effort. As alternatives are screened and eliminated, more detailed levels of study are performed. Each of the alternatives identified is evaluated with respect to the planning and design criteria described below.

- Phase 1 included data collection, constraints map development, identification of the Universe of Alternatives, a Public Scoping Meeting/MIS Initiation Meeting, screening of the Universe of Alternatives, selection of the group of Reasonable Alternatives, and a Public Workshop. The screening of the Universe of Alternatives and the selection of the group of Reasonable

Alternatives was performed on October 16, 1998, with input from agencies, TxDOT's Houston District, and the FHWA. The screening was performed based on all project data, including input from the agencies, local officials, and the public. The Reasonable Alternatives were presented to the public at the Public Workshop on October 27, 1998.

- Phase 2 included a detailed evaluation of the group of Reasonable Alternatives. This involved developing preliminary schematic designs and performing environmental field investigations of each of the Reasonable Alternatives. The Reasonable Alternatives were screened and reduced to a smaller group of alternatives called Representative Alternatives at a meeting on August 23, 1999, with TxDOT's Houston District, TxDOT's Environmental Affairs Division, and FHWA. Near the end of this phase, a public hearing on the DEIS will be held, input received will be evaluated, and a preferred alternative will be selected. The Preferred Alternative will then be presented to the public at a Public Workshop.
- Phase 3 will continue to evaluate the preferred alternative only, in order to measure impacts, develop mitigation measures and/or to address issues raised by other agencies or the public. The Final Environmental Impact Statement (FEIS) will be prepared during Phase 3. A detailed schematic design of the preferred alternative will be prepared as well as right-of-way documents. The FEIS will be presented at a Public Workshop.

ES.3.6.1 Phase I

An environmental constraints map was prepared for the study area. The constraints map was developed with the use of secondary source data such as National Wetland Inventory maps, U.S. Geological Survey (USGS) maps, subdivision plat information, current aerial photographs, windshield surveys from public rights-of-way, and input from local residents, businesses, officials and agencies. The Universe of Alternatives was developed as 500-ft to 1000-ft wide corridors for the full length of the project, and impacts were quantified through the entire width of the corridor.

The Universe of Alternatives was composed of 41 independent segments, each with a unique alphanumeric name, which connect to one another at nodes. The total number of possible alternatives for getting from one terminus of the project to the other terminus of the project was 96. The evaluations resulted in the elimination of 12 segments and resulted in 40 possible alternatives going from one terminus of the project to the other terminus of the project. These alternatives are referred to as the Reasonable Alternatives.

ES.3.6.2 Phase 2

The Phase 2 screening included the preparation of preliminary schematic designs for each of the Reasonable Alternatives. Environmental fieldwork was performed within the 500-ft to 1000-ft wide

corridors for each Reasonable Alternative, and impacts were quantified through the entire width of the corridor. Also, during Phase 2 work, two segments were added to the study.

The Reasonable Alternatives were composed of 33 segments. The number of possible Reasonable Alternatives for getting from one terminus of the project to the other terminus of the project totaled 40. The evaluation of Reasonable Alternatives provided the study team with data that led to decisions regarding the elimination of some of the possible 40 alternatives within the Reasonable Alternatives. Those alternatives remaining for consideration are called the Representative Alternatives. The Representative Alternatives and their potential environmental consequences are discussed in detail in Section 4 of this DEIS. Ultimately, Phase 2 will conclude with the selection of a Preferred Alternative. The selection of a Preferred Alternative will be based upon an evaluation of social, economic and environmental impacts for each of the Representative Alternatives. Ultimately, FHWA and TxDOT will choose a Preferred Alternative which best meets the purpose and need of the project and also avoids or causes minimal impacts to the human and natural environment. Public input will also be sought regarding the Representative Alternatives prior to the final selection of the Preferred Alternative.

ES.3.6.3 Phase 3

Phase 3 will include detailed environmental evaluation of the Preferred Alternative, as well as evaluation of the no-build alternative. Additional environmental analysis will be conducted to determine mitigation requirements, and the FEIS will be completed during this phase.

ES.4 ENVIRONMENTAL ISSUES

While developing and screening alternatives, environmental impacts were either avoided or minimized to the maximum extent practicable at the level of analysis presented in this document. Environmental impacts attributable to the selection of the Representative Alternatives have been measured and are summarized in Section 4. Impacts were measured within a 300-ft wide corridor for each Representative Alternative using secondary data sources as well as field data generated from detailed studies (e.g., wetland surveys). Where rights-of-entry for individual properties were not granted, the impacts were measured using the best available information and supplemented with surveys conducted by helicopter utilizing differentially corrected global positioning systems. There are two significant ecological issues that warrant explicit mention: (1) forested wetland impacts and (2) protected species. The Representative Alternatives that have been carried through Phase 2 require a decision as to whether the Preferred Alternative will impact forested wetlands and Columbia Bottomland forest in the Rabbs Bayou-Big Creek corridor. Also, a determination must be made as to whether the Preferred Alternative, when chosen, would encroach on the secondary management zone of the Bald Eagle nest located north of the Brazos Bend State Park. The Bald Eagle is proposed for delisting from the Endangered Species Act (64 FR 36453-36464; 6 July 1999). Although there will still be protection measures for the Bald Eagle under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection

Act, construction within the secondary management zone (specifically sub-segment T1) will most likely be a viable option.

Land Use

All project segments would result in the loss of existing land uses within the new roadway ROW. In more developed areas, impacts would also include visual and access related issues relative to residences and communities. In rural areas the decrease in farmland acreage and disruption of the physical fabric of farms would be the primary issues. Additional impacts to the entire study area would involve the expansion of residential and commercial development, especially in the vicinity of newly created intersections.

Farmlands

The conversion of prime farmland soils to highway ROW ranges from 573 acres for Alternative 1, to 990 acres for Alternative 8. Project-related impacts to prime farmland soils in the two counties have been determined to be minimal according to the land evaluation and site assessment scoring used in NRCS Form AD-1006.

Social

Social impacts which would occur as a result of the Grand Parkway would involve changes in community cohesion, impacts to community facilities, changes in traffic patterns and short term construction-related impacts involving noise, dust and traffic. Impacts to community facilities would be primarily visual and access-related to the Manford-Williams Elementary School, Sandberry Cemetery, Zion Hill Missionary Church, Southwest Church of the Nazarene and Brown Cemetery. Impacts to recreation areas would relate to changes in the landscape and increased ease of access to the George Ranch Historic Park and Brazos Bend State Park. Changes in traffic patterns would result in an increase in commuters, a decrease in commute times and an improvement to regional public safety. Associated increases in residential land use could accelerate growth of population in the area. Although some segments traverse low-income neighborhoods, impacts to these populations are not disproportionate.

Relocations

Several residential and commercial structures would be impacted by the eight Representative Alternatives. Construction of segment A1, located in the most urbanized portion of the study area, would involve the largest number of relocations: 3 businesses, one single-family residence and one church. Segments A2 and S1 would each require the relocation of one mobile home. Segments A3.1, G8 and J1 would require the relocation of a single-family residence. Based on the number and type of relocations, adverse impacts to minorities and low-income populations are not disproportionate.

Air Quality

EPA has determined Harris County and the surrounding 7 counties (including Fort Bend and Brazoria) are in nonattainment for the ozone air quality standard. No substantial effects to air quality are expected to result from the proposed action. The project is part of the Houston Vision 2022 Metropolitan Transportation Plan and the FY 2000-2002 Transportation Improvement Program developed by and adopted by the Houston-Galveston Area Council.

Noise

The total number of receivers predicted to experience either a greater than 10 dBA increase in noise, or to approach or exceed a level of 67 dBA in 2022 ranges between 23 for Alternatives 5 and 6 to a high of 71 for Alternatives 3 and 4. A full noise barrier analysis will be performed for each modeled receiver impacted once the Preferred Alternative is selected.

Wetlands

None of the Representative Alternatives completely avoids impacts to wetlands. Through the screening process described in phases 1 and 2 above, wetland impacts were avoided and minimized as much as possible. Each Representative Alternative alignment has been moved to minimize wetland impacts within the 1000-ft corridors evaluated in Phase 1. The resulting Representative Alternatives impact between 25.3 ac and 67.2 ac of wetlands. Unavoidable impacts to wetlands will be specifically addressed in the FEIS pending the selection of a Preferred Alternative and development of a compensatory wetland mitigation plan.

Floodplains

The Grand Parkway Segment C crosses the floodplains of the Brazos River and its tributaries. Each of the floodplains would need to be crossed with a major hydraulic structure. The majority of these hydraulic structures will be bridges. The hydraulic design practices for this project would be in accordance with current TxDOT and FHWA design policies and standards. The highway drainage facility will permit the conveyance of the 100-year flood without causing significant impacts to the roadway, stream or adjacent property. With this design criteria, the structures will not impact the existing floodplain. All fill used to create the bridge embankments will be fill in the floodplain. This fill in the floodplain would need to be mitigated with floodplain storage adjacent to the roadway.

Other impacts to the floodplains include increase flow due to the roadway being constructed and its associated increased percent impervious cover. The increase in flow must be mitigated with detention facilities within the right-of-way. These detention facilities will off set increase in flows as well as adding additional floodplain storage to the watershed which will restore and preserve the natural and beneficial floodplain values.

Threatened and Endangered Species

Four of the Representative Alternatives include a segment that potentially encroaches upon the secondary management zone for an existing Bald Eagle nest. While the management zone is a “recommendation” by the U.S. Fish and Wildlife Service (USFWS) in their Bald Eagle management guidelines, the project team has initiated coordination with the USFWS and is currently monitoring the status of the nest and its success. The occurrence of the nest is complicated by the fact that Brazos Bend State Park is located to the south. While sufficient room for the right-of-way exists between the maximum extent of the nest’s secondary management zone and the Park’s boundary, the project team and resource agency staff have tentatively agreed to maintain a buffer between the Park boundary and the right-of-way that necessitates encroachment of the right-of-way on the secondary management zone. Pending the outcome of the Eagle nest monitoring effort through May 2000 and evaluation of other factors considered in determining a Preferred Alternative, the project team will continue to coordinate with resource agency staff for this issue.

Historic and Archaeological Resources

Known impacts to cultural resources by the representative alternatives include direct impacts to four previously documented archaeological sites and one newly recorded archaeological site. Three of the previously documented sites appear to have been destroyed by recent development, and one appears to be intact. It is likely that the construction of the Grand Parkway Segment C will have some impact on undocumented cultural resource sites. Further field research will identify those sites, assess potential impacts, and determine how they should be addressed.

Hazardous Materials

The hazardous material sites identified within the Representative Alternatives ROW consist of four sites with registered underground storage tanks (UST). One of these locations is also listed as the location of a leaking underground storage tank (LUST). Four of the sites are located on Segment A1. All tanks should be removed from the ground and proper closure activities conducted prior to acquisition.

ES.5 COORDINATION AND PUBLIC INVOLVEMENT

There have been several opportunities to date for the public to receive information regarding the issues associated with Segment C of the Grand Parkway, including the opportunity to submit comments at the project internet website (www.grandpky.com). In addition to public meetings, coordination meetings with regulatory agencies have been held. The following summarizes each of the public meetings and/or discussions with agencies and local public officials to date.

- An Initiation Meeting was held on March 5, 1998 with representatives attending from TxDOT, FHWA, H-GAC, METRO, and Fort Bend County.
- An agency coordination meeting was also held on March 5, 1998 with representatives attending from TxDOT, Texas Parks and Wildlife Department (TPWD), USFWS, and U.S. Army Corps of Engineers (USACE).

- A Public Workshop structured specifically for environmental interest groups was held on April 22, 1998.
- A Public Workshop structured for the general public was held on April 27, 1998 to solicit input.
- On November 19, 1998, the study team attended the Joint Processing Meeting (JPM) at the USACE office in Galveston. In attendance were USFWS, USACE, TPWD, and Texas Natural Resource Conservation Commission (TNRCC). The study team described the study process and progress to the meeting attendees.
- On December 16, 1998, the study team met with Brazos Bend State Park and TPWD. The meeting focused on potential impacts of Segment C on existing hydrologic conditions of watersheds which feed into Brazos Bend State Park.
- Fort Bend County Commissioners provided input on ongoing land development projects which might become constraints to the project. The Commissioners also relayed various concerns and opinions of property owners.
- Fort Bend County Engineer provided input regarding the County's Major Thoroughfare Plan and the potential impact of Segment C on the county's roadway network. The Engineer also provided preliminary land plans and approval plats for new developments which might become constraints to the project.
- Fort Bend County Drainage District Engineer provided input on floodplains and hydraulic characteristics of waterways in the study area.
- Brazoria County Commissioners provided input regarding Brazoria County's preference that Segment C be located as far south as possible within the study area to more effectively serve the mobility needs of Brazoria County. The Commissioners also relayed various concerns and opinions of property owners.
- Brazoria County Engineer provided input regarding the County's Major Thoroughfare Plan.
- City of Richmond City Manager provided input regarding land development projects in the City's ETJ which might affect the project.
- City of Rosenberg engineering consultant provided input regarding street and land development projects in the City's ETJ which might affect the project.
- The Public Scoping Meeting/MIS Initiation Meeting for Segment C of the Grand Parkway was held on August 20, 1998 at the Guy Lodge Hall at the George Ranch. Approximately 90 people including local residents, business owners, and city/county/state/federal officials attended the meeting.
- On October 27, 1998, a Public Workshop for Segment C of the Grand Parkway was held at the George Ranch. Approximately 85 people attended the workshop. At the workshop, exhibits were presented which displayed the Reasonable Alternatives to be carried forward for further investigation. Alternative corridors which had been eliminated from the study were also presented.

The Grand Parkway has been the subject of both oral and written comments during the two public meetings. Approximately 90 people attended the Public Scoping Meeting; 3 people made comments. One major issue identified is the need to preserve the dark skies for the George Observatory, located in the Brazos Bend State Park. A member of the Sierra Club also stated that the Sierra Club is opposed to the entire project, and suggested that all ecosystem costs be evaluated in the EIS process. Eighty-four people attended the Public Workshop, which presented the Reasonable Alternative corridors for the project. The comments fell into several major categories:

- Residents in Brazos Bend Oaks and Oak Lake Village preferred the more northerly option (Segment A6) to avoid impacts to their homes and the George Observatory.
- Residents in Iowa Colony preferred the more southern location at SH 288 (Segment G8) to avoid future extensions into Iowa Colony.
- Several land owners requested that the road alignment move to a boundary line of their property rather than bisecting large tracts.
- Business owners adjacent to Crabb River Road did not want to locate the Grand Parkway on Crabb River Road.

Additional public meetings will be conducted throughout the remaining phases of this project. A Public Hearing for the DEIS and two additional Public Workshops will be held at key milestones in the process. Comments gathered at the Public Hearing will be considered and included in the selection of the Preferred Alternative. Ultimately, the Preferred Alternative will be selected by TxDOT and FHWA. A Public Workshop will occur within four to six months after the DEIS Public Hearing to present the Preferred Alternative.