



Voluntary Event Filing
Filed by the Grand Parkway Transportation Corporation

2021 TIFIA LOAN AGREEMENT

Capitalized terms used in this filing and not otherwise defined herein shall have the meanings ascribed to them in the Official Statement of the Grand Parkway Transportation Corporation (the “Corporation”) dated February 11, 2020, relating to the Grand Parkway System Toll Revenue Refunding Bonds described therein (the “2020 Official Statement”).

Pursuant to the Ninth Supplemental Agreement dated August 1, 2021, the Corporation has entered into a Transportation Infrastructure Finance and Innovation Act Loan Agreement dated as of August 19, 2021 (the “2021 TIFIA Loan Agreement”) with the United States Department of Transportation, acting by and through the Executive Director of the Build America Bureau, pursuant to which the Corporation is authorized, subject to the conditions set forth therein, to borrow up to \$605,330,000 (referred to herein as the “2021 TIFIA Loan”) to pay or reimburse the Corporation for certain eligible costs related to the H and I Project. The 2021 TIFIA Loan Agreement refinances and replaces the 2019 TIFIA Loan Agreement, and provides a lower rate of interest for amounts borrowed, as compared to the rate of interest under the 2019 TIFIA Loan Agreement. No amounts were previously drawn under the 2019 TIFIA Loan Agreement, and no amounts have been drawn under the 2021 TIFIA Loan Agreement. The 2021 TIFIA Loan, if drawn upon, will be a First Tier Obligation, and the proceeds, if any, are anticipated to be used to refinance all or a portion of the Corporation’s outstanding Bond Anticipation Notes, Series 2018; provided, that the 2021 TIFIA Loan Agreement will not benefit from the First Tier Reserve Account or any subaccount established therein; provided further, that, pursuant to the terms of the 2021 TIFIA Loan Agreement, the Corporation may become obligated to establish and fund a subaccount within the First Tier Reserve Account, for the sole benefit of the 2021 TIFIA Loan Agreement, if certain future conditions occur. The 2021 TIFIA Loan Agreement is not entitled to the benefit of the TELA.

Any disbursement of the proceeds of the 2021 TIFIA Loan will be subject to the satisfaction of certain conditions precedent. A copy of the 2021 TIFIA Loan Agreement is attached to this filing, which may be amended, supplemented or modified in the future in accordance with its terms.

The Corporation makes no representation or warranty concerning the usefulness of the information contained in this filing to a decision to invest in, hold, or sell bonds, notes, or other obligations payable, in whole or in part, from the sources pledged to the payment of the Corporation’s outstanding debt obligations. Further, the submission of this filing does not constitute or imply any representation (i) regarding any other financial, operating or other information about the Corporation, its outstanding obligations, the System or the Texas Department of Transportation (“TxDOT”), or (ii) that no other circumstances or events have occurred or that no other information exists which may be related to the financial condition of the Corporation, TxDOT or the System, the security for the Corporation’s outstanding obligations or an investor’s decision to buy, sell, or hold any obligations of the Corporation.

The information contained in this filing is not required to be provided by the Corporation pursuant to its contractual continuing disclosure undertakings described in the various official statements or other offering documents relating to its outstanding obligations and, accordingly, should not be construed as obligating the Corporation to provide such additional information in its future continuing disclosure filings or to provide any updates to the information contained in this filing.

**UNITED STATES DEPARTMENT OF TRANSPORTATION
TIFIA LOAN AGREEMENT**

For Up to \$605,330,000

With

GRAND PARKWAY TRANSPORTATION CORPORATION

For the

**GRAND PARKWAY PROJECT
(TIFIA – 20211015A)**

Dated as of August 19, 2021

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TIFIA LOAN AGREEMENT

THIS TIFIA LOAN AGREEMENT (this “**Agreement**”), dated as of the Effective Date, is by and between **GRAND PARKWAY TRANSPORTATION CORPORATION**, a public, non-profit corporation and an instrumentality of the Texas Transportation Commission created under the laws of Texas (the “**State**”), with an address of 125 E. 11th Street, Austin, Texas 78701-2483 (the “**Borrower**”), and the **UNITED STATES DEPARTMENT OF TRANSPORTATION**, an agency of the United States of America, acting by and through the Executive Director of the Build America Bureau (the “**Executive Director**”), with an address of 1200 New Jersey Avenue, S.E., Washington, D.C. 20590 (the “**TIFIA Lender**”).

RECITALS:

WHEREAS, the Congress of the United States of America (the “**Congress**”) has found that a well-developed system of transportation infrastructure is critical to the economic well-being, health and welfare of the people of the United States of America and, in furtherance thereof, has enacted the Transportation Infrastructure Finance and Innovation Act of 1998 (“**TIFIA**”), as codified at 23 U.S.C. §§ 601-609 (as amended from time to time, the “**Act**”); and

WHEREAS, Section 603 of the Act authorizes the TIFIA Lender to enter into agreements with one or more obligors to make secured loans; and

WHEREAS, the Borrower and the TIFIA Lender previously entered into a TIFIA loan agreement dated February 21, 2019, pursuant to which the TIFIA Lender agreed to make a loan to the Borrower (the “**2019 TIFIA Loan**”) in an original principal amount not to exceed U.S. \$605,330,000 to be used to pay a portion of the Eligible Project Costs (as defined herein) related to the Project (as defined herein); and

WHEREAS, as of the date of this Agreement, the Borrower has not drawn on the 2019 TIFIA Loan and the TIFIA Lender has not disbursed 2019 TIFIA Loan proceeds to the Borrower; and

WHEREAS, the Borrower has requested that the TIFIA Lender cancel the 2019 TIFIA Loan and make the TIFIA Loan (as defined herein) in an original principal amount not to exceed U.S. \$605,330,000 (the “**TIFIA Loan**”) to be used to pay a portion of the Eligible Project Costs related to the Project pursuant to the application for TIFIA credit assistance dated June 15, 2021 (the “**Application**”); and

WHEREAS, on August 11, 2021, the Secretary (as defined herein) approved TIFIA credit assistance for the Project in the form of the TIFIA Loan; and

WHEREAS, the TIFIA Lender is prepared to extend credit upon the terms and conditions hereof; and

WHEREAS, the Borrower agrees to repay any amount due pursuant to this Agreement and the TIFIA Note (as defined herein) in accordance with the terms and provisions hereof and thereof; and

WHEREAS, the TIFIA Lender has entered into this Agreement in reliance upon, among other things, the Traffic and Revenue Study (as defined herein), on which the TIFIA Lender is relying and the Base Case Projections (as defined herein) delivered by the Borrower.

NOW, THEREFORE, the premises being as stated above, and for good and valuable consideration, the receipt and sufficiency of which are acknowledged to be adequate, and intending to be legally bound hereby, it is hereby mutually agreed by and between the Borrower and the TIFIA Lender as follows:

SECTION 1. Definitions. Unless the context otherwise requires, capitalized terms used in this Agreement shall have the meanings set forth below in this Section 1 (*Definitions*) or as otherwise defined in this Agreement. Any term used in this Agreement that is defined by reference to any other agreement shall continue to have the meaning specified in such agreement, whether or not such agreement remains in effect.

“Acceptable Credit Rating” means, with respect to any Person, the rating of its unsecured, senior long-term indebtedness (or, if such Person has no such rating, then its issuer rating or corporate credit rating) is no lower than (a) at the time such Person executes, delivers or issues a Qualified Hedge, a Credit Facility, or a repurchase obligation to fund any Reserve Account, ‘A+’, ‘A1’ or the equivalent rating from at least one Rating Agency that provides a rating on such Person’s unsecured, senior long-term indebtedness or that provides an issuer rating or corporate credit rating for such Person, as applicable; and (b) at any time thereafter, ‘A’, ‘A2’ or the equivalent rating from at least one Rating Agency that provides a rating on such Person’s unsecured, senior long-term indebtedness or that provides an issuer rating or corporate credit rating for such Person, as applicable.

“Acceptable Letter of Credit” means a letter of credit, in form and substance satisfactory to the TIFIA Lender, issued by a Qualified Issuer.

“Accreted Value” means, with respect to any Capital Appreciation Bonds, as of any Valuation Date or for any period, the amount set forth for such date or period as determined in accordance with the Supplemental Agreement authorizing such Capital Appreciation Bonds.

“Act” means the Act as defined in the recitals hereto.

“Additional Obligations” means any First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations issued after the Effective Date.

“Additional Project Contracts” means any contract, agreement, letter of intent, understanding or instrument (other than a Principal Project Contract) entered into by (or on behalf of) the Borrower after the Effective Date, providing for the design, construction, testing, start-up, safety, financial services, operation or maintenance of the Project, or otherwise relating to the Project, including any master contract providing goods or services for multiple projects or assets including the Project; provided, however, that a contract or agreement shall not constitute an Additional Project Contract if it (a) is entered into (i) in the ordinary course of business in connection with the furnishing of goods or the performance of services or (ii) for necessary Project-related expenditures, (b) commits the Borrower to spend, or is reasonably expected to involve expenditures by the Borrower in one contract or a “series of related contracts” (it being understood

that a “series of related contracts” as used in this Agreement means contracts entered into by the same parties, concerning the same specific commercial matters, and executed within six months of one another), of no more than \$5,000,000 in the aggregate for the Project for any such contract or series of related contracts, and (c) is for a term not exceeding two (2) years (it being understood that such term is not set to be automatically renewed). For the avoidance of doubt, the threshold set forth in clause (b) above shall not include the value of the underlying agreement when applying this definition to amendments or change orders executed pursuant to an existing agreement. A contract or agreement shall not constitute an Additional Project Contract if entered into by the Commission, or an agency controlled by the Commission, that is a master contract for multiple projects or assets, including the Project, provided that such master contract relates to the furnishing of goods or the performance of services in the ordinary course of business of the Borrower, and the Project’s proportionate share of the financial obligation under such contract or agreement does not exceed \$5,000,000 in the aggregate for any such contract or agreement.

“**Additional Senior Obligations**” means any borrowings or indebtedness constituting First Tier Obligations of the Borrower permitted under Section 17(a) (*Indebtedness*) and under Section 207 of the Master Trust Agreement issued or incurred after the Effective Date.

“**Agreement**” has the meaning provided in the preamble hereto.

“**Anticipated TIFIA Loan Disbursement Schedule**” means the schedule set forth in **Exhibit B**, reflecting the anticipated disbursement of proceeds of the TIFIA Loan, as such schedule may be amended from time to time pursuant to Section 4(c) (*Disbursement Conditions*).

“**Anti-Corruption Laws**” means all U.S. and other applicable laws, rules and regulations, as amended from time to time, concerning or related to bribery or corruption.

“**Anti-Money Laundering Laws**” means all U.S. and other applicable laws, rules and regulations, as amended from time to time, concerning or related to anti-money laundering, including but not limited to those contained in the Bank Secrecy Act and the Patriot Act.

“**Application**” has the meaning provided in the recitals hereto.

“**Appreciated Value**” means, with respect to any Deferred Income Bond as of any Valuation Date or for any period, the amount set forth for such date or period as determined in accordance with the Supplemental Agreement authorizing such Deferred Income Bond.

“**BAN Resolution**” means the resolution authorizing and providing for the issuance of Grand Parkway Transportation Corporation Bond Anticipation Notes in one or more series adopted by the Borrower on August 24, 2017.

“**BAN Trust Agreement**” means the Trust and Security Agreement by and between the Borrower and U.S. Bank National Association, as trustee (along with its permitted successors and assigns, the “BAN Trustee”), authorized by the BAN Resolution.

“**Bank Lending Margin**” means, in respect of any Variable Interest Rate Senior Obligations, the “Applicable Margin” or comparable interest rate margin as defined in the financing documents related to such Variable Interest Rate Senior Obligations.

“Bank Secrecy Act” means the Bank Secrecy Act of 1970 (Titles I and II of Pub. L. No. 91-508, codified at 12 U.S.C. and 31 U.S.C. §§ 1829b and 1951-1959 and 31 U.S.C. §§ 312, 5311-5313, and 5316-5322), as amended from time to time, and any successor statute of similar import, and the regulations promulgated thereunder.

“Bankruptcy Related Event” means, with respect to any Person,

(a) an involuntary proceeding shall be commenced or an involuntary petition shall be filed seeking (i) liquidation, reorganization or other relief in respect of such Person or any of its debts, or of a substantial part of the assets thereof, under any Insolvency Laws, or (ii) the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official for such Person or for a substantial part of the assets thereof and, in any case referred to in the foregoing subclauses (i) and (ii), such proceeding or petition shall continue undismissed for sixty (60) days or an order or decree approving or ordering any of the foregoing shall be entered;

(b) such Person shall (i) apply for or consent to the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official therefor or for a substantial part of the assets thereof, (ii) generally not be paying its debts as they become due unless such debts are the subject of a bona fide dispute, or become unable to pay its debts generally as they become due, (iii) solely with respect to the Borrower, fail to make two (2) consecutive payments of TIFIA Debt Service in accordance with the provisions of Section 9 (*Payment of Principal and Interest*), (iv) make a general assignment for the benefit of creditors, (v) consent to the institution of, or fail to contest in a timely and appropriate manner, any proceeding or petition with respect to it described in clause (a) of this definition, (vi) commence a voluntary proceeding under any Insolvency Law, or file a voluntary petition seeking liquidation, reorganization, an arrangement with creditors or an order for relief under any Insolvency Law, (vii) file an answer admitting the material allegations of a petition filed against it in any proceeding referred to in the foregoing subclauses (i) through (vi), inclusive, of this clause (b), or (viii) take any action for the purpose of effecting any of the foregoing, including seeking approval or legislative enactment by any Governmental Authority to authorize commencement of a voluntary proceeding under any Insolvency Law;

(c) solely with respect to the Borrower, (i) the Trustee shall commence a process pursuant to which all or a substantial part of the Trust Estate may be sold or otherwise disposed of in a public or private sale or disposition pursuant to a foreclosure of the Liens thereon securing the Senior Obligations, or (ii) the Trustee shall commence a process pursuant to which all or a substantial part of the Trust Estate may be sold or otherwise disposed of pursuant to a sale or disposition of such Trust Estate in lieu of foreclosure; or

(d) solely with respect to the Borrower, the Trustee shall transfer, pursuant to directions issued by the holders of obligations issued under the Trust Agreement, funds on deposit in any of the Project Accounts upon the occurrence and during the continuation of an Event of Default under the Bond Resolution for application to the prepayment or repayment of any principal amount of the Senior Obligations other than in accordance with the provisions of the Trust Agreement.

“Base Case Financial Model” means a financial model prepared by the Borrower forecasting the revenues and expenditures of the Project for time periods through the Final

Maturity Date and based upon assumptions and methodology provided by the Borrower and acceptable to the TIFIA Lender as of the Effective Date, which model shall be provided to the TIFIA Lender as a fully functional Microsoft Excel-based financial model or such other format requested by the TIFIA Lender.

“Base Case Projections” means the initial forecast for the Project prepared as of the Effective Date using the Base Case Financial Model.

“Bond Resolution” means the Trust Agreement and any trust agreement, trust indenture, bond resolution and each other agreement, instrument and document executed and delivered pursuant to or in connection with any of the foregoing.

“Borrower” has the meaning provided in the preamble hereto.

“Borrower Fiscal Quarter” means (a) as of the Effective Date, the following fiscal quarters: (i) September through November, (ii) December through February, (iii) March through May and (iv) June through August, or (b) such other fiscal quarters as adjusted following Borrower’s election of an alternative Borrower Fiscal Year, as provided in Section 17(h) (*Organizational Documents; Fiscal Year*).

“Borrower Fiscal Year” means (a) as of the Effective Date, a fiscal year of the Borrower commencing on September 1 of any calendar year and ending on August 31 of the immediately succeeding calendar year or (b) such other fiscal year as the Borrower may hereafter adopt after giving thirty (30) days’ prior written notice to the TIFIA Lender, as provided in Section 17(h) (*Organizational Documents; Fiscal Year*).

“Borrower Related Party” means, individually or collectively, the Borrower, TxDOT and the Commission.

“Borrower’s Authorized Representative” means any Person who shall be designated as such pursuant to Section 26 (*Borrower’s Authorized Representative*).

“Borrower’s Enabling Act” means Chapter 431, Texas Transportation Code; the Nonprofit Corporation Act; Chapter 22, Business Organization Code; Section 228.053, Texas Transportation Code and Chapter 1371, Texas Government Code, all as amended from time to time.

“Business Day” means any day other than a Saturday, a Sunday or a day on which offices of the Federal Government or the State are authorized to be closed or on which commercial banks are authorized or required by law, regulation or executive order to be closed in New York, New York, Houston, Texas or the city and state in which the Principal Office of the Trustee is located as provided in writing by the Trustee to the Borrower from time to time as provided in the Master Trust Agreement.

“Calculation Date” means each April 1 and October 1 occurring after the Effective Date for so long as the TIFIA Loan remains Outstanding.

“Calculation Period” means a twelve (12) month period ending on a Calculation Date.

“Capital Appreciation Bonds” means any Obligations hereafter incurred as to which interest is payable only at the maturity or prior redemption of such Obligations.

“Capital Expenditures” means expenditures made or liabilities incurred for the acquisition of any assets, improvements or replacements thereof that have a useful life of more than one (1) year and that are capitalized in accordance with GAAP.

“Capitalized Interest Period” means the period from (and including) the date of the initial draw under this Agreement to (but excluding) the first day of the initial Payment Period.

“Commission” means the Texas Transportation Commission and its successors and assigns.

“Congress” has the meaning provided in the recitals hereto.

“Construction and Ramp-Up Period” means the period commencing with the delivery of the 2018 Debt and ending thirty-six (36) months after Substantial Completion of the Project.

“Construction Contractor” means Grand Parkway Infrastructure, LLC, a Texas limited liability company whose members are DBW Construction, LLC, a Texas limited liability company, Ferrovia Agroman Texas, LLC, a Texas limited liability company and Granite Construction Company, a California corporation, and its permitted successors or assigns.

“Construction Fund” has the fund by the name established pursuant to Section 401 of the Master Trust Agreement.

“Construction Period” means the period from the Effective Date through the Substantial Completion Date.

“Construction Schedule” means (a) the initial schedule or schedules on which the proposed construction timetables for elements of the Project are set forth, attached as **Schedule II**, and (b) any updates thereto included in the Financial Plan most recently submitted to the TIFIA Lender pursuant to Section 22(a)(iii)(B) (*Financial Plan*).

“Control” means, when used with respect to any particular Person, the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person whether through the ownership of voting securities or partnership or other ownership interests, by contract or otherwise, and the terms **“Controlling”** and **“Controlled by”** have meanings correlative to the foregoing.

“CPI” means the Consumer Price Index for All Urban Consumers (CPI-U) for the U.S. City Average for All Items, 1982-84=100 (not seasonally adjusted), or its successor, published by the Bureau of Labor Statistics, with, unless otherwise specified herein, January 2021 as the base period.

“Credit Agreement” means a First Tier Credit Agreement, a Second Tier Credit Agreement or a Subordinate Tier Credit Agreement, as applicable.

“Credit Facility” means any letter of credit, standby bond purchase agreement, line of credit, policy of bond insurance, surety bond, guarantee or similar instrument, or any agreement relating to the reimbursement of any payment thereunder (or any combination of the foregoing), which is obtained by the Borrower and is issued by a financial institution, insurance provider or other Person and which provides security or liquidity in respect of any Obligations.

“D-B Assignment Agreement” means the Assignment and Assumption Agreement dated June 30, 2017 by and between TxDOT and the Borrower pursuant to which TxDOT has assigned all of its interest in the Design-Build Agreement to the Borrower.

“Debt Service Payment Commencement Date” means October 1, 2026 or, if such date does not fall on a Semi-Annual Payment Date, then the Debt Service Payment Commencement Date shall be the Semi-Annual Payment Date immediately preceding October 1, 2026, or such earlier Semi-Annual Payment date as may be elected by the Borrower upon sixty (60) days prior written notice to the TIFIA Lender.

“Default Rate” means an interest rate equal to the sum of (a) the TIFIA Interest Rate plus (b) 200 basis points.

“Deferred Income Bond” means any Obligations (a) as to which interest accruing thereon prior to the applicable Interest Commencement Date of such Obligations is (i) compounded on each Valuation Date for such Deferred Income Bond and (ii) payable only at the maturity or prior redemption of such Obligations and (b) as to which interest accruing after the applicable Interest Commencement Date is payable on the first interest payment date immediately succeeding the Interest Commencement Date and thereafter on the dates specified in or determined pursuant to the Supplemental Agreement authorizing the Obligations. For the purposes of receiving payment of the redemption price if a Deferred Income Bond is redeemed prior to maturity, the principal amount of a Deferred Income Bond shall be deemed to be its Appreciated Value.

“Design-Build Agreement” means the Design-Build Agreement SH 99 Grand Parkway Segments H, I-1 and I-2 bearing contract No. 89-7XXDB014, with respect to the Project dated as of June 30, 2017, as amended from time to time, between TxDOT and the Construction Contractor, and its permitted successors or assigns, and as has been assigned by TxDOT to the Borrower pursuant to the D-B Assignment Agreement.

“Development Default” means (a) the Borrower fails to diligently prosecute the work related to the Project or (b) the Borrower fails to complete the Project in accordance with the Financial Plan as the same may be amended from time to time with the consent of the TIFIA Lender.

“Effective Date” means the date of this Agreement.

“Eighth Supplemental Agreement” means the Eighth Supplemental Agreement dated as of February 1, 2020, between the Borrower and the Trustee authorizing the issuance of the Series 2020A Bonds and the Series 2020C Bonds.

“Electronic Signature” means any electronic symbol or process attached to or logically associated with a contract or other record and executed or adopted by a person with the intent to

sign such contract or record pursuant to the Texas Uniform Electronic Transactions Act, codified at Chapter 322, Texas Business and Commerce Code, as amended from time to time.

“Eligible Project Costs” means amounts in the Project Budget, substantially all of which are paid by or for the account of the Borrower in connection with the Project, including prior Project expenditures for the period beginning on January 1, 2006, all of which shall arise from the following:

(a) development phase activities, including planning, feasibility analysis, revenue forecasting, environmental review, permitting, preliminary engineering and design work, and other preconstruction activities;

(b) construction, reconstruction, rehabilitation, replacement, and acquisition of real property (including land related to the Project and improvements to land), environmental mitigation, construction contingencies, and acquisition of equipment; or

(c) capitalized interest necessary to meet market requirements, reasonably required reserve funds, capital issuance expenses, and other carrying costs during construction.

“Environmental Laws” has the meaning provided in Section 14(s) (*Environmental Matters*).

“ERISA” means the Employee Retirement Income Security Act of 1974, Pub. L. 93-406 (29 U.S.C. § 1001 et seq.), as amended from time to time, and any successor statute of similar import, and the regulations thereunder.

“ERISA Affiliate” means any trade or business (whether or not incorporated) that, together with the Borrower, is treated as a single employer under Section 414(b) or (c) of the Tax Code or, solely for purposes of Section 302 of ERISA and Section 412 of the Tax Code, is treated as a single employer under Section 414 of the Tax Code.

“Event of Default” has the meaning provided in Section 20(a) (*Events of Default and Remedies*).

“Event of Loss” means any event or series of events that causes any portion of the Project to be damaged, destroyed or rendered unfit for normal use for any reason whatsoever, including through a failure of title, or any loss of such property, or a condemnation.

“Executive Director” has the meaning provided in the preamble hereto.

“Existing Obligations” means the Existing Senior Obligations, issued as First Tier Non-TELA Obligations, the Series 2013B Bonds, the Series 2013E Bonds, the Series 2016 Bonds, the Series 2018A Bonds, the Series 2018B Bonds, and the Series 2020B Bonds each issued as Subordinate Tier TELA Obligations, and the Initial Toll Equity Note, issued as a TELA/Other Tier Obligation, as listed and described in **Schedule III**.

“Existing Senior Obligations” means the Series 2013A Bonds of the Borrower issued under the Master Trust Agreement and First Supplemental Agreement and the Series 2020A Bonds

and the Series 2020C Bonds issued under the Master Trust Agreement and the Eighth Supplemental Agreement.

“Extendible Maturity Bonds” means bonds the maturity of which may be extended in accordance with the applicable Bond Resolution.

“Federal Fiscal Year” or **“FFY”** means the fiscal year of the Federal Government, which is the twelve (12) month period that ends on September 30 of the specified calendar year and begins on October 1 of the preceding calendar year.

“Federal Government” means the Federal Government of the United States of America and its departments and agencies.

“FHWA” means the Federal Highway Administration, an agency of the USDOT.

“FHWA Division Office” means the Texas Division Office of FHWA.

“FHWA Oversight Agreement” means that certain agreement between the FHWA Division Office and TxDOT attached as **Exhibit F**.

“Final Maturity Date” means October 1, 2052, as the same may be adjusted in connection with an update to the Financial Plan pursuant to Section 22(a)(iii)(B) (*Financial Plan*); provided that the Final Maturity Date shall be no later than the date that is the earlier of (i) thirty-five (35) years following the Substantial Completion Date or (ii) February 1, 2059.

“Financial Plan” means the financial plan as initially delivered to the TIFIA Lender and any updates to the financial plan required pursuant to Section 22(a) (*Financial Plan*).

“Financial Statements” has the meaning provided in Section 14(z) (*Financial Statements*).

“First Supplemental Agreement” means the First Supplemental Agreement dated as of August 1, 2013, between the Borrower and the Trustee authorizing the issuance of the Series 2013A Bonds.

“First Tier Credit Agreement” means, collectively, an obligation entered into on a parity with Outstanding First Tier Obligations in the form of a loan agreement, revolving credit agreement, agreement establishing a line of credit, letter of credit, reimbursement agreement, insurance contract, commitments to purchase obligations, purchase or sale agreement, interest rate swap, cap and floor agreement, or commitment or other contract or agreement authorized, recognized and approved by the Borrower as a First Tier Credit Agreement, including this Agreement, whether authorized or approved in anticipation of, simultaneously with, or subsequent to, the authorization of the First Tier Obligations in connection with which it is executed.

“First Tier Debt Service Fund” means the First Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“First Tier Interest Account” means an account in the First Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“First Tier Non-TELA Obligations” means any Series of First Tier Obligations and any First Tier Credit Agreement that are not supported by a Toll Equity Loan Agreement.

“First Tier Obligations” means the Series 2013A Bonds, the Series 2020A Bonds, the Series 2020C Bonds, the TIFIA Note, and, unless otherwise specifically stated, any bond, bonds, note, notes, other obligation or obligations, including any First Tier Credit Agreement, issued, incurred or entered into pursuant to Section 207 of the Master Trust Agreement as First Tier Obligations, or all of the foregoing, as the case may be, authorized by law and issued under and secured by the provisions of the Master Trust Agreement and any Supplemental Agreement.

“First Tier Redemption Account” means an account in the First Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“First Tier Reserve Account” shall mean the First Tier Reserve Account within the First Tier Debt Service Fund as such terms are defined and as set forth in the Master Trust Agreement, the First Supplemental Agreement and the award certificate related to the Series 2013A Bonds and the Master Trust Agreement and the Eighth Supplemental Agreement and the award certificate related to the Series 2020A Bonds and the Series 2020C Bonds.

“GAAP” means generally accepted accounting principles for state and local governments, which are uniform minimum standards of and guidelines for financial accounting and reporting prescribed by the Governmental Accounting Standards Board, or such other nationally recognized professional body, in effect from time to time in the United States of America.

“General Engineering Consultant” means an engineer or engineering firm or corporation at the time employed by the Borrower pursuant to the provisions of Section 704(a) of the Master Trust Agreement to carry out the duties imposed by the Trust Agreement on the General Engineering Consultant.

“Government Obligations” means (a) direct obligations of, or obligations on which the timely payment of principal and interest are fully and unconditionally guaranteed by, the Federal Government, (b) bonds, debentures or notes issued by any of the following federal agencies: Banks for Cooperatives, Federal Intermediate Credit Banks, Federal Home Loan Banks, Export-Import Bank of the United States, Federal Government National Mortgage Association or Federal Land Banks, (c) obligations issued or guaranteed by a Person Controlled or supervised by and acting as an instrumentality of the Federal Government pursuant to authority granted by the Congress, and (d) evidences of ownership of proportionate interests in future interest or principal payments on obligations specified in clauses (a), (b) and (c) of this definition held by a bank or trust company as custodian and which underlying obligations are not available to satisfy any claim of the custodian or any Person claiming through the custodian or to whom the custodian may be obligated, in each case.

“Governmental Approvals” means all authorizations, consents, approvals, waivers, exceptions, variances, filings, permits, orders, licenses, exemptions and declarations of or with any Governmental Authority.

“Governmental Authority” means any federal, state, provincial, county, city, town, village, municipal or other government or governmental department, commission, council, court, board, bureau, agency, authority or instrumentality (whether executive, legislative, judicial, administrative or regulatory), of or within the United States of America or its territories or possessions, including the State and its counties and municipalities, and their respective courts, agencies, instrumentalities and regulatory bodies, or any entity that acts “on behalf of” any of the foregoing, whether as an agency or authority of such body.

“Grand Parkway Enhancement Fund” means the Grand Parkway Enhancement Fund created by Section 507 of the Master Trust Agreement.

“Grand Parkway Project” means State Highway 99 (Grand Parkway), proposed as an approximately 184-mile circumferential highway traversing seven counties and encircling the Greater Houston MSA region as set forth in Exhibit A to the Market Valuation Waiver Agreement, as may be amended from time to time.

“Hedge Deposit” has the meaning provided in Section 16(o)(viii)(A) (*Hedge Deposits*).

“Hedging Agreement” means (a) the ISDA Master Agreement(s) and any related credit support annex, schedules and confirmations, to be entered into by the Borrower and a Hedging Bank, (b) any other agreement entered into, or to be entered into, by the Borrower and a Hedging Bank for a Hedging Transaction, and (c) any other documentation directly relating to the foregoing, all of which constitutes a Credit Agreement.

“Hedging Banks” means any Qualified Hedge Provider that becomes a party to a Hedging Agreement and its permitted successors (to the extent such successors are also Qualified Hedge Providers).

“Hedging Obligations” means, collectively, the payment of (a) all scheduled amounts payable to the Hedging Banks by the Borrower under the Hedging Agreements (including interest accruing after the date of any filing by the Borrower of any petition in bankruptcy or the commencement of any bankruptcy, insolvency or similar proceeding with respect to the Borrower), net of all scheduled amounts payable to the Borrower by such Hedging Banks, and (b) all other indebtedness, fees, indemnities and other amounts payable by the Borrower to the Hedging Banks under such Hedging Agreements, net of all other indebtedness, fees, indemnities and other amounts payable by the Hedging Banks to the Borrower under such Hedging Agreements; provided that Hedging Obligations shall not include Hedging Termination Obligations. For the avoidance of doubt, all calculations of such amounts payable under the Hedging Agreements shall be made in accordance with the terms of the applicable Hedging Agreements.

“Hedging Termination Obligations” means the aggregate amount payable to the Hedging Banks by the Borrower upon the early termination of all or a portion of the Hedging Agreements, net of all amounts payable to the Borrower by such Hedging Banks upon the early unwind of all or a portion of such Hedging Agreements. For the avoidance of doubt, all calculations of such amounts payable under the Hedging Agreements shall be made in accordance with the terms of the applicable Hedging Agreements.

“Hedging Transaction” means any interest rate protection agreement, interest rate swap transaction, interest rate “cap” transaction, interest rate future, interest rate option or other similar interest rate hedging arrangement commonly used in loan transactions to hedge against interest rate increases and not for any speculative purpose.

“Indemnitee” has the meaning provided in Section 18 (*Indemnification*).

“Independent Engineer” means the General Engineering Consultant, and any independent engineer retained pursuant to Section 23(d) (*Project Oversight and Monitoring*) of this Agreement, or any replacement engineering firm selected by the Borrower and not objected to by the TIFIA Lender within fifteen (15) Business Days after receiving written notice from the Borrower of the name of the proposed replacement engineering firm and supporting information regarding the qualifications of the proposed replacement engineering firm.

“Initial Project” means the initial project of the System that includes Segment D (from 0.72 miles north of Kingsland Boulevard to 0.30 miles north of Colonial Parkway), Segment E, Segment F-1, Segment F-2 and Segment G.

“Initial Toll Equity Loan Agreement” means the Amended and Restated Toll Equity Loan Agreement dated as of May 16, 2018 between the Borrower and TxDOT, as it may be further amended, supplemented, restated or otherwise modified.

“Initial Toll Equity Note” means the obligation entitled "Grand Parkway Transportation Corporation Grand Parkway System TELA/Other Tier Toll Revenue Note, Series 2013 (Toll Equity Loan Agreement)" authorized by the Second Supplemental Agreement and issued as a TELA/Other Tier Obligation to evidence the Toll Equity Loan made pursuant to the Initial Toll Equity Loan Agreement, as such may be amended or supplemented pursuant to Section 211 of the Master Trust Agreement.

“Insolvency Laws” means the United States Bankruptcy Code, 11 U.S.C. § 101 et seq., as from time to time amended and in effect, and any state bankruptcy, insolvency, receivership, conservatorship, liquidation, reorganization or similar law now or hereafter in effect.

“Interest Commencement Date” means, with respect to any particular Deferred Income Bond, the date determined by the Supplemental Agreement after which interest accruing on such Deferred Income Bond shall be payable on the first interest payment date succeeding such Interest Commencement Date and periodically thereafter on the dates determined pursuant to such Supplemental Agreement.

“Interim Payment Date” means any day occurring during a Payment Period that (a) is a date on which interest on or principal of Senior Obligations is scheduled to be paid and (b) is not a Semi-Annual Payment Date.

“Interim Payment Period” means, at any time that interest on or principal of any Senior Obligations is scheduled to be paid on an Interim Payment Date, any period from (and including) the immediately preceding Payment Date to (but excluding) such Interim Payment Date.

“Investment Grade Rating” means a public rating no lower than ‘BBB-’, ‘Baa3’ or the equivalent public rating from a Rating Agency.

“ISDA Master Agreement” means a master agreement, entered into by the Borrower and a Hedging Bank, in the form published by the International Swaps and Derivatives Association, Inc.

“Junior Operating Expenses” means TELA Supported Junior Operating Expenses and Non-TELA Supported Junior Operating Expenses consisting of the Borrower's reasonable and necessary accrued operating expenses of maintaining, repairing and operating (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower, which includes, without limiting the generality of the foregoing, any repair or replacement of any part of such portions of the System relating to any insurance or condemnation proceeds, expenses (including reasonably allocated portions thereof) for toll collection, all premiums for insurance and payments into any self-insurance reserve fund, all administration and engineering expenses relating to operation of (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower, fees and expenses of the Traffic Consultant, the General Engineering Consultant, the Trustee and of the Paying Agents, Policy Costs, legal expenses, expenses for Public Safety Officers and any other expenses required to be paid by the Borrower as shown in the Annual Budget for (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower. Any allocation of expenses between TELA Supported Junior Operating Expenses and Non-TELA Supported Junior Operating Expenses shall be on a consistent and rational basis.

“Junior Operation and Maintenance Fund” means the Junior Operation and Maintenance Fund created by Section 507 of the Master Trust Agreement.

“Lien” means any mortgage, pledge, hypothecation, assignment, mandatory deposit arrangement, encumbrance, attachment, lien (statutory or other), charge or other security interest, or preference, priority or other security agreement or preferential arrangement of any kind or nature whatsoever, including any sale-leaseback arrangement, any conditional sale or other title retention agreement, any financing lease having substantially the same effect as any of the foregoing, and the filing of any financing statement or similar instrument under the UCC or any other applicable law.

“Loan Amortization Schedule” means the Loan Amortization Schedule reflected in the applicable column of **Exhibit G**, as amended from time to time in accordance with Section 7 (*Outstanding TIFIA Loan Balance; Revisions to Exhibit G and Loan Amortization Schedule*).

“Loss Proceeds” means any proceeds of insurance resulting from any Event of Loss.

“Major Maintenance Costs” means all expenses incurred or to be incurred by the Borrower constituting Major Maintenance Expenses as defined in the Trust Agreement.

“Major Maintenance Fund” means the fund by that name established pursuant to Section 507 of the Master Trust Agreement.

“Market Valuation Waiver Agreement” means the Market Valuation Waiver Agreement for SH 99 (Grand Parkway) among TxDOT and each of Brazoria County, Texas, Chambers County, Texas, Fort Bend County, Texas, Galveston County, Texas, Harris County, Texas, Liberty County, Texas, and Montgomery County, Texas, effective as of March 25, 2009, as amended, supplemented, modified or superseded by any similar agreement among such parties.

“Master Custodial Agreement” means the Master Lockbox and Custodial Account Agreement by and between The Bank of New York Trust Company, N.A., as custodian, dated as of November 9, 2007, as amended and supplemented from time to time.

“Master Trust Agreement” means the Trust Agreement dated as of August 1, 2013 by and between the Borrower and Trustee, as amended by the Ninth Supplemental Agreement, pursuant to which Obligations are issued.

“Material Adverse Effect” means a material adverse effect on (a) the System or the Trust Estate, (b) the business, operations, properties, condition (financial or otherwise) or prospects of the Borrower, (c) the legality, validity or enforceability of any material provision of any Security Documents, TIFIA Loan Document, Principal Project Contract or any other Related Documents, (d) the ability of the Borrower or the Principal Project Party to perform or comply with any of its material obligations under any Security Documents, TIFIA Loan Document, Principal Project Contract or any other Related Documents to which it is a party, (e) the validity, perfection, enforceability or priority of the Liens provided under the Security Documents on the Trust Estate in favor of the Secured Parties or (f) the TIFIA Lender’s rights or remedies available under any TIFIA Loan Document.

“NEPA” means the National Environmental Policy Act of 1969, Pub. L. 91-190 (42 U.S.C. § 4321 et seq.), and any successor statute of similar import, and regulations thereunder, in each case as in effect from time to time.

“NEPA Determination” means the Record of Decision, as amended and supplemented, for Segments H and I-1 issued by FHWA on June 14, 2014 in accordance with NEPA and the Record of Decision, as amended and supplemented, for Segment I-2 issued by FHWA on August 13, 1998 in accordance with NEPA, as more particularly described in Schedule IV hereto.

“Net Cash Flow” means, with respect to any period, an amount equal to (a) all Project Revenues received by the Borrower during such period (excluding liquidated damages (other than delay liquidated damages), Loss Proceeds, and other extraordinary non-recurring items) minus (b) the Senior Operating Expenses paid during such period.

“Net Loss Proceeds” means remaining Loss Proceeds after excluding any proceeds of business interruption insurance, delay-in-start-up insurance, proceeds covering liability of the Borrower to third parties, and Loss Proceeds used or to be used by the Borrower to repair or restore the Project in accordance with Section 706 of the Master Trust Agreement.

“Ninth Supplemental Agreement” means the Ninth Supplemental Agreement dated as of August 1, 2021, between the Borrower and the Trustee authorizing the issuance of the TIFIA Note.

“Non-TELA Supported Junior Operating Expenses” means the Junior Operating Expenses of or allocable to any additional System Segments (or portions thereof) as determined by the Borrower and which are not supported by a Toll Equity Loan Agreement.

“Noteholder” means, when used with respect to the TIFIA Note, the TIFIA Lender and when used with respect to any other Obligation, the registered owner of such Obligation.

“Notice of Intent” has the meaning provided in Section 16(q) (*Revenue Sharing*).

“NTP” has the meaning provided in Section 16(q) (*Revenue Sharing*).

“Obligations” means the Existing Obligations, the TIFIA Loan and any Additional Obligations.

“OFAC” means the Office of Foreign Assets Control of the United States Department of the Treasury.

“Operation and Maintenance Reserve Fund” means the Operation and Maintenance Reserve Fund created by Section 507 of the Master Trust Agreement.

“Organizational Documents” means: (a) with respect to any Person that is a Governmental Authority, (i) the constitutional and statutory provisions that are the basis for the existence and authority of such Governmental Authority, including any enabling statutes, ordinances or public charters and any other organic laws establishing such Governmental Authority and (ii) the bylaws, code of regulations, operating procedures or other organizational documents of or adopted by such Governmental Authority by which such Governmental Authority, its powers, operations or procedures or its securities, bonds, notes or other obligations are governed or from which such powers are derived; and (b) with respect to a Person that is not a Governmental Authority, (i) to the extent such Person is a corporation, the certificate or articles of incorporation and the by-laws of such Person, (ii) to the extent such Person is a limited liability company, the certificate of formation or articles of formation or organization and operating or limited liability company agreement of such Person and (iii) to the extent such Person is a partnership, joint venture, trust or other form of business, the partnership, joint venture or other applicable agreement of formation or organization and any agreement, instrument, filing or notice with respect thereto filed in connection with its formation or organization with the applicable Governmental Authority in the jurisdiction of its formation or organization and, if applicable, any certificate or articles of formation or organization or formation of such Person.

“Other Indebtedness Covenant Default” has the meaning provided in Section 20(a)(vi) (*Cross Default*).

“Other Indebtedness Misrepresentation Default” has the meaning provided in Section 20(a)(vi) (*Cross Default*).

“Other Loan Documents” has the meaning provided in Section 20(a)(vi) (*Cross Default*).

“Outstanding” means when used with reference to Obligations, at any date of which the amount of the Outstanding Obligations is to be determined, the aggregate of all Obligations secured by the Trust Agreement, except:

(a) Obligations paid, cancelled or delivered to the Trustee for cancellation at or prior to such date;

(b) Obligations for the full payment of the Principal of, premium, if any, and interest on which cash shall have been theretofore deposited with the Paying Agent and which (i) shall have matured by their terms, or otherwise shall have become payable, but shall not have been surrendered for payment or (ii) shall have been purchased by the Trustee but shall not have been presented for payment;

(c) Obligations which are deemed paid pursuant to Section 1201(b) of the Master Trust Agreement; and

(d) Obligations in exchange or in lieu of which other Obligations have been delivered under the Master Trust Agreement.

“Outstanding TIFIA Loan Balance” means the aggregate principal amount drawn by the Borrower and then outstanding (including capitalized interest) with respect to the TIFIA Loan, as determined in accordance with Section 7 (*Outstanding TIFIA Loan Balance; Revisions to Exhibit G and Loan Amortization Schedule*).

“Patriot Act” means the USA PATRIOT Act, also known as the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001, Pub. L. 107-56, as amended from time to time, and any successor statute of similar import, and the regulations promulgated thereunder.

“Paying Agent” means the Trustee.

“Payment Date” means each Semi-Annual Payment Date or Interim Payment Date.

“Payment Default” has the meaning provided in Section 20(a)(i) (*Payment Default*).

“Payment Period” means any period of six (6) months from (and including) a Semi-Annual Payment Date to (but excluding) the immediately succeeding Semi-Annual Payment Date, commencing with the six (6) month period ending on the date immediately prior to the Debt Service Payment Commencement Date.

“Permitted Debt” means:

(a) the Existing Obligations;

(b) the TIFIA Loan;

(c) the Additional Obligations; provided, that each of the applicable requirements set forth in Section 17(a) (*Indebtedness*) are satisfied;

(d) indebtedness incurred in respect of Qualified Hedges; and

(e) indebtedness of the Borrower that is not secured by the Trust Estate under the Trust Agreement and does not otherwise have a Lien on the Project Revenues (including the Series 2018 BANs and any additional indebtedness issued pursuant to the BAN Resolution and the BAN Trust Agreement).

“Permitted Hedging Termination” means the early termination, in whole or in part, of any Qualified Hedge (a) at the request of the Borrower as a result of a determination by the Borrower that such (or any part of such) Qualified Hedge is no longer necessary or required under the terms of this Agreement, (b) pursuant to the terms of any Hedging Agreement evidencing such Qualified Hedge that provides for the notional amount of such Qualified Hedge to amortize or otherwise be reduced from time to time or (c) as may be required pursuant to Section 16(o)(vi) (*Hedging*).

“Permitted Investments” means (with respect to the investment of the proceeds of the TIFIA Loan or any construction or reserve account established and maintained pursuant to the Trust Agreement):

(a) Government Obligations;

(b) certificates of deposit where the certificates are collaterally secured by securities of the type described in clause (a) of this definition and held by a third party as escrow agent or custodian, of a market value not less than the amount of the certificates of deposit so secured, including interest, but this collateral is not required to the extent the certificates of deposit are insured by the Federal Government;

(c) repurchase agreements with counterparties that have an Acceptable Credit Rating, when collateralized by securities of the type described in clause (a) of this definition and held by a third party as escrow agent or custodian, of a market value not less than the amount of the repurchase agreement so collateralized, including interest;

(d) investment agreements or guaranteed investment contracts rated, or with any financial institution whose senior long-term debt obligations are rated, or guaranteed by a financial institution whose senior long-term debt obligations are rated in one of the two (2) highest Rating Categories for comparable types of obligations by any Rating Agency;

(e) money market funds that invest solely in obligations of the United States of America, its agencies and instrumentalities, and having a rating by a Rating Agency equal to the then applicable rating of the United States of America by such Rating Agency; and

(f) a public funds investment pool, as described by Section 2256.016, Texas Government Code, as amended, and continuously rated no lower than AAA or AAA-m or an equivalent rating by at least one Rating Agency or as otherwise provided by Section 2256.019, Texas Government Code, as amended.

With respect to any Permitted Investments maintained in the First Tier Reserve Account and the Operation and Maintenance Reserve Fund, such Permitted Investments shall mature not more than

one (1) year from the date of the investment therein. With respect to any Permitted Investments maintained in the Rate Stabilization Fund and the Grand Parkway Enhancement Fund, such Permitted Investments shall mature not more than five (5) years from the date of the investment therein. Notwithstanding the above only investments made subsequent to the Effective Date of this Agreement shall be required to comply with the above requirements.

“Permitted Liens” means:

- (a) Liens imposed pursuant to the TIFIA Loan Documents;
- (b) Liens imposed pursuant to the Trust Agreement or imposed pursuant to the TELA/Other Tier Credit Agreement;
- (c) Liens imposed in connection with any other Permitted Debt;
- (d) Liens imposed by law for taxes that are not yet due or are being contested in compliance with Section 16(n) (*Material Obligations; Liens*);
- (e) carriers’, warehousemen’s, mechanics’, materialmen’s, repairmen’s and other like Liens imposed by law, arising in the ordinary course of business and securing obligations that are not overdue by more than thirty (30) days or are being contested in compliance with Section 16(n) (*Material Obligations; Liens*);
- (f) pledges and deposits made in the ordinary course of business in compliance with workers’ compensation, unemployment insurance, and other social security laws or regulations;
- (g) deposits to secure the performance of bids, trade contracts, leases, statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature, in each case in the ordinary course of business;
- (h) judgment Liens in respect of judgments that do not constitute an Event of Default under Section 20(a)(vii) (*Judgments*);
- (i) easements, zoning restrictions, rights-of-way and similar encumbrances on real property imposed by law or arising in the ordinary course of business that, in any case, do not secure any monetary obligations and do not materially detract from the value of the affected property or interfere with the ordinary conduct of business of the Borrower;
- (j) any Lien on any property or asset of the Borrower existing on the Effective Date; provided that (i) such Lien shall not apply to any other property or asset of the Borrower and (ii) such Lien shall secure only those obligations which it secures on the Effective Date and extensions, renewals and replacements thereof that do not increase the outstanding principal amount thereof;
- (k) any Lien existing on any property or asset prior to the acquisition thereof by the Borrower; provided that (i) such Lien is not created in contemplation of or in connection with such acquisition, (ii) such Lien shall apply solely to the acquired asset and not to any other

property or assets of the Borrower and (iii) such Lien shall secure only those obligations which it secures on the date of such acquisition, and extensions, renewals and replacements thereof that do not increase the outstanding principal amount thereof; and

(1) purchase money security interests in equipment hereafter acquired by the Borrower; provided that (i) such security interests secure indebtedness for borrowed money permitted by Section 17(a) (*Indebtedness*), (ii) such security interests are incurred, and the indebtedness secured thereby is created, within ninety (90) days after such acquisition, (iii) the indebtedness secured thereby does not exceed the fair market value of such equipment at the time of such acquisition and (iv) such security interests do not apply to any other property or assets (other than accessions to such equipment) of the Borrower.

“Person” means and includes an individual, a general or limited partnership, a joint venture, a corporation, a limited liability company, a trust, an unincorporated organization and any Governmental Authority.

“Policy Costs” means a periodic fee or charge required to be paid to maintain a Reserve Surety Agreement.

“Principal” means (i) the principal amount of an Obligation or (ii) when used in connection with determining whether owners of a percentage of the principal amount of Outstanding Obligations has given any consent, order, request, direction or other act (1) with respect to any Obligation that evidences one or more financial hedge obligations, the amount, if any, that would be payable by the Borrower if the transaction in respect of which such financial hedge obligations are payable were terminated as of a recent date (within 30 days of the date of determination) specified by the Borrower, and (2) with respect to any other Obligation, means the Outstanding unpaid principal sum or amount of such Obligation.

“Principal Project Contracts” means the Design-Build Agreement, the D-B Assignment Agreement and the Project Agreement.

“Principal Project Party” means any Person (other than the Borrower) party to the Design-Build Agreement, for so long as the Design-Build Agreement remains in effect.

“Project” means the developing, designing, constructing, reconstructing, expanding, operating and/or maintaining Segment H, Segment I-1 and Segment I-2 as an additional project of the Grand Parkway System financed through the issuance of the 2018 Debt under the Trust Agreement, the Sixth Supplemental Agreement, the BAN Resolution and the BAN Trust Agreement and the TIFIA Loan.

“Project Accounts” means the Construction Fund, Grand Parkway Enhancement Fund, Rate Stabilization Fund, Operation and Maintenance Reserve, Major Maintenance Fund and Revenue Fund.

“Project Agreement” means the Amended and Restated Project Agreement effective May 1, 2018, as supplemented and amended from time to time, between TxDOT and the Borrower, which grants the Borrower the license to perform the design, construction, financing, operation and/or maintenance of the System and the right to receive tolls from the users of the System.

“Project Budget” means the budget for the Project in the aggregate amount of \$1,928,650,000 attached to this Agreement as **Schedule I** showing a summary of Total Project Costs with a breakdown of all Eligible Project Costs and the estimated sources and uses of funds for the Project, as amended from time to time with the approval of the TIFIA Lender.

“Project Revenues” means Revenues of the System as defined in the Master Trust Agreement.

“Projected Substantial Completion Date” means May 22, 2022, as such date may be adjusted in accordance with Section 22(a)(iii)(B) (*Financial Plan*).

“Public Safety Officers” means licensed public safety officers, if any, in the employment of or under contract to TxDOT for the purpose of performing public safety duties in connection with the System.

“Put Bonds” means any bond which by its terms may be tendered by and at the option of the holder thereof for payment prior to the stated maturity or redemption date thereof either (a) by the Borrower and by the Person and/or from the source specified in a Supplemental Agreement or (b) without recourse to the Borrower, by the Person and/or from the source specified in a Supplemental Agreement.

“Qualified Hedge” means, to the extent from time-to-time permitted by law, with respect to Obligations, any Hedging Transaction entered into with a Qualified Hedge Provider and meeting the requirements of Section 16(o) (*Hedging*).

“Qualified Hedge Provider” means any bank or trust company authorized to engage in the banking business that is organized under or licensed as a branch or agency under the laws of the United States of America or any state thereof that has an Acceptable Credit Rating.

“Qualified Issuer” means any bank or trust company authorized to engage in the banking business that is organized under or licensed as a branch or agency under the laws of the United States of America or any state thereof that has an Acceptable Credit Rating.

“Rate Coverage Test” has the meaning provided in Section 16(l) (*Rate Coverage*).

“Rate Stabilization Fund” means the Rate Stabilization Fund created by Section 507 of the Master Trust Agreement.

“Rating Agency” means a rating agency registered with the Securities and Exchange Commission as a nationally recognized statistical rating organization (as defined in 15 U.S.C. §78c(a)(62)).

“Rating Categories” means one of the generic rating categories of a Rating Agency without regard to any refinement or gradation of such rating by a numerical modifier or otherwise.

“Rebate Fund” shall have the meaning as set forth in the Master Trust Agreement.

“Related Documents” means the Project Agreement, the Master Custodial Agreement (and all joinder agreements), the Toll Rate Agreement, the Toll Equity Loan Agreement, the Security Documents, the Market Valuation Waiver Agreement and the Principal Project Contracts.

“Requisition” has the meaning provided in Section 4(a) (*Disbursement Conditions*).

“Reserve Accounts” means the First Tier Reserve Account, the Rate Stabilization Fund, the Operation and Maintenance Reserve Fund and the Grand Parkway Enhancement Fund.

“Reserve Surety Agreement” means any substitute for cash and Permitted Investments in any respective Reserve Account as may be provided in a Supplemental Agreement.

“Revenue Fund” means the fund by that name established pursuant to Section 503 of the Master Trust Agreement.

“Revenue Sharing Amount Look Back Date” has the meaning provided in Section 16 (q)(i) (*Revenue Sharing*).

“Revised Financial Model” means the Base Case Financial Model, as it may be updated from time to time pursuant to Section 22(a)(ii)(C) (*Financial Plan*).

“Sanctioned Country” means, at any time, a country or territory which is itself the subject or target of any Sanctions.

“Sanctioned Person” means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by OFAC or the U.S. Department of State, (b) any Person operating, organized or resident in a Sanctioned Country, or (c) any Person owned or Controlled by any such Person or Persons.

“Sanctions” means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by the Federal Government, including those administered by OFAC or the U.S. Department of State.

“Second Supplemental Agreement” means the Second Supplemental Agreement dated as of August 1, 2013, between the Borrower and the Trustee.

“Second Tier Credit Agreement” means any obligation entered into on a parity with Second Tier Obligations in the form of a loan agreement, revolving credit agreement, agreement establishing a line of credit, letter of credit, reimbursement agreement, insurance contract, commitments to purchase obligations, purchase or sale agreement, interest rate swap, cap and floor agreement, or commitment or other contract or agreement authorized, recognized and approved by the Borrower on as a Second Tier Credit Agreement, whether authorized or approved in anticipation of, simultaneously with, or subsequent to, the authorization of the Second Tier Obligations in connection with which it is executed.

“Second Tier Interest Account” means an account in the Second Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“Second Tier Obligations” means unless otherwise specifically stated, any bond, bonds, note, notes, other obligation or obligations, including any Second Tier Credit Agreement, issued, incurred or entered into pursuant to Section 208 of the Master Trust Agreement as Second Tier Obligations, or all of the foregoing, as the case may be, authorized by law and issued under and secured by the provisions of the Trust Agreement and any Supplemental Agreement.

“Second Tier Redemption Account” means an account in the Second Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“Second Tier Reserve Account” shall have the meaning as set forth in the Master Trust Agreement.

“Secretary” means the United States Secretary of Transportation.

“Secured Obligations” means the Obligations that are secured by the Trust Estate under the Trust Agreement, including the obligations of the Borrower under this Agreement and the TIFIA Note.

“Secured Parties” means the Trustee, on behalf of the owners of the Obligations issued under the Trust Agreement, the TIFIA Lender and any other Noteholders, and the Hedging Banks solely to the extent the obligations of Borrower to the Hedging Banks under the applicable Hedging Agreement constitute Secured Obligations.

“Security Documents” means the Trust Agreement as supplemented by the Ninth Supplemental Agreement designating the TIFIA Loan as a First Tier Obligation.

“Segment D” as defined in the Market Valuation Waiver Agreement.

“Segment E” as defined in the Market Valuation Waiver Agreement.

“Segment F-1” as defined in the Market Valuation Waiver Agreement.

“Segment F-2” as defined in the Market Valuation Waiver Agreement.

“Segment G” as defined in the Market Valuation Waiver Agreement.

“Segment H” as defined in the Market Valuation Waiver Agreement.

“Segment I-1” as defined in the Market Valuation Waiver Agreement.

“Segment I-2” as defined in the Market Valuation Waiver Agreement.

“Semi-Annual Payment Date” means each April 1 and October 1 or, if such date is not a Business Day, the next Business Day following such April 1 or October 1.

“Senior Debt Service” means, with respect to the Senior Obligations, for any period, as of any date of calculation, an amount equal to the sum of all fees and interest and principal of Senior Obligations accruing and payable in respect of such period, as set forth in the most recent Revised Financial Model (or in the Base Case Financial Model to the extent that no Revised

Financial Model has been submitted to the TIFIA Lender). In determining the principal amount of Senior Obligations due in such period (unless a different subsection of this definition applies for purposes of determining principal maturities or amortization), payment shall be assumed to be made in accordance with any amortization schedule established for such Senior Obligations, including any scheduled redemption of such Senior Obligations on the basis of Accreted Value or Appreciated Value, as applicable, and for such purpose the redemption payment shall be deemed a principal payment.

In calculating Senior Debt Service for any future period (except as otherwise specifically provided herein):

(a) any Senior Obligations bearing interest at a Variable Interest Rate shall be deemed to bear interest at the Bank Lending Margin plus the fixed rate on the applicable Qualified Hedge (which shall reflect any premium or margin payable thereon);

(b) to the extent the requirements of Section 16 (o) (*Hedging*) have been waived or otherwise not applicable so that clause (a) of this definition does not apply, any Variable Interest Rate Senior Obligation for which the interest rate payable thereon has not yet been determined shall be deemed to bear interest at all times the greater of (i) the average interest rate on such Variable Interest Rate Senior Obligations for the most recently completed sixty (60) month period or the period such Variable Interest Rate Senior Obligations have been Outstanding if less than sixty (60) months, or (ii) assuming the Variable Interest Rate Senior Obligations were being issued on the date of calculation, an interest rate (1) if in the opinion of bond counsel delivered at the time of the issuance thereof such Variable Interest Rate Senior Obligations are obligations described in Section 103 of the Tax Code, the greater of (A) the average of the Security Industry and Financial Markets Association Municipal Swap Index (“**SIFMA Index**”) for the twelve (12) month period ending seven (7) days preceding the date of calculation plus 100 basis points, or (B) the average of the SIFMA Index for the sixty (60) month period ending seven (7) days preceding the date of calculation plus 100 basis points; or (2) if the Variable Interest Rate Senior Obligations are not as described in clause (1) above, the greater of (A) the average of the London Interbank Offered Rate (“**LIBOR**”) for the time period most closely resembling the reset period for the Variable Interest Rate Senior Obligations for the twelve (12) month period ending seven (7) days preceding the date of calculation plus 100 basis points, or (B) the average of LIBOR for the time period most closely resembling the reset period for the Variable Interest Rate Senior Obligations for the sixty (60) month period ending seven (7) days preceding the date of calculation plus 100 basis points; provided that if the SIFMA Index or LIBOR shall cease to be published, the index to be used in its place shall be that index which the Borrower determines, in writing, most closely replicates such index, with the consent of the TIFIA Lender, such consent not to be unreasonably withheld. Notwithstanding the foregoing, in no event shall the assumed variable rate be in excess of the maximum interest rate allowed by law on obligations of the Borrower;

(c) any Put Bonds Outstanding during such period which by their terms are not required to be paid by the Borrower upon tender by the holder thereof shall be assumed to mature on the stated maturity date thereof;

(d) any Put Bonds Outstanding during such period which by their terms are required to be paid by the Borrower upon tender by the holder thereof shall be assumed to mature

on the earliest to occur of (i) the stated maturity date thereof, (ii) the date provided in an applicable Supplemental Agreement, or (iii) if the Credit Facility securing such Put Bonds expires within six (6) months or less of the date of calculation and has not been renewed or replaced, the expiration date of such Credit Facility;

(e) the principal amount of any Put Bonds tendered for payment by the Borrower which are required to be paid by the Borrower which have not yet been purchased in lieu of such payment by the Borrower shall be deemed to mature on the date required to be paid pursuant to such tender;

(f) subject to the provisions of the Supplemental Agreement authorizing any Extendible Maturity Bonds, Extendible Maturity Bonds outstanding during such period shall be deemed to mature on the later of the stated maturity date or the date to which such stated maturity date has been extended; and

(g) the principal and/or interest portion (whether by redemption or otherwise) of Capital Appreciation Bonds and Deferred Income Bonds shall be the Accreted Value and Appreciated Value thereof, respectively, due and payable in respect of such period.

“Senior Debt Service Coverage Ratio” means, for any Calculation Period, the ratio of Net Cash Flow for such Calculation Period to Senior Debt Service for such Calculation Period.

“Senior Obligations” means (a) Existing Senior Obligations, (b) the TIFIA Note and (c) any Additional Senior Obligations.

“Senior Operating Expenses” means the Borrower's reasonable and necessary accrued operating expenses of maintaining, repairing and operating the System (including the Project and Segment I-2A), excluding (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower, which includes, without limiting the generality of the foregoing, any repair or replacement of any part of such portions of the System relating to any insurance or condemnation proceeds, expenses (including reasonably allocated portions thereof) for toll collection, all premiums for insurance and payments into any self-insurance reserve fund, all administration and engineering expenses relating to operation of the System, excluding (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower, fees and expenses of the Traffic Consultant, the General Engineering Consultant, the Trustee and of the Paying Agents, Policy Costs, legal expenses, expenses for Public Safety Officers and any other expenses required to be paid by the Borrower as shown in the Annual Budget for the System, excluding (a) the System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower.

“Senior Operation and Maintenance Fund” means the Senior Operation and Maintenance Fund created by Section 506 of the Master Trust Agreement.

“Series 2013A Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System First Tier Toll Revenue Bonds, Series 2013A issued in the original aggregate principal amount of \$200,000,000.

“Series 2013B Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Bonds, Series 2013B (TELA Supported) issued in the initial aggregate principal amount of \$1,414,934,856.15.

“Series 2013E Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Bonds, Taxable Series 2013E (TELA Supported) issued in the initial aggregate principal amount of \$361,810,000.

“Series 2016 Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Refunding Revenue Bonds, Series 2016 (TELA Supported) issued in the initial aggregate principal amount of \$83,775,000.

“Series 2018A Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Bonds, Series 2018A (TELA Supported) issued in the initial aggregate principal amount of \$712,100,000.

“Series 2018B Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Put Bonds, Series 2018B (TELA Supported) issued in the initial aggregate principal amount of \$166,525,000.

“Series 2018 BANs” means the Grand Parkway Transportation Corporation Bond Anticipation Notes, Series 2018 issued in the initial aggregate principal amount of \$605,330,000 pursuant to the BAN Resolution and the BAN Trust Agreement.

“Series 2020A Bonds” means the Grand Parkway Transportation Corporation First Tier Toll Revenue Refunding Bonds, Series 2020A issued in the original aggregate principal amount of \$220,415,000.

“Series 2020B Bonds” means the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Bonds, Taxable Series 2020B (TELA Supported) issued in the initial aggregate principal amount of \$1,293,260,000.

“Series 2020C Bonds” means the Grand Parkway Transportation Corporation First Tier Toll Revenue Refunding Bonds, Series 2020C issued in the original aggregate principal amount of \$793,385,000.

“Servicer” means such entity or entities as the TIFIA Lender shall designate from time-to-time to perform, or assist the TIFIA Lender in performing, certain duties hereunder.

“State” has the meaning provided in the preamble hereto.

“Subordinate Tier Credit Agreement” means, collectively, an obligation entered into on a parity with the Outstanding Subordinate Tier Obligations in the form of a loan agreement, revolving credit agreement, agreement establishing a line of credit, letter of credit, reimbursement

agreement, insurance contract, commitments to purchase obligations, purchase or sale agreement, interest rate swap, cap and floor agreement, or commitment or other contract or agreement authorized, recognized and approved by the Borrower as a Subordinate Tier Credit Agreement, whether authorized or approved in anticipation of, simultaneously with, or subsequent to, the authorization of the Subordinate Tier Obligations in connection with which it is executed.

“Subordinate Tier Interest Account” means an account in the Subordinate Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“Subordinate Tier Obligations” means the Series 2013B Bonds, the Series 2013E Bonds, the Series 2016 Bonds, the Series 2018A Bonds, the Series 2018B Bonds, the Series 2020B Bonds, and, unless otherwise specifically stated, any bond, bonds, note, notes, other obligation or obligations, including any Subordinate Tier Credit Agreement, issued, incurred or entered into pursuant to Section 209 of the Master Trust Agreement as Subordinate Tier Obligations, or all of the foregoing, as the case may be, authorized by law and issued under and secured by the provisions of the Master Trust Agreement and any Supplemental Agreement.

“Subordinate Tier Redemption Account” means an account in the Subordinate Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“Subordinate Tier Reserve Account” means an account in the Subordinate Tier Debt Service Fund created by Section 507 of the Master Trust Agreement.

“Subordinate Tier TELA Obligations” means any Series of Subordinate Tier Obligations and any Subordinate Tier Credit Agreement that are supported by a Toll Equity Loan Agreement.

“Subsequent Qualified Hedge” has the meaning provided in Section 16(o)(iii) (*Hedging*).

“Substantial Completion” means the opening of the Project to vehicular or passenger traffic.

“Substantial Completion Date” means the date on which Substantial Completion occurs.

“Supplemental Agreement” means any supplemental agreement to the Master Trust Agreement, now or hereafter duly authorized and entered into in accordance with the provisions of Article XI of the Master Trust Agreement, together with, to the extent applicable, the related award certificate of the Borrower.

“System” means the portions of the Grand Parkway Project designated by the Borrower as the System, including the Initial Project, Segment H, Segment I-1 and Segment I-2 and any System Segment or other toll project or facilities added to or grouped with, or otherwise constituted and declared to be part of the System by the Borrower in accordance with State law and applicable agreements and pursuant to an order or orders adopted by the Commission.

“System Segment” shall have the meaning given such term in Section 201 of the Master Trust Agreement.

“System Segment Improvement” shall mean any System Segment or improvement or enhancement to a System Segment within the Ultimate Project Scope which comprises a portion of the System.

“Tax Code” means the Internal Revenue Code of 1986, as amended from time to time.

“TELA/Other Tier Credit Agreement” means the Toll Equity Loan Agreement.

“TELA/Other Tier Debt Obligations” means a Toll Equity Note and any amendment or supplement, if any, thereunder incurred or entered into pursuant to Sections 207, 208 or 209 of the Master Trust Agreement as additional TELA/Other Tier Debt Obligations.

“TELA/Other Tier Obligations” means, collectively, the TELA/Other Tier Debt Obligations and the TELA/Other Tier Payment Obligations.

“TELA/Other Tier Payment Fund” means the TELA/Other Tier Payment Fund created by Section 507 of the Master Trust Agreement.

“TELA/Other Tier Payment Obligations” means, unless otherwise specifically stated in a Supplemental Agreement, all amounts payable by the Borrower under a TELA/Other Tier Credit Agreement, other than payment obligations evidenced by a TELA/Other Tier Debt Obligation; and all such TELA/Other Tier Payment Obligations shall be deemed to constitute Principal payment of TELA/Other Tier Obligations, and shall be paid from the TELA/Other Tier Payment Fund and specified in a Supplemental Agreement.

“TELA Supported Junior Operating Expenses” means the Junior Operating Expenses of or allocable to (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Borrower that are supported by a Toll Equity Loan Agreement.

“TIFIA” has the meaning provided in the recitals hereto.

“TIFIA Debt Service” means with respect to any Semi-Annual Payment Date occurring on or after the Debt Service Payment Commencement Date, the principal portion of the Outstanding TIFIA Loan Balance and any interest payable thereon (including interest accruing after the date of any filing by the Borrower of any petition in bankruptcy or the commencement of any bankruptcy, insolvency or similar proceeding with respect to the Borrower), in each case, (a) as set forth on **Exhibit G**, and (b) due and payable on such Semi-Annual Payment Date in accordance with the provisions of Section 9(c) (*Payment of TIFIA Debt Service*).

“TIFIA Debt Service Account” means the First Tier Debt Service Fund established pursuant to Section 507 of the Master Trust Agreement.

“TIFIA Debt Service Reserve Account” means the subaccount within the First Tier Reserve Account within the First Tier Debt Service Fund to be created and established pursuant to the Ninth Supplemental Agreement if required pursuant to Section 16(k)(i) (*Project Accounts, Permitted Investments*) or Section 16(v) (*Favorable Terms*).

“TIFIA Debt Service Reserve Requirement” means the lesser of (i) the maximum TIFIA Debt Service due in any Borrower Fiscal Year, (ii) 1.25 times the average of TIFIA Debt Service due in any Borrower Fiscal Year or (iii) ten percent (10%) of the aggregate principal amount of the TIFIA Loan disbursed to the Borrower.

“TIFIA Interest Rate” has the meaning provided in Section 6 (*Interest Rate*).

“TIFIA Lender” has the meaning provided in the preamble hereto.

“TIFIA Lender’s Authorized Representative” means the Executive Director and any other Person who shall be designated as such pursuant to Section 27 (*TIFIA Lender’s Authorized Representative*).

“TIFIA Loan” means the secured loan made by the TIFIA Lender to the Borrower on the terms and conditions set forth herein, pursuant to the Act, in a principal amount not to exceed \$605,330,000 (excluding capitalized interest), to be used in respect of Eligible Project Costs paid or incurred by or on behalf of the Borrower.

“TIFIA Loan Documents” means this Agreement, the TIFIA Note, the Trust Agreement and other Security Documents.

“TIFIA Note” means the Promissory Note delivered by the Borrower in substantially the form of **Exhibit A**.

“TIFIA Restricted Transfer Conditions” means each of the following conditions for the proposed transfer of funds from the Grand Parkway Enhancement Fund:

(i) all funds and accounts established by or required to be established by the Trust Agreement contains at least the amount required to be deposited therein as provided by the Trust Agreement in the current Borrower Fiscal Year;

(ii) the TIFIA Debt Service is being paid on a current basis and no due and payable amounts of TIFIA Debt Service from any prior periods remain unpaid;

(iii) no Default or Event of Default has occurred and is continuing, and no default or event of default (howsoever described or designated) under any TIFIA Loan Document or the Project Agreement, or an event of default (howsoever described or designated) which may exist with due notice or the passage of time or both under any TIFIA Loan Document or the Project Agreement, has occurred and is continuing, or would occur as a result of the proposed transfer of funds from the Grand Parkway Enhancement Fund;

(iv) the Debt Service Payment Commencement Date has occurred; and

(v) the Total Debt Service Coverage Ratio (1) for each Calculation Date corresponding to each Calculation Period occurring during the period of twenty-four (24) months prior to (and including) the Semi-Annual Payment Date on which the transfer from the Grand Parkway Enhancement Fund is proposed to occur was equal to at least 1.10 and

(2) for each Calculation Date corresponding to each Calculation Period occurring during the period of twenty-four (24) months ending on the second anniversary of such Semi-Annual Payment Date is, in each case, projected to equal at least 1.10.

“Toll Equity Loan” means the loan or loans consisting of advances from time to time from TxDOT incurred by the Borrower and paid to the Trustee pursuant to a Toll Equity Loan Agreement and evidenced by a Toll Equity Note. For the avoidance of doubt, as of any date of determination, the Outstanding amount under a Toll Equity Loan shall be the aggregate outstanding amount of all advances drawn under such Toll Equity Loan commitment plus the aggregate outstanding amount of interest compounded in accordance therewith as of such date.

“Toll Equity Loan Agreement” means (i) the Initial Toll Equity Loan Agreement and (ii) any other Toll Equity Loan Agreement, each as supplemented and amended from time to time, between the Borrower and TxDOT, which shall be a credit agreement under Chapter 1371, Texas Government Code, and a contract providing revenue and security to pay certain Additional Obligations, as determined in such agreement, and, for purposes of the Trust Agreement, shall be a TELA/Other Tier Credit Agreement.

“Toll Equity Loan Supported Obligations” means any Series of the First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations, respectively.

“Toll Equity Note” means (i) the Initial Toll Equity Note and (ii) any note executed and delivered pursuant to a Supplemental Agreement relating to a new Toll Equity Loan Agreement and issued as a TELA/Other Tier Obligation to evidence the Toll Equity Loan, all as may be amended, supplemented or delivered pursuant to Section 211 of the Master Trust Agreement.

“Toll Rate Agreement” means the Toll Rate Agreement, dated as of August 1, 2013, as supplemented and amended from time to time, between the Borrower and the Commission which, among other matters, the Commission covenants with respect to certain rates and charges relating to the System for the benefit of the Borrower, the Trustee and the Owners of any Obligations.

“Toll Rate Schedule” means the schedule of tolls, fees or charges to be collected for the use of the System established by the Commission pursuant to the Toll Rate Agreement, any changes in such tolls, rates and charges due to any changes in design of the overall configuration and toll road plans of the System from that included in the Traffic and Revenue Study and the Grand Parkway Engineer's Report, dated June 26, 2013, prepared by Jacobs Engineering Group, Inc.

“Total Debt Service Coverage Ratio” means, for any Calculation Period, the ratio of Net Cash Flow for such Calculation Period to the sum of (a) Senior Debt Service for such Calculation Period, (b) debt service in respect of any Second Tier Obligations for such Calculation Period, and (c) debt service in respect of any Subordinate Tier Obligations for such Calculation Period.

“Total Project Costs” means (a) the costs paid or incurred or to be paid or incurred by the Borrower in connection with or incidental to the acquisition, design, construction and equipping of the Project, including legal, administrative, engineering, planning, design, insurance and costs of issuance, (b) amounts, if any, required by the Security Documents or the TIFIA Loan

Documents to be paid into any fund or account upon the incurrence of the TIFIA Loan or any Senior Obligations; (c) payments when due (whether at the maturity of principal, the due date of interest, or upon optional or mandatory prepayment) during the Construction Period in respect of any indebtedness of the Borrower or any Credit Facility maintained by the Borrower, in each case in connection with the Project (other than the TIFIA Loan); and (d) costs of equipment and supplies and initial working capital and reserves required by the Borrower for the commencement of operation of the Project, including general administrative expenses and overhead of the Borrower.

“Traffic and Revenue Study” means (i) the Grand Parkway Transportation Corporation’s Grand Parkway System (SH-99) Segments D through I Comprehensive Traffic & Revenue Study, dated September 2017, and (ii) the Grand Parkway System Segments D through I Traffic and Revenue Bringdown Letter, dated March 19, 2018, prepared by the Traffic Engineer, and any amendments, supplements or updates thereto.

“Traffic Engineer” means initially CDM Smith and shall include any replacement traffic consultant firm selected by the Borrower and not objected to by the TIFIA Lender within fifteen (15) Business Days after receiving notice from the Borrower of the name of the proposed Traffic Engineer, together with supporting information regarding the qualifications of the proposed Traffic Engineer.

“Trust Agreement” means the Master Trust Agreement, as amended and supplemented from time to time by any Supplemental Agreement.

“Trust Estate” means, to the extent and under the terms and conditions provided in the Master Trust Agreement, (a) all Project Revenues and all rights to receive the same, whether in the form of accounts receivable, contract rights and the proceeds of such rights whether now owned or held or hereafter coming into existence, including as assigned and transferred to the Borrower by the Commission in accordance with the Project Agreement, (b) all of the Commission's right, title and interest as a “Beneficiary” for the System under the Master Custodial Agreement pursuant to the related joinder agreement among the custodian under such Master Custodial Agreement, the Department and the Borrower, and the Toll Rate Agreement, but not as a “Beneficiary” for any other toll projects, (c) all of the Borrower’s right, title and interest in and to any Toll Equity Loan Agreement, (d) all money, including investment earnings, held by the Trustee in the various funds and accounts created under the Trust Agreement (but excluding moneys on deposit in an Obligation purchase fund or redemption account created for the benefit of only certain Obligations to be purchased or redeemed, the Rebate Fund and any amounts held in an account of the Construction Fund that are restricted to another use such as right-of-way contribution that may be used only for that purpose) and, to the extent set forth in a Supplemental Agreement, any Additional Obligation Security, (e) any insurance proceeds, (f) any condemnation proceeds, (g) any liquidated damages for delayed completion under a construction contract relating to the acquisition or construction of a System Segment and (h) all payments received by the Borrower pursuant to a Credit Agreement, but only to the extent of the terms and provisions of such Credit Agreement.

“Trustee” means U.S. Bank National Association or its successor as Trustee under the provisions of the Master Trust Agreement.

“**TxDOT**” or “**Department**” means the Texas Department of Transportation, or any successor thereto.

“**Ultimate Project Scope**” shall have the meaning of “ultimate project scope” as set forth in the Market Valuation Waiver Agreement.

“**Uncontrollable Force**” means any cause beyond the control of the Borrower, including: (a) a hurricane, tornado, flood or similar occurrence, landslide, earthquake, fire or other casualty, strike or labor disturbance, freight embargo, act of a public enemy, explosion, war, blockade, terrorist act, insurrection, riot, general arrest or restraint of government and people, civil disturbance or similar occurrence, sabotage, or act of God (provided that the Borrower shall not be required to settle any strike or labor disturbance in which it may be involved) or (b) the order or judgment of any federal, state or local court, administrative agency or governmental officer or body, if it is not also the result of willful or negligent action or a lack of reasonable diligence of the Borrower and the Borrower does not control the administrative agency or governmental officer or body; provided that the diligent contest in good faith of any such order or judgment shall not constitute or be construed as a willful or negligent action or a lack of reasonable diligence of the Borrower.

“**Uniform Commercial Code**” or “**UCC**” means the Uniform Commercial Code, as in effect from time to time in the State.

“**USDOT**” means the United States Department of Transportation.

“**Valuation Date**” means (a) with respect to any Capital Appreciation Bonds, the date or dates set forth in the Supplemental Agreement authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds and (b) with respect to any Deferred Income Bonds, the date or dates on or prior to the Interest Commencement Date set forth in the Supplemental Agreement authorizing such Deferred Income Bonds on which specific Appreciated Values are assigned to the Deferred Income Bonds.

“**Variable Interest Rate**” means a variable interest rate to be borne by any Obligations. The method of computing such variable interest rate shall be specified in the Supplemental Agreement pursuant to which such Obligations are incurred. Such Supplemental Agreement shall also specify either (a) the particular period or periods of time for which each value of such variable interest rate shall remain in effect or (b) the time or times upon which any change in such variable interest rate shall become effective.

“**Variable Interest Rate Senior Obligations**” means any Senior Obligations under the Trust Agreement that accrue interest at a Variable Interest Rate.

“**2018 Debt**” means the Series 2018A Bonds, the Series 2018B Bonds and the Series 2018 BANs.

SECTION 2. Interpretation. Unless the context shall otherwise require, the words “hereto”, “herein”, “hereof”, and other words of similar import refer to this Agreement as a whole. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders and vice versa. Words importing the singular number shall include

the plural number and vice versa unless the context shall otherwise require. The words “include”, “includes” and “including” shall be deemed to be followed by the phrase “without limitation”. Whenever the Borrower’s knowledge is implicated in this Agreement or the phrase “to the Borrower’s knowledge” or a similar phrase is used in this Agreement, the Borrower’s knowledge or such phrase(s) shall be interpreted to mean to the best of the Borrower’s knowledge after reasonable and diligent inquiry and investigation. Unless the context shall otherwise require, references to any Person shall be deemed to include such Person’s successors and permitted assigns. Unless the context shall otherwise require, references to preambles, recitals, sections, subsections, clauses, schedules, exhibits, appendices and provisions are to the applicable preambles, recitals, sections, subsections, clauses, schedules, exhibits, appendices and provisions of this Agreement. The schedules and exhibits to this Agreement, and the appendices and schedules to such exhibits, are hereby incorporated by reference and made an integral part of this Agreement. The headings or titles of this Agreement and its sections, schedules or exhibits, as well as any table of contents, are for convenience of reference only and shall not define or limit its provisions. Unless the context shall otherwise require, all references to any resolution, contract, agreement, lease or other document shall be deemed to include any amendments or supplements to, or modifications or restatements or replacements of, such documents that are approved from time-to-time in accordance with the terms thereof and hereof. Every request, order, demand, application, appointment, notice, statement, certificate, consent or similar communication or action hereunder by any party shall, unless otherwise specifically provided, be delivered in writing in accordance with Section 37 (*Notices; Payment Instructions*) and signed by a duly authorized representative of such party.

SECTION 3. TIFIA Loan Amount. The principal amount of the TIFIA Loan shall not exceed \$605,330,000. TIFIA Loan proceeds shall be disbursed from time to time in accordance with Section 4 (*Disbursement Conditions*) and Section 13(b) (*Conditions Precedent to All Disbursements*).

SECTION 4. Disbursement Conditions.

(a) TIFIA Loan proceeds shall be available upon Substantial Completion (i) to reimburse the Borrower for Eligible Project Costs paid or incurred by or on behalf of the Borrower, in connection with the Project or (ii) to pay or defease all or a portion of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs, provided the proceeds of the Series 2018 BANs shall have been used by the Borrower solely in respect of Eligible Project Costs paid or incurred by or on behalf of the Borrower, in connection with the Project. The Borrower acknowledges and agrees that any costs incurred in connection with the Project prior to receipt of all necessary authorizations from the USDOT in respect of such costs (which may include approvals of prior-incurred costs) are incurred solely at the Borrower’s risk and expense, will not constitute Eligible Project Costs, and no TIFIA Loan proceeds will be disbursed in respect thereof, unless and until such authorizations have been received. The disbursement of the TIFIA Loan shall be made pursuant to a requisition and certification (a “**Requisition**”) in the form set forth in **Appendix One** to **Exhibit D**, along with all documentation and other information required thereby, submitted by the Borrower to the TIFIA Lender, all in accordance with the procedures of **Exhibit D** and subject to the requirements of this Section 4 (*Disbursement Conditions*) and the conditions set forth in

Section 13(b) (*Conditions Precedent to All Disbursements*); provided, however, that no disbursements of TIFIA Loan proceeds shall be made on or after the date that is one (1) year after the Substantial Completion Date.

(b) The Borrower shall deliver copies of the Requisition to the TIFIA Lender, the Servicer (if any) and the FHWA Division Office on or before the first (1st) Business Day of each month for which a disbursement is requested. Subject to clause (g) of this Section 4, if the TIFIA Lender does not expressly deny the Requisition, disbursements of funds shall be made on the fifteenth (15th) day of the month for which a disbursement has been requested or on the next succeeding Business Day if such fifteenth (15th) day is not a Business Day. Express denial of a Requisition by the TIFIA Lender shall be provided substantially in the form attached as **Appendix Two to Exhibit D** (*Requisition Procedures*). In no event shall disbursements be made more than once each month.

(c) The Borrower anticipates that it will draw down all of the proceeds of the TIFIA Loan to reimburse Eligible Project Costs for the purpose of paying or defeasing all or a portion of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs. The Borrower shall deliver concurrently to the TIFIA Lender, the FHWA Division Office, and the Servicer (if any) invoices and records evidencing Eligible Project Costs (the “**Eligible Project Costs Documentation**”), irrespective of whether such costs were paid with the proceeds of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs; provided that the Borrower must deliver all Eligible Project Costs Documentation associated with any Eligible Project Costs to be included in the Requisition to the TIFIA Lender by the applicable following date: (i) with respect to Eligible Project Costs incurred by or on behalf of the Borrower prior to, and up to one (1) month after, the Effective Date, by the last Business Day of the second (2nd) month immediately following the Effective Date and (ii) with respect to Eligible Project Costs incurred by or on behalf of the Borrower after the one-month period referred to in clause (i) above, by the last Business Day of each month immediately following such second (2nd) month referred to in clause (i) above.

(d) Each time the Borrower delivers Eligible Project Costs Documentation to the TIFIA Lender the Borrower shall also deliver a certificate, duly executed by the Borrower’s Authorized Representative, certifying as to the following:

(i) the amount of Eligible Project Costs financed from the proceeds of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs for the period of time for which such Eligible Project Costs Documentation is being provided;

(ii) that such proceeds of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs were expended solely in connection with the payment or reimbursement of Eligible Project Costs;

(iii) the amount of Eligible Project Costs paid by or on behalf of the Borrower from sources other than the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs and identifying such sources; and

(iv) that there does not currently exist any Event of Default or an event or condition that, with the lapse of time or giving of notice, would constitute an Event of Default (a “prospective Event of Default”) or, if there does currently exist an Event of Default or prospective Event of Default, the certificate shall specify all the actions that the Borrower is taking to remedy such Event of Default or prospective Event of Default.

(e) The Eligible Project Costs Documentation submitted pursuant to Section 4(c) and the certificate delivered pursuant to Section 4(d) must be satisfactory to the TIFIA Lender. The Eligible Project Costs Documentation must provide sufficient detail to enable the TIFIA Lender to verify that such costs are Eligible Project Costs paid by or on behalf of the Borrower. The Eligible Project Costs Documentation and the certificate must provide sufficient detail to enable the TIFIA Lender to verify that proceeds of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs were expended for Eligible Project Costs for the Project and to audit such other Eligible Project Costs paid by or on behalf of the Borrower. The certificate and the Eligible Project Costs Documentation are intended to document Eligible Project Costs in connection with the reimbursement of such Eligible Project Costs or for the purpose of paying or redeeming, in whole or part, all or a portion of the Series 2018 BANs and/or any Obligations or other Permitted Debt issued to refund, in whole or in part, the Series 2018 BANs in respect of which the proceeds were used to pay such documented Eligible Project Costs. The TIFIA Lender shall review each such certificate for compliance with TIFIA disbursement requirements. Within fourteen (14) Business Days following the receipt of the Eligible Project Costs Documentation and the accompanying certificate, the TIFIA Lender shall deliver a notice to the Borrower confirming the Eligible Project Costs set forth in the certificate that have been approved, or notifying the Borrower as to which Eligible Project Costs have not been approved, and confirming the cumulative amount of Eligible Project Costs approved as of the notice date. Such approved amounts of Eligible Project Costs will be disbursed at such time as the Borrower submits a Requisition in respect of such approved amounts in accordance with clauses (a) and (b) above. The Borrower shall not submit a Requisition that seeks reimbursement of any Eligible Project Costs for which the related Eligible Project Costs Documentation was not delivered to the TIFIA Lender and the Servicer (if any) at least one (1) month prior to the date such Requisition is submitted.

(f) The Borrower may not amend the Anticipated TIFIA Loan Disbursement Schedule.

(g) Notwithstanding anything to the contrary set forth in this Agreement (including this Section 4, Section 13 (*Conditions Precedent*) or **Exhibit D** (*Requisition Procedures*)), in no event shall the TIFIA Lender have any obligation to make any disbursement of proceeds of the TIFIA Loan to the Borrower if the TIFIA Lender’s ability

to make such disbursement is impaired as a result of a partial or total shutdown of the operations of any federal department or agency (including the USDOT or any of its agencies), or any contractor of any such department or agency, due to a lapse in appropriations by Congress.

SECTION 5. Term. The term of the TIFIA Loan shall extend from the Effective Date to the Final Maturity Date or to such earlier date as all amounts due or to become due to the TIFIA Lender hereunder have been irrevocably paid in full in cash.

SECTION 6. Interest Rate. The interest rate with respect to the Outstanding TIFIA Loan Balance (the “**TIFIA Interest Rate**”) shall be 1.88% per annum. Interest will be computed on the Outstanding TIFIA Loan Balance (as well as on any past due interest but only to the extent authorized under Texas law) from time-to-time on the basis of a 365-day or 366-day year, as appropriate, for the actual number of days elapsed; provided, however, in the event of either a Payment Default or the Borrower’s failure to pay any fees or other amounts payable under this Agreement on the date on which such fees or amounts became due and payable, the Borrower shall pay interest on the Outstanding TIFIA Loan Balance and on any interest accrued thereon but unpaid as of the applicable Semi-Annual Payment Date (including interest accruing after the date of any filing by the Borrower of any petition in bankruptcy or the commencement of any bankruptcy, insolvency or similar proceeding with respect to the Borrower) at the Default Rate from (and including) its due date to (but excluding) the date of actual payment. Upon the occurrence of any other Event of Default, the Borrower shall pay interest on the Outstanding TIFIA Loan Balance and on any interest accrued thereon but unpaid as of the applicable Semi-Annual Payment Date (including interest accruing after the date of any filing by the Borrower of any petition in bankruptcy or the commencement of any bankruptcy, insolvency or similar proceeding with respect to the Borrower) at the Default Rate from (and including) the date such Event of Default first occurred to (but excluding) the earlier to occur of (a) the date such Event of Default has been waived by the TIFIA Lender, and (b) the date the Outstanding TIFIA Loan Balance and any interest accrued thereon (at the Default Rate) but unpaid has been irrevocably paid in full in cash. Notwithstanding anything in this Agreement to the contrary, the maximum net effective interest rate on the TIFIA Loan shall never exceed fifteen (15) percent, as provided by Chapter 1204, Texas Government Code, as may be amended.

SECTION 7. Outstanding TIFIA Loan Balance; Revisions to Exhibit G and Loan Amortization Schedule.

(a) The Outstanding TIFIA Loan Balance will be (i) increased on each occasion on which the TIFIA Lender disburses loan proceeds hereunder, by the amount of such disbursement of loan proceeds; (ii) increased on each occasion on which interest on the TIFIA Loan is capitalized pursuant to the provisions of Section 9(b) (*Capitalized Interest Period*), by the amount of interest so capitalized; and (iii) decreased upon each payment or prepayment of the Outstanding TIFIA Loan Balance, by the amount of principal so paid. The TIFIA Lender may in its discretion at any time and from time-to-time, or when so requested by the Borrower, advise the Borrower by written notice of the amount of the Outstanding TIFIA Loan Balance as of the date of such notice, and its determination of such amount in any such notice shall be deemed conclusive absent manifest error.

(b) The TIFIA Lender is hereby authorized to modify the Loan Amortization Schedule included in **Exhibit G** from time-to-time, in accordance with the principles set forth in Section 10(c) (*General Prepayment Instructions*) and in **Exhibit M**, to reflect (i) any change to the Outstanding TIFIA Loan Balance, (ii) any change to the date and amount of any principal or interest due and payable or to become due and payable by the Borrower under this Agreement, (iii) any change required by a change in the disbursement schedule, (iv) any change required by a change to the Debt Service Payment Commencement Date, and (v) such other information as the TIFIA Lender may determine is necessary for administering the TIFIA Loan and this Agreement. Any calculations described above shall be rounded up or down to the nearest whole cent. Absent manifest error, the TIFIA Lender's determination of such matters as set forth on **Exhibit G** shall be conclusive evidence thereof; provided, however, that neither the failure to make any such recordation nor any error in such recordation shall affect in any manner the Borrower's obligations hereunder or under any other TIFIA Loan Document. The TIFIA Lender shall provide the Borrower with a copy of **Exhibit G** as revised, but no failure to provide or delay in providing the Borrower with such copy shall affect any of the obligations of the Borrower under this Agreement or the other TIFIA Loan Documents.

SECTION 8. Security and Priority; Flow of Funds.

(a) As security for the TIFIA Loan, the Borrower shall pledge, assign and grant, or shall cause to be pledged, assigned and granted, to the Trustee for the benefit of the TIFIA Lender, a Lien on the Trust Estate in accordance with the provisions of the Security Documents. The TIFIA Loan, evidenced by the TIFIA Note, shall be a First Tier Obligation secured by a first priority security interest in the Trust Estate on a parity with all other First Tier Obligations.

(b) Except (i) for Permitted Liens, or (ii) to the extent otherwise provided in clause (a) of this Section 8 (*Security and Priority; Flow of Funds*), the Trust Estate will be free and clear of any pledge, Lien, charge or encumbrance thereon or with respect thereto prior to, or of equal rank with, the pledge of the Borrower created under the Security Documents, and all organizational, regulatory or other necessary action on the part of the Borrower with respect to the foregoing has been duly and validly taken.

(c) The Borrower shall not use Project Revenues to make any payments or satisfy any obligations other than in accordance with the provisions of this Section 8 (*Security and Priority; Flow of Funds*) and the Security Documents and shall not apply any portion of the Project Revenues in contravention of this Agreement or the Security Documents.

(d) The Trust Agreement provides that all Project Revenues shall, subject to Section 503 of the Master Trust Agreement, be deposited in the Revenue Fund and applied in the following order of priority, as more fully described, and in accordance with the requirements specified in Section 508 of the Master Trust Agreement:

- (1) Rebate Fund;

- (2) Senior Operation and Maintenance Fund;
- (3) First Tier Interest Account;
- (4) First Tier Redemption Account;
- (5) First Tier Reserve Account;
- (6) Second Tier Interest Account;
- (7) Second Tier Redemption Account;
- (8) Second Tier Reserve Account;
- (9) Subordinate Tier Interest Account;
- (10) Subordinate Tier Redemption Account;
- (11) Subordinate Tier Reserve Account;
- (12) Junior Operation and Maintenance Fund;
- (13) Operation and Maintenance Reserve Fund;
- (14) TELA/Other Tier Payment Fund;
- (15) Rate Stabilization Fund;
- (16) Major Maintenance Fund; and
- (17) Grand Parkway Enhancement Fund.

SECTION 9. Payment of Principal and Interest.

(a) Payment Dates. The Borrower agrees to pay the principal of and interest on the TIFIA Loan by making payments in accordance with the provisions of this Agreement and the Trust Agreement on each Semi-Annual Payment Date, beginning on the Debt Service Payment Commencement Date, and on each other date on which payment thereof is required to be made hereunder (including the Final Maturity Date); provided that if any such date is not a Business Day, payment shall be made on the next Business Day following such date. Any payment of the TIFIA Note shall be treated as a payment of the TIFIA Loan and any prepayment of principal of the TIFIA Loan shall be treated as redemption of the TIFIA Note.

(b) Capitalized Interest Period. No payment of the principal of or interest on the TIFIA Loan is required to be made during the Capitalized Interest Period. On each April 1 and October 1 occurring during the Capitalized Interest Period, interest

accrued on the TIFIA Loan in the six (6) month period ending immediately prior to such date shall be capitalized and added to the Outstanding TIFIA Loan Balance. Within thirty (30) days after the end of the Capitalized Interest Period, the TIFIA Lender shall give written notice to the Borrower stating the Outstanding TIFIA Loan Balance as of the close of business on the last day of the Capitalized Interest Period, which statement thereof shall be deemed conclusive absent manifest error; provided, however, that no failure to give or delay in giving such notice shall affect any of the obligations of the Borrower hereunder or under any of the other TIFIA Loan Documents.

(c) Payment of TIFIA Debt Service. On each Semi-Annual Payment Date occurring on or after the Debt Service Payment Commencement Date, the Borrower shall pay TIFIA Debt Service in the amounts set forth in respect of such Semi-Annual Payment Date on Exhibit G, as the same may be revised as provided in Section 7 (*Outstanding TIFIA Loan Balance; Revisions to Exhibit G and Loan Amortization Schedule*), which payments shall be made in accordance with Section 9(e) (*Manner of Payment*);

(d) Accrual of Amounts on Interim Payment Dates.

(i) If any Senior Obligations require the payment of principal or interest on any Interim Payment Date after the Debt Service Payment Commencement Date, the Borrower shall promptly notify the Servicer (if any) and the TIFIA Lender thereof in writing, identifying the period covered by such Interim Payment Period and the Interim Payment Date.

(ii) On any such Interim Payment Date during the period on and after the Debt Service Payment Commencement Date, the Borrower shall transfer or otherwise deposit, or cause to be transferred or otherwise deposited, into the TIFIA Debt Service Account an amount equal to the amount of TIFIA Debt Service due and payable on the next succeeding Semi-Annual Payment Date (as shown on **Exhibit G**, as the same may be revised as provided in Section 7 (*Outstanding TIFIA Loan Balance; Revisions to Exhibit G and Loan Amortization Schedule*)) multiplied by a fraction, the numerator of which is equal to the number of months contained in the Interim Payment Period ending on such Interim Payment Date and the denominator of which is equal to six (6).

(iii) If an Interim Payment Date is other than the first Business Day of a calendar month, the method for calculating any amount required to be transferred or deposited into the TIFIA Debt Service Account pursuant to this Section 9(d) (*Accrual of Amounts on Interim Payment Dates*) shall be determined at such time by the parties hereto.

Notwithstanding the foregoing provisions of this Section 9(d) or any other provision of this Agreement, at any time when no other Senior Obligations are outstanding, or when no Senior Obligations are outstanding other than Senior Obligations with respect to which principal and interest are payable on Semi-Annual Payment Dates, the TIFIA Debt Service hereunder shall be

payable only on each Semi-Annual Payment Date in accordance with Section 9(c) (subject to any prepayments pursuant to Section 10 (*Prepayment*)).

(e) Manner of Payment. Payments under this Agreement and the TIFIA Note shall be made by wire transfer on or before each Semi-Annual Payment Date in immediately available funds in accordance with payment instructions provided by the TIFIA Lender pursuant to Section 37 (*Notices; Payment Instructions*), as modified in writing from time-to-time by the TIFIA Lender. The Borrower may make any such payment or portion thereof (or direct the Trustee to make such payment) with funds then on deposit in the TIFIA Debt Service Account.

(f) Final Maturity Date. Notwithstanding anything herein to the contrary, the Outstanding TIFIA Loan Balance and any accrued interest thereon shall be due and payable in full on the Final Maturity Date.

(g) Note. As evidence of the Borrower's obligation to repay the TIFIA Loan, the Borrower shall issue and deliver to the TIFIA Lender, on or prior to the Effective Date, the TIFIA Note substantially in the form of **Exhibit A**, having a maximum principal amount of \$605,330,000 (subject to increase or decrease in the Outstanding TIFIA Loan Balance as herein provided) and bearing interest at the rate set forth in Section 6 (*Interest Rate*).

SECTION 10. Prepayment.

(a) Mandatory Prepayments. The Borrower shall prepay the TIFIA Loan in whole or in part, without penalty or premium:

(i) from any Net Loss Proceeds but only following the determination thereof in accordance with and as provided in the Trust Agreement; and

(ii) as provided in Section 16(q) (*Revenue Sharing*) or Section 17(o) (*No Prohibited Transfers*) hereof; and.

(iii) upon any voluntary prepayment of any Series, as such term is defined in the Trust Agreement, of Secured Obligations (which shall not include any form of refunding or refinancing of such Secured Obligations, including the redemption or other prepayment that results from any such refunding or refinancing), pro rata with such voluntary prepayment. For purposes of an example, if the Borrower prepays a Series of Secured Obligation in an amount equal to 5% of the total Outstanding principal amount of such Series of Secured Obligations, the Borrower shall prepay the TIFIA Loan in an amount equal to 5% of the Outstanding principal balance of the TIFIA Loan.

The Borrower shall provide written notice to the TIFIA Lender at least two (2) Business Days prior to the date on which it makes any mandatory prepayment; provided that the Borrower's failure to deliver such notice shall not diminish, impair or otherwise affect the Borrower's obligation to make any such mandatory prepayment as and when the

circumstances requiring such mandatory prepayment have occurred. Each prepayment pursuant to this Section 10(a) (*Mandatory Prepayments*) shall be accompanied by a certificate signed by the Borrower's Authorized Representative identifying the provision of this Agreement pursuant to which such prepayment is being made and containing a calculation in reasonable detail of the amount of such prepayment.

(b) Optional Prepayments. The Borrower may prepay the TIFIA Loan at any time without penalty or premium, in whole or in part; provided that each partial prepayment shall be in a minimum principal amount of \$1,000,000. Each prepayment of the TIFIA Loan shall be made on such date and in such principal amount as shall be specified by the Borrower in a written notice delivered to the TIFIA Lender, which notice shall also specify the amount of unpaid interest accrued to the date of such prepayment on the amount of principal to be prepaid that the Borrower intends to pay concurrently with such prepayment, if any. In the case of any optional prepayment, such written notice shall be delivered to the TIFIA Lender not less than ten (10) days or more than thirty (30) days prior to the date set for prepayment, unless otherwise agreed by the TIFIA Lender. At any time between delivery of such written notice and the applicable optional prepayment, the Borrower may, without penalty or premium, rescind its announced optional prepayment by further written notice to the TIFIA Lender. Anything in this Section 10(b) to the contrary notwithstanding, the failure by the Borrower to make any optional prepayment shall not constitute a breach or default under this Agreement.

(c) General Prepayment Instructions. Upon the TIFIA Lender's receipt of confirmation that payment in full of the entire Outstanding TIFIA Loan Balance and any unpaid interest and fees with respect thereto has occurred as a result of a mandatory or optional prepayment, the TIFIA Lender shall surrender the TIFIA Note to the Borrower or its representative at the principal office of the TIFIA Lender. If the Borrower prepays only part of the unpaid balance of principal of such Note, the TIFIA Lender may make a notation on **Exhibit G** indicating the amount of principal of and interest on such Note then being prepaid. Absent manifest error, the TIFIA Lender's determination of such matters as set forth on **Exhibit G** shall be conclusive evidence thereof; provided, however, that neither the failure to make any such recordation nor any error in such recordation shall affect in any manner the Borrower's obligations hereunder or under any other TIFIA Loan Document. All such partial prepayments of principal shall be applied pro-rata to reduce all future principal payments due on the TIFIA Note. If said monies shall not have been so paid on the prepayment date, such principal amount of such Note shall continue to bear interest until payment thereof at the rate provided for in Section 6 (*Interest Rate*).

SECTION 11. [Reserved]

SECTION 12. Compliance with Laws. The Borrower shall, and shall require its contractors and subcontractors at all tiers for the Project to, comply in all material respects with all applicable laws, rules, regulations, executive and administrative decrees and orders, and orders and judgments of any court or arbitral panel, including all applicable federal and State laws, rules, regulations and executive orders. The list of federal laws attached as **Exhibit E** is illustrative of the type of requirements generally applicable to transportation projects and is not intended to be exhaustive. The FHWA Division Office has oversight responsibility for the Project, including

ensuring compliance in all material respects with all applicable provisions of federal law. Pursuant to the FHWA Oversight Agreement, TxDOT will be responsible for certain Project oversight activities. The Borrower acknowledges receipt of the FHWA Oversight Agreement and hereby agrees to cooperate with TxDOT and the FHWA Division Office in carrying out TxDOT's duties under the FHWA Oversight Agreement.

SECTION 13. Conditions Precedent.

(a) Conditions Precedent to Effectiveness. Notwithstanding anything in this Agreement to the contrary, this Agreement shall not become effective until each of the following conditions precedent shall have been satisfied or waived in writing by the TIFIA Lender:

(i) The Borrower shall have duly executed and delivered to the TIFIA Lender this Agreement and the TIFIA Note, each in form and substance satisfactory to the TIFIA Lender.

(ii) The Borrower shall have delivered to the TIFIA Lender certified, complete, and fully executed copies of each Security Document, together with any amendments, waivers or modifications thereto, in each case that has been entered into on or prior to the Effective Date, and each such agreement shall be in full force and effect and in form and substance satisfactory to the TIFIA Lender, and all conditions contained in such documents to the closing of the transactions contemplated thereby shall have been fulfilled or effectively waived (provided that for purposes of this Section 13(a)(ii) (*Conditions Precedent to Effectiveness*), any such waiver shall be subject to the TIFIA Lender's consent in its sole discretion).

(iii) Counsel to the Borrower and the Borrower Related Parties shall have rendered to the TIFIA Lender legal opinions satisfactory to the TIFIA Lender in its sole discretion (including those opinions set forth on **Exhibit H-1**) and bond counsel to the Borrower and the Borrower Related Parties shall have rendered to the TIFIA Lender legal opinions satisfactory to the TIFIA Lender in its sole discretion (including those opinions set forth on **Exhibit H-2**).

(iv) The Borrower shall have provided a certificate from the Borrower's Authorized Representative as to the absence of debarment, suspension or voluntary exclusion from participation in Federal Government contracts, procurement and non-procurement matters substantially in the form attached hereto as **Exhibit C** with respect to the Borrower and its principals (as defined in 2 C.F.R. § 180.995).

(v) The Borrower shall have provided to the TIFIA Lender satisfactory evidence that the Project has been included in (A) the metropolitan transportation improvement program adopted by the Houston-Galveston Transportation Policy Council of the Houston-Galveston Area Council, (B) the State transportation plan, and (C) the State transportation improvement program submitted to the USDOT or its designated agency, in each case to the extent

required by 23 U.S.C. §§ 134 and 135 and 23 U.S.C. § 602(a)(3), as applicable; and the financial plan for each such program or plan shall reflect the amount of the TIFIA Loan and all other federal funds to be used for the Project as sources of funding for the Project.

(vi) The Borrower shall have provided evidence to the TIFIA Lender's satisfaction, no more than thirty (30) days, but no less than fourteen (14) days prior to the Effective Date, of the confirmation by at least two (2) Rating Agencies of a public Investment Grade Rating on the Existing Senior Obligations and a public rating on the TIFIA Loan and no such rating has been reduced, withdrawn or suspended as of the Effective Date.

(vii) The Borrower shall have delivered to the TIFIA Lender a certificate from the Borrower's Authorized Representative in the form attached hereto as Exhibit J (A) as to the satisfaction of certain conditions precedent set forth in this Section 13(a) (*Conditions Precedent to Effectiveness*) as required by the TIFIA Lender, (B) designating the Borrower's Authorized Representative, and (C) confirming such person's position and incumbency.

(viii) [Reserved]

(ix) The Borrower shall have demonstrated to the TIFIA Lender's satisfaction that as of the Effective Date the aggregate of all committed sources of funds shown in the Base Case Financial Model and in the Project Budget to pay Total Project Costs have been fully and completely committed and allocated to the Borrower by the providers thereof and that such funds together with any projected investment earnings shall be sufficient to pay all Total Project Costs necessary to achieve Substantial Completion.

(x) The Borrower shall have delivered to the TIFIA Lender an original fully executed counterpart (or a certified copy) of the Traffic and Revenue Study in form and substance acceptable to the TIFIA Lender, accompanied by a letter from the preparer of such study, dated as of July 30, 2020, and certifying that the assumptions and projections contained in the Traffic and Revenue Study are reasonable and may be relied upon by the TIFIA Lender.

(xi) The Borrower shall have provided to the TIFIA Lender certified, complete, and fully executed copies of each Principal Project Contract and each of the other Related Documents, together with any amendments, waivers or modifications thereto, in each case that has been entered into on or prior to the Effective Date and each such agreement shall be in full force and effect and in form and substance satisfactory to the TIFIA Lender.

(xii) The Borrower shall certify, based on information from TxDOT, that TxDOT has acquired, or will acquire in a timely manner and as necessary to construct the Project, all of the right of way to be financed with the 2018 Debt and refinanced with proceeds of the TIFIA Loan.

(xiii) The Borrower shall have demonstrated to the TIFIA Lender's satisfaction that it or TxDOT (as applicable) has obtained all Governmental Approvals necessary to commence construction of the Project and that all such Governmental Approvals are final, non-appealable, and in full force and effect (and are not subject to any notice of violation, breach, or revocation).

(xiv) The Borrower shall have delivered to the TIFIA Lender a certified Base Case Financial Model on or prior to the Effective Date, which Base Case Financial Model shall (A) demonstrate that projected Project Revenues are sufficient to meet the Loan Amortization Schedule, (B) demonstrate a Total Debt Service Coverage Ratio for each Calculation Period through the Final Maturity Date that is not less than 1.0, (C) not reflect (1) the commencement of amortization of the principal amount of any Senior Obligations, other than the Existing Senior Obligations that, as of the Effective Date, are scheduled to commence amortization before the Debt Service Payment Commencement Date, (2) the payment of any interest on any Second Tier Obligations or Subordinate Tier Obligations, other than the Existing Obligations, before the Debt Service Payment Commencement Date, or (3) the commencement of amortization of the principal amount of any Second Tier Obligations or Subordinate Tier Obligations, other than Existing Obligations, before the commencement of the amortization of the principal amount of the TIFIA Loan, and (D) otherwise be in form and substance acceptable to the TIFIA Lender.

(xv) The Borrower shall have (A) provided evidence satisfactory to the TIFIA Lender that the Borrower is authorized, pursuant to the Borrower's Enabling Act, to pledge, assign, and grant the Liens on the Trust Estate purported to be pledged, assigned, and granted pursuant to the Security Documents, without the need for notice to any Person, physical delivery, recordation, filing or further act, (B) recorded or filed, or caused to be recorded or filed, for record in such manner and in such places as are required all documents and instruments, and taken or caused to be taken all other actions, as are necessary or desirable to establish and enforce the Trustee's Lien on the Trust Estate (for the benefit of the Secured Parties) to the extent contemplated by the Security Documents, and (C) paid, or caused to be paid, all taxes and filing fees that are due and payable in connection with the execution, delivery or recordation of any Security Documents or any instruments, certificates or financing statements in connection with the foregoing.

(xvi) The Borrower shall have paid in full all invoices delivered by the TIFIA Lender (or by advisors to the TIFIA Lender that have direct billing arrangements with the Borrower) to the Borrower as of the Effective Date for the reasonable fees and expenses of the TIFIA Lender's counsel and advisors and any auditors or other consultants employed by the TIFIA Lender for the purposes hereof (such reasonableness to be determined in accordance with Part 31 of the Federal Acquisition Regulation).

(xvii) The Borrower shall have (A) provided evidence satisfactory to the TIFIA Lender of compliance with NEPA, and (B) complied with

all applicable requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601 *et seq.*) and Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*) and shall have provided evidence satisfactory to the TIFIA Lender of such compliance upon request by the TIFIA Lender.

(xviii) The TIFIA Lender shall have delivered its initial TIFIA Lender's Authorized Representative certificate.

(xix) The Borrower shall have (A) obtained a Federal Employer Identification Number, (B) obtained a Data Universal Numbering System number, and (C) registered with, and obtained confirmation of active registration status from, the federal System for Award Management (www.SAM.gov).

(xx) The Borrower shall have provided a certificate, in form and substance satisfactory to the TIFIA Lender and signed by the Borrower's Authorized representative, certifying that the insurance required pursuant to Section 16(f) (*Insurance*) is in full force and effect and that such insurance complies with the requirements thereof.

(xxi) The Borrower shall have provided to the TIFIA Lender evidence that the Borrower is duly organized and validly existing under the laws of its jurisdiction of formation, with full power, authority and legal right to own its properties and carry on its business and governmental functions as now conducted, including the following documents, each certified by the Borrower's Authorized Representative: (A) a copy of its Organizational Documents, as in effect on the Effective Date (and certified by the Secretary of State or the state of its formation, to the extent applicable), which Organizational Documents shall be in full force and effect and shall not have been amended since the date of the last amendment thereto shown on the certificate, (B) a copy of all resolutions of the Borrower authorizing the Borrower to execute and deliver, and to perform its obligations under, the TIFIA Loan Documents to which it is a party, and such resolutions have not been subsequently modified, rescinded or amended, are in full force and effect in the form adopted, and are the only resolutions adopted by the Borrower, relating to the matters described therein, and (C) a copy of such further instruments and documents as are necessary, appropriate or advisable to effectuate the foregoing resolutions and to consummate and implement the transactions contemplated by such resolutions and the TIFIA Loan Documents.

(xxii) The Borrower shall have provided the TIFIA Lender records of the Eligible Project Costs incurred prior to the Effective Date, in form and substance satisfactory to the TIFIA Lender and in sufficient time prior to the Effective Date to permit the TIFIA Lender and the FHWA Division Office to review such costs.

(xxiii) The Borrower shall have provided to the TIFIA Lender certified, complete and fully executed copies of each performance security instrument delivered to or by the Borrower pursuant to any Principal Project Contract as of the Effective Date, each of which shall be (A) in compliance with the requirements for such performance security pursuant to the applicable Principal Project Contract, and (B) in full force and effect.

(xxiv) The representations and warranties of the Borrower set forth in this Agreement (including Section 14 (*Representations and Warranties of Borrower*)) and in each other Related Document to which it is a party shall be true and correct, as of the Effective Date, except to the extent such representations and warranties expressly relate to an earlier date (in which case, such representations and warranties shall be true and correct as of such earlier date).

(xxv) The Borrower shall have provided the TIFIA Lender with evidence satisfactory to the TIFIA Lender that, as of the Effective Date (A) the maximum principal amount of the TIFIA Loan (excluding any interest that is capitalized in accordance with the terms hereof), together with the amount of any other credit assistance provided for the Project under the Act to the Borrower, does not exceed thirty-three percent (33%) of reasonably anticipated Eligible Project Costs and (B) as required pursuant to § 603(b)(9) of the Act, the total federal assistance provided to the Project, including the maximum principal amount of the TIFIA Loan (excluding any interest that is capitalized in accordance with the terms hereof), does not exceed eighty percent (80%) of Eligible Project Costs.

(xxvi) The Borrower shall have delivered to the TIFIA Lender a duly executed certificate from the Trustee in the form attached hereto as **Exhibit I**.

(xxvii) The Borrower shall have provided a certificate from the Borrower's Authorized Representative as to the prohibition on the use of appropriated funds for lobbying substantially in the form attached hereto as **Exhibit L** in accordance with 49 C.F.R. §20.100(b).

(xxviii) The Borrower shall have delivered such other agreements, documents, instruments, opinions and other items required by the TIFIA Lender, all in form and substance satisfactory to the TIFIA Lender, including evidence that all other Project funding requirements have been met (including evidence of other funding sources or funding commitments and evidence of the closing of the Series 2018 BANs).

(b) Conditions Precedent to All Disbursements. Notwithstanding anything in this Agreement to the contrary, the TIFIA Lender shall have no obligation to make any disbursement of loan proceeds to the Borrower (including the initial disbursement hereunder) until each of the following conditions precedent has been satisfied or waived in writing by the TIFIA Lender:

(i) [Reserved]

(ii) The Borrower shall have provided the most recent update to the Financial Plan in accordance with Section 22(a) (*Financial Plan*), which update to the Financial Plan reflects that amortization of the principal amount of any Senior Obligations (except the Existing Senior Obligations) does not commence before the Debt Service Payment Commencement Date.

(iii) To the extent not previously delivered to the TIFIA Lender, the Borrower shall have delivered to the TIFIA Lender certified, complete and fully executed copies of any Security Documents entered into after the Effective Date.

(iv) To the extent not previously delivered to the TIFIA Lender, the Borrower shall have provided certified copies of all Principal Project Contracts, all other Related Documents and all Additional Project Contracts requested by the TIFIA Lender pursuant to Section 16(b) (*Copies of Documents*) or Section 17(e) (*Additional Project Contracts*) (including, in each case, any amendment, modification or supplement thereto) entered into after the Effective Date.

(v) The Borrower shall have demonstrated to the TIFIA Lender's satisfaction that it or TxDOT (as applicable) has obtained all Governmental Approvals necessary as of the time of the applicable disbursement for the development, construction, operation and maintenance of the Project and such Governmental Approvals are in full force and effect.

(vi) Unless the Borrower has adopted a self-insurance program as provided in Section 705 of the Master Trust Agreement, each of the insurance policies obtained by the Borrower and by the Principal Project Party in satisfaction of the conditions in Section 13(a)(xx) (*Conditions Precedent to Effectiveness*) is in full force and effect, and no notice of termination thereof has been issued by the applicable insurance provider.

(vii) At the time of, and immediately after giving effect to, any disbursement of TIFIA Loan proceeds then currently requested, (A) no Event of Default hereunder and no event of default (howsoever described or designated) under any other Related Document (other than an event of default of a Principal Project Party) shall have occurred and be continuing, (B) no material event of default (howsoever described or designated) of any Principal Project Party under any Principal Project Contract shall have occurred and be continuing, and (C) no event or condition that, with the giving of notice, the passage of time, or both, would constitute an Event of Default hereunder or event of default (howsoever described or designated) of the Borrower under any other Related Document, in each case, shall have occurred and be continuing.

(viii) To the extent necessary to make the corresponding representations and warranties true, correct and complete as of the date of any disbursement of loan proceeds hereunder, the Borrower shall have delivered an updated version of **Schedule 14(f)** in form and substance satisfactory to the TIFIA Lender in its sole discretion.

(ix) The representations and warranties of the Borrower set forth in this Agreement (including Section 14 (*Representations and Warranties of Borrower*)) and in each other Related Document to which the Borrower is a party shall be true, correct and complete as of each date on which any disbursement of the TIFIA Loan is made, except to the extent such representations and warranties expressly relate to an earlier date (in which case, such representations and warranties shall be true and correct as of such earlier date).

(x) No Material Adverse Effect, or any event or condition that could reasonably be expected to result in a Material Adverse Effect, shall have occurred and be continuing since the date the Borrower submitted the Application to the TIFIA Lender.

(xi) The Borrower shall have delivered to the TIFIA Lender a Requisition that complies with the provisions of Section 4 (*Disbursement Conditions*), and such Requisition has not been expressly denied by the TIFIA Lender.

(xii) The Borrower shall have paid in full all invoices received from the TIFIA Lender (or by advisors to the TIFIA Lender that have direct billing arrangements with the Borrower) as of the date of disbursement of the TIFIA Loan, for the reasonable fees and expenses of the TIFIA Lender's counsel and advisors and any auditors or other consultants employed by the TIFIA Lender for the purposes hereof (such reasonableness to be determined in accordance with Part 31 of the Federal Acquisition Regulation).

(xiii) To the extent not previously delivered to the TIFIA Lender, the Borrower shall have provided to the TIFIA Lender certified, complete and fully executed copies of each performance security instrument delivered to or by the Borrower pursuant to any Principal Project Contract as of the date of disbursement of the TIFIA Loan, each of which performance security instruments shall be (A) in compliance with the requirements for such performance security pursuant to the applicable Principal Project Contract, and (B) in full force and effect.

SECTION 14. Representations and Warranties of Borrower. The Borrower hereby represents and warrants that, as of the Effective Date and, as to each of the representations and warranties below other than those contained in Section 14(b) (*Officers' Authorization*) and Section 14(l) (*Credit Ratings*), as of each date on which any disbursement of the TIFIA Loan is requested or made:

(a) Organization; Power and Authority. The Borrower is a transportation corporation duly organized, validly existing and in good standing under the laws of the State, has full legal right, power and authority to enter into the Related Documents and the TIFIA Loan Documents to which it is a party then in existence, to execute and deliver the TIFIA Note, and to carry out and consummate all transactions contemplated hereby and thereby and has duly authorized the execution, delivery and performance of the Related Documents and the TIFIA Loan Documents to which it is a party then in existence.

(b) Officers' Authorization. As of the Effective Date, the officers of the Borrower executing (or that previously executed) the Related Documents and the TIFIA Loan Documents, and any certifications or instruments related thereto, to which the Borrower is a party are (or were at the time of such execution) duly and properly in office and fully authorized to execute the same.

(c) Due Execution; Enforceability. Each of the Related Documents and the TIFIA Loan Documents in effect as of any date on which this representation and warranty is made, and to which the Borrower is a party, has been duly authorized, executed and delivered by the Borrower and constitutes the legal, valid and binding agreement of the Borrower enforceable in accordance with its terms, except as such enforceability (i) may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the rights of creditors generally and (ii) is subject to general principles of equity (regardless of whether enforceability is considered in equity or at law).

(d) Non-Contravention. The execution and delivery of the Related Documents and the TIFIA Loan Documents to which the Borrower is a party, the consummation of the transactions contemplated in the Related Documents and the TIFIA Loan Documents to which it is a party and the fulfillment of or compliance with the terms and conditions of the Related Documents and the TIFIA Loan Documents to which it is a party will not (i) conflict with the Borrower's Organizational Documents or the Borrower's Enabling Act, or (ii) conflict in any material respect with, or constitute a violation, breach or default (whether immediately or after notice or the passage of time or both) by the Borrower of or under, any applicable law, administrative rule or regulation, any applicable court or administrative decree or order, or any indenture, mortgage, deed of trust, loan agreement, lease, contract or other agreement or instrument to which the Borrower is a party or by which it or its properties are otherwise subject or bound, or (iii) result in the creation or imposition of any Lien, charge or encumbrance of any nature whatsoever upon any of the property or assets of the Borrower other than Permitted Liens.

(e) Consents and Approvals. No consent or approval of any trustee, holder of any indebtedness of the Borrower or any other Person, and no consent, permission, authorization, order or license of, or filing or registration with, any Governmental Authority is necessary in connection with (i) the execution and delivery by the Borrower of the Related Documents and the TIFIA Loan Documents to which it is a party, except as have been obtained or made and as are in full force and effect, or (ii) (A) the consummation of any transaction contemplated by the Related Documents and the TIFIA Loan Documents or (B) the fulfillment of or compliance by the Borrower with the

terms and conditions of the Related Documents and the TIFIA Loan Documents to which it is a party, except as have been obtained or made and as are in full force and effect or as are ministerial in nature and can reasonably be expected to be obtained or made in the ordinary course on commercially reasonable terms and conditions when needed.

(f) Litigation. As of the Effective Date, except as set forth in **Schedule 14(f)**, there is no action, suit, proceeding or, to the knowledge of the Borrower, any inquiry or investigation, in any case before or by any court or other Governmental Authority pending or, to the knowledge of the Borrower, threatened against or affecting the Project or the ability of the Borrower to execute, deliver and perform its obligations under the Related Documents and the TIFIA Loan Documents. As of the Effective Date and as of each other date on which the representations and warranties herein are made or confirmed, except as set forth in **Schedule 14(f)**, as updated as of such date, there is no action, suit, proceeding or, to the knowledge of the Borrower, any inquiry or investigation before or by any court or other Governmental Authority pending, or to the knowledge of the Borrower, threatened against or affecting the Project, the Borrower or the assets, properties or operations of the System, that in any case could reasonably be expected to result in a Material Adverse Effect. To the Borrower's knowledge, there are no actions of the type described above pending, threatened against, or affecting the Principal Project Party except for matters set forth in **Schedule 14(f)**, as updated as of such date and matters arising after the Effective Date that could not reasonably be expected to (i) result in a Material Adverse Effect or (ii) adversely affect the Borrower's ability to receive Project Revenues in amounts sufficient to meet the financial projections contained in the Base Case Financial Model (or any Revised Financial Model, to the extent any Revised Financial Model has been submitted to the TIFIA Lender).

(g) Security Interests. The Trust Agreement, the Borrower's Enabling Act and Chapter 1208, Texas Government Code, establish, in favor of the Trustee for the benefit of the First Tier Obligation Secured Parties, including the TIFIA Lender with respect to the TIFIA Note and this Agreement, the valid and binding Lien on the Trust Estate that they purport to create, irrespective of whether any Person has notice of the pledge and without the need for any physical delivery, recordation, filing, or further act. Such Lien is in full force and effect and is not subordinate or junior to any other Liens in respect of the Trust Estate, and not *pari passu* with any obligations other than the First Tier Obligations. The Borrower has duly and lawfully taken all actions required under this Agreement, the Security Documents, and applicable laws for the pledge of the Trust Estate pursuant to and in accordance with the Security Documents. The Borrower is not in breach of any covenants set forth in Section 16(a) (*Securing Liens*) or in the Security Documents with respect to the matters described in such section or documents. As of the Effective Date and as of each other date this representation and warranty is made, (i) all documents and instruments have been recorded or filed for record in such manner and in such places as are required and all other action as is necessary or desirable has been taken to establish a legal, valid, binding, and enforceable Lien on the Trust Estate in favor of the Trustee (for the benefit of the Secured Parties) to the extent contemplated by the Security Documents, and (ii) all taxes and filing fees that are due and payable in connection with the execution, delivery or recordation of any Security Documents or any instruments, certificates or financing statements in connection with the foregoing, have been paid. As provided in

Chapter 1208, Texas Government Code, neither the attachment, perfection, validity, enforceability or priority of the security interest in the Trust Estate granted pursuant to the Security Documents is governed by Article 9 of the UCC.

(h) No Debarment. The Borrower has fully complied with its verification obligations under 2 C.F.R. § 180.320 and confirms, based on such verification, that, to its knowledge, neither the Borrower nor any of its principals (as defined in 2 C.F.R. § 180.995) is debarred, suspended or voluntarily excluded from participation in Federal Government contracts, procurement or non-procurement matters or delinquent on a Federal Government debt as more fully set forth in the certificate delivered pursuant to Section 13(a)(iv) (*Conditions Precedent to Effectiveness*). Further, the Borrower has fully complied with 2 CFR Part 180, including Subpart C, in particular §§ 180.300 and 180.330, and with 2 CFR § 1200.332. The Borrower is not aware of any non-compliance by any of its contractors or subcontractors with the applicable requirements of 2 CFR Part 180.

(i) Accuracy of Representations and Warranties. The representations, warranties and certifications of the Borrower set forth in the Related Documents and the TIFIA Loan Documents to which it is a party are true, correct, and complete, except to the extent such representations and warranties expressly relate to an earlier date (in which case, such representations and warranties shall be true, correct, and complete as of such earlier date).

(j) Compliance with Federal Requirements. The Borrower has complied, with respect to the Project, with all applicable requirements of NEPA, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601 *et seq.*), and Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*).

(k) Transportation Improvement Program. The Project has been included in (i) the metropolitan transportation improvement program adopted by the Houston-Galveston Transportation Policy Council of the Houston-Galveston Area Council, (ii) the State transportation plan, and (iii) the State transportation improvement program approved by the USDOT or its designated agency, in each case to the extent required by 23 U.S.C. §§ 134 and 135 and 23 U.S.C. § 602(a)(3), as applicable. The financial plan for each such program or plan reflects the amount of the TIFIA Loan and all other federal funds to be used for the Project as sources of funding for the Project.

(l) Credit Ratings. The public Investment Grade Rating from at least two (2) Rating Agencies on the Existing Senior Obligations has been confirmed, the TIFIA Loan has received a public rating from at least two (2) Rating Agencies, and written evidence of such ratings has been provided to the TIFIA Lender prior to the Effective Date, and no such rating has been reduced, withdrawn or suspended as of the Effective Date.

(m) No Defaults. The Borrower is not in default under the terms of any Related Document or any of the TIFIA Loan Documents, and no event has occurred or condition exists that, with the giving of notice or the passage of time or both, would

constitute an Event of Default or event of default under any Related Document or the TIFIA Loan Documents in each case.

(n) Governmental Approvals. All Governmental Approvals required as of the Effective Date and any subsequent date on which this representation is made (or deemed made) for the undertaking and completion by the Borrower of the Project, and for the operation and management thereof, have been obtained or effected and are in full force and effect and there is no basis for, nor proceeding that is pending or threatened that could reasonably be expected to result in, the revocation of any such Governmental Approval. The Borrower is not in default (and no event has occurred and is continuing that, with the giving of notice or the passage of time or both, could constitute a default) with respect to any Governmental Approval, which default could reasonably be expected to result in a Material Adverse Effect

(o) Principal Project Contracts. Each Principal Project Contract in effect as of any date on which this representation and warranty is made is in full force and effect and all conditions precedent to the obligations of the respective parties under each Principal Project Contract have been satisfied. The Borrower has delivered to the TIFIA Lender a fully executed, complete, and correct copy of each such Principal Project Contract and each Additional Project Contract required to be delivered to, or requested by, the TIFIA Lender pursuant to Section 16(b) (*Copies of Documents*) (including, in each case, all exhibits, schedules and other attachments) that is in effect, including any amendments or modifications thereto and any related credit support instruments or side letters. No event has occurred that gives the Borrower or, to the Borrower's knowledge, the Construction Contractor, the right to terminate the Design-Build Agreement. The Borrower is not in breach of any material term in or in default under any Principal Project Contracts, and to the knowledge of the Borrower, no party to any Principal Project Contract is in breach of any material term therein or in default thereunder.

(p) Information. The information furnished by the Borrower to the TIFIA Lender, when taken as a whole, does not contain any untrue statement of a material fact or omit to state any material fact necessary to make the statements contained therein not misleading as of the date made or furnished; provided that no representation or warranty is made with regard to projections or other forward-looking statements provided by or on behalf of the Borrower (including the Base Case Financial Model, any Revised Financial Model, and the assumptions therein) except that the assumptions in the Base Case Financial Model and any Revised Financial Model were reasonable in all material respects when made.

(q) OFAC; Anti-Money Laundering; Anti-Corruption Laws.

(i) None of the Borrower, any other Borrower Related Party, nor, to the knowledge of the Borrower, any Principal Project Party, is a Sanctioned Person.

(ii) None of the Borrower, any other Borrower Related Party, nor, to the knowledge of the Borrower, any Principal Project Party is in

violation of or, since the date that is five (5) years prior to the Effective Date, has violated: (A) any applicable Anti-Money Laundering Laws; (B) any applicable Sanctions; (C) any applicable Anti-Corruption Laws; or (D) any applicable anti-drug trafficking, or anti-terrorism laws, civil or criminal.

(iii) There are no pending or, to the knowledge of the Borrower, threatened claims or investigations by any Governmental Authority against, or any internal investigations conducted by, the Borrower, with respect to any possible or alleged violations of any Sanctions, Anti-Money Laundering Laws, Anti-Corruption Laws, or any anti-drug trafficking or anti-terrorism laws.

(iv) To the knowledge of the Borrower, there are no pending or threatened claims or investigations by any Governmental Authority against, or any internal investigations conducted by, any Principal Project Party, with respect to any possible or alleged violations of any Sanctions, Anti-Money Laundering Laws, Anti-Corruption Laws, or any anti-drug trafficking or anti-terrorism laws.

(v) No use of proceeds of the TIFIA Loan or other transaction contemplated by this Agreement or any other TIFIA Loan Document or the Related Documents will violate any applicable Sanctions, Anti-Money Laundering Laws, or Anti-Corruption Laws, or any applicable anti-drug trafficking or anti-terrorism laws.

(r) Compliance with Law. Each of the Borrower and each other Borrower Related Party is in compliance in all material respects with, and has conducted (or caused to be conducted) its business and government functions and the business and operations of the Project in compliance in all material respects with, all applicable laws (other than Environmental Laws, which are addressed in Section 14(s) (*Environmental Matters*)), including those set forth on **Exhibit E**, to the extent applicable. To the Borrower's knowledge, the Principal Project Party is, and has caused its respective contractors and subcontractors to be, in compliance in all material respects with all applicable laws, including those set forth on **Exhibit E**, to the extent applicable. No notices of violation of any applicable law have been issued, entered or received by the Borrower or, any other Borrower Related Party or, to the Borrower's knowledge and solely in respect of the Project or any Principal Project Contract, any Principal Project Party, other than, in each case, notices of violations that are immaterial.

(s) Environmental Matters. Each of the Borrower, each other Borrower Related Party and, to the Borrower's knowledge, the Principal Project Party is in compliance with all laws applicable to the Project relating to (i) air emissions, (ii) discharges to surface water or ground water, (iii) noise emissions, (iv) solid or liquid waste disposal, (v) the use, generation, storage, transportation or disposal of toxic or hazardous substances or wastes, (vi) biological resources (such as threatened and endangered species), and (vii) other environmental, health or safety matters, including all laws applicable to the Project referenced in the notice "Federal Environmental Statutes, Regulations, and Executive Orders Applicable to the Development and Review of Transportation Infrastructure Projects," 79 Fed. Reg. 22756 (April 23, 2014) (or any successor Federal

Register notice of similar import), which document is available at <http://www.transportation.gov/policy/transportation-policy/environment/laws> (“**Environmental Laws**”). All Governmental Approvals for the Project relating to Environmental Laws have been, or, when required, will be, obtained by TxDOT or the Borrower (as applicable) and are (or, as applicable, will be) in full force and effect. Neither the Borrower nor any other Borrower Related Party has received any written communication or notice, whether from a Governmental Authority, employee, citizens group, or any other Person, that alleges that the Borrower or such other Borrower Related Party is not in full compliance with all Environmental Laws and Governmental Approvals relating thereto in connection with the Project and, to the Borrower’s knowledge, there are no circumstances that may prevent or interfere with full compliance in the future by the Borrower or any other Borrower Related Party with any such Environmental Law or Governmental Approval. The Borrower has provided to the TIFIA Lender all material assessments, reports, results of investigations or audits, and other material information in the possession of or reasonably available to the Borrower or any other Borrower Related Party regarding the Borrower’s or the Project’s compliance with (A) Environmental Laws, and (B) Governmental Approvals relating to Environmental Laws that are required for the Project.

(t) Sufficient Rights and Utilities. The Borrower or TxDOT, as applicable, possesses either valid legal and beneficial title to, leasehold title in, or other valid legal rights with respect to the real property relating to the Project, in each case as is necessary and sufficient as of the date this representation is made for the construction, operation, maintenance and repair of the Project. As of any date on which this representation and warranty is made, the Principal Project Contracts and other Related Documents then in effect and the Governmental Approvals that have been obtained and are then in full force and effect create rights in the Borrower or TxDOT, as applicable, sufficient to enable the Borrower to construct, operate, maintain and repair the Project and to perform its obligations under the Principal Project Contracts and the other Related Documents to which it is a party then in effect. All utility services, means of transportation, facilities and other materials necessary for the construction and operation of the Project (including, as necessary, gas, electrical, water and sewage services and facilities) are, or will be when needed, available to the Project and arrangements in respect thereof have been made on commercially reasonable terms.

(u) Insurance. **Schedule 14(u)** lists all insurance policies of any nature maintained by the Borrower with respect to the Project as of the Effective Date, as well as a summary of the terms of each such policy, if any. The Borrower is in compliance with all insurance obligations required under the Design-Build Agreement and the other Related Documents or the TIFIA Loan Documents as of the date on which this representation and warranty is made and has implemented all insurance requirements contained in Section 705 of the Master Trust Agreement. To the extent the Borrower self-insures, the Borrower’s self-insurance program is actuarially sound and the Borrower has received an opinion from an accredited actuary within the last twelve (12) months, which opinion confirms that the Borrower’s self-insurance program is actuarially sound.

(v) Title. The Borrower has valid legal and beneficial title to Project Revenues on which it purports to grant Liens pursuant to the Trust Agreement, in each case free and clear of any Lien of any kind, except for Permitted Liens.

(w) No Liens. Except for Permitted Liens, the Borrower has not created, and is not under any obligation to create, and has not entered into any transaction or agreement that would result in the imposition of, any Lien on the Trust Estate, the System, the Project Revenues, or the properties or assets in relation to the System.

(x) Intellectual Property. The Borrower owns, or has adequate licenses or other valid rights to use, all material patents, trademarks, service marks, trade names, copyrights, franchises, formulas, licenses and other rights with respect thereto and has obtained assignment of all licenses and other rights of whatsoever nature, in each case necessary for the Project and the operation of its business as of the date this representation and warranty is made. To the Borrower's knowledge, there exists no conflict with the rights or title of any third party with respect to the intellectual property described in the preceding sentence. Excluding the use of commercially available "off-the-shelf" software, to the Borrower's knowledge, no product, process, method, substance, part or other material produced or employed or presently contemplated to be produced by or employed by the Project infringes or will infringe any patent, trademark, service mark, trade name, copyright, franchise, formula, license or other intellectual property right of any third party.

(y) Investment Company Act. The Borrower is not, and after applying the proceeds of the TIFIA Loan will not be, required to register as an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and is not "controlled" by a company required to register as an "investment company" under the Investment Company Act of 1940, as amended.

(z) Financial Statements. Each income statement, balance sheet, and statement of operations and cash flows (collectively, "**Financial Statements**") delivered to the TIFIA Lender pursuant to Section 22(c) (*Financial Statements*) has been prepared in accordance with GAAP (except for requirements and procedures established by the Texas State Comptroller and the Texas State Auditor) and presents fairly, in all material respects, the financial condition of the Borrower as of the respective dates of the balance sheets included therein and the results of operations of the Borrower for the respective periods covered by the statements of income included therein. Except as reflected in such Financial Statements, there are no liabilities or obligations of the Borrower of any nature whatsoever for the period to which such Financial Statements relate that are required to be disclosed in accordance with GAAP.

(aa) Taxes. The Borrower is not required to file tax returns with any Governmental Authority, except certain IRS Form 8038 informational returns filed with the Internal Revenue Service in connection with certain tax-exempt and tax credit debt issued by the Borrower.

(bb) ERISA. Neither the Borrower nor any ERISA Affiliate maintains or otherwise has any liability in respect of any plan or other arrangement that is subject to ERISA or Section 412 of the Tax Code.

(cc) Sufficient Funds. The aggregate of (i) all funds that are undrawn but fully and completely committed or reasonably expected to be available, under the Trust Agreement and this Agreement, (ii) all delay payments and insurance proceeds in respect of any casualty loss (other than any proceeds of business interruption insurance, delay-in-start-up insurance and proceeds covering liability of the Borrower to third parties) received by the Borrower or to which the Borrower is entitled in accordance with the applicable insurance policies and Principal Project Contracts, and (iii) all other available funds that are fully committed and available or reasonably expected to be available, including under the BAN Resolution and the BAN Trust Agreement, will be sufficient to pay all Total Project Costs necessary to achieve Substantial Completion.

(dd) Patriot Act. To the extent the Patriot Act is applicable to any Borrower Related Party, the Borrower and, to the Borrower's actual knowledge, each such other Borrower Related Party, has established an anti-money laundering compliance program as required by the Patriot Act.

(ee) Right of Way. Based on information from TxDOT, TxDOT has acquired or will acquire all of the right of way to be financed with proceeds of the Series 2018 BANs that will be refinanced with proceeds of the TIFIA Loan.

SECTION 15. Representations and Warranties of TIFIA Lender. The TIFIA Lender represents and warrants that:

(a) Power and Authority. The TIFIA Lender has all requisite power and authority to make the TIFIA Loan and to perform all transactions contemplated by the TIFIA Loan Documents to which it is a party.

(b) Due Execution; Enforceability. The TIFIA Loan Documents to which the TIFIA Lender is a party have been duly authorized, executed and delivered by the TIFIA Lender, and are legally valid and binding agreements of the TIFIA Lender, enforceable in accordance with their terms.

(c) Officers' Authorization. The officers of the TIFIA Lender executing each of the TIFIA Loan Documents to which the TIFIA Lender is a party are duly and properly in office and fully authorized to execute the same on behalf of the TIFIA Lender.

SECTION 16. Affirmative Covenants. The Borrower covenants and agrees as follows until the date the TIFIA Note and the obligations of the Borrower under this Agreement (other than contingent indemnity obligations) are irrevocably paid in full in cash and the TIFIA Lender no longer has any commitment to make disbursements to the Borrower, unless the TIFIA Lender waives compliance in writing:

(a) Securing Liens. The Borrower shall at any and all times, so far as it may be authorized by law, pass, make, do, execute, acknowledge and deliver, all and every such further resolutions, acts, deeds, conveyances, assignments, transfers and assurances as may be necessary or desirable in connection with assuring, conveying, granting, assigning, securing and confirming the Lien in and to the Trust Estate (whether now existing or hereafter arising) granted to the Trustee for the benefit of the TIFIA Lender pursuant to the Security Documents, or intended so to be granted pursuant to the Security Documents, or which the Borrower may become bound to grant, and the Borrower shall at all times maintain the Trust Estate free and clear of any pledge, Lien, charge or encumbrance thereon or with respect thereto that has priority over, or equal rank with, the Liens created by the Security Documents, other than as permitted by such documents or by this Agreement, and all organizational, regulatory or other necessary action on the part of the Borrower to that end shall be duly and validly taken at all times. The Borrower shall at all times, to the extent permitted by law, defend, preserve and protect the Liens on the Trust Estate granted pursuant to the Security Documents and all the rights of the Trustee for the benefit of the TIFIA Lender under the Security Documents against all claims and demands of all Persons whomsoever, subject to Permitted Liens.

(b) Copies of Documents. The Borrower shall furnish to the TIFIA Lender a copy of any draft documents and final offering documents (including any Bond Resolutions) and cash flow projections prepared in connection with the incurrence after the Effective Date of any Permitted Debt or other indebtedness subject to approval by the TIFIA Lender pursuant to Section 17(a) (*Indebtedness*), in each case prior to the incurrence of any such Permitted Debt or such other indebtedness, as well as copies of any continuing disclosure documents, prepared by or on behalf of the Borrower in connection with the incurrence of such Permitted Debt or such other indebtedness, in each case promptly following the preparation or filing thereof. Except as otherwise agreed by the TIFIA Lender in writing, the Borrower will provide to the TIFIA Lender (i) copies of any draft documents relating to the incurrence of Permitted Debt (other than equipment leases and trade accounts included in such definition) at least thirty (30) days prior to the effective date thereof and (ii) copies of fully executed or final versions of such documentation within ten (10) days following execution or completion thereof. The Borrower shall provide written notice to the TIFIA Lender of the Borrower's intent to enter into an Additional Project Contract and, if such Additional Project Contract is subject to approval by the TIFIA Lender pursuant to Section 17(e) (*Additional Project Contracts*), shall provide drafts of any such Additional Project Contracts at least thirty (30) days prior to the proposed effective date thereof, together with any related contracts, side letters or other understandings. If the TIFIA Lender requests a copy of any Additional Project Contract that is not subject to approval by the TIFIA Lender, the Borrower shall provide a copy of the final or near final draft of such Additional Project Contract, together with any related contracts, side letters or other understandings, prior to the execution thereof and, if requested by the TIFIA Lender, shall provide to the TIFIA Lender an executed version of such Additional Project Contract, together with any related contracts, side letters or other understandings, promptly following the full execution thereof.

(c) Use of Proceeds. The Borrower shall use the proceeds of the TIFIA Loan for purposes permitted by applicable law and as otherwise permitted under this Agreement and the other TIFIA Loan Documents.

(d) Prosecution of Work; Verification Requirements.

(i) The Borrower shall diligently prosecute the work relating to the Project and complete the Project in accordance with the Construction Schedule, and in accordance with the highest standards of the Borrower's industry, using its best efforts at all times.

(ii) The Borrower shall ensure that each Construction Contractor complies with all applicable laws and legal or contractual requirements with respect to any performance security instrument delivered by such Construction Contractor to the Borrower or to any other Borrower Related Party and shall ensure that any letter of credit provided pursuant to the Design-Build Agreement meets the requirements therefor set forth in such Design-Build Agreement.

(iii) The Borrower shall comply with 2 CFR Part 180, including Subpart C, in particular §§ 180.300 and 180.320, and with 2 CFR § 1200.332.

(e) Operations and Maintenance. The Borrower shall (i) operate and maintain the System (A) in a reasonable and prudent manner and (B) substantially in accordance with the Financial Plan most recently submitted to the TIFIA Lender (except as necessary to prevent or mitigate immediate threats to human health and safety or to prevent or mitigate physical damage to material portions of the System), and (ii) maintain the System in good repair, working order and condition and in accordance with the requirements of all applicable laws and each applicable Related Document and the TIFIA Loan Documents. The Borrower shall at all times do or cause to be done all things necessary to obtain, preserve, renew, extend and keep in full force and effect the Governmental Approvals and any other rights, licenses, franchises, and authorizations material to the conduct of its business.

(f) Insurance.

(i) The Borrower shall at all times maintain or cause to be maintained insurance for the construction of the Project, with responsible insurers, as required by the Principal Project Contracts and as is customarily maintained in the United States of America with respect to works and properties of like character, against accident to, loss of or damage to such works or properties, which shall include liability coverage and pollution and other environmental liability and remediation related coverage. The Borrower shall cause the Principal Project Party to obtain and maintain casualty and liability insurance in accordance with the requirements of the applicable Principal Project Contract.

(ii) The Borrower shall at all times maintain with responsible insurers or through a program of self-insurance all such insurance on the System as

is customarily maintained with respect to works and properties of like character against accident to, loss of, or damage to such works or properties.

(iii) To the extent the Borrower elects to self-insure, the Borrower shall deliver to the TIFIA Lender annually a written opinion of an accredited actuary that confirms that the Borrower's self-insurance program is actuarially sound.

(iv) The Borrower shall prepay the TIFIA Loan in whole or in part, without penalty or premium, from any Net Loss Proceeds available for prepayment of the TIFIA Loan in accordance with Section 10(a) (*Mandatory Prepayments*).

(v) The Borrower shall (by self-insuring or maintaining with responsible insurers or by a combination thereof) provide for workers' compensation insurance for Borrower's workers and insurance against public liability and property damage to the Project to the extent reasonably necessary to protect the Borrower and the TIFIA Lender.

(vi) The Borrower shall cause all liability insurance policies that it maintains (and, during the Construction Period, that are maintained by the Construction Contractor), other than workers' compensation insurance and railroad protective liability policies, to reflect the TIFIA Lender as an additional insured to the extent of its insurable interest. Notwithstanding the above, during the Construction Period, the Borrower shall cause the professional liability policy maintained by the Construction Contractor to include an indemnified party endorsement providing the TIFIA Lender with coverage, and the builder's risk policy maintained by the Construction Contractor to include the TIFIA Lender as a loss payee as its interest may appear, and the TIFIA Lender shall not be required to be listed as an additional insured on such policies.

(vii) The Borrower shall deliver to the TIFIA Lender all (A) insurance brokers' letters, and (B) certificates of insurance, in each case promptly after Borrower's receipt thereof and in any event no later than when required to be delivered pursuant to the Master Trust Agreement. Promptly upon request by the TIFIA Lender, the Borrower shall deliver to the TIFIA Lender copies of any underlying insurance policies obtained by or on behalf of the Borrower in respect of the Project. All such policies shall be available at all reasonable times for inspection by the TIFIA Lender, its agents and representatives.

(viii) The Borrower shall comply with the insurance requirements of Section 705 of the Master Trust Agreement and shall deliver to the TIFIA Lender within five (5) Business Days after receipt thereof any certifications or opinions provided to the Borrower pursuant to Section 705 of the Master Trust Agreement with respect to the Borrower's program of insurance or self-insurance.

(g) Notice.

(i) The Borrower shall, within five (5) Business Days after the Borrower learns of the occurrence, give the TIFIA Lender notice of any of the following events or receipt of any of the following notices, as applicable, setting forth details of such event:

(A) Substantial Completion: the occurrence of Substantial Completion, such notice to be provided in the form set forth in **Exhibit K**;

(B) Events of Default: any Event of Default or any event that, with the giving of notice or the passage of time or both, would constitute an Event of Default;

(C) Litigation: (1) the filing of any litigation, suit or action, or the commencement of any proceeding, against the Borrower before any arbitrator, Governmental Authority, alternative dispute resolution body, or other neutral third-party, or the receipt by the Borrower in writing of any threat of litigation, suit, action, or proceeding, or of any written claim against the Borrower that, in each case, could reasonably be expected to have a Material Adverse Effect, and any material changes in the status of such litigation, suit, action or claim, and (2) any judgments against the Borrower with award amounts in excess of \$10,000,000, either individually or in the aggregate, and (3) any material notices or filings in respect of any action, petition, suit or proceeding listed in **Schedule 14(f)**;

(D) Delayed Governmental Approvals: any failure to receive or delay in receiving any Governmental Approval or making any required filing, notice, recordation or other demonstration to or with a Governmental Authority, in each case to the extent such failure or delay will or could reasonably be expected to result in a delay to any major milestone date (including the Projected Substantial Completion Date) set forth in the Construction Schedule, together with a written explanation of the reasons for such failure or delay and the Borrower's plans to remedy or mitigate the effects of such failure or delay;

(E) Environmental Notices: any notice of material violation under any Environmental Law related to the Project or any material changes to the NEPA Determination;

(F) Insurance Claim: any insurance claims made by the Borrower or a Construction Contractor in respect of the Project in excess of \$1,000,000 either individually or in the aggregate, to the extent related to the Project or to the extent the proceeds from such insurance claim would be deposited into a Project Account;

(G) Amendments: except as otherwise agreed by the TIFIA Lender in writing, copies of (1) any proposed amendments to any

Principal Project Contract or other Related Document at least thirty (30) days prior to the effective date thereof and (2) fully executed amendments within five (5) Business Days following execution thereof;

(H) Principal Project Contract Defaults: any material breach or default or event of default on the part of the Borrower or any other party under any Principal Project Contract;

(I) Uncontrollable Force: the occurrence of any Uncontrollable Force that could reasonably be expected to result in a Material Adverse Effect;

(J) Project Changes: any (A) change to the Total Project Costs as set forth in the Project Budget forecasts in excess of five percent (5%) of total forecasted Total Project Costs as set forth in the Project Budget or (B) material change to the Construction Schedule;

(K) Ratings Changes: any change in the rating assigned to the Senior Obligations or the TIFIA Loan by any Rating Agency that has provided a public rating on such indebtedness, the Borrower, or the Project Revenues;

(L) 2 C.F.R. Notices: (1) that any of the information set forth in the certificate provided pursuant to Section 13(a)(iv) (*Conditions Precedent to Effectiveness*) was incorrect at the time the certificate was delivered or there has been a change in status of the Borrower or any of its principals with respect to the criteria set forth in 2 C.F.R. § 180.335; (2) any other notification required pursuant to 2 C.F.R. § 180.350; and (3) any violation of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the TIFIA Loan as described in 2 C.F.R. § 200.113, and the Borrower shall require its subcontractors to provide it notice of any such violation.

(M) General Engineering Consultant Report: Any report provided by the General Engineering Consultant to the Borrower pursuant to the provisions of Section 504 of the Master Trust Agreement; and

(N) Material Events: the filing of (together with a copy of) any notice to the Municipal Securities Rulemaking Board of any of the events described in clause (b)(5)(i)(C) of Rule 15c2-12 of the U.S. Securities and Exchange Commission (or any similar rule); and

(O) Other Adverse Events: the occurrence of any other event or condition, including any notice of breach from a contract counterparty that could reasonably be expected to result in a Material Adverse Effect.

(ii) The Borrower shall provide the TIFIA Lender with any further information reasonably requested by the TIFIA Lender from time to time concerning the matters described in Section 16(g)(i) (*Notice*).

(h) Remedial Action. Within thirty (30) calendar days after the Borrower learns of the occurrence of an event specified in Section 16(g)(i) (*Notice*) (other than in Section 16(g)(i)(A) (*Substantial Completion*), Section 16(g)(i)(G) (*Amendments*), or Section 16(g)(i)(K) (*Ratings Changes*) (in the case of a ratings upgrade)), the Borrower's Authorized Representative shall provide a statement to the TIFIA Lender setting forth the actions the Borrower proposes to take with respect thereto.

(i) Maintain Legal Structure. The Borrower shall maintain its existence as a transportation corporation under the laws of the State.

(j) Annual Rating. The Borrower shall, commencing in 2022, no later than the last Business Day of June of each year during the term of the TIFIA Note, at no cost to the TIFIA Lender, provide to the TIFIA Lender a public rating, or confirmation of the then current rating, on the Senior Obligations and on the TIFIA Note by a Rating Agency, together with any rating report or letter delivered by such Rating Agency in connection with each such rating, in each case prepared no earlier than March 1 of such year.

(k) Project Accounts; Permitted Investments.

(i) In the event the Senior Debt Service Coverage Ratio shall fall below 1.75 in a Calculation Period as determined on the respective ending Calculation Date, the Borrower shall create and establish a subaccount within the First Tier Reserve Account within the First Tier Debt Service Fund under the Trust Agreement and fund such account in an amount at least equal to the TIFIA Debt Service Reserve Requirement within three (3) months with equal monthly deposits. The Borrower shall maintain the First Tier Reserve Accounts and its subaccounts in amounts equal to the applicable reserve requirement in accordance with the Trust Agreement. The Borrower shall specifically maintain the TIFIA Debt Service Reserve Account in an amount equal to the TIFIA Debt Service Reserve Requirement in accordance with the provisions of the Trust Agreement. Amounts on deposit in the First Tier Reserve Account and its subaccounts shall be made available to ensure the timely payment of the applicable debt service on the applicable First Tier Obligations and, specifically, amounts in the TIFIA Debt Service Reserve Account shall be made available to ensure the timely payment of TIFIA Debt Service on the TIFIA Note, all as provided in the Trust Agreement.

(ii) To the extent not provided in Section 16(k)(i) (*Project Accounts; Permitted Investments*), the Borrower shall cause the other Reserve Accounts to be funded in such amounts and under such conditions as are required by the Trust Agreement.

(iii) Amounts on deposit in the Project Accounts shall be held uninvested or invested in Permitted Investments. Permitted Investments must mature or be redeemable at the election of the holder as follows: (A) with respect to Permitted Investments maintained in the TIFIA Debt Service Reserve Account, not later than the next Semi-Annual Payment Date, (B) with respect to Permitted Investments maintained in the TIFIA Debt Service Account or in any debt service account in respect of Senior Obligations corresponding to amounts needed for the payment of interest, not later than the next Semi-Annual Payment Date, (C) with respect to Permitted Investments maintained in the TIFIA Debt Service Account or in any debt service account for Senior Obligations corresponding to amounts needed for the repayment of principal, the next Payment Date for repayment of principal in respect of such debt, and (D) with respect to any other Project Accounts, on or prior to the date on which the funds invested in such Permitted Investments are reasonably expected to be needed for any payment from the applicable Project Account.

(iv) The Borrower may replace all or a portion of the required balance of any Reserve Account, in accordance with the terms of the Trust Agreement, with a Credit Facility provided by a financial institution with an Acceptable Credit Rating. If at any time an issuer of an Acceptable Letter of Credit securing a Reserve Account ceases to be a Qualified Issuer, the Borrower shall cause such letter of credit to be replaced by a new Acceptable Letter of Credit within ten (10) calendar days of the date on which the current issuer ceased to be a Qualified Issuer, or the Trustee shall be permitted to immediately draw the full amount of such letter of credit and deposit the proceeds of such drawing into the applicable Reserve Account. Any new Acceptable Letter of Credit shall have the same terms and conditions (including expiration date and face amount) as the letter of credit being replaced, or such other terms and conditions as may be satisfactory to the TIFIA Lender. If any letter of credit securing a Reserve Account is scheduled to expire prior to the Final Maturity Date, the Borrower shall replace such letter of credit with a new Acceptable Letter of Credit at least ten (10) Business Days prior to the stated expiry date of the existing letter of credit and such new Acceptable Letter of Credit shall be in an amount equal to at least the amount of expiring letter of credit. If the Borrower fails to provide such new Acceptable Letter of Credit by the date required above, the Trustee shall be permitted to immediately draw the full undrawn amount of the existing letter of credit and deposit the proceeds of such drawing into the applicable Reserve Account.

(l) Rate Coverage. The Borrower shall, subject to the remainder of this paragraph, take all necessary steps to cause the Commission to fix, charge and collect rates and charges for the System as provided in the Toll Rate Agreement, such that Net Cash Flow in each Calculation Period through the Final Maturity Date shall be projected to produce a Senior Debt Service Coverage Ratio at least equal to 1.50 in each such Calculation Period (the “Rate Coverage Test”); provided the Borrower may apply amounts forecasted to be on deposit in the Rate Stabilization Fund in meeting the Rate Coverage Test during any Construction and Ramp-Up Period pursuant to the Toll Rate Agreement.

On each Calculation Date the Borrower shall provide the TIFIA Lender a forecast of the Net Cash Flow for the subsequent Calculation Period and evidence of compliance with the Rate Coverage Test for the Calculation Period then ended.

If the forecast furnished by the Borrower pursuant hereto demonstrates that projected Net Cash Flow may be inadequate to satisfy the Rate Coverage Test for any Calculation Period until the Final Maturity Date, or if the Borrower fails to satisfy the Rate Coverage Test in respect of any Calculation Period then ended, the Borrower shall (x) within thirty (30) days after request by the TIFIA Lender, engage the Traffic Engineer to review and analyze the operations of the Project and recommend actions regarding revising the rates or changing the methods of operations, or any other actions to increase the Net Cash Flow so as to satisfy the Rate Coverage Test, (y) cause the Traffic Engineer to issue its report, including any such recommended actions, no later than ninety (90) days following such engagement, and (z) either (A)(i) subject to the Toll Rate Agreement, request the Commission to implement the Traffic Engineer's recommendations with respect to the Toll Rate Schedule and (ii) otherwise implement the Traffic Engineer's recommendations for matters within the control of the Borrower or (B)(i) undertake an alternative course of action after demonstrating to the TIFIA Lender's satisfaction the manifest errors contained in the Traffic Engineer's recommended actions or (ii) to the extent agreed upon by the TIFIA Lender, undertake an alternative course of action that will ensure the Borrower's ability to meet its payment obligations under this Agreement; provided, that the Borrower shall not be required to take any action that may result in a breach by the Borrower of its obligations under the Trust Agreement or the Toll Rate Agreement.

(m) [Reserved]

(n) Material Obligations; Liens. The Borrower shall pay its material obligations promptly and in accordance with their terms and pay and discharge promptly all taxes, assessments and governmental charges or levies imposed upon it or upon the Project Revenues or the Borrower's other income or profits or in respect of its property, before the same shall become delinquent or in default, as well as all lawful and material claims for labor, materials and supplies or other claims which, if unpaid, might give rise to a Lien upon such properties or any part thereof or on the Project Revenues or the Trust Estate; provided, however, that such payment and discharge shall not be required with respect to any such tax, assessment, charge, levy, claim or Lien so long as the validity or amount thereof shall be contested by the Borrower in good faith by appropriate proceedings and so long as the Borrower shall have set aside adequate reserves with respect thereto in accordance with and to the extent required by GAAP, applied on a consistent basis.

(o) Hedging.

(i) As a condition to the issuance of any Senior Obligations that bear interest at a Variable Interest Rate, the Borrower shall enter into a Qualified Hedge with respect to such Senior Obligations and shall maintain such Qualified Hedge in place until the earlier to occur of (i) the maturity date of any such Senior Obligations and (ii) the Final Maturity Date. Each Qualified Hedge

must have an aggregate stated notional amount of not less than at least ninety-eight percent (98%) and not more than one hundred two percent (102%) of the aggregate principal amount of the Variable Interest Rate Senior Obligations projected to be Outstanding until the maturity of such Variable Interest Rate Senior Obligations. Any such Qualified Hedge shall have a payment profile that is reasonably consistent with the expected draw and repayment schedule of the applicable Variable Interest Rate Senior Obligations subject to such Qualified Hedge. Such Qualified Hedge shall have a stated maturity or termination date not earlier than the earlier to occur of (x) the Final Maturity Date and (y) the final maturity date of the Variable Interest Rate Senior Obligations subject to such Qualified Hedge.

(ii) Each Qualified Hedge shall provide for a fixed interest rate resulting in fixed payment amounts payable by the Borrower to the Qualified Hedge Provider. The Borrower's obligations to pay Hedging Obligations and Hedging Termination Obligations shall be from the sources and in the priority specified in the Security Documents. The Borrower shall ensure that, as of the day following the termination date of any Qualified Hedge that for any reason terminates before the final maturity date of the Variable Interest Rate Senior Obligations subject to such Qualified Hedge, (A) a Subsequent Qualified Hedge (as defined below) is in full force and effect or (B) the Variable Interest Rate Senior Obligations have been converted to a fixed rate, in each case in accordance with this Agreement and the Security Documents.

(iii) Any Hedging Transaction entered into subsequent to the Initial Qualified Hedge (a "**Subsequent Qualified Hedge**") shall (A) be a Qualified Hedge, (B) commence no later than the termination date of the Qualified Hedge that is terminating and (C) terminate no earlier than the earlier to occur of (1) the Final Maturity Date and (2) the final maturity date of the Variable Interest Rate Senior Obligations subject to such Subsequent Qualified Hedge.

(iv) The Borrower shall not commence seeking any bids from any Qualified Hedge Provider for a Subsequent Qualified Hedge unless, at least thirty (30) days prior thereto, the Borrower has delivered to the TIFIA Lender evidence satisfactory to the TIFIA Lender and certified by the Borrower's Authorized Representative that the process to be utilized by the Borrower for selecting such Subsequent Qualified Hedge is a competitive process designed to obtain a fair market price and to avoid conflicts of interest. At the time the Subsequent Qualified Hedge is priced, the Borrower shall provide to the TIFIA Lender a certificate from a qualified third party acceptable to the TIFIA Lender to the effect that either the underlying LIBOR based fixed rate or the price of acquiring such Subsequent Qualified Hedge is a fair price based on the interest rate market at the time such Qualified Hedge is priced.

(v) The Trustee shall be granted a security interest in each Qualified Hedge and payments due under each Qualified Hedge in order to secure the Borrower's obligations to the TIFIA Lender under this Agreement. The Hedging Agreements shall provide that all payments due thereunder to the

Borrower shall be made directly to the Trustee for deposit and disbursement in accordance with the Trust Agreement.

(vi) The Borrower shall neither terminate (other than Permitted Hedging Terminations), transfer nor consent to any transfer (other than to a Qualified Hedge Provider) of any existing Qualified Hedge without the TIFIA Lender's prior written consent as long as the Borrower is required to maintain a Qualified Hedge pursuant to this Agreement.

(vii) If at any time a Hedging Bank no longer satisfies the requirements for a Qualified Hedge Provider, the Borrower shall, within thirty (30) days (or such lesser number of days required by the applicable Hedging Agreement, including any credit support annex thereto) of the date on which such Hedging Bank failed to qualify as a Qualified Hedge Provider, either (A) cash collateralize the mark-to-market value of the Hedging Termination Obligations (in accordance with the credit support annex or similar requirements of the applicable Hedging Agreement) or provide a guarantee for such amount from an entity with an Acceptable Credit Rating, or (B) cause such disqualified Hedging Bank to be replaced by a Qualified Hedge Provider, whether by means of a transfer of the disqualified Hedging Bank's Hedging Agreement to a Qualified Hedge Provider or by means of a termination of such disqualified Hedging Bank's Hedging Agreement and replacement thereof by a Hedging Agreement with a Qualified Hedge Provider on terms and conditions that satisfy the requirements of this Section 16(o) (*Hedging*); provided that if the disqualified Hedging Bank's highest credit rating from any Rating Agency is less than 'A-', 'A3' or the equivalent, clause (A) shall not apply and the Borrower shall be required to cause such disqualified Hedging Bank to be replaced by a Qualified Hedge Provider pursuant to clause (B).

(p) SAM Registration. The Borrower shall (i) maintain its active registration status with the federal System for Award Management (www.SAM.gov) (or any successor system or registry) and (ii) within sixty (60) days prior to each anniversary of the Effective Date, provide to the TIFIA Lender evidence of such active registration status with no active exclusions reflected in such registration, in each case until the Final Maturity Date or to such earlier date as all amounts due or to become due to the TIFIA Lender hereunder have been irrevocably paid in full in cash

(q) Revenue Sharing.

(i) On each date which is ten (10) Business Days after each Calculation Date occurring after December 31, 2028, if there is at least \$250,000,000 on deposit in the Grand Parkway Enhancement Fund on any such Calculation Date, the Borrower shall prepay the TIFIA Note, in an amount equal to fifty percent (50%) of the aggregate amount deposited into the Grand Parkway Enhancement Fund from the immediately preceding Calculation Date (each a "**Revenue Sharing Amount Look Back Date**") to each such Calculation Date, subject to the provisions of clause (ii) below.

(ii) Prior to Achieving the Ultimate Project Scope, the requirement to make the mandatory prepayments set forth in clause (i) above shall be suspended by the delivery of a notice to the TIFIA Lender (a "**Notice of Intent**"), indicating the Borrower's intent to issue a notice to proceed with construction of a System Segment Improvement (an "**NTP**"), and specifying the date when such NTP is anticipated to be issued. Any such Notice of Intent shall be delivered no earlier than the date which is two (2) years prior to the anticipated date of issuance of the NTP referenced therein, and no later than five (5) Business Days prior to the date the mandatory prepayment would otherwise be due under clause (i) above. In the event the NTP is issued timely as set forth in the Notice of Intent, the requirement to make the mandatory prepayments set forth in clause (i) above shall recommence beginning on the first Calculation Date immediately following the date such NTP was issued and if otherwise required pursuant to clause (i) above. In the event the NTP is not issued as set forth in the Notice of Intent, or its issuance is delayed, the Borrower shall commence mandatory prepayments as required under clause (i) above, with the initial mandatory prepayment due on the date which is ten (10) Business Days after the Calculation Date immediately following the date such NTP was to be issued, as contemplated under such Notice of Intent. The amount of each such mandatory prepayment shall be equal to fifty percent (50%) of the amount deposited into the Grand Parkway Enhancement Fund from the Revenue Sharing Amount Look Back Date immediately preceding the Calculation Date that occurred immediately prior to the date of the applicable Notice of Intent to the Calculation Date immediately following the date such NTP was to be issued. Thereafter, the terms of any mandatory prepayments required under this Section 16(q) shall be determined as set forth in clause (i) above.

(r) Events of Loss; Loss Proceeds.

(i) If an Event of Loss shall occur with respect to the Project or any part thereof, the Borrower shall (A) diligently pursue all of its rights to compensation against all relevant insurers, reinsurers and Governmental Authorities, as applicable, in respect of such event and (B) pay or apply all Loss Proceeds stemming from such event in accordance with Section 16(r)(ii) (*Events of Loss; Loss Proceeds*) and, to the extent applicable, Section 10(a)(i) (*Mandatory Prepayments*).

(ii) The Borrower shall apply all Loss Proceeds as provided in Section 706 of the Master Trust Agreement. The Borrower shall cause the relevant insurers, reinsurers and Governmental Authorities, as applicable, to pay all Loss Proceeds directly to the Trustee as loss payee and, if paid to the Borrower, shall be received in trust and for the benefit of the Trustee segregated from other funds of the Borrower, and shall be paid over to the Trustee in the same form as received (with any necessary endorsement).

(s) Patriot Act. If the anti-money laundering compliance program provisions of the Patriot Act become applicable to the Borrower, then the Borrower will provide written notice to the TIFIA Lender of the same and will promptly establish an anti-

money laundering compliance program that complies with all requirements of the Patriot Act.

(t) Cargo Preference Act. Pursuant to 46 C.F.R. Part 381, the Borrower hereby agrees as follows, and shall insert the following clauses in contracts entered into by the Borrower pursuant to which equipment, materials or commodities may be transported by ocean vessel in carrying out the Project:

(i) At least fifty percent (50%) of any equipment, materials or commodities procured, contracted for or otherwise obtained with TIFIA Loan proceeds, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(ii) Within twenty (20) calendar days following the date of loading for shipments originating within the United States or within thirty (30) Business Days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (i) above shall be furnished to both the TIFIA Lender and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(u) Lobbying. The Borrower shall comply with all applicable certification, declaration and/or disclosure requirements under 49 C.F.R. Part 20.

(v) Reporting Subawards and Executive Compensation. To the extent applicable, the Borrower shall comply, and shall require each subrecipient to comply, with the reporting requirements set forth in **Exhibit N** hereto.

(w) Favorable Terms. In the event that the Borrower enters into any First Tier Credit Agreement after the Effective Date which provides for the establishment of a fully funded debt service reserve fund or account, then this Agreement shall be deemed to be modified to provide for the immediate establishment of the TIFIA Debt Service Reserve Account and funding of the TIFIA Debt Service Reserve Requirement on the execution date of the First Tier Credit Agreement for so long as such First Tier Credit Agreement is in effect. The Borrower shall promptly, upon entering into or otherwise consenting to any First Tier Credit Agreement (or amendment thereto) that provides for a fully funded debt service reserve fund or account, but not later than five (5) days after execution of any such First Tier Credit Agreement (or amendment thereto), provide written notice of the same to the TIFIA Lender, together with a copy of any loan documents, security agreements, or other agreements evidencing such First Tier Credit Agreement and a certificate duly executed by the Borrower's Authorized Representative, certifying as to all of the First Tier Credit Agreements then in effect and containing the terms related to the debt service reserve fund or account.

SECTION 17. Negative Covenants. The Borrower covenants and agrees as follows until the date the TIFIA Note and the obligations of the Borrower under this Agreement (other

than contingent indemnity obligations) are irrevocably paid in full in cash, unless the TIFIA Lender waives compliance in writing:

(a) Indebtedness.

(i) Except for Permitted Debt, the Borrower shall not, without the prior written consent of the TIFIA Lender, issue or incur indebtedness of any kind that is secured (in whole or in part) by the Trust Estate or that is otherwise payable (in whole or in part) from Project Revenues; provided that the Borrower shall not incur any indebtedness of any kind payable from, secured or supported by any portion of the Trust Estate or payable from Project Revenues, including Permitted Debt, without the prior written consent of the TIFIA Lender, following the occurrence, and during the continuation, of an Event of Default. With respect to the delivery of Permitted Debt described in clause (c) of the definition thereof, the following additional requirements shall apply:

(ii) the Borrower shall not issue Additional Obligations that constitute Senior Obligations unless at the time of incurring such Additional Obligations (A) no Event of Default under the Trust Agreement or this Agreement has occurred and is continuing, and (B) the Rating Agency that provided the most recent ratings of the Senior Obligations in accordance with Section 16(j) (*Annual Rating*) shall have confirmed that the incurrence of such Additional Obligations shall not result in a downgrade of the then-existing credit ratings of the Senior Obligations; and

(iii) so long as the TIFIA Loan is outstanding the Borrower shall not issue Senior Obligations as Toll Equity Loan Supported Obligations; and

(iv) simultaneously with the delivery of such Additional Obligations, the Borrower shall provide to the TIFIA Lender (A) a certificate certifying that such Additional Obligations are authorized pursuant to this Section 17(a) (*Indebtedness*) and Sections 207, 208 or 209 of the Master Trust Agreement, as applicable, and (B) copies of the certificates required to be filed with the Trustee pursuant to Sections 207, 208 or 209, as the case may be, with respect to the issuance of such Additional Obligations.

(b) No Lien Extinguishment or Adverse Amendments. The Borrower shall not, and shall not permit any Person to, without the prior written consent of the TIFIA Lender, either (i) extinguish, impair or transfer the Liens on the Trust Estate granted pursuant to the Trust Agreement, except as otherwise provided in the Trust Agreement, (ii) amend, modify, replace, or supplement any Related Document or the TIFIA Loan Documents in a manner that could adversely affect the TIFIA Lender (in the TIFIA Lender's determination) in connection with the TIFIA Loan, (iii) waive or permit a waiver of any provision of any Related Document or TIFIA Loan Document in a manner that could adversely affect the TIFIA Lender in connection with the TIFIA Loan, or (iv) terminate, assign, amend or modify, or waive timely performance by any party of material covenants under any Principal Project Contract except for termination, assignment, amendment,

modification or waiver that could not reasonably be expected to have a Material Adverse Effect (in the TIFIA Lender's determination). Except as otherwise agreed by the TIFIA Lender in writing, the Borrower will provide to the TIFIA Lender (x) copies of any proposed amendments, modifications, replacements of, or supplements to any Related Document or TIFIA Loan Document at least thirty (30) days prior to the effective date thereof, and (y) complete, correct and fully executed copies of any amendment, modification or supplement to any Related Document or TIFIA Loan Document within five (5) Business Days after execution thereof.

(c) No Prohibited Liens. Except for Permitted Liens, the Borrower shall not create, incur, assume or permit to exist any Lien on the Project, the Trust Estate, the Project Revenues, or the Borrower's respective rights therein. Except as provided in Section 17(f) (*No Prohibited Sale, Lease or Assignment*) and Section 17(g) (*Transactions with Other Governmental Authorities*) hereof, the Borrower shall not assign or sell any income or revenues (including accounts receivable) or rights in respect of any thereof. The Borrower shall not collaterally assign any of its rights under or pursuant to any Principal Project Contract or any other Related Documents and shall not permit a Lien to encumber the Borrower's rights or privileges under any Principal Project Contract or any other Related Documents, unless pursuant to the Master Trust Agreement in favor of the Trustee on behalf of the Secured Parties.

(d) [Reserved]

(e) Additional Project Contracts. The Borrower shall not, without the prior written consent of the TIFIA Lender, enter into any Additional Project Contract (or series of related contracts) that commits the Borrower to spend, or is reasonably expected to involve expenditures by the Borrower of, more than \$10,000,000.

(f) No Prohibited Sale, Lease or Assignment. The Borrower shall not sell, lease, assign or transfer its rights in and to the Project or the System, a substantial portion of the assets included in the Project or the System, or its rights and obligations under any Related Document, in each case unless such sale, lease, assignment or transfer (A) could not reasonably be expected to result in a Material Adverse Effect and (B) is made by the Borrower in the ordinary course of business.

(g) Transactions with other Governmental Authorities. Except for the transactions expressly contemplated in the TIFIA Loan Documents, the BAN Resolution, the BAN Trust Agreement, the Related Documents, and the other agreements set forth in **Schedule 17 (g)** hereto, the Borrower shall not (i) sell or transfer any property or assets constituting part of the Project to, or purchase or acquire any property or assets of, any other Governmental Authority, or (ii) otherwise engage in any other transactions in connection with the Project with, any other Governmental Authority (including any other Governmental Authority of or in the State) the terms and provisions of which are materially adverse to the Borrower or the Project or that could reasonably be expected to result in a Material Adverse Effect.

(h) Organizational Documents; Fiscal Year. The Borrower shall not at any time (i) amend or modify its Organizational Documents (other than any amendment or modification of a ministerial nature and that is not adverse to the interests of any Secured Party under the Security Documents or in the Trust Estate) or (ii) adopt any fiscal year other than the Borrower Fiscal Year, except with the prior written notice to the TIFIA Lender.

(i) No Prohibited Business. The Borrower will not at any time engage in any business or activity other than the design, construction, operation and maintenance of the System and activities incidental or related thereto.

(j) Change in Legal Structure; Mergers and Acquisitions. Without the prior written consent of the TIFIA Lender, the Borrower shall not willfully consolidate with or merge into another Person unless (i) such merger or consolidation is with or into another entity established and controlled by the Commission or TxDOT and does not adversely affect or impair to any extent or in any manner (x) the Project Revenues or (y) the availability of the Project Revenues for the payment and security of the obligations of the Borrower under this Agreement; and (ii) the Borrower provides to the TIFIA Lender, no later than sixty (60) days prior to the date of consolidation or merger, prior written notice of such consolidation or merger and the agreements and documents authorizing the consolidation or merger satisfactory in form and substance to the TIFIA Lender. The documents authorizing the consolidation or merger shall contain a provision, satisfactory in form and substance to the TIFIA Lender, that, following such consolidation or merger, the successor will assume, by operation of law or otherwise, the due and punctual performance and observance of all of the covenants, agreements and conditions of this Agreement and the other TIFIA Loan Documents or the Related Documents to which the Borrower is a party. In addition, the Borrower shall provide all information concerning such consolidation or merger as shall have been reasonably requested by the TIFIA Lender.

(k) No Payment with Federal Funds. The Borrower shall not pay any portion of TIFIA Debt Service nor any other amount to the TIFIA Lender or the Federal Government pursuant to the TIFIA Loan Documents with funds received directly or indirectly from the Federal Government; provided, however, that the Borrower may prepay the TIFIA Loan in whole or in part with the proceeds of a validly issued federal credit instrument pursuant to, and in accordance with, Section 10 (Prepayment).

(l) No Defeasance of Note. The Borrower shall not defease the TIFIA Note pursuant to the Trust Agreement without the prior written consent of the TIFIA Lender.

(m) OFAC Compliance.

(i) The Borrower shall not:

(A) violate (1) any applicable Anti-Money Laundering Laws, (2) any applicable Sanctions, (3) any applicable Anti-

Corruption Laws or (4) any applicable anti-drug trafficking or anti-terrorism laws, civil or criminal;

(B) use the proceeds of the TIFIA Loan for purposes other than those permitted by applicable law and as otherwise permitted under this Agreement, the other Related Documents and the Principal Project Contract; or

(C) make a payment, directly or indirectly, to any Principal Project Party that (1) to the Borrower's knowledge, has violated any of the laws referenced in Section 17(m)(1) (OFAC Compliance) or (2) is a Sanctioned Person.

(ii) The Borrower shall procure that each of its directors, officers, employees, and agents, shall not, directly or indirectly, use the proceeds of the TIFIA Loan or lend to, make any payment to, contribute or otherwise make available any funds to any affiliate, joint venture partner or other Person (A) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of any applicable Anti-Corruption Laws, (B) in any manner that would result in the violation of any applicable Anti-Money Laundering Laws, (C) for the purpose of funding, financing or facilitating any activities, business or transaction of or with any Sanctioned Person, or in any Sanctioned Country, or (D) in any other manner that would result in the violation of any Sanctions by any Person (including the Executive Director, the TIFIA Lender or any Principal Project Party).

(n) Hedging. Other than interest rate hedging transactions expressly permitted hereunder, the Borrower shall not enter into any swap or hedging transaction, including inflation indexed swap transactions, "cap" or "collar" transactions, futures, or any other hedging transaction without the prior written consent of the TIFIA Lender.

(o) No Prohibited Transfers. At any time, the Borrower may transfer funds from the Grand Parkway Enhancement Fund for any of the purposes set forth in Section 518(a) and (b) of the Master Trust Agreement and to pay any other costs of the System, including Project related costs or other costs of improvements to the System. In addition to the foregoing permitted transfers, following the Substantial Completion Date, the Borrower also may transfer funds from the Grand Parkway Enhancement Fund on any Semi-Annual Payment Date to pay costs related to any section or segment of the Grand Parkway Project (as defined in the Master Trust Agreement) without regard to whether such section or segment can become part of the System, provided that (i) such transfer is permitted under the Trust Agreement, (ii) the Borrower provides a certificate, in form and substance satisfactory to the TIFIA Lender and signed by the Borrower's Authorized Representative, certifying that, as of such Semi-Annual Payment Date, after giving effect to such transfer and mandatory prepayment required under clause (iii) of this Section 17(o), all of the TIFIA Restricted Transfer Conditions have been satisfied with respect to the proposed transfer, and (iii) the Borrower makes a mandatory prepayment of the TIFIA

Note, pursuant to the provisions in Section 10 of this Agreement, on the date of such transfer in an amount equal to the amount of the proposed transfer.

(p) No Acceleration. Without the prior written consent of the TIFIA Lender, which consent shall be in the TIFIA Lender's sole discretion, the Borrower shall not issue any indebtedness or enter into or otherwise consent to any contract (or amendment thereto or to any existing contract or agreement) that provides for the right to accelerate and to declare immediately due and payable all or any portion of the principal of any long-term indebtedness of the Borrower, whether secured or unsecured, as a remedy available upon a default or event of default of the Borrower (howsoever described or designated).

SECTION 18. Indemnification. To the extent authorized and permitted by Texas law, the Borrower shall indemnify the TIFIA Lender and any official, employee, agent, advisor, or representative of the TIFIA Lender (each such Person being herein referred to as an "**Indemnitee**") against, and hold each Indemnitee harmless from, any and all losses, claims, damages, liabilities, fines, penalties, costs and expenses (including the fees, charges and disbursements of any counsel for any Indemnitee and the costs of environmental remediation), whether known, unknown, contingent or otherwise, incurred by or asserted against any Indemnitee arising out of, in connection with, or as a result of (a) the execution, delivery and performance of this Agreement or any of the other TIFIA Loan Documents, (b) the TIFIA Loan or the use of the proceeds thereof, or (c) the violation of any law, rule, regulation, order, decree, judgment or administrative decision relating to the environment, the preservation or reclamation of natural resources, the management, release or threatened release of any hazardous material or to health and safety matters; in each case arising out of or in direct relation to the Project; provided that such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities, fines, penalties, costs, or related expenses are determined by a court of competent jurisdiction by final and nonappealable judgment to have resulted from the negligence or willful misconduct of such Indemnitee. In case any action or proceeding is brought against an Indemnitee by reason of any claim with respect to which such Indemnitee is entitled to indemnification hereunder, the Borrower shall be entitled, at its expense, to participate in the defense thereof; provided that such Indemnitee has the right to retain its own counsel, at the Borrower's expense, and such participation by the Borrower in the defense thereof shall not release the Borrower of any liability that it may have to such Indemnitee. Any Indemnitee against whom any indemnity claim contemplated in this Section 18 (*Indemnification*) is made shall be entitled, after consultation with the Borrower and upon consultation with legal counsel wherein such Indemnitee is advised that such indemnity claim is meritorious, to compromise or settle any such indemnity claim. Any such compromise or settlement shall be binding upon the Borrower for purposes of this Section 18 (*Indemnification*). Nothing herein shall be construed as a waiver of any legal immunity that may be available to any Indemnitee. To the extent permitted by applicable law, neither the Borrower nor the TIFIA Lender shall assert and each of the Borrower and the TIFIA Lender hereby waives, any claim against any Indemnitee or the Borrower, respectively, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any of the other TIFIA Loan Documents, the other transactions contemplated hereby and thereby, the TIFIA Loan or the use of the proceeds thereof, provided that nothing in this sentence shall limit the Borrower's indemnity obligations to the extent such damages are included in any third party claim in connection with which an Indemnitee is entitled to indemnification hereunder. All amounts due to any Indemnitee under this

Section 18 (*Indemnification*) shall be payable promptly upon demand therefor. The obligations of the Borrower under this Section 18 (*Indemnification*) shall survive the payment or prepayment in full or transfer of the TIFIA Note, the enforcement of any provision of this Agreement or the other TIFIA Loan Documents, any amendments, waivers (other than amendments or waivers in writing with respect to this Section 18 (*Indemnification*)) or consents in respect hereof or thereof, any Event of Default, and any workout, restructuring or similar arrangement of the obligations of the Borrower hereunder or thereunder.

SECTION 19. Sale of TIFIA Loan. The TIFIA Lender shall not sell the TIFIA Loan at any time prior to the Substantial Completion Date. After such date, the TIFIA Lender may sell the TIFIA Loan to another entity or reoffer the TIFIA Loan into the capital markets only in accordance with the provisions of this Section 19 (*Sale of TIFIA Loan*). Such sale or reoffering shall be on such terms as the TIFIA Lender shall deem acceptable in its sole discretion. However, in making such sale or reoffering the TIFIA Lender shall not change the terms and conditions of the TIFIA Loan without the prior written consent of the Borrower in accordance with Section 30 (*Amendments and Waivers*). The TIFIA Lender shall provide, at least sixty (60) days prior to any sale or reoffering of the TIFIA Loan, written notice to the Borrower of the TIFIA Lender's intention to consummate such a sale or reoffering; provided, however, that no such notice shall be required during the continuation of any Event of Default. The provision of any notice pursuant to this Section 19 (*Sale of TIFIA Loan*) shall not (x) obligate the TIFIA Lender to sell nor (y) provide the Borrower with any rights or remedies in the event the TIFIA Lender, for any reason, does not sell the TIFIA Loan.

SECTION 20. Events of Default and Remedies.

(a) An “**Event of Default**” shall exist under this Agreement if any of the following occurs:

(i) Payment Default. The Borrower shall fail to pay any of the principal amount of or interest on the TIFIA Loan (including TIFIA Debt Service required to have been paid pursuant to the provisions of Section 9 (*Payment of Principal and Interest*), and any mandatory prepayment required pursuant to the provisions of Section 10(a) (*Mandatory Prepayments*)) when and as the payment thereof shall be required under this Agreement or the TIFIA Note or on the Final Maturity Date (each such failure, a “**Payment Default**”).

(ii) Covenant Default. The Borrower shall fail to observe or perform any covenant, agreement or obligation of the Borrower under this Agreement (including any payment of fees or other amounts (other than principal and interest) payable hereunder), the TIFIA Note or any other TIFIA Loan Document (other than in the case of any Payment Default or any Development Default), and such failure shall not be cured within thirty (30) days after the earlier to occur of (A) receipt by the Borrower from the TIFIA Lender of written notice thereof, or (B) the Borrower's knowledge of such failure, or (C) with respect to any non-payment of fees or amounts described above in this clause (ii), the date on which any such fees or amounts became due and payable; provided, however, that if such failure is capable of cure but cannot reasonably be cured within such thirty

(30) day cure period, then no Event of Default shall be deemed to have occurred or be continuing under this Section 20(a)(ii) (*Covenant Default*), and such thirty (30) day cure period shall be extended by up to one hundred fifty (150) additional days, if and so long as (x) within such thirty (30) day cure period the Borrower shall commence actions reasonably designed to cure such failure and shall diligently pursue such actions until such failure is cured, and (y) such failure is cured within one hundred eighty (180) days of the date specified in either (A) or (B) above, as applicable; provided, further, that no extension of the thirty (30) day cure period shall be permitted for any failure to pay any fee or other amount (excluding principal and interest) payable hereunder.

(iii) Development Default. A Development Default shall occur, in which case the TIFIA Lender may (A) suspend the disbursement of TIFIA Loan proceeds under this Agreement and (B) pursue such other remedies as provided in this Section 20 (*Events of Default and Remedies*).

(iv) Misrepresentation Default. Any of the representations, warranties or certifications of the Borrower made in or delivered pursuant to the TIFIA Loan Documents (or in any certificates delivered by the Borrower in connection with the TIFIA Loan Documents) shall prove to have been false or misleading in any material respect when made or deemed made (or any representation and warranty that is subject to a materiality qualifier shall prove to have been false or misleading in any respect); provided that no Event of Default shall be deemed to have occurred under this Section 20(a)(iv) (*Misrepresentation Default*) if and so long as:

(A) such misrepresentation is not intentional;

(B) such misrepresentation is not a misrepresentation in respect of Section 14(h) (*No Debarment*), Section 14(j) (*Compliance with Federal Requirements*), Section 14(k) (*Transportation Improvement Program*), Section 14(q) (*OFAC; Anti-Money Laundering; Anti-Corruption Laws*), or Section 14(ee) (*Patriot Act*);

(C) in the reasonable determination of the TIFIA Lender, such misrepresentation has not had, and would not reasonably be expected to result in, a Material Adverse Effect;

(D) in the reasonable determination of the TIFIA Lender, the underlying issue giving rise to the misrepresentation is capable of being cured;

(E) the underlying issue giving rise to the misrepresentation is cured by the Borrower within thirty (30) days from the date on which the Borrower first became aware (or reasonably should have become aware) of such misrepresentation; and

(F) the Borrower diligently pursues such cure during such thirty (30) day period.

(v) [Reserved]

(vi) Cross Default. (A) Any of the representations, warranties or certifications of the Borrower made in or delivered pursuant to the Trust Agreement, or made in or delivered pursuant to the documents (the “**Other Loan Documents**”) under which any Secured Obligation is created or incurred, shall prove to be false or misleading in any material respect (each an “**Other Indebtedness Misrepresentation Default**”), or any default shall occur in respect of the performance of any covenant, agreement or obligation of the Borrower under the Trust Agreement or the Other Loan Documents, and such default shall be continuing after the giving of any applicable notice and the expiration of any applicable grace period specified in the Trust Agreement or the Other Loan Documents (as the case may be) with respect to such default (each an “**Other Indebtedness Covenant Default**”), if the effect of such Other Indebtedness Misrepresentation Default or Other Indebtedness Covenant Default would, in the reasonable determination of the TIFIA Lender, reasonably be expected to result in a Material Adverse Effect and, in the case of any such Other Indebtedness Misrepresentation Default or Other Indebtedness Covenant Default, the Borrower shall have failed to cure such Other Indebtedness Misrepresentation Default or Other Indebtedness Covenant Default or to obtain an effective written waiver thereof in accordance with the terms of such Secured Obligations.

(B) The Borrower shall default in the timely performance of any covenant, agreement or obligation under any Related Document to which it is a party, or any Related Document shall be terminated prior to its scheduled expiration (unless in any case such default or termination could not reasonably be expected to have a Material Adverse Effect), and the Borrower shall have failed to cure such default or to obtain an effective written waiver or revocation thereof prior to the expiration of the applicable grace period specified in any such Related Document, or to obtain an effective revocation of such termination (as the case may be); provided, however, that no Event of Default shall be deemed to have occurred or be continuing under this Section 20(a)(vi)(B) (*Cross Default*) if, in the case of any termination of a Principal Project Contract, the Borrower replaces such Principal Project Contract with a replacement agreement (1) entered into with another counterparty that (I) is of similar or greater creditworthiness and experience as the counterparty being replaced was at the time the applicable Principal Project Contract was originally executed (or otherwise reasonably acceptable to the TIFIA Lender), (II) is not, at the time of such replacement, suspended or debarred or subject to a proceeding to suspend or debar from bidding, proposing or contracting with any federal or state department or agency, and (III) is not, at the time of such replacement, in violation of any applicable laws referenced in Section 14(q) (*OFAC; Anti-Money Laundering; Anti-Corruption Laws*), and is in compliance with all applicable laws referenced in Section 14(r) (*Compliance with Law*) and Section 14(s) (*Environmental Matters*), (2) on substantially the same terms and conditions as the Principal Project Contract being replaced (or otherwise reasonably

acceptable to the TIFIA Lender) and (3) effective as of the date of termination of the Principal Project Contract being replaced.

(vii) Judgments. One or more judgments (A) for the payment of money in an aggregate amount in excess of \$1,000,000 (inflated annually by the CPI) that are payable from Project Revenues and are not otherwise fully covered by insurance (for which the insurer has acknowledged and not disputed coverage) or (B) that would reasonably be expected to result in a Material Adverse Effect shall, in either case, be rendered against the Borrower, and the same shall remain undischarged for a period of thirty (30) consecutive days during which time period execution shall not be effectively stayed, or any action shall be legally taken by a judgment creditor to attach or levy upon any assets of the Borrower to enforce any such judgment.

(viii) [Reserved.]

(ix) Failure to Maintain Existence. The Borrower shall fail to maintain its existence as a transportation corporation under the laws of the State unless at or prior to the time the Borrower ceases to exist in such form a successor public agency or governing body has been created by the State pursuant to a valid and unchallenged State law and has succeeded to the assets of the Borrower and has assumed all of the obligations of the Borrower under the TIFIA Loan Documents and the Security Documents, including the payment of all Secured Obligations.

(x) [Reserved]

(xi) Occurrence of a Bankruptcy Related Event. (A) A Bankruptcy Related Event shall occur with respect to the Borrower or (B) a Bankruptcy Related Event shall occur with respect to any Borrower Related Party (other than the Borrower) or the Principal Project Party; provided that no Event of Default shall be deemed to have occurred under this clause (xi) (1) if, with respect to the Principal Project Party, such event is not an event of default under Sections 16.1(j), 16.1(k), or 16.1(l) of the Design-Build Agreement, or (2) if and so long as (I) in the reasonable determination of the TIFIA Lender, such Bankruptcy Related Event has not had, and would not reasonably be expected to result in, a Material Adverse Effect, (II) in the reasonable determination of the TIFIA Lender, the underlying issue giving rise to the Bankruptcy Related Event is capable of being cured, and (III) (1) the underlying issue giving rise to the Bankruptcy Related Event is cured by the Borrower within thirty (30) days from the date on which the Borrower first became aware (or reasonably should have become aware) of such Bankruptcy Related Event or (2) the Borrower provides the TIFIA Lender with a plan to cure such underlying issue that is acceptable in the sole discretion of the TIFIA Lender, and the Borrower diligently pursues such cure and the underlying issue giving rise to the Bankruptcy Related Event is cured by the Borrower during the period specified in such plan; provided further; with respect to a Bankruptcy Related Event of the Principal Project Party that cannot be cured within such thirty

(30) day period, no such Bankruptcy Related Event shall be deemed to have occurred under this clause (xi) in the event the Principal Project Party is replaced within ninety (90) days after the occurrence of such Bankruptcy Related Event by a new Principal Project Party that (I) possesses similar or greater creditworthiness (including credit support), technical capability and relevant experience as the counterparty being replaced, considered as of the time the Principal Project Contract was executed (or otherwise reasonably acceptable to the TIFIA Lender), (II) is not, at the time of such replacement, suspended or debarred or subject to a proceeding to suspend or debar from bidding, proposing or contracting with any federal or state department or agency, (III) is not, at the time of such replacement, in violation of any applicable laws referenced in Section 14(q) (*OFAC; Anti-Money Laundering; Anti-Corruption Laws*), and is in compliance with all applicable laws referenced in Section 14(r) (*Compliance with Law*) and Section 14(s) (*Environmental Matters*), and (IV) is bound under a contract containing substantially the same terms and conditions as the Principal Project Contract being replaced (or otherwise reasonably acceptable to the TIFIA Lender).

(xii) Project Abandonment. The Borrower shall abandon the Project.

(xiii) Invalidity of TIFIA Loan Documents. (A) Any TIFIA Loan Document ceases to be in full force and effect (other than as a result of the termination thereof in accordance with its terms) or becomes void, voidable, illegal or unenforceable, or any Borrower Related Party contests in any manner the validity or enforceability of any TIFIA Loan Document to which it is a party or denies it has any further liability under any TIFIA Loan Document to which it is a party, or purports to revoke, terminate or rescind any TIFIA Loan Document to which it is a party; or (B) any Security Document ceases (other than as expressly permitted thereunder) to be effective to grant a valid and binding security interest on any material portion of the Trust Estate other than as a result of actions or a failure to act by, and within the control of, the Trustee or any Secured Party, and with the priority purported to be created thereby.

(xiv) Cessation of Operations. Operation of the System shall cease for a continuous period of not less than one hundred eighty (180) days unless such cessation of operations shall occur by reason of an Uncontrollable Force that is not due to the fault of the Borrower (and which the Borrower could not reasonably have avoided or mitigated) and the Borrower shall either be self-insured in an amount sufficient to cover, or shall have in force an insurance policy or policies under which the Borrower is entitled to recover amounts sufficient to pay (and may use such amounts to pay) all Senior Debt Service, TIFIA Debt Service and costs and expenses of the Borrower during such cessation of operations.

(b) Upon the occurrence of an Event of Default described in Section 20(a)(iii) (*Development Default*), the TIFIA Lender may (i) suspend the disbursement of TIFIA Loan proceeds hereunder, (ii) terminate all of its obligations hereunder with respect to the disbursement of any undisbursed amounts of the TIFIA Loan, and/or (iii) request

that the Borrower repay any unexpended TIFIA Loan proceeds previously disbursed to the Borrower.

(c) Upon the occurrence of any Bankruptcy Related Event with respect to the Borrower, all obligations of the TIFIA Lender hereunder with respect to the disbursement of any undisbursed amounts of the TIFIA Loan shall automatically be deemed terminated.

(d) Upon the occurrence of any other Event of Default, the TIFIA Lender, by written notice to the Borrower, may suspend or terminate all of its obligations hereunder with respect to the disbursement of any undisbursed amounts of the TIFIA Loan.

(e) Whenever any Event of Default hereunder shall have occurred and be continuing, the TIFIA Lender shall be entitled and empowered to institute any actions or proceedings at law or in equity for the collection of any sums due and unpaid hereunder or under the TIFIA Note or the other TIFIA Loan Documents, and may prosecute any such judgment or final decree against the Borrower and collect in the manner provided by law out of the property of the Borrower the moneys adjudged or decreed to be payable, and the TIFIA Lender shall have all of the rights and remedies of a creditor, including all rights and remedies of a secured creditor under the Uniform Commercial Code, and may take such other actions at law or in equity as may appear necessary or desirable to collect all amounts payable by Borrower under this Agreement, the TIFIA Note or the other TIFIA Loan Documents then due and thereafter to become due, or to enforce performance and observance of any obligation, agreement or covenant of the Borrower under this Agreement, the TIFIA Note or the other TIFIA Loan Documents.

(f) Whenever any Event of Default hereunder shall have occurred and be continuing, the TIFIA Lender may suspend or debar the Borrower from further participation in any Federal Government program administered by the TIFIA Lender and to notify other departments and agencies of such default.

(g) No action taken pursuant to this Section 20 (*Events of Default and Remedies*) shall relieve Borrower from its obligations pursuant to this Agreement, the TIFIA Note or the other TIFIA Loan Documents, all of which shall survive any such action.

SECTION 21. Accounting and Audit Procedures; Inspections; Reports and Records.

(a) Accounting and Audit Procedures. The Borrower shall establish fiscal controls and accounting procedures sufficient to assure proper accounting for all Project-related transactions (including collection of Project Revenues, and any other revenues attributable to the Project or System, and TIFIA Loan requisitions received and disbursements made with regard to the Project), so that audits may be performed to ensure compliance with and enforcement of this Agreement. The Borrower shall use accounting, audit and fiscal procedures conforming to GAAP (except for requirements and procedures established by the Texas State Comptroller and the Texas State Auditor), including, with respect to the TIFIA Loan, accounting of principal and interest payments, disbursements, prepayments and calculation of interest and principal amounts outstanding.

(b) Inspections. So long as the TIFIA Loan or any portion thereof shall remain outstanding and until five (5) years after the TIFIA Loan shall have been paid in full, the TIFIA Lender shall have the right, upon reasonable prior notice and during normal business hours, to visit and inspect any of the locations or properties of the Borrower, to examine its books of account and records, to make copies and extracts therefrom at the Borrower's expense, and to discuss the Borrower's affairs, finances and accounts with, and to be advised as to the same by, its officers and employees and its independent public accountants (and by this provision the Borrower irrevocably authorizes its independent public accountants to discuss with the TIFIA Lender the affairs, finances and accounts of the Borrower, whether or not any representative of the Borrower is present, it being understood that nothing contained in this Section 21(b) (*Accounting and Audit Procedures; Inspections; Reports and Records*) is intended to confer any right to exclude any such representative from such discussions), all at such reasonable times and intervals as the TIFIA Lender may desire. The Borrower agrees to pay all out-of-pocket expenses incurred by the TIFIA Lender in connection with the TIFIA Lender's exercise of its rights under this Section 21(b) (*Accounting and Audit Procedures; Inspections; Reports and Records*) at any time when an Event of Default shall have occurred and be continuing.

(c) Reports and Records. The Borrower shall maintain and retain all files relating to the Project, the Project Revenues and the TIFIA Loan until three (3) years after the later of the date on which (i) all rights and duties hereunder and under the TIFIA Note (including payments) have been fulfilled and any required audits have been performed and (ii) any litigation relating to the Project, the Project Revenues, the TIFIA Loan or this Agreement is finally resolved or, if the TIFIA Lender has reasonable cause to extend such date, a date to be mutually agreed upon by the TIFIA Lender and the Borrower. The Borrower shall provide to the TIFIA Lender in a timely manner all records and documentation relating to the Project or the Project Revenues that the TIFIA Lender may reasonably request from time to time.

(d) Copies of Senior Debt Related Notices. The Borrower shall provide to the TIFIA Lender, promptly after the sending or receipt thereof, copies of (i) final ratings presentations sent to, and any notices, reports or other written materials (other than those that are ministerial in nature) received from any Rating Agency that has provided, or is being requested to provide, a rating with respect to the Project or any indebtedness of the Borrower that is or will be secured by or paid from the Project Revenues, (ii) all notices and other written communications, other than those that are non-substantive or ministerial in nature, received by it from the Trustee or any Noteholder, and (iii) all reports, notices and other written materials, other than those that are non-substantive or ministerial in nature, required to be sent to the Trustee or any Noteholder under the Security Documents, including all such notices, other than those that are non-substantive or ministerial in nature, relating to any of the Principal Project Contracts or any other Related Documents; unless, in each case, the TIFIA Lender notifies the Borrower that any such reports, notices and/or other written materials no longer need to be provided.

(e) Required Audit. The Borrower shall have a single or program-specific audit conducted in accordance with 2 C.F.R. Part 200 Subpart F and 31 U.S.C. § 7502 in 2019 and annually thereafter, except to the extent biennial audits are permitted

for the Borrower pursuant to 2 C.F.R. § 200.504 and 31 U.S.C. § 7502(b). Upon reasonable notice, the Borrower shall cooperate fully in the conduct of any periodic or compliance audits conducted by the TIFIA Lender, the USDOT, or designees thereof, pursuant to 49 C.F.R. § 80.19, 31 U.S.C. § 7503(b), or 31 U.S.C. § 6503(h) and shall provide full access to any books, documents, papers or other records that are pertinent to the Project or the TIFIA Loan, to the Secretary, or the designee thereof, for any such project or programmatic audit.

SECTION 22. Financial Plan, Statements, and Reports.

(a) Financial Plan. The Borrower shall provide to the TIFIA Lender and the FHWA Division Office, annually until the TIFIA Loan has been repaid in full, in each case not later than one hundred twenty (120) days after the beginning of each Borrower Fiscal Year, a Financial Plan. The Financial Plan shall not reflect amortization of Senior Obligations until such time as all currently accruing interest on the TIFIA Loan is being paid in full.

(i) The Financial Plan shall be prepared in accordance with recognized financial reporting standards, such as those in the “Guide for Prospective Financial Information” of the American Institute of Certified Public Accountants, shall meet FHWA’s Major Project Financial Plan requirements, as amended from time to time, and shall be in form and substance satisfactory to the TIFIA Lender.

(ii) The Financial Plan shall include: (A) a certificate signed by the Borrower’s Authorized Representative to the effect that the Financial Plan, including the assumptions and supporting documentation, is accurate and reasonable to the best of the Borrower’s knowledge and belief; (B) a certificate signed by the Borrower’s Authorized Representative demonstrating that annual projected Project Revenues shall be sufficient to meet the Loan Amortization Schedule and to meet the Rate Coverage Test established pursuant to Section 16(l) (*Rate Coverage*), and (C) an electronic copy of a Revised Financial Model for the period from the Effective Date through the Final Maturity Date, in substantially the form of the Base Case Financial Model, based upon assumptions and projections with respect to the Project Revenues, expenses and other financial aspects of the Project that shall reflect the prior experience and current status of the Project, and the expectations of the Borrower with respect to the Project, as of the most recent practicable date prior to the delivery of such Revised Financial Model.

(iii) For the period through the Substantial Completion Date, the Financial Plan shall:

(A) provide the current estimate of Total Project Costs and the remaining cost to complete the Project, identify any significant cost changes since the previous Financial Plan, discuss reasons for and implications of the cost changes, and include a summary table showing the history of Total Project Costs

by major activity or category in comparison to the Base Case Financial Model and the preceding Financial Plan;

(B) provide updates to the Construction Schedule, including (1) an update, if any, to the Projected Substantial Completion Date and an explanation of any such adjustment and (2) an update, if any, to the Final Maturity Date (but in no event shall the Final Maturity Date be later than the date that is thirty-five (35) years following the Substantial Completion Date);

(C) identify major milestones for each phase of the Project and compare current milestone dates with the milestone dates in the Construction Schedule and in the preceding Financial Plan, and discuss reasons for changes in Project milestones;

(D) provide current estimates of sources and uses of funds for the Project, identify any significant funding changes since the preceding Financial Plan, discuss reasons for and implications of the funding changes, and include a summary table showing the history of Project funding in comparison to the Base Case Financial Model and the preceding Financial Plan;

(E) provide an updated cash flow schedule showing annual cash needs versus available revenue and funding to meet those needs and identify any potential revenue and funding shortfalls, and addressing contingency measures that will or may be taken to address any shortfalls;

(F) based on the updated cash flow schedule, provide projected Senior Debt Service Coverage Ratios and Total Debt Service Coverage Ratios through the Final Maturity Date;

(G) provide cost containment strategies and risk mitigation plans that have been or may be implemented to address factors that are affecting or could affect the scheduled completion or financial viability of the Project;

(H) provide the total value of approved changes in Project design or scope, and provide a listing of each individual change valued at \$10,000,000 or more, setting forth the rationale or need for the proposed change and describing the impact of such change on the Project;

(I) to the extent that any Hedging Transactions are then in effect, report on the notional amounts covered by such Hedging Transactions; and

(J) contain, in form and substance satisfactory to the TIFIA Lender, a written narrative executive summary of the topics described in clauses (A) through (I) above since the Effective Date and since the preceding Financial Plan, describing in reasonable detail all material matters that may affect the future performance of the Borrower's obligations under this Agreement,

including any adjustment to the Projected Substantial Completion Date, and the causes thereof.

(iv) For the period following the Substantial Completion Date until repayment of the TIFIA Loan in full, the Financial Plan shall:

(A) provide an updated cash flow schedule showing annual cash inflows (Project Revenues, interest and other income) and outflows (Operations and Maintenance Expenses, Major Maintenance Costs, Capital Expenditures, Senior Debt Service, TIFIA Debt Service, replenishment of reserves and other uses) with a narrative identifying any potential revenue or funding shortfall and discussing contingency measures that will or may be taken to address any shortfalls;

(B) report on variances during the prior Borrower Fiscal Year between the actual Operations and Maintenance Expenses and Major Maintenance Costs incurred and the budgeted Operations and Maintenance Expenses and Major Maintenance Costs as shown in the Financial Plan for such prior Borrower Fiscal Year, together with a brief narrative explanation of the reasons for any such variance of ten percent (10%) or more;

(C) provide current and estimated amounts of Project Revenues received and the amounts deposited into each of the accounts and subaccounts established under the Security Documents and the amount disbursed from such funds and accounts and the balance in each of the funds and accounts;

(D) provide an updated budget for Operations and Maintenance Expenses and Major Maintenance Costs for the current Borrower Fiscal Year;

(E) provide an updated schedule of actual and projected Project Revenues, showing actual and projected Senior Debt Service Coverage Ratios and Total Debt Service Coverage Ratios, and report on variances during the prior Borrower Fiscal Year between the Project Revenues actually received and the budgeted Project Revenues as shown in the Financial Plan for such prior Borrower Fiscal Year, together with a brief narrative explanation of the reasons for any such variance of ten percent (10%) or more;

(F) provide a schedule of then current toll rates, receipts, and charges and all returns, fees or moneys constituting Project Revenues and planned increases thereto;

(G) to the extent that any Hedging Transactions are then in effect, report on the notional amounts and mark to market values under such Hedging Transactions; and

(H) contain, in form and substance satisfactory to the TIFIA Lender, a written narrative executive summary of the topics described in

clauses (A) through (G) above since the Effective Date and since the preceding Financial Plan, including in reasonable detail (i) an explanation of any variances in costs or revenues in comparison to the Base Case Financial Model and the preceding Financial Plan, and (ii) a description of any material matters that may affect the future performance of the Borrower's obligations under this Agreement and the causes thereof, including traffic and revenue reports, operational contracts, and third-party transactions.

(b) Modifications to Total Project Costs. For the period through the Substantial Completion Date, the Borrower shall provide the TIFIA Lender with written notification at least thirty (30) days prior to instituting any increase or decrease to the aggregate Total Project Costs set forth in the Project Budget in an amount equal to or greater than five percent (5%), which notification shall set forth the nature of the proposed increase or decrease and an estimate of the impact of such increase or decrease on the capital costs and operating costs of the Project, and the Financial Plan. The Borrower's notice shall demonstrate that the proposed increase or decrease is consistent with the provisions of this Agreement, is necessary or beneficial to the Project, does not materially impair the TIFIA Lender's security or the Borrower's ability to comply with its obligations under the TIFIA Loan Documents (including any financial ratios or covenants included therein), and could not reasonably be expected to result in a Material Adverse Effect.

(c) Financial Statements. The Borrower shall furnish to the TIFIA Lender:

(i) (A) as soon as available, the Borrower shall deliver to the TIFIA Lender a copy of the report required to be filed with the Trustee pursuant to Section 709 of the Master Trust Agreement certified by the chief executive officer or chief financial officer of the Borrower or any Borrower's Authorized Representative fairly representing in all material respects the financial condition of the Borrower as at the end of such period and the results of its operations and its cash flows for such period (subject to normal year-end audit adjustments); and

(B) as soon as available, but no later than one hundred eighty (180) days after the end of Borrower Fiscal Year, commencing with the Borrower Fiscal Year in which Substantial Completion occurs, the Borrower shall deliver to the TIFIA Lender a copy of the annual report required to be filed with the Trustee pursuant to the penultimate paragraph of Section 709 of the Master Trust Agreement, certified without a "going concern" or like qualification or exception, or qualification as to the scope of the audit, by an independent public accounting firm selected by the Borrower and which is reasonably acceptable to the TIFIA Lender.

(ii) All such financial statements shall be complete and correct in all material respects and shall be prepared in reasonable detail and in accordance with GAAP (except for requirements and procedures established by the Texas Comptroller and the Texas State Auditor or in the case of non-U.S. Persons, substantially equivalent principles) applied consistently throughout the periods

reflected therein (except for changes approved or required by the independent public accountants certifying such statements and disclosed therein).

(d) Officer's Certificate. The Borrower shall furnish to the TIFIA Lender, together with each delivery of annual audited or quarterly financial reports of the Borrower pursuant to Section 22(c) (*Financial Statements*), a certificate signed by the chief executive officer or chief financial officer of the Borrower or any Borrower's Authorized Representative, stating whether or not, to the Borrower's knowledge, during the quarterly or annual period (as the case may be) covered by such financial statements or reports, there occurred any Event of Default or event that, with the giving of notice or the passage of time or both, would become an Event of Default, and, if any such Event of Default or other event shall have occurred during such period, the nature of such Event of Default or other event and the actions that the Borrower has taken or intends to take in respect thereof.

SECTION 23. Project Oversight and Monitoring.

(a) Project Development, Design and Construction. The TIFIA Lender shall have the right in its sole discretion to monitor (or direct its agents to monitor) development, including environmental compliance, design, right-of-way acquisition, and construction of the Project. TxDOT shall be responsible for administering construction oversight of the Project in accordance with the FHWA Oversight Agreement. TxDOT's oversight of Project development, environmental compliance, design, right-of-way acquisition, and construction monitoring shall be conducted pursuant to the FHWA Oversight Agreement, which may be amended from time to time upon mutual agreement of TxDOT and the FHWA Division Office or when so required by federal statute or otherwise required by the Congress. The Borrower agrees to cooperate in good faith with the TIFIA Lender and the FHWA Division Office in the conduct of such monitoring by promptly providing the TIFIA Lender and the FHWA Division Office with such reports, documentation or other information as shall be requested by the TIFIA Lender or the FHWA Division Office, or any of its agents, including any independent engineer reports, documentation or information.

(b) Reporting. The Borrower shall furnish to the TIFIA Lender, the documentation described below:

(i) Quarterly Construction Progress Report. At such time as the reports required by Section 407 of the Master Trust Agreement are required to be filed with the Trustee, the Borrower shall provide the TIFIA Lender a report executed by a Borrower's Authorized Representative that:

(A) specifies the amount of Total Project Costs expended since the Effective Date (as of the last date of the Borrower Fiscal Quarter upon which the Borrower is reporting) as well as during the preceding Borrower Fiscal Quarter and the amount of Total Project Costs estimated to be required to complete the Project;

(B) provides a demonstration that the Borrower has sufficient funds (including funds on hand and funds obtainable without undue delay or conditions that cannot reasonably be satisfied by the Borrower as and when such funds are needed) to complete the Project;

(C) provides an assessment of the overall construction progress of the Project since the last day of the immediately preceding Borrower Fiscal Quarter covered by the last report and since the Effective Date, together with an assessment of how such progress compares to the Construction Schedule;

(D) specifies the most recent projections for the Substantial Completion Date as compared to the Projected Substantial Completion Date specified in the most recent Financial Plan submitted to the TIFIA Lender;

(E) provides a detailed description of all material problems (including actual and anticipated cost and/or schedule overruns, if any) encountered or anticipated in connection with the construction of the Project since the last day of the immediately preceding Borrower Fiscal Quarter covered by the last report, together with an assessment of how such problems may impact the Construction Schedule and the meeting of critical dates thereunder and a detailed description of the proposed solutions to any such problems;

(F) specifies the delivery status of major equipment, if any, and the effect, if any, that the anticipated delivery dates of such equipment has on the overall Construction Schedule;

(G) specifies any proposed or pending change orders;

(H) specifies any material changes or deviations from the Borrower's land procurement plans or schedule;

(I) includes a copy of each report delivered by a Construction Contractor to the Borrower that has not previously been delivered to the TIFIA Lender in a prior report delivered pursuant to this Section 23(b)(i) (*Quarterly Construction Progress Report*); and

(J) provides a discussion or analysis of such other matters related to the Project as the TIFIA Lender may reasonably request. The Borrower shall respond, and use commercially reasonable efforts to cause the Construction Contractors to respond, to the TIFIA Lender's inquiries regarding such report, the construction of the Project and any Construction Contractor's performance of its obligations under the Design-Build Agreement.

(ii) [Reserved]

(iii) Quarterly Traffic and Operating Report. For the period commencing with the close of the first full Borrower Fiscal Quarter following the Substantial Completion Date of each System Segment comprising a portion of the Project, deliver to the TIFIA Lender, (x) not later than the last day of the second month following each Borrower Fiscal Quarter, a traffic and operating report for the preceding Borrower Fiscal Quarter showing the information required by Section 709 of the Master Trust Agreement; and (y) not later than the last day of the second month after each Borrower Fiscal Quarter following the close of each Borrower Fiscal Quarter, (A) the operating data for the Project for the previous Borrower Fiscal Quarter, including total Project Revenues received and total Operations and Maintenance Expenses and Capital Expenditures incurred, (B) the variances for such period between the Project Revenues actually received and the budgeted Project Revenues as shown in the Financial Plan most recently submitted to the TIFIA Lender, together with a brief narrative explanation of the reasons for any such variance of ten percent (10%) or more, and (C) the variances for such period between the actual Operations and Maintenance Expenses incurred and the budgeted Operations and Maintenance Expenses as shown in the Financial Plan, together with a brief narrative explanation of the reasons for any such variance of ten percent (10%) or more.

(iv) Requested Information. The Borrower shall, at any time while the TIFIA Loan remains outstanding, promptly deliver to the TIFIA Lender such additional information regarding the business, financial, legal or organizational affairs of the Borrower or regarding the Project or the Project Revenues as the TIFIA Lender may from time to time reasonably request, including copies of agreements related to the acquisition or control of any Project right-of-way.

(c) Project Operations. For the period following the Substantial Completion Date, the TIFIA Lender shall have the right, in its sole discretion, to monitor (or direct its agents to monitor) the Project's operations and, as the TIFIA Lender may request from time to time, to receive reporting on the operation and management of the Project, and copies of any contracts in excess of \$10,000,000 relating to the operation, maintenance and safety services for the Project. The Borrower agrees to cooperate in good faith with the TIFIA Lender in the conduct of such monitoring by promptly providing the TIFIA Lender with such reports, documentation, or other information requested by the TIFIA Lender. The TIFIA Lender has the right, in its sole discretion, to retain a financial oversight advisor, under a contract with the TIFIA Lender, to carry out the provisions of this Section 23(c) (*Project Operations*), and the full cost of such monitoring shall be borne by the Borrower. Any costs incurred by the TIFIA Lender for such monitoring, including the costs of any financial oversight advisor, shall be promptly reimbursed by the Borrower upon demand therefor in the form of an invoice reasonably acceptable to the Borrower.

(d) Independent Engineer. The TIFIA Lender may retain, from time to time, at the Borrower's sole cost and expense, an Independent Engineer. The Independent Engineer shall advise the TIFIA Lender (with a duty of care to the TIFIA Lender) with regard to all technical matters related to the performance by the Borrower of its obligations

under this Agreement and the other TIFIA Loan Documents or Principal Project Contracts. The Borrower may replace the Independent Engineer, subject to the TIFIA Lender's right to object to any replacement Independent Engineer in accordance with this Section 23(d) (*Independent Engineer*). The Borrower shall provide the TIFIA Lender with thirty (30) Business Days advance written notice of any proposed replacement of the Independent Engineer, together with supporting information concerning the qualifications of the proposed replacement Independent Engineer. The proposed replacement Independent Engineer shall become the Independent Engineer thirty (30) Business Days following the date of the notice provided by the Borrower under this Section 23(d) (*Independent Engineer*), unless the TIFIA Lender objects in writing within fifteen (15) Business Days following receipt of the Borrower's notice. Any such objection by the TIFIA Lender shall include a reasonable description of its reasons for objecting to the proposed replacement Independent Engineer. The Borrower shall pay for all services performed by the Independent Engineer.

SECTION 24. No Personal Recourse. No official, employee or agent of the TIFIA Lender or any Borrower Related Party or any Person executing this Agreement or any of the other TIFIA Loan Documents shall be personally liable on this Agreement or such other TIFIA Loan Documents by reason of the issuance, delivery or execution hereof or thereof.

SECTION 25. No Third Party Rights. The parties hereby agree that this Agreement creates no third party rights against any Borrower Related Party, the Federal Government, or the TIFIA Lender, solely by virtue of the TIFIA Loan, and the Borrower agrees to indemnify and hold the TIFIA Lender, the Servicer (if any), the Executive Director, and the Federal Government harmless, to the extent permitted by law and in accordance with Section 18 (*Indemnification*), from any lawsuit or claim arising in law or equity solely by reason of the TIFIA Loan, and that no third party creditor or creditors of the Borrower shall have any right against the TIFIA Lender with respect to the TIFIA Loan made pursuant to this Agreement.

SECTION 26. Borrower's Authorized Representative. The Borrower shall at all times have appointed a Borrower's Authorized Representative by designating such Person or Persons from time to time to act on the Borrower's behalf pursuant to a written certificate furnished to the TIFIA Lender and the Servicer, if any, containing the specimen signature or signatures of such Person or Persons and signed by the Borrower.

SECTION 27. TIFIA Lender's Authorized Representative.

(a) The TIFIA Lender shall at all times have appointed the TIFIA Lender's Authorized Representative by designating such Person or Persons from time to time to act on the TIFIA Lender's behalf pursuant to a written certificate furnished to the Borrower and the Servicer, if any, containing the specimen signature or signatures of such Person or Persons and signed by the TIFIA Lender.

(b) Pursuant to the delegation of authority, dated July 20, 2016, from the Secretary to the Under Secretary of Transportation for Policy, the further delegation of authority, dated July 20, 2016, from the Under Secretary of Transportation for Policy to the Executive Director of the Build America Bureau, and the further delegation of

authority, dated August 31, 2016 (the “**Delegation**”), by the Executive Director of the Build America Bureau to the Director of the Credit Office of the Build America Bureau, the Director of the Credit Office of the Build America Bureau has been delegated the authority to enter into contracts and sign all contractual and funding documents (with the exception of the term sheets and credit agreements) necessary to implement the Act, including entering into technical amendments to, and restatements of, term sheets and credit agreements that do not materially impair the credit quality of the revenues pledged to repay the TIFIA Lender. Pursuant to the Delegation, the Director of the Credit Office of the Build America Bureau may act and serve as the TIFIA Lender’s Authorized Representative under this Agreement, in addition to the Executive Director of the Build America Bureau for the purposes set forth herein.

SECTION 28. Servicer. The TIFIA Lender may from time to time designate an entity or entities to perform, or assist the TIFIA Lender in performing, the duties of the Servicer or specified duties of the TIFIA Lender under this Agreement and the TIFIA Note. The TIFIA Lender shall give the Borrower written notice of the appointment of any successor or additional Servicer and shall enumerate the duties or any change in duties to be performed by any Servicer. Any references in this Agreement to the TIFIA Lender shall be deemed to be a reference to the Servicer with respect to any duties which the TIFIA Lender shall have delegated to such Servicer. The TIFIA Lender may at any time assume the duties of any Servicer under this Agreement and the TIFIA Note. The Borrower shall cooperate and respond to any reasonable request of the Servicer for information, documentation or other items reasonably necessary for the performance by the Servicer of its duties hereunder.

SECTION 29. Fees and Expenses.

(a) Commencing in Federal Fiscal Year (“FFY”) 2021 and continuing thereafter each year throughout the term of this Agreement, the Borrower shall pay to the TIFIA Lender a loan servicing fee on or before the fifteenth (15th) of November. The TIFIA Lender shall establish the amount of this annual fee, and the TIFIA Lender or the Servicer, if any, shall notify the Borrower of the amount, at least thirty (30) days before payment is due.

(b) In establishing the amount of the fee, the TIFIA Lender will adjust the previous year’s base amount in proportion to the percentage change in CPI. For the FFY 2021 calculation, the TIFIA Lender will use the FFY 2021 base amount of \$13,458.99, which applies to other TIFIA borrowers, as the previous year’s base amount. The TIFIA Lender will calculate the percentage change in the CPI, before seasonal adjustment, from August of the previous year to August of the current year and will then adjust the previous year’s base amount in proportion to the CPI percentage change. To calculate the amount of the fee, the TIFIA Lender shall round the current year’s base amount using increments of \$500. Results with the ending integers between 250-499 or between 750-999 shall be rounded upward, and results with the ending integers between 001-249 or between 501-749 shall be rounded downward. The CPI adjustments in the following years shall begin with the base amount, not the rounded fee.

(c) The Borrower agrees, whether or not the transactions hereby contemplated shall be consummated, to reimburse the TIFIA Lender on demand from time-to-time, within thirty (30) days after receipt of any invoice from the TIFIA Lender, for any and all fees, costs, charges and expenses incurred by it (including the reasonable fees, costs, and expenses of its legal counsel, financial advisors, auditors, and any technical or other consultants and advisors, such reasonableness determined in accordance with Part 31 of the Federal Acquisition Regulation) in connection with the negotiation, preparation, execution, delivery, administration, and performance of this Agreement and the other TIFIA Loan Documents and the transactions hereby and thereby contemplated, including reasonable attorneys', and engineers' fees and professional costs, including all such fees, costs and expenses incurred as a result of or in connection with:

(i) To the extent permitted by state law, the enforcement of or attempt to enforce any provision of this Agreement or any of the other TIFIA Loan Documents;

(ii) any amendment, modification, or requested amendment or modification of, waiver, consent or requested waiver or consent under or with respect to, or the protection or preservation of any right or claim under, this Agreement, any other TIFIA Loan Document or the Trust Estate, or advice in connection with the administration, preservation in full force and effect and enforcement of this Agreement or any other TIFIA Loan Document or the rights of the TIFIA Lender thereunder; and

(iii) any ongoing oversight and monitoring of the TIFIA Loan, the Borrower or the Project by the TIFIA Lender as provided for herein; and

(iv) any work-out, restructuring or similar arrangement of the obligations of the Borrower under this Agreement or the other TIFIA Loan Documents, including during the pendency of one or more Events of Default.

The obligations of the Borrower under this Section 29 (*Fees and Expenses*) shall survive the payment or prepayment in full or transfer of the TIFIA Note, the enforcement of any provision of this Agreement or the other TIFIA Loan Documents, any such amendments, waivers or consents, any Event of Default, and any such workout, restructuring or similar arrangement.

SECTION 30. Amendments and Waivers. No amendment, modification, termination or waiver of any provision of this Agreement shall in any event be effective without the written consent of each of the parties hereto.

SECTION 31. Governing Law. This Agreement shall be governed by the federal laws of the United States of America if and to the extent such federal laws are applicable and the internal laws of the State, if and to the extent such federal laws are not applicable.

SECTION 32. Severability. In case any provision in or obligation under this Agreement shall be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and

enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

SECTION 33. Successors and Assigns. This Agreement shall be binding upon the parties hereto and their respective permitted successors and assigns and shall inure to the benefit of the parties hereto and their permitted successors and assigns. Neither the Borrower's rights or obligations hereunder nor any interest therein may be assigned, delegated or transferred by the Borrower without the prior written consent of the TIFIA Lender.

SECTION 34. Remedies Not Exclusive. No remedy conferred herein or reserved to the TIFIA Lender is intended to be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute.

SECTION 35. Delay or Omission Not Waiver. No delay or omission of the TIFIA Lender to exercise any right or remedy provided hereunder upon a default of the Borrower (except a delay or omission pursuant to a written waiver) shall impair any such right or remedy or constitute a waiver of any such default or acquiescence therein. Every right and remedy given by this Agreement or by law to the TIFIA Lender may be exercised from time to time, and as often as may be deemed expedient by the TIFIA Lender.

SECTION 36. Counterparts; Electronic Signatures.

This Agreement and any amendments, waivers, consents or supplements hereto or in connection herewith may be executed in any number of counterparts and by the different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute one and the same instrument; signature pages may be detached from multiple separate counterparts and attached to a single counterpart so that all signature pages are physically attached to the same document. Electronic delivery of an executed counterpart of a signature page of this Agreement or any document or instrument delivered in connection herewith in accordance with Section 37 (*Notices; Payment Instructions*) shall be effective as delivery of an original executed counterpart of this Agreement or such other documents or instrument, as applicable. Each party acknowledges and agrees that it may execute this Agreement, and any amendment, modification, or waiver hereto, using Electronic Signatures. Such Electronic Signatures are intended to authenticate this writing and to have the same force and effect as handwritten signatures.

SECTION 37. Notices; Payment Instructions. Notices hereunder shall be (a) in writing, (b) effective as provided below and (c) given by (i) nationally recognized courier service, (ii) hand delivery, or (iii) email, in each case to:

If to TIFIA Lender: Build America Bureau
United States Department of Transportation
Room W12-464
1200 New Jersey Avenue, SE
Washington, D.C. 20590
Attention: Director, Office of Credit Programs
Email: BureauOversight@dot.gov

with copies to: Federal Highway Administration
Texas Division Office
300 E. 8th Street, Room 826
Austin, Texas 78701
Attention: Division Administrator

If to the Borrower: Grand Parkway Transportation Corporation
125 E. 11th Street
Austin, Texas 78701-2483
Attention: Benjamin Asher
Email: Benjamin.asher@txdot.gov

With copies to projectfinance@txdot.gov

Unless otherwise instructed by the TIFIA Lender's Authorized Representative, all notices to the TIFIA Lender should be made by email to the email address noted above for the TIFIA Lender. Notices required to be provided herein shall be provided to such different addresses or to such further parties as may be designated from time to time by a Borrower's Authorized Representative with respect to notices to the Borrower or by the TIFIA Lender's Authorized Representative with respect to notices to the TIFIA Lender or the Servicer. The Borrower shall make any payments hereunder or under the TIFIA Note in accordance with Section 9(e) (*Manner of Payment*) and the payment instructions hereafter provided by the TIFIA Lender's Authorized Representative, as modified from time-to-time by the TIFIA Lender. Each such notice, request or communication shall be effective (x) if delivered by hand or by nationally recognized courier service, when delivered at the address specified in this Section 37 (*Notices; Payment Instructions*) (or in accordance with the latest unrevoked written direction from the receiving party) and (y) if given by email, when such email is delivered to the address specified in this Section 37 (*Notices; Payment Instructions*) (or in accordance with the latest unrevoked written direction from the receiving party); provided that notices received on a day that is not a Business Day or after 5:00 p.m. Eastern Time on a Business Day will be deemed to be effective on the next Business Day.

SECTION 38. Effectiveness. This Agreement shall be effective on the Effective Date.


SECTION 39. Termination. This Agreement shall terminate upon the irrevocable payment in full in cash by the Borrower of the Outstanding TIFIA Loan Balance, together with all accrued interest and fees with respect thereto; provided, however, that the indemnification requirements of Section 18 (*Indemnification*), the reporting and record keeping requirements of Section 21(b) (*Inspections*) and Section 21(c) (*Reports and Records*), and the payment

requirements of Section 29 (*Fees and Expenses*) shall survive the termination of this Agreement as provided in such sections.

SECTION 40. Integration. This Agreement constitutes the entire contract between the parties relating to the subject matter hereof and supersedes any and all previous agreements and understandings, oral or written, relating to the subject matter hereof.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the date first written above.

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

By: 
Name: Stephen Stewart, CPA
Title: President, Board of Directors

UNITED STATES DEPARTMENT OF TRANSPORTATION, acting by and through the
Executive Director of the Build America Bureau

By:  _____
Name: Dr. Morteza Farajian
Title: Executive Director, Build America Bureau

[TIFIA Signature Page to TIFIA Loan Agreement – Grand Parkway Project Segments H & I]

**SCHEDULE I
PROJECT BUDGET**

TOTAL AND ELIGIBLE PROJECT COST BUDGET (\$000s)¹

SOURCES OF FUNDS	TOTAL	
Series 2018A Bond Proceeds	\$	810,204
Series 2018B Bond Proceeds		187,106
Series 2018 BAN Proceeds		668,520
Series 2013E Proceeds		180,597
TxDOT Funds	\$	82,223
Total	\$	1,928,650

USES OF FUNDS

SH 99 H & I Costs (All \$000s)	Budget Amount as of 5/31/2021²	Paid by TxDOT	Paid by GPTC
Segments H, I-1 and I-2			
Design-Build Agreement Costs	\$ 927,171		\$ 927,171
Right-of-Way Acquisition	330,000		330,000
Toll Equipment and Integration	38,407		38,407
Environmental Mitigation	10,644		10,644
TxDOT Agency Costs			
Feasibility Studies	8,840	8,840	-
GEC Management and Oversight	8,848		8,848
GECs/Construction Management/Owner Verification	30,680		30,680
T&R Consultant	1,582	1,123	459
Consultants (Engineers, Financial, Legal)	7,460	6,660	800
Stipend to unsuccessful Proposers	4,277		4,277
TxDOT Management	10,565	1,885	8,680
<i>Subtotal TxDOT Agency Costs</i>	\$ 72,252	\$ 18,508	\$ 53,744
Proposed Segment 1-2A EW4 Overpass DBB Project	\$ 35,025		\$ 35,025
Project Contingency	\$ 49,447		\$ 49,447
Segment I-2B Elements being Developed by Houston District	\$ 63,715	\$ 63,715	
Subtotal H and I Project Costs, before Financing Costs	\$ 1,526,661	\$ 82,223	\$ 1,444,438
Financing Costs			
Capitalized Interest (2018 Bonds/BANs)	\$ 309,855		\$ 309,855
Cost of Issuance (2018 Bonds/BANs)	11,537		11,537
Capitalized Interest (50% of Series 2013E)	29,639		29,639
Cost of Issuance (50% Series 2013E Underwriting)	958		958
Rate Stabilization Fund	50,000		50,000
Subtotal H and I Financing Costs	\$ 401,989	\$ -	\$ 401,989
Total H and I Project and Financing Costs	\$ 1,928,650	\$ 82,223	\$ 1,846,427

¹ All Project Costs are Eligible Project Costs

² The Project Budget is from the Grand Parkway H and I Project Quarterly Construction Progress Report ending May 31, 2021.

SCHEDULE II

CONSTRUCTION SCHEDULE

Contract Milestones	Date
Conditional Award	28-March-2017
Design-Build Agreement effective date	30-June-2017
NTP1 issued	10-July-2017
Limited NTP2 issued	13-October-2017
NTP2 (full) issued	27-October-2017
GPTC Revenue Bond Financing closed	30-May-2018
Start of construction	26-July-2018
Projected Substantial Completion Date*	22-May-2022
Toll Commencement Date as included in the Base Case Financial Model	22-May-2022
Projected date of Final Acceptance	120 days after satisfaction of the conditions to Substantial Completion

*Pursuant to the Design-Build Agreement, Substantial Completion is anticipated to be achieved 1,693 days after NTP1 and is subject to change via Change Order. The Parties acknowledge and agree that any such changes to the anticipated Substantial Completion date will not be considered material changes to the Construction Schedule if Substantial Completion remains projected to occur prior to the Projected Substantial Completion Date as included in the Revised Financial Model.

SCHEDULE III
EXISTING OBLIGATIONS

SCHEDULE III

EXISTING OBLIGATIONS AS OF August 12, 2021		
Description of Issue	Bonds Issued Original Par	Outstanding Original Par as of 8/12/2021
First Tier Toll Revenue Bonds, Series 2013A TIFIA Loan Agreement and Second Tier Toll Revenue Promissory Revenue Note	\$ 200,000,000.00 840,645,000.00	\$ 47,730,000.00 -
Subordinate Tier Toll Revenue Bonds, Series 2013B (TELA Supported) Current Interest Bonds	1,137,935,000.00	-
Subordinate Tier Toll Revenue Bonds, Convertible Capital Appreciation Bonds (1)	276,999,856.15	276,999,856.15
Subordinate Tier Toll Revenue Bonds, Taxable Series 2013E (TELA Supported)	361,810,000.00	361,810,000.00
Subordinate Tier Toll Revenue Refunding Bonds, Series 2016 (TELA Supported)	83,775,000.00	83,775,000.00
Subordinate Tier Toll Revenue Bonds, Series 2018A (TELA Supported)	712,100,000.00	712,100,000.00
Subordinate Tier Toll Revenue Put Bonds, Series 2018B (TELA Supported)	166,525,000.00	166,525,000.00
Bond Anticipation Notes, Series 2018	605,330,000.00	605,330,000.00

SCHEDULE IV
NEPA DETERMINATION



Texas Department of Transportation

PO BOX 1386 • HOUSTON, TEXAS 77251-1386 • (713) 802-5000

October 4, 2012

CONTACT: DPD

Re-Evaluation
Harris and Chamber Counties
SH 99 (Grand Parkway), Segment 1-2:
From SH 225 to IH 10 East
Control 3187-01-005, 3187-02-006, 3187-01-009 and 3510-10-901

Mr. Daniel Mott, P.E.
Houston Major Projects Engineer
Federal Highway Administration
300 East 8th Street, Room 826
Austin, Texas 78701

Dear Mr. Mott:

Attached is one copy of the Re-Evaluation of the Final Environmental Impact Statement for the SH 99, Grand Parkway, Segment 1-2 roadway project.

This Re-evaluation addresses the proposed construction of an 8.7-mile portion of the project from SH 146 to FM 1405, proposed tolling of the roadway from SH 146 to north of Fisher Road, and a proposed overpass at Fisher Road. At this time, your concurrence that this Segment Re-evaluation has been prepared in accordance with 23 CFR 771.129 and the Federal Highway Administration Technical Advisory T 6640.8A, Section XI with a determination that the Record of Decision analysis remains valid, is requested.

If you have any questions, please contact Mr. Lance Olenius, TxDOT Houston District Project Manager, at (713) 802-5271.

Sincerely,

Pat Henry, P.E.
Director of Project Development
Houston District

CPH:ljh
Attachment
cc: Mr. Lance Olenius

Concurrence:
Federal Highway Administration

Date: 10/09/2012

**RE-EVALUATION OF THE
FINAL ENVIRONMENTAL
IMPACT STATEMENT**

**SH 99 - GRAND PARKWAY
SEGMENT I-2
FROM SH 225 TO IH 10 EAST**

**4-LANE TOLLWAY,
WITH ASSOCIATED FRONTAGE ROADS AND OVERPASSES
FROM SH 146 TO FISHER ROAD**

HARRIS AND CHAMBERS COUNTIES

CSJ Nos:
3187-01-005
3187-02-006
3187-01-009
3510-10-901

Prepared By:

Federal Highway Administration
Texas Department of Transportation
Houston District

April 2011

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**1.0 PURPOSE OF AND NEED FOR
PROPOSED PROJECT**

1.0 PURPOSE OF AND NEED FOR PROPOSED PROJECT

1.1 INTRODUCTION

A Final Environmental Impact Statement (FEIS) was prepared in 1997 for the section of Grand Parkway (State Highway [SH] 99) from SH 225 to Interstate Highway (IH) 10 East (E) in Harris and Chambers Counties, Texas. This section of SH 99 is referred to as "Segment 1-2" and the total length of the segment is approximately 15 miles. The proposed project evaluated in the 1997 FEIS was the "interim" facility, a 4-lane at-grade arterial, with preservation of right-of-way (ROW) that would accommodate the future "ultimate" 6-lane freeway with frontage roads and overpasses in some locations.

This Re-evaluation addresses the proposed construction of an 8.7-mile portion of the project from SH 146 to Farm-to-Market Road (FM) 1405, proposed tolling of the roadway from SH 146 to north of Fisher Road, and a proposed overpass at Fisher Road. *Figure 1* shows the Segment 1-2 project limits and the area of the project addressed in this Re-evaluation. Continuous project activity has taken place since the issuance of the Record of Decision (ROD) in 1998. *Table 1-1* lists the environmental documents related to the proposed project.

Table 1-1. Segment 1-2 Environmental Documents

Date	Environmental Document	Project
1997/1998	FEIS/ROD	Four-lane at-grade arterial from SH 225 to IH 10(E). Included preserving a 300- to 400-foot wide corridor ROW to accommodate future 6-lane freeway, once justified.
2002	Re-evaluation Approved	Nine-mile section of Segment 1-2, from IH 10(E) to Business State Highway (BS) 146 at SH 99 (formerly Spur 55), redesign of U-turn at Cedar Bayou, and alteration of drainage Channel B.
2006	Categorical Exclusion Approved	Design change (proposed bridge) at FM 565.
2007	Re-evaluation Approved	Proposed tolling of Segment 1-2 from IH 10(E) to Fisher Road.
2008	Categorical Exclusion Approved	Bridge replacement, BS 146 westbound at Goose Lake.

Source: Segment 1-2 Study Team 2010

Design and operation of the proposed project from SH 225 to IH 10(E) as described in the approved FEIS has been modified since the 1998 ROD. Design changes addressed in approved environmental documents listed in *Table 1-1* include: modification of the proposed U-turn at Cedar Bayou to minimize construction impacts to wetlands in the proposed project area, alteration of the drainage route of Channel B, and addition of a bridge at FM 565. The operational change was tolling of the section from IH 10(E) to Fisher Road.

In 1997, it was anticipated that there would be two phases of construction (described from east to west) Phase One from IH 10(E) to BS 146, and Phase Two from BS 146 to Missouri Street (approximately 650 feet west of Goose Lake). As discussed in the FEIS, the portion of Segment I-2 between Missouri Street in Baytown and SH 225 was planned independently and constructed prior to 1997, and was incorporated into the Segment I-2 project. Due to regional project planning and funding constraints, the limits of the first phase of construction were shortened by approximately 2.5 miles, ending at FM 1405 instead of BS 146. Construction of the first phase began in 2003, and the roadway was opened to traffic on March 25, 2008. Toll collection along the portion of the roadway between IH 10(E) and Fisher Road is expected to begin in the fall of 2011. With the opening of this new roadway section, vehicles can travel on the planned Segment I-2 route from SH 146 to IH 10(E) using existing BS 146, former Spur 55, and the completed Phase I of Segment I-2, even though the proposed Phase I and II roadway improvements west of FM 1405 have not been implemented.

The specific design and ROW changes for the proposed project are described in *Section 1.2*. Operation of the facility as a toll road would require two toll gantries in the area from SH 146 to FM 1405. The main lanes of this section of Segment I-2 would be tolled; however, frontage roads paralleling the main lanes and the main lanes of the bridges crossing Goose Lake and Cedar Bayou would remain as free travel lanes. Three of the proposed construction projects are listed in the Houston-Galveston Area Council's (H-GAC) 2035 Regional Transportation Plan (RTP) Update and 2011-2014 Transportation Improvement Program (TIP), as described below, and copies of pages from the RTP Update and TIP are included in *Appendix B*. The total estimated cost for the proposed improvements as shown in the 2035 RTP Update is \$207,169,528. The control-section-job (CSJ) Numbers (No.), brief project descriptions, and the estimated costs for the proposed improvements are provided below.

- CSJ No. 3187-01-009, BS 146 W to SH 146: Construct 4-lane tollway with two non continuous 2-lane frontage roads and interchanges. Estimated cost - \$128,917,140.
- CSJ No. 3187-01-005, BS 146-E to Chambers County Line: Widen to 4-lane tollway with two 2-lane frontage roads and interchanges. Estimated cost - \$29,708,370.
- CSJ No. 3187-02-006, Harris County Line to FM 1405: Widen to 4-lane tollway with two 2-lane frontage roads and interchanges. Estimated cost - \$48,543,748.
- CSJ No. 3510-10-901, 0.66 mile North of Fisher Road to 0.62 mile West of Fisher Road: Construct 4 main lanes toll overpass. Estimated cost - \$17,411,000. (Note: This project is not listed in the 2035 RTP Update. The estimated cost is from a previous approved RTP. Construction of this overpass is expected to become part of a project to complete overpasses at major thoroughfares between FM 1405 and IH 10(E) that will be listed in an amendment to the 2035 RTP Update [anticipated CSJ No. 3510-10-901].)

The 1997 FEIS and the subsequent environmental documents listed in *Table 1-1* are referenced herein as previous baseline information.

1.2 PROPOSED ACTION

In general, the proposed action addressed in this Re-evaluation is the construction of new 2-lane frontage roads and a 4-lane tollway from SH 146 to Fisher Road, with overpasses at major intersections.

In the 1997 FEIS, Segment 1-2 was evaluated as a 4-lane at-grade arterial in a 300 to 400-foot wide corridor. The proposed ROW would accommodate a future 6-lane freeway, with frontage roads in some locations, when warranted; however, the FEIS did not address construction or operation of the 6-lane roadway. The future 6-lane, or "ultimate" facility, included overpasses at many intersections.

The design changes between the proposed project evaluated in the FEIS and the project addressed in this Re-evaluation are described below and summarized in *Table 1-2*. The preliminary typical cross sections and roadway plan/profile are shown on preliminary roadway schematics in *Appendix C*.

1. The proposed project evaluated in the FEIS was a 4-lane at-grade roadway, with one new bridge at Cedar Bayou (for westbound traffic). The current proposed project is a 4-lane tollway, with two 2-lane frontage roads, overpasses at major intersections, and one new 2-lane bridge at Cedar Bayou (for westbound traffic). The proposed project design is similar to the schematics presented in the FEIS for the "ultimate" 6-lane freeway with frontage roads, except that four main lanes are currently proposed instead of six.
2. Overpasses are proposed at: Wyoming Street, Lee Drive/Causeway Road, Union Pacific (UP) Railroad and South Main Street (single bridge over both), BS 146, Tri-Cities Beach Road, FM 1405, and Fisher Road. Except for the proposed overpass at Tri-Cities Beach Road, all of these overpasses and associated frontage roads and ramps were included in the "ultimate" 6-lane freeway project presented in the FEIS. The overpass at Tri-Cities Beach Road is proposed in response to requests from the community to maintain north-south traffic movement on the road.
3. The proposed project includes replacement of the eastbound bridge over Goose Lake as a 2-lane bridge with an auxiliary lane. The westbound 2-lane bridge would be widened to accommodate an auxiliary lane. The "ultimate" project in the FEIS showed two 3-lane main lane bridges and two 2-lane frontage road bridges over Goose Lake; frontage road bridges are not proposed with the current project. In the area between Wyoming Street and Lee Drive/Causeway Road, approximately 2 acres less ROW is now proposed versus the ROW proposed in the FEIS.
4. The proposed project includes reconstruction of the eastbound BS 146 lanes and frontage road from SH 146 to Wyoming Street. The proposed roadways were shown on the 6-lane schematics in the FEIS, but the roadway alignment for the current schematic design is revised, but within the ROW evaluated in the FEIS.
5. The proposed project includes the redesign of the U turn at Cedar Bayou that was addressed in the 2002 Re-evaluation.
6. At the UP Railroad crossing located east of South Main Street, the existing BS 146 roadway is below the railroad. On the 6-lane schematics in the FEIS, the main lanes were shown on two bridges over the railroad, and the frontage roads were shown at-grade. The schematic

design has been revised, and the frontage roads are now proposed to be below-grade (below the railroad), as they are currently, and the main lanes would be over the railroad. This design change reduces the ROW requirement in the area of the railroad by approximately 1.8 acres.

7. The proposed project evaluated in the FEIS required acquisition of approximately 586 acres of ROW, in an approximate 300 to 400-foot wide corridor, in the project area from FM 225 to IH 10(E). From FM 1405 to IH 10(E), project ROW has been acquired. In the Segment 1-2 project area between SH 146 and FM 1405, acquisition of approximately 46 acres of ROW would be required for the current proposed section of the project that is the subject of this Re-evaluation. The proposed ROW was part of the proposed ROW evaluated in the 1997 FEIS.
8. The main lanes would be operated as a toll facility. Main lanes and some access ramps would be tolled. Tolling would require installation of electronic toll collection facilities consisting of underground wires, antennas, lights, and cameras installed in the overhead structures, and an 8-foot by 10-foot equipment building for the electronic toll collection system. While the main lanes and some ramps would be tolled, the frontage roads would remain free. The bridges over Cedar Bayou and Goose Lake would be shared by toll and free traffic, but traffic would be able to exit the main lanes/auxiliary lane after crossing the bridges without paying a toll. Frontage road traffic would be routed onto the main lanes/auxiliary lane by entrance and exit ramps on each end of the bridges. Toll traffic and free traffic would also share the bridge over the UP railroad approximately one mile east of FM 1405.

Table 1-2. Summary of Project Changes

Location	1997 FEIS Proposed Interim Facility	1997 FEIS Future Ultimate Facility	Proposed Project in this Re-evaluation
SH 146 to FM 1405	4-lane main lanes with frontage roads between the BS 146/Spur 55 (now SH 99) intersection and FM 1405	6-lane main lanes with frontage roads	4-lane main lanes with frontage roads
SH 146 interchange	No work west of the BS 146/Spur 55 (now SH 99) intersection	Direct connectors and ramps	Direct connector
Wyoming Street interchange	No work west of the BS 146 Spur 55 (now SH 99) intersection	6-lane overpass	4-lane overpass
Goose Lake	No work west of the BS 146/Spur 55 (now SH 99) intersection	Two 3-lane main lane bridges and two 2-lane frontage road bridges	Reconstruct eastbound bridge as 2-lane bridge with one auxiliary lane; widen 2-lane westbound bridge to accommodate one auxiliary lane
Lee Drive/Causeway Road interchange	No work west of the BS 146/Spur 55 (now SH 99) intersection	6-lane overpass	4-lane overpass
South Main Street interchange	No work west of the BS 146/Spur 55 (now SH 99) intersection	6-lane overpass	4-lane overpass
UP Railroad	No work west of the BS 146/Spur 55 (now SH 99) intersection	6-lane overpass, at-grade frontage roads at railroad	4-lane overpass, frontage roads will be under the railroad, like existing
BS 146/Spur 55 (now SH 99) interchange	SH 99 at-grade	6-lane overpass, reconfigured interchange	4-lane overpass, reconfigured interchange
Tri-Cities Beach Road interchange	SH 99 at-grade	SH 99 at-grade	4-lane overpass
Cedar Bayou	New westbound 2-lane bridge	Widening of westbound and eastbound bridges, from 2 lanes to 3 lanes	New 2-lane westbound bridge, modify U-turn west of Cedar Bayou
FM 1405 interchange	SH 99 at-grade	6-lane overpass	4-lane overpass
Fisher Road interchange	SH 99 at-grade	6-lane overpass	4-lane overpass

Source: Segment I-2 Study Team 2010

The proposed project from SH 146 to Fisher Road is approximately 8.7 miles in length. The proposed main lanes would typically have two 12-foot lanes with 6-foot inside shoulders and 10-foot outside shoulders in each direction. The frontage roads in these areas would typically have two 12-foot lanes, with 4-foot inside shoulders and 8-foot outside shoulders.

Between Lee Drive/Causeway Road and South Main Street, the main lanes would typically have two 12-foot lanes with 6-foot inside shoulders and 10-foot outside shoulders in each direction. In these areas, the frontage roads would typically have two 11-foot lanes, with curbs and a 1-foot curb offset.

The overpasses at Wyoming Street, Lee Drive/Causeway Road, UP Railroad and South Main Street, BS 146, Tri-Cities Beach Road, FM 1405, and Fisher Road would typically have two 2-lane bridges with 12-foot lanes, 6-foot inside shoulders, and 10-foot outside shoulders. The main lanes of the overpasses would be divided, similar to the at-grade main lanes approaching the overpasses. The project would require the acquisition of approximately 46 acres of ROW, as indicated on the preliminary schematics shown in *Appendix C*.

The main lanes would be tolled electronically. West of Fisher Road, the proposed toll gantries would be on the eastbound and westbound SH 99 main lanes in two locations: west of BS 146 and east of FM 1405. Toll gantries would also be located west of the BS 146/SH 99 intersection on the proposed westbound entrance ramp and eastbound exit ramp. The locations of proposed toll collection facilities are shown in *Appendix A, Figure 2*. Installation of toll gantries would not require additional ROW. Toll gantries are currently in place along Segment I-2 from IH 10(E) to Fisher Road.

1.3 PURPOSE OF AND NEED FOR PROPOSED PROJECT

The FEIS for SH 99, Segment I-2 documents that the need for the project is insufficient connections to the Baytown thoroughfare system and travel demands in excess of those that can be satisfied by the financially constrained metropolitan transportation plan. The stated purpose of SH 99, Segment I-2 is to provide access and increased mobility to the freeway (highway) network, help expedite the implementation of several major thoroughfare plans, and to provide added capacity around the City of Houston for evacuations from the Gulf Coast prior to or during a hurricane. Implementation of the proposed project as described in *Section 1.2* would support the original purpose of and need for SH 99, Segment I-2 by providing a more efficient transportation route within the project limits for local residents, commuters, school buses, and the traveling public. The proposed improvements to this segment of SH 99 would also accommodate the increasing number of vehicles and meet the transportation requirements of the Texas Department of Transportation (TxDOT). The "Purpose and Need for Proposed Action" section of the FEIS remains valid for this Re-evaluation.

The proposed action includes operating the main lane section of SH 99 from SH 146 to Fisher Road as a toll facility. The purpose of tolling SH 99, Segment I-2 is to allow a faster way to finance construction, supplement limited highway funds, and address transportation needs sooner. The proposed implementation of tolling would support the original need for and purpose of Segment I-2 by generating revenue for the construction, operation, and maintenance of the proposed project. Revenue from tolling this portion of SH 99, Segment I-2 would be used for the construction, operation, and maintenance of Segment I-2, and possibly other segments of SH 99.

Historically, TxDOT has financed highway projects on a "pay-as-you-go" basis, using motor fuel taxes and other revenue deposited in the state highway fund. However, population increases and

traffic demand have outpaced the capacity of this traditional finance mechanism. To help meet critical transportation funding shortfalls, in December 2003 the Texas Transportation Commission approved a policy under House Bill 3588 (HB 3588) instructing TxDOT to evaluate all controlled-access highway projects as possible candidates for tolling. These projects would include projects that are currently under construction and those in the planning stage involving new lane construction. Under this direction, TxDOT identified SH 99, Segment 1-2 as a candidate toll project. The 2007 Re-evaluation addressed tolling of Segment 1-2 from IH 10(E) to Fisher Road; electronic toll gantries were installed and tolls will be collected starting in 2010. Toll for the portion of SH 99, Segment 1-2 from SH 146 to Fisher Road would also be collected by the use of electronic toll collection (on toll gantries) on the main lanes. Frontage roads between SH 146 and Fisher Road, and bridge lanes at the Goose Lake and Cedar Bayou bridges constructed as part of the roadway project would remain as free travel lanes and would not be tolled.

H-GAC is the Metropolitan Planning Organization (MPO) for the Houston-Galveston area. Proposed SH 99, Segment 1-2 extends from IH 10(E) to SH 225. Due to funding constraints, the project is separated into several construction sections. The northernmost section from FM 1405 to IH 10(E), including the overpass at FM 565, has been constructed and is approved to be operated as a toll road from Fisher Road to IH 10(E). Three of the four project CSFs evaluated in this Re-evaluation are consistent with the area's financially constrained 2035 RTP Update and the 2011-2014 TIP. The U.S. Department of Transportation (Federal Highway Administration [FHWA]/Federal Transit Authority [FTA]) found the 2035 RTP Update and 2011-2014 TIP to conform to the State Implementation Plan (SIP) on January 25, 2011. The CSI No. for the proposed Fisher Road overpass is expected to be added to an amended 2035 RTP Update in summer of 2011.

1.4 SINGLE OCCUPANCY VEHICLE ANALYSIS

Congestion reduction strategies have remained unchanged; therefore the "Single Occupancy Vehicle (SOV) Analysis," now known as Congestion Mitigation Analysis (CMA), section of the FEIS remains valid for this Re-evaluation.

1.5 ORGANIZATION OF THIS REPORT

The format of this report is similar to the 1997 FEIS, with added sections from the May 2002 and 2007 Re-evaluations. This Re-evaluation includes the following additional or renamed/renumbered sections since the FEIS: *Section 4.14 Construction*, *Section 4.15 Indirect Impacts*, and *Section 4.16 Cumulative Effects Analysis*.

This Re-evaluation includes supplementary information regarding the project history, environmental approvals, public involvement, construction history, status of ROW acquisition, and design changes. Updated information about the affected environment is in *Section 3*, and project impacts are addressed in *Section 4*.

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2.0 EVALUATION OF ALTERNATIVES

2.0 EVALUATION OF ALTERNATIVES

2.1 INTRODUCTION

No additional alignment alternatives have been considered for the proposed project. Alternative 6 remains the preferred alignment. Alternative 6 follows SH 146 and BS 146 to the junction with SH 99 (formerly Spur 55) and continues along SH 99 to east of the intersection with FM 1405, where it turns north on new alignment to intersect with IH 10(E). The tolling of Segment 1-2 would be primarily an operational change that would require the installation of electronic toll collection facilities. Toll collection would be used as a way to fund maintenance and operation of SH 99, Segment 1-2 and other SH 99 roadway improvements. The "Evaluation of Alternatives" section of the FEIS remains valid.

2.2 RIGHT-OF-WAY IMPACTS

This Re-evaluation focuses on the portion of the project between SH 146 and Fisher Road. In the area between SH 146 and FM 1405, approximately 46 acres of ROW are required for construction of the proposed project. The proposed ROW is within the area of proposed ROW evaluated in the 1997 FEIS. The ROW from FM 1405 to IH 10(E), including the area of the proposed Fisher Road overpass, was already acquired by TxDOT. The current proposed project section will require ROW for "corner clips" at some intersecting streets, widening of the existing roadway on both the north and south sides of SH 99 between South Main Street and Cedar Bayou, and between Cedar Bayou and FM 1405. The intersection of BS 146 and SH 99 will be reconfigured, with SH 99 as the continuous roadway and BS 146 intersecting at approximately 90 degrees. Part of the required ROW acquisition would be for the reconfiguration of this interchange. No residential, business, or other displacements are expected; however, some oil and gas wells and natural gas pipeline equipment will require relocation. *Appendix A, Figure 3* shows the existing and proposed ROW from SH 146 to Fisher Road (also see *Appendix C*).

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3.0 AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

3.1 LAND USE

The SH 99, Segment I-2 land use study area shown in *Appendix A, Figure 4* is an approximate 1,000-foot-wide study area, 500 feet from each side of the centerline of the proposed roadway. Excluding existing roadways in the study area, land use is 7 percent Commercial/Industrial, 10 percent Oil and Gas production, 2 percent Parks, less than 1 percent Public, less than 1 percent Residential, and 80 percent undeveloped. Undeveloped land use includes land used for agricultural purposes (i.e., livestock grazing) (*Appendix A, Figure 4*).

Land use north of proposed SH 99, Segment I-2 from SH 146 to Cedar Bayou is primarily light industry (Commercial/Industrial), with residential extending northward into Baytown. South of the existing roadway and east of Goose Lake, land use consists of a mixture of mostly undeveloped wooded areas with scattered oil and gas production fields. Some single-family homes are south of SH 99 in the vicinity of FM 1405. East of BS 146 and north of the existing SH 99 are Horace Mann Junior School and De Zavala Elementary School (*Appendix A, Figure 4, Sheet 3*). New commercial/industrial development has occurred along SH 99 in the vicinity of FM 1405 and Fisher Road since the May 2002 Re-evaluation (*Appendix A, Figure 4, Sheets 5, 6, and 8*).

The project does not bisect any established neighborhoods or isolate any neighborhoods or communities, nor would it disrupt orderly planned development of the project area. The project is consistent with the plans and policies of local governmental entities.

3.1.1 Right-of-Way and Displacements

ROW acquisition in the area of the proposed project was primarily for roadways constructed prior to the development of SH 99. Acquisition occurred in four stages. In the 1950s and early 1960s, ROW was acquired in the portion of the project extending from SH 146 to BS 146. Starting in 1982, ROW was purchased for the former Spur 55 from BS 146 to Cedar Bayou. Starting in 1988, ROW was purchased for the former Spur 55 from Cedar Bayou to FM 1405. Between 1998 and 2006, ROW was purchased for SH 99, Segment I-2 from FM 1405 to IH 10(E), which included the area of the proposed Fisher Road overpass. The section of ROW initially acquired in the 1950s and 1960s predates the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The ROW acquisition that occurred in 1982 and 1988 followed requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. ROW acquisition for the proposed project is discussed in *Section 2.2*.

3.2 SOCIAL RESOURCES

3.2.1 Population and Demographics

SH 99, Segment I-2 is located in Harris and Chambers Counties, and portions of the project area are in the cities of Houston, La Porte, and Baytown. This Re-evaluation is prepared to address the portion of Segment I-2 from SH 146 to FM 1405, and the area of the proposed Fisher Road overpass, located in Harris and Chambers Counties, and partially within the City of Baytown. The Year 2000 population and the 2010, 2020, and 2030 population projections for Harris and Chambers Counties, including the cities of Houston, La Porte, and Baytown, are shown in *Table 3-1*.

Table 3-1. Population Statistics for Harris and Chambers Counties, and the Cities of Houston, La Porte, and Baytown

Geographic Area	Population			
	2000	2010	2020	2030
Harris County	3,400,578	3,951,682	4,502,786	5,053,890
Chambers County	26,031	31,375	37,328	42,867
City of Houston	1,953,631	2,199,988	2,472,783	2,741,099
City of La Porte	31,880	35,467	38,960	42,394
City of Baytown	66,430	68,772	71,106	73,380

Source: Texas Water Development Board (TWDB) 2010

Between 2000 and 2030, the populations of Harris and Chambers Counties, and the Cities of Houston and Baytown are forecast to increase by 48, 83, 42, and 11 percent, respectively. There is a civilian labor force of 1,959,298 in Harris County and 14,409 in Chambers County, with respective unemployment rates of 6.3 and 7.6 percent, as of April 2009, according to the Texas Workforce Commission. The 1999 median household income in Harris and Chambers Counties was \$42,598 and \$17,964, respectively. According to the 2000 U.S. Census, the 1999 average median household income for the 6 block groups that make up the study area was \$47,316, as shown in *Table 3-2*.

3.2.2 Neighborhoods and Community Cohesion

Residential neighborhoods/communities are located in the vicinity of the proposed project. Neighborhoods/communities in the vicinity of the proposed project are shown on *Appendix A, Figures 3 and 4*. The closest residential areas are located approximately 180-200 feet from the project ROW. The residential communities nearest to the proposed project include the Marina Club at Baytown Apartments and Southwest Section 1 neighborhood, located north of Missouri Street (*Appendix A, Figure 3, Sheet 1*). To accommodate pedestrian and bicycle users crossing SH 99, sidewalks will be constructed at signalized/signed intersections. Land use adjacent to the proposed project consists of commercial/light industrial businesses, oil and gas production areas, recreational/park areas, undeveloped/agricultural (e.g., livestock grazing), and a small number of institutional/public facilities (e.g., schools, churches). Many of the residential communities near the proposed project are apartment communities or established single-family residential communities built between the 1940s and early 1980s.

3.2.3 Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was enacted on February 11, 1994, and mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations. A minority population is defined as a group of people and/or a community experiencing common conditions of exposure or impact that consists of persons classified by the United States (U.S.) Census Bureau as Black, Asian, American Indian or Alaska Native, Hispanic, or other non-white persons, including those persons of two or more races. A low-income population is defined as a group of people and/or a community that, as a whole, lives below the national poverty level. The poverty guideline for a

family of four people in 2000, as defined by the U.S. Department of Health and Human Services, was a total annual household income of \$17,050, which increased to \$22,350 in 2011. U.S. poverty thresholds from the 2000 Census were used for purposes of determining low-income populations. The poverty threshold for a family of four in 1999, as defined by the in the 2000 Census, was a total annual household income of \$17,029. According to FHWA Order 6640.23 and U.S. Department of Transportation (DOT) Order 5610.2, disproportionately high and adverse human or environmental effects on minority or low-income populations generally mean adverse effects that:

- Are predominantly borne by a minority population and/or low-income population, or
- Would be suffered by the minority population and/or low-income population, and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority population and/or non-low-income population.

Year 2000 U.S. Census data was not available during the preparation of the 1997 FEIS. The proposed project traverses 37 Census blocks, 6 Census block groups, and 4 Census tracts. To identify minority and/or low-income populations in smaller geographic areas, socioeconomic data from Census blocks and block groups were analyzed. Individual Census block groups and blocks that cross the proposed ROW were examined to identify populations with greater than a 50 percent minority and/or low-income population, or Census block groups with median household incomes below the 2011 poverty threshold. Table 3-2 shows the Year 2000 U.S. Census low-income and racial/ethnic distribution data for the portion of Segment I-2 between SH 146 and Fisher Road.

Table 3-2. Population and Demographics for Environmental Justice Analysis

Geographic Area			Total Population	Race/Ethnicity by Percent					% Minority	% Low-Income	Median Household Income	
				White	Hispanic	African American	Asian	Other				
County and City												
Chambers County			26,031	77.6	10.8	9.7	0.7	1.2	22.4	15.5	\$47,964	
City of Baytown			66,430	50.2	34.2	13.1	1.0	1.5	49.8	11.0	\$40,559	
4 Census Tracts Average			17,832	53.0	36.8	8.8	0.6	1.2	47.0	13.9	\$43,756	
6 Census Block Groups Average			9,727	62.0	27.8	8.0	0.9	1.3	38.0	10.8	\$47,316	
37 Census Blocks Average			1,563	56.8	26.4	10.9	4.1	2.7	43.2	NA	NA	
Census Block Groups and Blocks												
Tract	Block Group	Block	Total Population	White	Hispanic	African American	Asian	Other	% Minority	% Low-Income	Median Household Income	
7102	2	--	7,953	83.0	11.1	4.4	0.4	1.1	17.0	6.1	\$67,083	
		--	4,293	78.4	15.2	4.7	0.5	1.2	21.6	7.4	\$62,350	
		2000	0	0	0	0	0	0	0	NA	NA	
	3	2001	18	100	0	0	0	0	0	0	NA	NA
		2009	8	37.3	62.5	0	0	0	62.5	NA	NA	
		2022	154	66.2	13.0	14.3	3.9	2.6	33.8	NA	NA	
		2076	13	92.3	7.7	0	0	0	7.7	NA	NA	
3024	--	1,032	84.5	5.9	9.4	0.5	0.7	16.5	3.5	\$78,931		
	3022	116	84.5	13.8	0	0	1.7	15.5	NA	NA		
	3024	0	0	0	0	0	0	0	NA	NA		
3024	--	0	0	0	0	0	0	0	NA	NA		
	3024	0	0	0	0	0	0	0	NA	NA		

Table 3-2. *cont.*

Geographic Area			Total Population	Race/Ethnicity by Percent					% Minority	% Low-Income	Median Household Income
				White	Hispanic	African American	Asian	Other			
Census Block Groups and Blocks											
Tract	Block Group	Blocks									
		3025	2	0	100.0	0	0	0	0	NA	NA
		3061	0	0	0	0	0	0	0	NA	NA
		3063	0	0	0	0	0	0	0	NA	NA
		3064	0	0	0	0	0	0	0	NA	NA
		3065	0	0	0	0	0	0	0	NA	NA
		3066	0	0	0	0	0	0	0	NA	NA
		3067	4	0	25.0	0	25.0	50.0	100.0	NA	NA
		3068	0	0	0	0	0	0	0	NA	NA
		3072	4	0	0	0	100.0	0	100.0	NA	NA
		3078	0	0	0	0	0	0	0	NA	NA
		3079	3	0	100.0	0	0	0	100.0	NA	NA
2544	--	--	3,620	17.7	67.1	13.9	0.1	1.2	82.3	24.3	\$30,586
	3	--	875	26.1	69.0	2.9	0	2.0	73.9	23.6	\$30,000
		3000	0	0	0	0	0	0	0	NA	NA
		3001	95	46.3	48.4	1.1	0	4.2	53.7	NA	NA
2546	--	--	4,396	20.1	66.1	12.6	0.3	0.9	79.9	22.8	\$31,209
	3	--	779	40.4	57.0	21.5	0.5	0.6	59.6	30.3	\$30,385
		3000	98	60.2	37.8	2.0	0	0	39.8	NA	NA
		3001	17	64.7	29.4	0	0	5.0	35.3	NA	NA
		3004	0	0	0	0	0	0	0	NA	NA
		3010	29	32.0	58.6	10.3	0	0	69.0	NA	NA
		3013	52	51.9	40.4	7.7	0	0	48.1	NA	NA
		3015	18	22.2	77.8	0	0	0	77.8	NA	NA
		3016	0	0	0	0	0	0	0	NA	NA
		3017	0	0	0	0	0	0	0	NA	NA
		3996	0	0	0	0	0	0	0	NA	NA
		3999	0	0	0	0	0	0	0	NA	NA
	4	--	1,279	18.5	69.2	11.5	0	0.5	81.5	15.7	\$33,750
		4013	66	24.2	50.0	25.8	0	0	75.8	NA	NA
2547	--	--	1,861	18.2	67.6	8.5	3.3	2.1	81.8	5.5	\$16,146
	1	--	1,589	66.1	19.0	9.2	3.6	2.1	33.0	6.4	\$18,478
		1014	165	9.7	83.0	0.6	4.3	2.4	90.3	NA	NA
		1017	0	0	0	0	0	0	0	NA	NA
		1018	0	0	0	0	0	0	0	NA	NA
		1019	301	46.5	25.8	17.3	6.6	3.8	53.5	NA	NA
		1022	0	0	0	0	0	0	0	NA	NA

Bold cells within the % minority or median household income column indicate a high percentage minority and/or low-income population where Census block groups and blocks along the proposed project were examined to identify populations with greater than a 50 percent minority and/or low-income populations, or Census block groups with median household incomes below the 2011 poverty threshold.

Not Available (NA) - Income data is not available at the Census block level

Source: U. S. Census Bureau 2000

The data used in this analysis will help determine the potential for disproportionate adverse impacts to minority and/or low-income populations within the project area, based on race/ethnicity data and income data (i.e., poverty threshold status) from the 2000 Census Summary tape files 1 and 3, respectively. Cumulatively for the 37 Census blocks, 43.2 percent of the population is classified as minority. Cumulatively for the 6 block groups, 10.8 percent is low-income (i.e., below the poverty threshold in 2000), and the average median household income is \$47,316.

Of the 37 Census blocks and 6 Census block groups that traverse project ROW, 10 Census blocks have high minority populations and no Census block groups have low median household incomes. Relocations potentially required for the proposed project are discussed in *Section 3.1.1, Right-of-Way and Displacements*. No residential displacements would occur in the project area. Noise impacts are anticipated at two noise receivers within one Census block (Tract 2544, Block Group 3, Block 3001), which has a greater than 50 percent minority population. The noise impacts and possible mitigation for residential communities affected by traffic noise was analyzed according to the FHWA's Noise Abatement Criteria, as discussed in *Section 3.4, Noise*.

3.2.4 Limited English Proficiency

EO 13166, *Improving Access to Services for Persons with Limited English Proficiency* (LEP), sets a framework to improve access to federally conducted and federally assisted programs and activities for persons who, as a result of national origin, are limited in their English proficiency. According to the 2000 Census, approximately 7.8 percent of the persons residing within the 6 Census block groups speak English less than "very well," which is considered LEP, and approximately 3.1 percent are Linguistically Isolated (LI) (*Table 3-3*). The LEP language distribution is 84.6 percent Spanish, 12.7 percent Indo-European languages, 0 percent Asian/Pacific Islander languages, and 2.6 percent Other. During the field investigation in the project area, no businesses, community facilities, billboards or signs were observed in any language other than English. *Table 3-3* provides the LEP and LI data for the county, city, and Census block groups included in the proposed project area.

Table 3-3. Limited English Proficiency and Linguistically Isolated Data

Geographic Area	Limited English Proficiency		% Composition LEP by Language				Linguistically Isolated			
	Total Population Sampled	LEP	% LEP	Spanish	Indo-European	Asian/Pacific	Other	Total Population Sampled	LI	% LI
County or City										
Harris County	3,121,999	569,799	18.3	83.5	4.3	11.1	1.1	1,206,423	119,700	9.9
Chambers County	21,205	1,165	4.8	85.3	11.5	2.9	0.3	9,137	195	2.1
City of Baytown	61,101	8,519	13.9	94.5	3.7	1.0	0.8	23,608	1,495	6.3
City of Houston	1,794,753	394,996	22.0	84.7	4.0	10.1	1.2	718,897	88,058	12.3
Block Groups										
7102.00-3	1,003	5	0.5	100.0	0	0	0	1,427	7	0.5
7102.00-2	3,952	148	3.8	90.5	9.5	0	0	354	3	0.8
2544.00-3	686	119	17.3	100.0	0	0	0	228	8	3.5
2546.00-3	665	48	7.2	62.5	0	0	37.5	282	12	4.3
2546.00-4	1,047	295	28.2	92.9	7.1	0	0	370	71	19.2
2547.00-1	1,463	69	4.7	24.6	75.4	0	0	596	0	0
6-Block Group Total	8,796	684	7.8	84.6	12.7	0	2.6	3,257	101	3.1

Source: U.S. Census 2000

3.3 AIR QUALITY

SH 99, Segment I-2 is located within Harris and Chambers Counties, which are designated as a “severe” 8-hour ozone non-attainment area under the National Ambient Air Quality Standards (NAAQS); therefore, the transportation conformity rule does apply. Proposed SH 99, Segment I-2 extends from SH 225 to IH 10(E). The project is divided into several construction sections due to funding availability. The proposed project on which this Re-evaluation focuses includes the project section from SH 146 to FM 1405, and the Fisher Road overpass. The project area is partly in Harris County and partly in Chambers County. As discussed in *Section 1.1*, three of the four proposed construction projects are consistent with the area’s financially constrained 2035 RTP Update. The CSJ for the proposed Fisher Road overpass is expected to be added to the 2035 RTP Update with an amendment in the summer of 2011. The three CSJs currently included in the 2035 RTP Update and 2011-2014 TIP are shown on the RTP and TIP pages included in *Appendix B*. The RTP Update has been found to conform to the SIP. The conformity determination by the U.S. DOT (FHWA/FTA) for the 2035 RTP Update was approved January 25, 2011.

Traffic data for the estimated time of completion (ETC) year is approximately 26,300 average annual daily traffic (AADT) or vehicles per day (VPD), and design year traffic is approximately 43,800 AADT. A prior TxDOT modeling study and previous analysis of similar projects demonstrated that it is unlikely that a carbon monoxide standard would ever be exceeded as a result of any project with an AADT below 140,000. The AADT projections for this project do not exceed 140,000 vpd; therefore, Traffic Air Quality Analysis (TAQA) was not required. All projects in the TIP that are proposed for federal or state funds were initiated in a manner consistent with federal guidelines in 23 Code of Federal Regulations [CFR] 450 and Subpart B of 49 CFR 613.200. Energy, environment, air quality, cost, and mobility considerations are addressed in the programming of the TIP.

Air pollution is a cause of human illness and ecosystem degradation. Motor vehicles, industries, construction equipment, and some commercial operations are among the sources of air pollution in the Houston area. The main air pollutants emitted from motor vehicles are volatile organic compounds (VOCs) and other hydrocarbons, nitrogen oxides, carbon monoxide, carbon dioxide, and particulate matter. VOCs and nitrogen oxides can react in the air in sunlight to form ground-level ozone, a toxic pollutant. Because the reactions take place over several hours, maximum concentrations of ozone are often far downwind of the precursor sources. Thus, ozone is a regional problem and not a local condition.

The U.S. Environmental Protection Agency (EPA) sets NAAQS for seven air pollutants to protect public health. The Clean Air Act (CAA) Amendments of 1990 establish specific milestones toward attaining clean air standards, depending on the severity of the air pollution problem in the region. The EPA classifies the Houston-Galveston-Brazoria (HGB) area, which includes Harris and Chambers Counties, as a severe ozone nonattainment area.

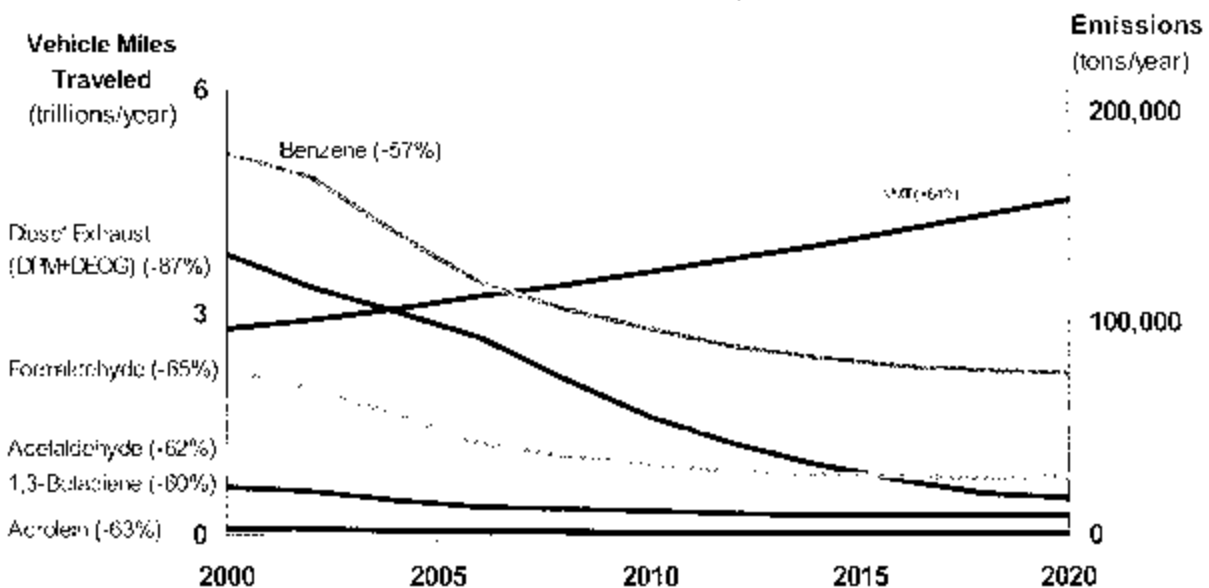
3.3.1 Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, EPA also regulates air toxics (e.g., benzene, 1,3-butadiene). Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the CAA. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead federal agency for administering the CAA and has some responsibilities on the health effects of MSATs. EPA issued a final rule on the control of MSATs in 2001 (*Controlling Emissions of Hazardous Air Pollutants from Mobile Sources*, 66 Federal Register [FR] 17229, March 29, 2001). This rule was issued under the authority in Section 202 of the CAA. In its rule, the EPA examines the impacts of current and newly promulgated mobile source control programs, including its reformulated gasoline program, its national low-emission vehicle standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy-duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, the FHWA projects that even with a 64 percent increase in vehicle miles traveled (VMT), these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel particulate matter emissions by 87 percent, as shown in *Exhibit 1*.

Exhibit 1. US Annual Vehicle Miles Traveled vs. Toxic Air Pollutant Emissions, 2000-2020



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTRF proportion of market for oxygenates is held constant at 50%. Gasoline RVP and oxygenate content are held constant. VMT: *Highway Statistics 2000*, Table VM-2 for 2000; analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and SO₂ from diesel-covered vehicles, with the particle size cut-off set at 8 microns.

In an ongoing review of MSATs, the EPA finalized additional rules under authority of CAA Section 202(l) to further reduce MSAT emissions that are not reflected in the exhibit above. The EPA issued Final Rules on *Control of Hazardous Air Pollutants from Mobile Sources* (72 FR 8427, February 26, 2007) under Title 40 CFR Parts 59, 80, 85, and 86. The rule changes became effective on April 27, 2007. As a result of this review, EPA adopted the following new requirements to

significantly lower emissions of benzene and the other MSATs by: (1) lowering the benzene content in gasoline; (2) reducing evaporative emissions that permeate through portable fuel containers; and (3) reducing non-methane hydrocarbon (NMHC) exhaust emissions from passenger vehicles operated at cold temperatures (under 75 degrees Fahrenheit).

Beginning in 2011, petroleum refiners must meet an annual average gasoline benzene content standard of 0.62 percent by volume, for both reformulated and conventional gasolines, nationwide. This would be a 38 percent reduction from 2007. EPA standards to reduce NMHC exhaust emissions from new gasoline-fueled passenger vehicles will become effective in phases. Standards for light-duty vehicles and trucks (< 6000 pounds [lbs]) become effective during the period of 2010 to 2013, and standards for heavy light-duty trucks (6,000 to 8,000 lbs) and medium-duty passenger vehicles (up to 10,000 lbs) become effective during the period of 2012 to 2015. Evaporative requirements for portable gas containers become effective with containers manufactured in 2009. Evaporative emissions must be limited to 0.3 grams of hydrocarbons per gallon per day.

EPA has also adopted more stringent evaporative emission standards (equivalent to current California standards) for new passenger vehicles. The new standards become effective in 2009 for light vehicles and in 2010 for heavy vehicles. In addition to the reductions from the 2001 rule, the new rules will significantly reduce annual national MSAT emissions. The EPA estimates that emissions in the year 2030, when compared to emissions in the base year prior to the rule, will show a reduction of 330,000 tons of MSATs (including 61,000 tons of benzene), more than one million tons of VOC's, and more than 19,000 tons of particulate matter 2.5 microns or less in size (PM_{2.5}).

Current Levels of Air Toxics in the Segment I-2 Area, Available TCEQ Monitor Data

The Texas Commission on Environmental Quality (TCEQ) and other local organizations operate air quality monitors that measure ambient concentrations of the criteria pollutants and air toxics. This network of monitors measures the levels of various pollutants in the air. However, not all pollutants are measured at all monitors. The official data from these monitors are found on the EPA's Air Data web site: www.epa.gov/air/data. The distance of the monitors closest to the project ROW is shown in Table 3-4. Not all monitors sample for the same pollutants, including MSATs. It usually takes several months following a complete year of data collection for that data to be reviewed for quality assurance.

Table 3-4. Local Air Toxics Monitoring Data

Monitor ID	Annual Average 1-Hour PM _{2.5}	2009 24-Hour Annual Average Concentrations**							Distance From Build Alternative
		Benzene	1,3 Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Naphthalene	Polycyclic Organic Matter (POM)	
CAMS 145 (EPA Site ID 48-201-0061)	N/A	4.49	0.29	N/A	N/A	N/A	N/A	N/A	7 miles
CAMS 148 (EPA Site ID 48-201-0088)	N/A	3.41	0.95	N/A	N/A	N/A	N/A	N/A	1.7 miles

Notes: EPA Disclaimer regarding these data: "Readers are cautioned not to infer a qualitative ranking order of geographic areas based on Air Data reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular point source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the point source is complying with applicable regulations." (Source: <http://www.epa.gov/air-data/home.html>).

* Particulate Matter (PM) 2.5 is measured in micrograms per cubic meter. ** Air Toxics are measured in parts per billion (ppb).

N/A = data not available; The minimum detection limit for air toxics is 0.1 ppb.

Source: EPA Air Data 2010

Currently, no NAAQS have been established for any of the priority MSATs. The EPA is in the process of assessing the risks of exposure to these pollutants. The EPA's Integrated Risk Information System (<http://cfpub.epa.gov/ncea/iris/index.cfm>) can be reviewed for more information on the potential for human health effects that may result from exposure to MSATs.

Sensitive Receptor Assessment

There may be localized areas where ambient concentrations of MSATs are slightly higher in the build scenario than in the no-build scenario. Dispersion studies have shown that the MSAT emissions from vehicles on a "roadway" ("roadway emissions") start to drop off at 100 meters (328 feet) from the roadway, and by 500 meters (1,640 feet) most studies have shown it is difficult to distinguish the roadway from background air toxic levels in any given area. Sensitive receptors include facilities likely to contain larger concentrations of sensitive populations (hospitals, schools, licensed day care facilities, and elder care facilities). An assessment of sensitive receptors located within both 100 and 500 meters of the proposed project was conducted. Table 3-5 provides a listing of sensitive receptors by distance from the proposed project. The sensitive receptors are also shown in Appendix A, Figure 3.

Table 3-5. Sensitive Receptors Located Near the Proposed Project

Type of Receptor	Address	Sensitive Receptors 0 - 100 Meters	Sensitive Receptors 100 - 500 Meters
<i>Schools</i>			
Horace Mann Junior School	310 S. Highway 146 Baytown, Texas	0	1
De Zavala Elementary School	305 Tri-Cities Beach Road Baytown, Texas	0	1
<i>Licensed Day Care Facilities</i>			
Berea Christian Learning	300 Highway 146 Baytown, Texas 77520	0	1
De Zavala Elementary Day Care	305 Tri-Cities Beach Road Baytown, Texas 77520	0	1
Total		0	4

Source: Chambers County and Harris County Appraisal Districts and Texas Department of Family and Protective Services 2009

3.4 NOISE

A noise analysis for the entire Segment 1-2 was conducted for the FEIS. The most recent FHWA traffic noise model at the time, STAMINA 2.0, was used. The noise analysis conducted for the FEIS evaluated a four-lane at-grade facility. This document is evaluating a facility with four main lanes, which includes bridges/overpasses at cross streets, with at-grade frontage roads in some locations. Since the original noise analysis did not evaluate the four main lanes and associated overpasses, a new noise analysis was performed in 2009 for this Re-evaluation.

Sound from highway traffic is generated mostly from a vehicle's tires, engine, and exhaust. It is commonly measured in decibels and is expressed as "dB." Sound occurs over a wide range of frequencies, but the human ear does not perceive all frequencies equally. An adjustment is made to

the high and low frequencies to approximate the way an average person hears sounds. This adjustment is called A-weighting and is expressed as “dBA.” Also, because traffic sound levels are never constant due to the changing number, type, and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as “Leq.”

The dominant source of noise near the proposed project is highway traffic. However, existing noise levels, by themselves, do not determine whether noise impacts would occur. Rather, noise impacts are determined by comparing existing noise levels to future noise levels. The potential extent of noise impacts for the proposed project is presented in *Section 4.4*.

3.5 WETLANDS AND OTHER WATERS OF THE UNITED STATES

Pursuant to EO 11990 (Protection of Wetlands) and Section 404 of the Clean Water Act (CWA), a wetland delineation was conducted to determine the presence of waters of the United States, including wetlands, within the project area. According to the United States Army Corps of Engineers (USACE), the federal agency having authority over waters of the United States, wetlands are those areas that are inundated or saturated with surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Wetlands are transitional areas between terrestrial and aquatic systems resulting from the interaction of hydrophytic vegetation, wetlands hydrology, and hydric soils. Previous coordination with the USACE, which was subsequent to the January 9, 2001 U.S. Supreme Court case *Solid Waste Agency of Northern Cook County vs. United States Army Corps of Engineers*, resulted in the USACE determining that Goose Lake, Cedar Bayou, a wetland adjacent to Cedar Bayou, and Sutton Gully were the only waters of the United States in the project area subject to the USACE’s jurisdiction. The USACE’s approved determination of the previous wetland delineation has expired; therefore a new jurisdictional determination would need to be obtained from the USACE. Additionally, new guidance has been issued by the USACE regarding the delineation of waters of the United States, including wetlands, and the determination of the jurisdictional status of identified waters. A wetland delineation of the entire project corridor, including the existing and proposed ROW, was recently performed using the methodology described by the *USACE Wetlands Delineation Manual* (USACE 1987), the October 2008 *Atlantic and Gulf Coastal Plain Interim Regional Supplement*, and subsequent guidance on the clarification, interpretation, and implementation of wetlands regulations. Potentially jurisdictional areas identified during the wetland delineation are shown on *Appendix A, Figure 5*.

3.5.1 Potentially Jurisdictional Areas

Fifty-one (51) aquatic resources were delineated and evaluated for jurisdictional status under the CWA. Of the 51 aquatic resources delineated, the following areas were considered potentially subject to jurisdiction under the CWA: three (3) Traditional Navigable Waters (TNWs), four (4) Relatively Permanent Waters (RPWs), and 27 wetland areas that are either adjacent to, or have a continuous surface connection to, potentially jurisdictional waters. The USACE has not verified the jurisdictional status of these resources. Coordination with the USACE is ongoing.

Waters of the United States – Three (3) named TNWs were identified within the project area, with a total area of approximately 23.6 acres. These waters are subject to CWA jurisdiction under 33 CFR 328.3(a)(1) and 40 CFR 230.3(s)(1). Four (4) RPWs were found within the existing and proposed ROW with a total area of approximately 1.0 acre. The USACE has not verified the jurisdictional status of these resources. These water bodies may be regulated under the CWA as relatively

permanent non-navigable tributaries of TNWs. “Relatively permanent” is defined as tributaries having year round flow or continuous seasonal flow for at least three months per year. Examples of these in the project area include unnamed tributaries to TNWs, diverted natural waterways, and channelized waterways that flow into TNWs. The TNW and RPW features and their areas within the existing and proposed ROW are shown in *Table 3-6*.

Table 3-6. TNW and RPW Features and Effects to Potentially Jurisdictional Waters of the United States

Description	Area Within ROW (acre)	Estimated Impact ⁽¹⁾ (acre)	Section 10 or Section 404 Water
Traditional Navigable Waters (TNW)			
Black Duck Bay	8,957 ⁽²⁾	0.007	Sec. 10
Cedar Bayou	4,896 ⁽²⁾	0.005	Sec. 10
Goose Lake	9,764 ⁽²⁾	0.003	Sec. 10
Subtotal	23,617	0.015	
Relatively Permanent Waters			
Cedar Point Lateral (abandoned)	0.003	0.000	Sec. 404
Drainage Ditch to Pine Gully	0.407	0.132	Sec. 404
Un-Named Drainage to Sutton Gully	0.218	0.000	Sec. 404
Un-Named Tributary to Tabbs Bay	0.407	0.340	Sec. 404
Subtotal	1.035	0.462	
Potentially Jurisdictional Wetlands, Associated Water Body			
Black Duck Bay (5 wetland areas)	2.481	0.808	Sec. 404
Cedar Bayou (4 wetland areas)	6.004	0.137	Sec. 404
Cedar Point Lateral (abandoned)	0.886	0.384	Sec. 404
Drainage Ditch to Pine Gully (4 wetland areas)	0.025	0.000	Sec. 404
Floodplain (1 wetland area)	0.009	0.009	Sec. 404
Goose Lake (6 wetland areas)	0.475	0.007	Sec. 404
Wetland Adjacent to Unnamed Tributary to Tabbs Bay	0.006	0.006	Sec. 404
Subtotal	9.886	1.351	
Total	34,538	1.828	

Notes: (1) Impacts are estimated and subject to change. It is anticipated that permanent impacts would occur from installation of additional bridge columns and other fill activities, however, bridge and culvert designs are not complete and impacts are not quantifiable. Impacts include all permanent and temporary effects within the limits of potentially jurisdictional Section 10 and Section 404 waters. (2) Acreages are associated with the open waters of Black Duck Bay, Cedar Bayou, and Goose Lake, which are within the limits of the identified labeled project ROW; however, these open waters are not areas that would be acquired by TxDOT as part of the project ROW.

Source: Segment I-2 Study Team 2010

Wetlands - Twenty (20) wetland areas potentially subject to jurisdiction under the CWA were identified within the existing and proposed ROW, with a total area of approximately 9.9 acres. The USACE has not verified the jurisdictional status of these resources. These areas are either adjacent to, abut, or neighbor TNWs, or have a continuous hydrological surface connection to RPWs. Areas classified as wetlands meet the three wetlands criteria of hydrophytic vegetation, hydric soils, and wetland hydrology. Vegetation observed within these areas is dominated by a variety of herbaceous species as described in the vegetation section of the FEIS, under “periodically inundated wetlands.” These wetland areas are listed in *Table 3-6*.

3.5.2 Potentially Non-Jurisdictional Areas

Of the 51 aquatic resources delineated, the potentially non-jurisdictional areas in the project area include nine (9) areas that meet the three wetland criteria (approximately 5.3 acres). The potentially non-jurisdictional wetland areas have no significant nexus to TNWs or RPWs. These wetland features are isolated depressional wetlands that are not adjacent to or connected to waters of the United States. Non-jurisdictional depressional areas are not regulated by the USACE pursuant to Section 404 of the CWA; however, the USACE has not verified the jurisdictional status of areas identified for this project. The USACE is the official agency to determine the jurisdiction and extent of wetlands and other waters of the United States.

3.5.3 Floodplains

Floodplains within the ROW of the proposed project are shown on *Appendix A, Figure 5*. Approximately 73 acres of floodplains occur within the existing and proposed ROW, according to the effective 100-year floodplain maps.

3.6 THREATENED AND ENDANGERED SPECIES

According to the 1997 FEIS, no threatened or endangered species would be impacted by the proposed project. Review of recent aerial photographs indicates that habitat and land use within the existing and proposed ROW has not changed since the FEIS. Records of the most recent data for sensitive species maintained by the U.S. Fish and Wildlife Service (USFWS) and the Texas Parks and Wildlife Department (TPWD) were reviewed to determine state and/or federally listed threatened or endangered species that occur or historically have occurred in Harris and Chambers Counties. Potential effects of the proposed project on listed species were determined by reviewing the TPWD Natural Diversity Database (NDD) Element of Occurrence Records (March 3, 2010) and by conducting habitat assessments. The NDD data cannot provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features in any area, nor can these data substitute for on-site evaluation. A species list for the state and federally listed species in Harris and Chambers Counties is found in *Table 3-7*. No unique, critical, designated, or proposed designated habitat for the listed species exists in or near the proposed project area.

Table 3-7. Potential Project Effects to Listed Species within Harris and Chambers Counties

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present	Effects Discussion
Amphibians						
Houston Toad	<i>Bufo houstonensis</i>	E	E†	Sandy soil, breeds in ephemeral pools	No	No effect
Birds						
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	T	DM*	Potential migrant along coastlines	No	No impact: rare transitory migrant
Arctic Peregrine Falcon	<i>Falco peregrinus tundrus</i>	SOC	*	Potential migrant along coastlines	No	No impact: rare transitory migrant
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	DM	Near water areas, in tall trees	No	No impact
Black Rail	<i>Lateallus jamaicensis</i>	SOC	*	Edges of freshwater marshes and ponds	No	No impact
Brown Pelican	<i>Pelecanus occidentalis</i>	E	DM	Inland near coastal areas	Yes	May impact
Heuslow's Sparrow	<i>Ammodramus heuslowii</i>	SOC	*	Weedy fields and grassy, bramble areas during winter	No	No impact
Mountain Plover	<i>Charadrius montanus</i>	SOC	*	Nests in short grass prairie	No	No impact
Peregrine Falcon	<i>Falco peregrinus</i>	T	*	Potential migrant along coastlines	No	No impact: rare transitory migrant
Piping Plover	<i>Charadrius melodus</i>	T	T	Winter migrant, beaches and bayside mud or salt flats	No	No effect
Red cockaded Woodpecker	<i>Picoides borealis</i>	E	E†	Nest in 60+ year pine, forages in 30+ pine	No	No effect
Reddish Egret	<i>Egretta rufescens</i>	T	*	Brackish marshes and shallow salt ponds and tidal flats	No	No impact: project within existing or adjacent brushy ROW
Snowy Plover	<i>Charadrius alexandrinus</i>	SOC	*	Coastal areas during winter	No	No impact: project within existing or adjacent brushy ROW
Southeastern Snowy Plover	<i>Charadrius alexandrinus tenuirostris</i>	SOC	*	Coastal areas during winter	No	No impact: project within existing or adjacent ROW
Swallow-tailed Kite	<i>Elanoides forficatus</i>	T	*	Lowland forests and marshes along rivers	No	No impact
Western Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	SOC	*	Winter migrant along coast	No	No impact: project within existing or adjacent ROW

Table 3-7. cont.

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present	Effects Discussion
Birds cont.						
White-faced Ibis	<i>Plegadis egipti</i>	T	*	Freshwater marshes, but some brackish or salt marshes	No	No impact
White-tailed Hawk	<i>Buteo albicaudatus</i>	T	*	Coastal prairies	No	No impact
Whooping Crane	<i>Grus americana</i>	F	ES	Winters in Arkansas NWR	No	No effect
Wood Stork	<i>Mycteria americana</i>	T	*	Prairie ponds and flooded pastures	No	No impact; project within existing or adjacent ROW
Fishes						
American Eel	<i>Anguilla rostrata</i>	SOC	*	Coastal waterways and still waters, streams, and lakes	Yes	May impact
Creek Chubsucker	<i>Epiplatys oblongus</i>	T	*	Variety of small rivers and creeks; prefers headwaters	No	No impact
Smalltooth Sawfish	<i>Pristis pectinata</i>	E	ES	Coastal waterways and estuaries, still waters, streams, and lakes; prefers shallow bays	No	No effect
Mammals						
Louisiana Black Bear	<i>Ursus americanus luteolus</i>	T	T3	Bottomland hardwoods; large, undisturbed forested areas	No	No effect
Plains Spotted Skunk	<i>Spilogale putorius interrupta</i>	SOC	*	Open fields, prairies, woodlands	Yes	May impact
Rafinesque's Big Eared Bat	<i>Corynorhinus rafinesquii</i>	T	*	Cavity trees in hardwood forest, concrete culverts, abandoned buildings	No	No impact
Red Wolf	<i>Canis rufus</i>	E	E1	Extirpated, formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies	No	No effect
Southeastern Myotis Bat	<i>Myotis austroriparius</i>	SOC	*	Cavity trees in hardwood forest, concrete culverts, abandoned buildings	No	No impact
Mollusks						
Little Spectacledaceae	<i>Villosa hienosa</i>	SOC	*	Creeks and rivers in east Texas	No	No impact
Louisiana Pigtoe	<i>Pleurobema urdellii</i>	T	*	Stream and river substrates	No	No impact
Pistolgrub	<i>Tatigoma verrucosa</i>	SOC	*	Mud and silt substrates	No	No impact
Rock Pocketbook	<i>Acidocera contragras</i>	SOC	*	Mud, sand, and gravel substrates	No	No impact

Table 3-7 cont.

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present	Effects Discussion
Mollusks cont.						
Sandbank Pocketbook	<i>Lampsilis satava</i>	T	*	Gravel and sand bottoms of flowing rivers	No	No impact
Texas Pigtoe	<i>Fusconaia askeo</i>	T	*	Mud, sand, and gravel bottoms in sheltered streams	No	No impact
Wabash Pigtoe	<i>Fusconaia flava</i>	SOC	*	Mud, sand, and gravel bottoms in flowing streams	No	No impact
Reptiles						
Alligator Snapping Turtle	<i>Macroclemys temminckii</i>	T	*	Deep water of rivers and canals	Yes	May impact
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	E	Gulf and bay system	No	No effect
Green Sea Turtle	<i>Chelonia mydas</i>	T	T	Gulf and bay system	No	No effect
Gulf Saltmarsh Snake	<i>Nerodia clarkii</i>	SOC	*	Saline flats, coastal bays, and brackish river mouths	No	No impact
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempi</i>	T	E	Gulf and bay system	No	No effect
Leatherback Sea Turtle	<i>Dermaochelys coriacea</i>	E	E	Gulf and bay system	No	No effect
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	T	Gulf and bay system	No	No effect
Northern Scarlet Snake	<i>Crotaphaga coccinea capri</i>	T	*	Mixed hardwood scrub on sandy soils	No	No impact
Smooth Green Snake	<i>Liochlorophis venalis</i>	T	*	Gulf coastal prairies, prefers dense vegetation	No	No impact
Texas Diamondback Terrapin	<i>Malaclemys terrapin lateralis</i>	SOC	*	Coastal marshes, tidal flats	No	No impact, project within existing or adjacent ROW
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	T	*	Open, semi-arid regions, with bunch grass	No	No impact
Timber/Canebrake Rattlesnake	<i>Crotalus horridus</i>	T	*	Swamps/floodplains of hardwood/upland pine	No	No impact
Vascular Plants						
Coastal Gay-Feather	<i>Liatris bracteata</i>	SOC	*	Black clay soils of prairie remnants	No	No impact
Giant Sharpstem Umbrella-sedge	<i>Cyperus cephalanthus</i>	SOC	*	Moderately drained remnant coastal prairies	No	No impact
Houston Daisy	<i>Raynoldsia aurea</i>	SOC	*	Sandy loam grasslands around pimple mounds	No	No impact
Texas Meadow-Rue	<i>Thalictrum texanum</i>	SOC	*	Shaded ditches next to woodlands	No	No impact

Table 3-7. *cont.*

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present	Effects Discussion
Vascular Plants <i>cont.</i>						
Texas Prairie Dawn	<i>Hymenoxys texasana</i>	E	E	Poorly drained areas in open grasslands; purple mounds	No	No effect
Texas Windmill Grass	<i>Chloris texensis</i>	SOC	*	Sandy loam soils in grassland and next to ditches	No	No impact
Threeloweret Brownweed	<i>Thurberia triflora</i>	SOC	*	Ectone between salty prairies and tidal flats	No	No impact

* These species occur on the state listing of threatened or endangered species and species of concern, however, they are not federally listed at this time by the USFWS (2010).

† These species are listed by the USFWS, however, they are not listed as occurring within Harris County or Chambers County by the Clear Lake office of the USFWS (2010).

E = endangered, E = endangered, SOC = species of concern, D = delisted taxon, DM = delisted taxon, recovered, being monitored first five years

Source: TPWD 2010, USFWS 2010

According to the TPWD NDD Element of Occurrence records search conducted March 3, 2010, in conjunction with analysis of geographic data, no documented occurrences of species or vegetation series listed in the NDD records are known within the limits of the proposed project or within 1.5 miles of the proposed project. Qualified biologists conducted a survey in the ROW on March 2, 2010 and listed species or rare vegetation series were not observed during the field investigation. The project area is north of Galveston Bay. The Galveston Bay system provides habitat for listed sea turtles, but sea turtle habitat is not present in the vicinity of the proposed project. Since the project crosses waterbodies that are tidally-influenced, the sea turtles are discussed below.

Federally Listed Species

Harris County

The Bald Eagle and Texas prairie dawn are federally listed in Harris County. The Bald Eagle was delisted in June 2007. The Bald Eagle will be monitored by USFWS for five years after delisting. The Bald Eagle is still protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. No suitable habitat for the Bald Eagle is located within or adjacent to the project ROW. The project will have no impact on the Bald Eagle. The ROW is either completely disturbed or wooded/scrub-shrub type habitat. This type of habitat is not suitable for Texas prairie dawn. The proposed project will have no effect on Texas prairie dawn. The sea/marine turtles are not federally listed in Harris County. The proposed Goose Lake crossing in Harris County occurs north of sea/marine turtle habitat in Galveston Bay.

Chambers County

Five sea/marine turtles are federally listed in Chambers County: Atlantic hawksbill sea turtle, green sea turtle, Kemp's Ridley sea turtle, leatherback sea turtle, and loggerhead sea turtle. The Goose Lake crossing is located in Harris County, and the sea/marine turtles are not listed in Harris County. Goose Lake is north of sea/marine turtle habitat. The proposed project crosses Cedar Bayou, which is tidally influenced, in Chambers County. Cedar Bayou is a riverine deepwater type of habitat.

Cedar Bayou flows into the Galveston Bay system, but it is not part of the Galveston Bay system at SH 99 approximately 4 miles upstream of Galveston Bay. The crossing along Cedar Bayou occurs north of potential sea turtle habitat. The Atlantic hawksbill, green sea turtle, and leatherback turtles generally inhabit offshore waters and nest on sandy beaches. The Atlantic hawksbill turtle will occupy more inland waters (lagoon, bays, etc.) if coral reefs and natural rocky areas are present. The offshore habitat, coral reefs, and natural rocky areas are not present in the project area. Kemp's Ridley sea turtle and the loggerhead sea turtle occur more frequently along the Texas Gulf Coast than the other listed turtles. The Kemp's Ridley sea turtle typically lives in offshore open water habitat, and sandy beaches are used for nesting. The Kemp's Ridley sea turtle will feed in shallow bays where sea grasses are present. This type of habitat does not occur along Cedar Bayou. Loggerhead sea turtles are similar to Kemp's Ridley turtles and nest on sandy beaches and spend time in the open water environments. The loggerhead sea turtle will generally return to nearshore areas along the coast and in bays and estuaries. The loggerhead sea turtle prefers to feed along grassy areas in shallow water. This type of habitat is not found in Cedar Bayou in the area of the proposed project. The closest known sea grass is approximately 4 miles southeast of the project area along the eastern shore of Trinity Bay. Supporting data was obtained from the NMFS website (<http://www.nmfs.noaa.gov/pr/species/turtles/>, date accessed September 17, 2010), TPWD website (http://www.tpwd.state.tx.us/huntwild/wild/species/endang/animals/reptiles_ amphibians/, date accessed September 17, 2010), and a paper on Galveston Bay System by Warren Pulich, Jr.

The Bald Eagle is federally listed in Chambers County. The Bald Eagle was delisted in June 2007. The Bald Eagle will be monitored by USFWS for five years after delisting. The Bald Eagle is still protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. No suitable habitat for the Bald Eagle is located within or adjacent to the project ROW. The project will have no impact on the Bald Eagle.

State Listed Species

The TPWD NDD revealed no documented occurrences of listed species within the proposed project ROW, and the following two TPWD species of concern were documented within 5 miles of the project: Texas windmill grass (Element of Occurrence identification no. [EOID] 7849) and threeflower broomweed (EOID 7357) (*Table 3-7*). No listed threatened or endangered species were documented within the project ROW or within 5 miles of the project. Species of concern are at-risk plant and animal species that TPWD has determined appear to be in need of conservation or monitoring. The TPWD NDD Element of Occurrence records search also documented that two rookeries (EOIDs 1076 and 4756) were found within 1.5 miles of the proposed project, and four rookeries (EOIDs 4757, 5069, 6411, and 7621) and one vegetation series, little bluestem-brownseed paspalum series (EOID 3175), were within 5 miles of the project. Habitat is present for the American eel, a state species of concern, within Goose Lake and Cedar Bayou. Habitat for the plains spotted skunk, a state species of concern, was observed adjacent to the ROW. Neither species has been documented in the area. Habitat for the state listed threatened alligator snapping turtle was observed in both Goose Lake and Cedar Bayou. No alligator snapping turtles have been documented in the project vicinity. Suitable habitat for the state listed endangered Brown Pelican is adjacent to the project area. No Brown Pelican were observed during site visits.

The proposed project area contains either disturbed soils or wooded areas that are not habitat for Texas windmill grass, threeflower broomweed, or the little bluestem-brownseed paspalum series. Texas windmill grass is endemic to Texas and prefers a habitat of sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants. It has also been observed on mowed

roadsides that may mimic natural prairie regimes. The Element of Occurrence records show the last documented sighting was in 1984, southwest of the Fred Hartman Memorial Bridge (SH 146 bridge over the San Jacinto River/Houston Ship Channel). Threeflower broomweed is also endemic to Texas coastal prairies, and its preferred habitat includes black clay soils of remnant grasslands and tidal flat areas. The Element of Occurrence records show that the last documented sighting was in 1897, northwest of the project area. Based on lack of suitable habitat, no observation of listed species, and no known occurrences of these species, historically, in the project study area or within 1.5 miles of the project study area, the plant species do not occur within the proposed project ROW.

3.7 CULTURAL RESOURCES

3.7.1 Historical Structures

The historical resources study conducted for the 1997 FEIS identified 26 structures in the SH 99, Segment 1-2 project vicinity as potentially eligible for inclusion in the National Register of Historic Places (NRHP). Coordination with the State Historic Preservation Officer (SHPO) was concluded in February 1996 and it was determined that none of the identified structures were NRHP-eligible. Except for the proposed overpass at Fisher Road, the planned project has been constructed from FM 1405 to IH 10(E). The historic resources investigation for this Re-evaluation addressed the project from SH 146 to FM 1405.

A review of the NRHP, the list of State Archeological Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHL) indicated that no historically significant resources have been previously documented within the APE for the proposed project between SH 146 and FM 1405. It has been determined through consultation with the SHPO that the APE for the proposed project is 150 feet from the proposed ROW. A reconnaissance survey undertaken in May and August 2009 revealed that there are eleven historic-age resources (built prior to 1968) on five legally distinct parcels located within the project APE. The survey cut-off date is based on the anticipated let date of 2013. There are two Official Texas Historical Markers commemorating the Baytown Orphanage and Ashbel Smith, M.D. in the Project APE. The markers would not need to be relocated for the project as proposed and would not be affected during construction of the project.

Pursuant to Stipulation VI “Undertakings with Potential to Cause Effects,” Appendix 4 (2) of the Programmatic Agreement for Transportation Undertakings (PATU) between FHWA, the Texas SHPO, the Advisory Council on Historic Preservation, and TxDOT, and the Memorandum of Understanding (MOU), TxDOT Historians determined that no historic properties are present within the proposed project's APE and individual project coordination with the SHPO is not required (*Appendix D*).

3.7.2 Archeological Resources

During preparation of the 1997 FEIS, coordination with the SHPO was concluded in December 1996; it was determined that construction of Alternative 6 (the preferred alternative) would have no effect on archeological or historic properties. Alternative 6 is the existing/proposed route for Segment 1-2. Previous consultation with the Texas Historical Commission (THC) resulted in a recommendation that no further archeological investigations were needed. In 2007, TxDOT recommended that the proposed project, as it is currently designed, would have no effect on any archeological historic properties or sites that are listed or eligible for listing on the National Register of Historic Places, or as State Archeological Landmarks, or as State Historic Landmark; therefore, consultation with the

SHPO is not necessary. In 2011, TxDOT conducted an internal review under the PA for the Fisher Road overpass and determined that no further archeological survey was needed (*Appendix D*). Consultation with federally-recognized Native American tribes was initiated on March 7, 2011. No objections or expressions of concern were received within the comment period. Additional coordination with the Chambers County Historical Commission and the Harris County Historical Commission was conducted in 2009 for the proposed project (*Appendix D*). Representatives of the commissions did not provide information regarding potential archeological resources. In the unlikely event that evidence of archeological deposits is encountered during construction, work in the immediate area will cease and TxDOT's archeological staff will be contacted to initiate accidental discovery procedures under the provisions of the Programmatic Agreement among TxDOT, THC, FHWA, and the Advisory Council on Historic Preservation, and the MOU between TxDOT and THC.

3.8 HAZARDOUS MATERIALS

The SH 99, Segment 1-2 area that would be impacted by the proposed project is primarily rural or undeveloped, with some residential and a few commercial/industrial areas. The industrial areas primarily consist of warehouses located near FM 1405. The western portion of the project area has had extensive oil and gas exploration activities (*Appendix A, Figure 4*). A Phase II Environmental Site Assessment (ESA) investigation was performed in 1996 in the project area on a parcel of land adjacent to and west of South Main Street, and south of BS 146. An active oil well was reported within the proposed project ROW. The proposed project ROW was revised to avoid the area with the oil well. One active oil and gas well would be displaced by the current proposed ROW (*Appendix A, Figure 3, Sheet 2*).

An updated review of selected regulatory databases published by federal and state agencies was conducted to determine the potential for hazardous materials in the project area. A commercial database vendor, Banks Information Solutions, Inc. (Banks), prepared the regulatory database report on February 9, 2009. Banks researched databases in accordance with *American Society for Testing and Materials (ASTM) Standard: E 1527-05 Standard Practice for Environmental Site Assessment* and TxDOT environmental guidance search radii. The regulatory listings are limited and include only those sites that are known to the regulatory agencies to be permitted, contaminated, or in the process of evaluation for potential contamination at the time of publication.

ASTM Standards and TxDOT-Recommended Regulatory Databases

The regulatory database report included a review of the ASTM and TxDOT-recommended databases. The following is an abbreviated list of the ASTM and TxDOT-recommended federal and state databases and records that were searched for relevant information:

- National Priority List (NPL), within 1.25 miles; EPA list of confirmed or proposed Superfund sites
- Comprehensive Environmental Response, Compensation, and Liability Information Service (CERCLIS), within 0.50 mile; proposed or possible NPL sites from the EPA database of current and potential Superfund sites currently or previously under investigation
- Resource Conservation and Recovery Act (RCRA) treatment, storage, or disposal (TSD) sites, within 0.50 mile; EPA database of sites that treat, store, dispose, or incinerate hazardous waste

- RCRA Corrective Action Report (CORRACTS), within 1.25 miles; EPA database of RCRA Information System (RCRIS) sites (hazardous waste handlers) under reported corrective action
- RCRA Generator (GEN), within 0.50 mile; EPA database of RCRIS sites that create more than 100 kg of hazardous waste per month or meet other RCRA requirements, including the RCRA Administrative Action Tracking System and Compliance Monitoring and Enforcement List
- Emergency Response Notification System (ERNS), within 0.25 mile; EPA database of emergency response actions for reported spills of regulated materials
- Underground Petroleum Storage Tanks (UST), within 0.50 mile; TCEQ database of underground petroleum storage tanks that are registered with the state
- Leaking Underground Petroleum Storage Tanks (LUST), within 0.75 mile; TCEQ database of underground petroleum storage tanks that have reported leaks of petroleum substances
- State/Tribal Voluntary Cleanup Program (VCP) and Innocent Owner/Operator Program (IOP), within 0.75 mile; some VCP and IOP sites are noted as having institutional controls placed on them
- State Wells, within 0.50 mile; TWDB database of public drinking water well and surface intake sites
- Federal Wells, within 0.50 mile, U.S. Geological Survey (USGS) United States Ground-Water Sites Inventory – Database of more than 850,000 records of wells, springs, test holes, tunnels, drains, and excavations in the United States
- State Other, within 1.25 miles; TCEQ Texas Industrial Hazardous Waste Notice of Registration (IHW NOR) data. TCEQ enters all information submitted by industrial and hazardous waste transporters, receivers (including recyclers), generators, and one-time shipments into a database that tracks industrial and hazardous waste generation and management activities in the state of Texas. All facilities of these types receive a solid waste registration number.
- Oil and Gas Wells, within 0.50 mile; Texas Railroad Commission (RRC) listing of completions, plugging, and permits. Data is obtained only from digital data provided by the Texas RRC.

Regulatory Database Report Summary

Because more than three years have elapsed since the last hazardous materials investigation was conducted for the 2007 Re-evaluation, the February 9, 2009 Banks database report was examined for new hazardous materials concerns. Regulated properties were verified and/or identified with ground truthing, review of aerial photography, and review of Harris County Appraisal District (HCAD) records. Based on the investigations conducted, *Table 3.8* summarizes the number and type of regulated sites in the project area. Locations of sites listed in this table are presented in *Appendix A, Figure 3*.

Table 3-8. Environmental Database Summary

Database	Banks Radius (miles)	Banks Database Report Sites	Regulated Properties Within ½ Mile of SH 99 Proposed ROW
Federal National Priority List (NPL)	1.25	0	0
Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	0.50	0	0
Federal CERCLIS No Further Remedial Action Planned (NFRAP)	0.25	7	0
Federal Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Facilities	50	1	0
Federal RCRA Corrective Action Sites (CORRACTS)	1.25	4	1
Federal RCRA Generators (large and small quantity generators [LQG and SQG])	0.50	32	2
Emergency Response Notification System (ERNS)	0.25	1,210	N/A
State Sites including TCEQ State Superfund Registry, Voluntary Cleanup Program (VCP), and Innocent Owner/Operator Program (IOP)	0.75	2	0
Solid Waste Landfill (SWL)	0.50	11	0
State Other and Texas Industrial Hazardous Waste (TIHW) Notice of Registration	0.25	73	7
Underground Petroleum Storage Tanks (UST)	0.50	39	7
Leaking UST (LUST)	0.75	30	6

Source: Banks Information Solutions, Inc. February 9, 2009

For the Re-evaluation, the area of Segment 1-2 being evaluated extends from SH 146 to Fisher Road. The western portion of the project area includes residential, commercial, public, and large areas with oil and gas production fields, and has higher potential for environmental hazards than the area east of the BS 146/SH 99 intersection. The area east of Tri-Cities Beach Road is primarily rural or undeveloped, with three sites where oil and gas equipment is located in close proximity, but not within, the proposed ROW. Cedar Crossing Industrial Park was developed over the past 10 years, and is located on both sides of SH 99 between Cedar Bayou and Fisher Road.

Regulatory database sites that are mapped within a 0.5-mile radius of the proposed project are listed in Table 3-9. These include former LUSTs, UST sites, automotive repair shops, and similar types of facilities that use or manage hazardous substances during routine operations. None of the facilities listed in Table 3-9 would be expected to impact the proposed project.

Table 3-9. Hazardous Materials Sites

ID Number	Name	Address	Issue	Condition
1	Baytown Market 2	1617 Missouri Street, Baytown, TX 77520	UST	Two 10,000-gallon gasoline tanks; both in use
2	Bayland Park Marina	2601 S. Highway 146, Baytown, TX 77520	UST	Two 4,000-gallon tanks, one gasoline and one diesel, both out of use
3	Verba FJ Technical Solutions LLC	1800 S. Highway 146, Baytown, TX 77520	RCRA CORRACTS and Other	Active, Conditionally Exempt Small Quantity Generator (CESQG)
4	US Filter Westates Baytown Facility	2201 Lee Drive, Baytown, TX 77520	Other	Inactive
5	Baytown Valero	1600 S. Highway 146, Baytown, TX 77520	UST	Three 8,000-gallon tanks, two with gasoline and one with diesel and all removed from the ground; two 20,000-gallon tanks both in use, one with gasoline and one with diesel; one 12,000-gallon tank with diesel and in use
6	Exxon	717 W. Main Street, Baytown, TX 77520	LUST	One 6,000-gallon tank with gasoline - removed from ground; two 8,000-gallon tanks with gasoline - removed from ground, one 1,000-gallon tank with gasoline removed from ground Groundwater other than drinking water aquifer or water well impacted/threatened; final concurrence issued, case closed
7	Former City of Baytown Public Works Garage	806 W. Nazro Street, Baytown, TX 77520	RCRAGEN	Inactive, SQG
8	Allen's Garage	303 W. Cleveland, Baytown, TX 77520	Other	Inactive; CE-SQG

Table 3-9. *cont.*

ID Number	Name	Address	Issue	Condition
9	Abandoned Service Station	425 W. Main Street, Baytown, TX 77520	LUST	Groundwater impacted, no apparent threats or impacts to receptors; final concurrence pending documentation of well plugging
10	Former Diamond Shamrock	220 W. Main Street, Baytown, TX 77520	LUST	Two 10,000-gallon gasoline tanks; groundwater impacted, no apparent threats or impacts to receptors; final concurrence issued, case closed
11	Former Industrial Solutions LLP	1018 S. Highway 146, Baytown, TX 77520	RCRAGEN and Other	Inactive; no waste generated
12	UPS	223 E. Republic Street, Baytown, TX 77520	Other	Inactive
13	Former Baytown Warehouse	200 E. Republic Street, Baytown, TX 77520	LUST	One 6,000-gallon used oil tank - groundwater impacted; final concurrence issued, case closed, one 4,000-gallon tank with used oil - removed from ground
14	AA Dump Truck Service	418 E. Texas Ave, Baytown, TX 77520	Other	Industrial and hazardous waste transporter; no waste generated
15	Tom's Mart Diamond Shamrock	605 E. Texas Avenue, Baytown, TX 77520	LUST	Groundwater impacted, public/domestic water supply well within 0.25 mile, final concurrence issued, case closed
16	Exxon Station	101 S. Alexander Drive, Baytown, TX 77520	LUST	Groundwater impacted, no apparent threats or impacts to receptors; final concurrence issued, case closed

Table 3-9, cont.

ID Number	Name	Address	Issue	Condition
17	Walgreens	100 N. Alexander Drive, Baytown, TX 77520	Other	Inactive
18	Former Firestone	144 S. Alexander, Baytown, TX 77520	UST	Inactive, CUSQG
19	Former Firestone service station (Now La Quinta Motel)	144 S. Alexander Baytown, TX 77520	Other	Former service station listed with petroleum storage tanks and industrial and hazardous waste generation registration number. For current La Quinta motel, assuming all facilities are removed, this is an inactive hazardous material site

Source: Banks Information Solutions, Inc. February 2009

In addition to federal and state standard databases, oil and gas well locations were obtained from the Texas RRC. According to data obtained from the Texas RRC, exploration companies have drilled a large number of oil and gas wells within the Segment I-2 study area. The oil and gas wells are primarily in the western portion of the study area. Most of the wells have been plugged or abandoned. One active well is located in an area where roadway ROW would be acquired; the well would be displaced. This well is located east of the UP Railroad and south of BS 146, and is Hazardous Material Site No. 21 on *Appendix A, Figure 3, Sheet 2*. One active well appears to be located partially within the existing ROW of the proposed project, and is east of Goose Lake and north of BS 146. This site is Hazardous Material Site No. 20 on *Appendix A, Figure 3, Sheet 1*.

A large number of ERNS sites were reported in the Banks database search for the Segment I-2 project area. The majority of the spills listed are not linked with specific properties and, therefore, do not warrant an ESA investigation.

According to data provided by the Texas RRC, underground oil and gas pipelines are located in the vicinity of the project area. In the western portion of the project area, a pipeline parallels Lanier Road/SH 146 and is oriented north/south. A second pipeline parallels and is south of BS 146 on the eastern bank of Goose Lake, and then changes orientation to north/south and crosses BS 146. A third pipeline is located west of Lee Road and parallels the previously described pipeline. A utility easement with a number of pipelines is oriented southwest to northeast and crosses Cedar Bayou at the UP Railroad, and crosses BS 146 at the east end of the Cedar Bayou bridge. Some of the pipelines from the easement diverge south of SH 146 and turn eastward. The presence of pipelines and utility lines within the project ROW will require coordination with the owners of the lines prior to commencing excavation and construction activities for the project.

3.9 VISUAL AND AESTHETIC QUALITIES

The surrounding landscape adjacent to SH 99, Segment 1-2 from SH 146 to FM 1405 consists of urban areas in the western portion, with some wooded areas and/or farmland with some residential properties. The area around Fisher Road is mostly undeveloped. There have been no changes in alignment and no significant changes to the roadway design since the FEIS.

3.10 MIGRATORY BIRD TREATY ACT

According to the Migratory Bird Treaty Act, all migratory birds and their parts (including nests, eggs, and feathers) are fully protected under the law unless the interested party first obtains a special permit that allows handling of migratory birds. Special purpose transport permits are available and are only issued to those individuals/organizations that have a required knowledge, expertise, and access to a licensed veterinarian and permitted rehabilitator. There have been no changes to the project alignment since the 2002 and 2007 Re-evaluations were completed; therefore, there would be no changes in impacts to migratory birds as a result of the widening and re-construction of SH 99, Segment 1-2 from SH 146 to FM 1405.

The project area would be investigated for any structures containing migratory birds or indications of nesting migratory birds. Migratory birds may arrive in the project area to breed during construction of the proposed project. Measures would be taken to avoid the take of migratory birds, their occupied nests, eggs, or young, in accordance with the Migratory Bird Treaty Act, through phasing of work or preventative measures. New overpasses would be less than 24 feet above existing ground level, and would not be expected to adversely impact migratory birds.

3.11 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended in 2005, directs that all federal agencies whose actions would impact essential fish habitat (EFH) must consult with the National Marine Fisheries Service (NMFS) regarding potential adverse effects. EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. EFH is identified and described based on areas where various life stages of 26 representative managed species and the coral complex commonly occur. According to the Gulf of Mexico Fishery Management Council (GMFMC) webpage, EFH is managed for Shrimp, Red Drum, Reef Fish, Stone Crab, Coral and Coral Reef resources, and Spiny Lobster fishery resources in the Gulf of Mexico, as well as the Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic within their Fishery Management Plans (FMP).

Any project that receives federal funding must address potential impacts to EFH. The proposed project crosses Goose Lake and Cedar Bayou, which are tidally-influenced water bodies that could potentially be used as fish habitat. Coordination with the NMFS regarding proposed westbound bridges at Cedar Bayou and Goose Lake was completed in 2006 and 2008, respectively. NMFS concurred with the conclusions in the EFH assessment provided by TxDOT that the proposed projects would have minimal impact on EFH, and no further consultation with NMFS is required for the westbound Goose Lake bridge that is currently being constructed (*Appendix D*). TxDOT has re-evaluated the current proposed project, and determined that no adverse effects to EFH would result from the proposed bridge replacement/widening at Goose Lake and the proposed westbound bridge at Cedar Bayou. TxDOT is coordinating with NMFS regarding this assessment.

3.12 VEGETATION

Existing vegetation was discussed in the FEIS. Review of recent aerial photographs indicates no substantive change in land use or vegetative cover in the project area. Because of revisions to the preliminary roadway schematic design since the FEIS, the proposed ROW required for the portion of the project between SH 146 and FM 1405 has been reduced slightly, thereby decreasing the acreage of wooded areas within the ROW from approximately 24 acres to approximately 22.3 acres. Qualified biologists conducted surveys within the project study area and found no change in land use within the proposed ROW. During site visits conducted in spring 2010, investigators noted vegetation removal activities on a wooded tract of land located east of Tri-Cities Beach Road and south of the existing SH 99 ROW. The purpose for the vegetation removal was not apparent. Approximately 2.4 acres of the tract would be acquired as part of the proposed project ROW. Other than the vegetation removal activities noted, the vegetation description in the FEIS remains valid.

Invasive Species and Beneficial Landscape Practices

On February 3, 1999, the President issued EO 13112 to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts. Invasive species as defined by EO 13112 is "an alien species, whose introduction does or is likely to cause economic or environmental harm or harm to human health." Revegetation would comply with EO 13112 to the greatest extent practicable. Soil disturbance would be minimized to reduce the opportunity for the establishment of invasive species in the ROW area associated with the project.

In accordance with the Executive Memorandum on Beneficial Landscape Practices, TxDOT would adhere to the following sustainable landscape measures and practices where cost effective and to the extent practicable:

- Use regionally native plants for landscaping.
- Design, use, or promote construction practices that minimize adverse effects on the natural habitat.
- Seed to prevent pollution by, among other things, reducing fertilizer and pesticide use.
- Implement water efficient and runoff reduction practices.
- Create outdoor demonstration projects employing the above measures and practices.

4.0 ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE

The proposed project would be constructed primarily within existing ROW but would also require the acquisition of approximately 46 acres of ROW between SH 146 and FM 1405 (*Appendix A, Figure 3 and Appendix C*). Of the 46 acres of required ROW, 1 percent is oil and gas production areas, and 99 percent is undeveloped. As discussed below, some displacements of structures and property would occur. The proposed project does not bisect any established neighborhoods or isolate any neighborhoods or communities, nor would it disrupt orderly planned development of the project area. The proposed project is consistent with the plans and policies of local governmental entities. No significant change to the overall land use in the area is anticipated as a direct result of implementation of the proposed project.

4.1.1 Right-of-Way and Displacements

The proposed project would require the acquisition of approximately 46 acres of ROW. Acquisition of the proposed ROW would impact approximately 14 parcels. There would be no single-family or multi-family residential displacements. The project would require some utility relocations, potentially including overhead electrical power lines, pipeline equipment, and cable and telephone lines. The proposed roadway would cross one large electrical utility easement, as shown on *Appendix A, Figure 3, Sheet 3*. Potential relocations, listed in *Table 4-1*, are based on review of aerial photographs (II-GAC database [MrSIDs] images, January 2008) and site reconnaissance via public roadways conducted in April and August 2009, and March 2010. Some areas where displacements could occur are located within the existing ROW. Based on the preliminary roadway design, some of these areas may not be impacted. An estimated 10 free-standing signs associated with adjacent commercial activities would also need to be relocated. Potential impacts as a result of displacing oil and gas wells are described in *Section 4.8, Hazardous Materials*. The proposed ROW acquisition would follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The potential displacements listed in *Table 4-1* are shown on *Appendix A, Figure 3*, except for the free-standing signs

Table 4-1. Potential Displacements

ID No.	Name	Business	Other
1	Missouri Church of Christ parking area and lawn within existing ROW		1*
2	Oil and Gas well		1*
3	Parking and lay-down area at South Texas Sand Blasting and Painting - within existing ROW	1*	
4	Baytown Valero gas station building and parking lot within existing ROW	1*	
5	Pebble Rocky's Junction Ice House- covered parking area within existing ROW	1**	
6	Oil and Gas well		1
7	Pipeline equipment (lift station)		1*
8	Entrance Gate to Family Farm/Ranch Signs		1** 10

* Structure/land area is within FxDOT ROW but would likely not be displaced based on planned roadway design

** Partial displacement and/or property acquisition

Source: Segment 1-2 Study Team 2010

4.2 SOCIAL RESOURCES

4.2.1 Population and Demographics

As discussed in *Section 4.1*, the proposed project would not require any single-family or multi-family residential relocations. The population and the overall racial/ethnic distribution of the population, or other demographic factors, would not be expected to be affected by the proposed project.

4.2.2 Neighborhoods and Community Cohesion

Impacts to economic, environmental, and social attributes of the project area resulting from the proposed project are expected to be minimal. Local and regional economic growth would be the determining factors in the future development in this area. Residential and commercial/industrial areas are located adjacent to the proposed project or in the project vicinity; however, the proposed project would require the acquisition of approximately 46 acres of ROW, most of which is undeveloped land, and would not require residential displacements. The proposed project does not bisect any established neighborhoods or isolate any neighborhoods or communities, nor would it disrupt orderly planned development of the project area.

4.2.3 Environmental Justice

Minority and low-income population data from the 2000 U.S. Census is discussed in *Section 3.2.3*. Four Census tracts, 6 Census block groups, and 37 Census blocks were identified within the project area from SH 146 to Fisher Road. Four of the block groups are located within Harris County and two are located in Chambers County.

Of the 37 Census blocks and 6 Census block groups located within the study area, 10 Census blocks have high minority populations and no Census block groups have low median household incomes, as shown in *Table 3-2*. Income data is available from the U.S. Census bureau at the Census block group level and above.

The number and type of relocations potentially required for the proposed project are discussed in *Section 4.1.1, Right-of-way and Displacements*. Although 10 Census blocks have high minority populations, no residential displacements or proposed ROW is being acquired in residential areas. A noise impact is anticipated to two residential receivers located within Census Tract 2544, Block Group 3, Block 3001, which has a high minority population, approximately 53.7 percent. Noise abatement is not proposed, as discussed in *Section 4.4, Noise*. Noise impacts to residential communities were analyzed according to the FHWA's Noise Abatement Criteria.

Implementation of the proposed project would not result in disproportionately high and adverse impacts to minority or low-income populations. Disproportionate impacts to minority and low-income groups are not expected, as the development of this facility would benefit adjacent neighborhoods by improving mobility in the area. Regional impacts to environmental justice individuals or communities are discussed below.

4.2.4 Limited English Proficiency

As discussed in *Section 3.2.4*, approximately 7.8 percent of persons within the project area speak English less than "very well" and 3.1 percent are "linguistically isolated." Of the LEP population, approximately 84.6 percent speak Spanish, 12.7 percent speak Indo-European languages, 0 percent

speak Asian/Pacific island languages, and 2.6 percent Other languages. TxDOT has ensured that opportunities for community input in the National Environmental Policy Act (NEPA) process have been and will continue to be provided. Public involvement for highway improvement projects that use federal aid highway funds will be consistent with applicable state and federal law and 43 Texas Administrative Code (TAC) §2.43 (b) (relating to Highway Construction Projects-State Funds). As stated in 43 TAC §2.43 (b), public involvement shall be encouraged as an important element of project planning, and meetings shall be initiated by the pertinent district office and will depend on and be consistent with the type and complexity of each state project. During the EIS planning process, seven public meetings and a public hearing were held, starting in March 1992 and ending with the public hearing in January 1995. Meetings were announced in local newspapers, and public meeting notices were mailed to elected officials. An additional public meeting was held on October 20, 2005 in Mont Belvieu, Texas. This public meeting presented changes to Segment I-2 from IH 10(E) to Fisher Road, which includes a portion of the proposed project addressed in this Re-evaluation. To comply with EO 13166, newspaper announcements were published in a Spanish language newspaper (*Rumbo de Houston*), and Spanish-speaking individuals were available for assistance during the public meeting.

Due to proposed design changes and tolling of the roadway from SH 146 to Fisher Road, a public meeting was conducted on July 27, 2010 during preparation of this Re-evaluation. Approximately 118 individuals registered at the public meeting at the Baytown Community Center. The meeting was an open house format. Public notices were published in the *Houston Chronicle*, *Baytown Sun*, and *La Voz* (Spanish Newspaper). The following common comments or public concerns were documented:

- requests for roadway improvements and safety improvements
- concerns about speed limits, roadway access, tolling, and roadway flooding

TxDOT finalized a public meeting summary, including responses to comments, in January 2011. The summary is available on the Grand Parkway website at: <http://www.grandpky.com/segments/i-2/> and a link to that website is on the TxDOT website.

4.2.5 Economic Impacts

Roadway construction activities would create new job opportunities and income potential in the area in the short term. The number of construction-related jobs would vary, depending on the phasing of project construction. The total jobs that would be created, directly and indirectly, by implementation of the proposed project are estimated to be 2,980 and 2,891 jobs, respectively. The total additional income that would be created, directly and indirectly, by implementation of the proposed project is estimated to be \$59.9 and \$120.1 million, respectively, based on the Texas Input/Output model (Texas State Comptroller 2009). The total statewide effect from the proposed project is estimated to be \$567.6 million, based on the Regional Economic Models, Inc. (REM) model (Texas State Comptroller 2009). The acquisition of proposed ROW would displace one or two oil or gas wells, and an estimated 10 free-standing signs. Displacees may be reimbursed for incurred costs based on TxDOT policies and procedures.

4.2.6 Toll Impact to Environmental Justice Communities

In April 2009 (revised July 2009), H-GAC published a document titled *Draft Regional Toll Analysis Summary for Inclusion in Houston Area Toll Road Environmental Documents*, that assesses the impact of toll roads on environmental justice communities in the Houston regional area. The regional toll analysis is included in Sections 4.15 and 4.16. The conclusion of this study discusses regional benefits for those using non-toll facilities, which includes potential time savings on trips: the average time savings is between 2.32 and 5.05 minutes per trip. Therefore, no disproportionate adverse effects to EJ populations from the regional tolled roadway network are expected. Initially, the evaluation identified 2000 Census block groups that contained 51 percent or more of minority and/or low-income populations. After the EJ block groups were identified, EJ Traffic Analysis Zones (TAZs) or “EJ Zones” were identified that had 50 percent or more of its area identified as an EJ population. The entire region, including the EJ Zones, would realize a benefit in travel time savings because of the added capacity the tolled roadway facilities provide to the regional roadway network.

Within the SH 99, Segment I-2 study area, existing public roadways and non-toll facilities would be available to EJ populations. However, free access on the SH 99, Segment I-2 toll lanes would not be available. Roads that are free now would remain free after the proposed project is constructed. The stated purpose of SH 99, Segment I-2 is to provide access and increased mobility to the freeway (highway) network, help expedite the implementation of several major thoroughfare plans, and to provide added capacity around the City of Houston for evacuations from the Gulf Coast prior to or during a hurricane. Tolling would be waived during periods of emergency evacuation. Some traffic would likely utilize the tolled facility to achieve improved travel time or to avoid signalized intersections. The proposed project is not located on a public transit route. If future public transit routes are expanded to include the proposed project, coordination regarding access would occur between the local transit authority and TxDOT.

The cost for the toll would be based on the distance traveled on the tolled lanes. The toll collection fee would be collected via an electronic toll collection system, meaning there would be no toll collection booths and there would not be an option for paying with cash. The effects of a toll facility on low-income and minority persons/populations are expected to be minimal due to the availability of existing free roadways and shared use of the bridges. Roadway capacity for free traffic would not be decreased and existing frontage access would be maintained.

4.3 AIR QUALITY

The proposed project on which this Re-evaluation focuses is the section of SH 99, Segment I-2 from SH 146 to FM 1405 and the Fisher Road overpass. The project area is partly in Harris County and partly in Chambers County. FHWA made a conformity determination for the 2035 RTP Update and the 2011-2014 TIP on January 25, 2011. As discussed in Section 1.1, three of the four proposed construction projects are consistent with the area’s financially constrained 2035 RTP Update. The CSI for the proposed Fisher Road overpass is expected to be added to an amendment to the 2035 RTP Update, which is anticipated to be adopted in the summer of 2010. The three CSIs currently included in the 2035 RTP Update and 2011-2014 TIP are shown on the RTP Update and TIP pages included in Appendix B. All projects in H-GAC’s 2011-2014 TIP that are proposed for federal or state funds are consistent with federal guidelines. The program considers energy, environment, air quality, cost, and mobility. The FHWA will not take final action for the Segment I-2 project until it is consistent with the RTP and TIP and corresponding conformity determination.

The modeling procedures for ozone require long-term meteorological data and detailed area-wide emission rates for all potential sources (industry, business, and transportation). TCEQ models ozone concentrations for the SIP, and H-GAC approves highway projects conforming to the SIP in the Houston metropolitan area. To meet the ambient ozone criterion, the reasonable further progress (RFP) SIP requires the Houston region to budget its motor vehicle emissions within 186.13 tons of nitrogen oxides per day and 86.77 tons of VOCs per day in 2008. The proposed project would reduce congestion, and although traffic is expected to increase in the future, potential impacts to air quality would be partly offset by reductions in average vehicle emissions, as younger vehicles with more effective pollution controls replace older vehicles on the highway.

Traffic volumes for the proposed project do not exceed 140,000 AADT; therefore, a TAQA is not required because previous analyses of similar projects did not result in violation of NAAQS. There may be short-term, localized effects to air quality (e.g., increase in dust) in the immediate area adjacent to the project during construction. The effects to air quality during reconstruction and widening would be temporary, and measures such as watering construction areas to control dust could minimize adverse effects to air quality during construction.

4.3.1 Mobile Source Air Toxics

4.3.1.1 Project-Specific MSAT Information

Numerous technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this project (see “Unavailable Information for Project Specific MSAT Impact Analysis” at the end of this section for more information). In Chapter 3 of its Regulatory Impact Analysis (RIA) for the 2007 MSAT rules, EPA states that there are a number of additional significant uncertainties associated with the air quality, exposure, and risk modeling. The modeling also has certain key limitations such as the results are most accurate for large geographic areas, exposure modeling does not fully reflect variation among individuals, and non-inhalation exposure pathways and indoor sources are not taken into account. Chapter 3 of the RIA is found at: <http://www.epa.gov/otaq/regs/toxics/ri-ria-sections.htm>.

However, it is possible to qualitatively assess the levels of future MSAT emissions under the project. Although a qualitative assessment cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, for build and no-build alternatives. The qualitative analysis below is derived in part from a study conducted by FHWA titled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives* found at: www.fhwa.dot.gov/environment/airtoxic/msatecompare/msatemissions.htm.

Generally, the amount of MSATs emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for this project is slightly higher than that for a no-build alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions along the new roadway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOBILE6.2 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases will

offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models.

Emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Even greater reductions are expected by 2030 from EPA's 2007 MSAT rule. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional traffic lanes for this project would have the effect of moving some traffic closer to the residential neighborhoods, schools, and businesses; therefore, there may be localized areas where ambient concentrations of MSATs could be higher under the Build alternative than under the No-Build alternative. The localized increase in MSAT concentrations would likely be pronounced along the roadway where additional traffic lanes would be built along the entire project length. However, as discussed previously, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be accurately quantified due to the inherent deficiencies of current models. In sum, when a highway is widened and, as a result, moves closer to receptors, 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, MSATs 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 cause region-wide MSAT levels to be significantly lower than current levels in almost all cases.

Sensitive Receptor Assessment

There may be localized areas where ambient concentrations of MSATs are slightly higher for the Build alternative than in the No-Build alternative. Sensitive receptors include facilities likely to contain larger concentrations of sensitive populations (hospitals, schools, licensed day care facilities, and elder care facilities). Dispersion studies have shown that air toxics start to drop off at 100 meters (328 feet) from the roadway, and by 500 meters (1,640 feet) most studies have shown it is difficult to distinguish the roadway from background toxin concentrations in an area. Sensitive receptors identified within 100 and 500 meters of the proposed ROW are shown in *Table 3.5*.

4.3.1.2 Unavailable Information for Project-Specific MSAT Impact Analysis

This document includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools and lack of health-based MSAT standards do not enable the prediction of project-specific health impacts of the emission changes associated with the alternatives in this project. Due to these limitations, the following discussion is included in this Re-evaluation in accordance with Council on Environmental Quality (CEQ) regulations that address incomplete or unavailable information (40 CFR §1502.22 (b)).

4.3.1.2.1 Information That is Unavailable or Incomplete

Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several elements, including emissions modeling, dispersion modeling to estimate ambient concentrations from the estimated emissions, exposure modeling to estimate human exposure to the estimated concentrations, and determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

4.3.1.2.1.1 Emissions

The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables of emissions of MSATs in the context of highway projects. While MOBILE6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE6.2 is a trip-based model. Emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For PM, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emission rates used in MOBILE6.2 for both PM and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis.

These deficiencies compromise the capability of MOBILE6.2 to estimate MSAT emissions. MOBILE6.2 is an adequate tool for projecting emissions trends and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations. However, MOBILE6.2 is currently the only available tool for use by FHWA and TxDOT and may function adequately for larger-scale projects for comparison of alternatives. Because MOBILE6.2 is currently the only available tool for use by FHWA/TxDOT, it is used for comparison of alternatives in larger scale projects.

4.3.1.2.1.2 Dispersion

The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago to predict episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models are more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. Along with these general limitations of dispersion models, FHWA is also faced with a lack of air toxics monitoring data in most areas for use in establishing project-specific MSAT background levels.

4.3.1.2.1.3 Exposure Levels and Health Effects

Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude reaching meaningful conclusions about project-specific health impacts. Exposure assessments are not practical because it is difficult to accurately calculate annual levels of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupported assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any estimated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs

Research into the health impacts of MSATs is ongoing. For different emission types, many studies show that MSATs are either statistically associated with adverse health outcomes through epidemiological studies (frequently based on emission levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of several EPA efforts. The agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure at the county level. While not intended for use as a measure or benchmark of local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or state level.

The EPA is in the process of assessing the risks of various kinds of exposures to pollutants. EPA's Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at <http://www.epa.gov/iris>. The following toxicity information for the six prioritized MSATs from the 2001 rule and the 2 additional MSATs added with the 2007 rule, was taken from the IRIS database *Weight of Evidence Characterization* summaries and represents the EPA's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures. Information on the two additional MSATs of concern was taken from the 2007 MSAT rule preamble.

Benzene is characterized as a known human carcinogen.

- **Acrolein:** potential carcinogenicity cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde:** Probable human carcinogen, based on limited evidence in humans and sufficient evidence in animals.

- **1,3-butadiene:** Characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde:** Probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust (DE):** Likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust, as reviewed in this document, is the combination of diesel particulate matter and diesel exhaust organic gases. Diesel exhaust also represents chronic respiratory effects, possibly the primary non-cancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.
- **Naphthalene:** Possible human carcinogen based on limited evidence and extrapolations from rodent studies conducted at higher doses. Based on external peer review of the IRIS Reassessment of the Inhalation Carcinogenicity of Naphthalene, additional analyses are being considered.
- **Polycyclic Organic Matter (POM):** The class of compounds listed as POM are considered probable human carcinogens based on animal data. Polycyclic aromatic hydrocarbons (PAHs) are considered to be a subset of POM. Maternal exposure to PAHs in a population of pregnant women was associated with several adverse birth outcomes, including low birth weight and reduced length at birth, as well as impaired cognitive development at age three.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA (or TxDOT for state funded projects) cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable the performance of a more comprehensive evaluation of the health impacts specific to this project.

In the preamble to the 2007 MSAT rule, EPA summarized recent studies with the following statement: "Significant scientific uncertainties remain in our understanding of the relationship between adverse health effects and near-road exposure, including the exposures of greatest concern, the importance of chronic versus acute exposures, the role of fuel type (e.g., diesel or gasoline) and composition (e.g., % aromatics), relevant traffic patterns, the role of co-stressors including noise and socioeconomic status, and the role of differential susceptibility within the "exposed populations" (Volume 73 *Federal Register* Page 8341 [February 26, 2007] "Control of Hazardous Air Pollutants from Mobile Sources."

4.3.1.3 *Relevance of Unavailable or Incomplete Information*

While available tools do allow the reasonable prediction of emission changes between alternatives for larger roadway projects, the amount of MSAT emissions from each project alternative and MSAT

concentrations or exposures created by each project alternative cannot be predicted with enough accuracy to be useful in estimating health impacts. As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects. Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human health and the environment."

In this document, a qualitative assessment has been provided relative to the build and -no-build alternatives of MSAT emissions and has acknowledged that the project Build alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

4.4 NOISE

This analysis was done in accordance with TxDOT's *Guidelines for Analysis and Abatement of Highway Traffic Noise*, which is approved by FHWA. Noise abatement criteria for various land use activity areas (Table 4-2) are used as one means to determine when a traffic noise impact will occur.

Table 4-2. Noise Abatement Criteria

Activity Category	L_{eq} (dBA)	Description
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties or activities not included in categories A or B above.
D	--	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Note: Primary consideration is given to all exterior areas (Category A, B, or C) where frequent human activity occurs. However, interior areas (Category E) are used if adjacent areas are physically shielded from the roadway, or if there is little or no human activity in exterior areas adjacent to the roadway.
Source: FHWA 1997

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

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

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

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area. FHWA's Traffic Noise Model was used to calculate existing and predicted traffic noise levels. The model primarily considers the number, type, and speed of vehicles, highway alignment and grade, cuts, fills, and natural berms, surrounding terrain features, and the locations of activity areas likely to be affected by the associated traffic noise.

Existing and predicted traffic noise levels were modeled at receiver locations (*Table 4-3 and Appendix A, Figure 3*) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and that may potentially benefit from feasible and reasonable noise abatement. As indicated in *Table 4-3*, predicted noise levels would result in traffic noise impacts and the following noise abatement measures are considered: traffic management, alteration of horizontal or vertical alignment, acquisition of a buffer zone of undeveloped property, and construction of noise barriers.

Before a noise abatement measure can be proposed for the project, it must be both feasible and reasonable. To be feasible, an abatement measure must reduce the predicted noise level at an affected receiver by at least five dBA, and to be reasonable, it must not exceed the cost-effectiveness criterion of \$25,000 for each receiver that would benefit by a reduction in the predicted noise level of at least five dBA.

Table 4-3. Traffic Noise Levels (L_{eq} [dBA])

Receiver	NAC Category	NAC Level	Existing (dBA)	Predicted (dBA)	Change (+/-) (dBA)	Noise Impact
R1 - Residence	B	67	56	63	+7	No
R2 - Church	E	52	38	45	+7	No
R3 - Residence	B	67	57	64	+7	No
R4 - Church	E	52	40	45	+5	No
R5 - Apartments	E	52	35	42	+7	No
R6 - Residence	B	67	59	69	+10	Yes
R7 - Residence	B	67	52	63	+11	Yes
R8 - Residence	B	67	54	59	+5	No
R9 - School	E	52	26	33	+7	No
R10 - Park	B	67	56	63	+7	No
R11 - Residence	B	67	53	62	+9	No

Source: Segment I-2 Study Team 2009

Traffic management: altering the flow of traffic to lower noise levels would degrade the designed effectiveness and function of the proposed project. Substantial speed reduction would be required to lower noise levels by a perceptible amount, which would be detrimental to the efficient movement of traffic.

Alteration of horizontal or vertical alignment: any alteration of the existing alignment would not be cost-effective or reasonable.

Buffer zone: acquiring undeveloped property for a buffer zone would avoid, not abate, traffic noise impacts; therefore, this measure is not feasible.

Noise barriers: this is the most common noise abatement measure. Noise barriers would not be feasible and reasonable for the two impacted receivers.

Receiver R6: this receiver represents a single-family home with a driveway facing the roadway. A continuous noise barrier would restrict access to this receiver. Gaps in a noise barrier would satisfy access requirements, but the resulting non-continuous barrier segments would not achieve the minimum feasible reduction of five dBA.

Receiver R7: this is a single-family home that is not adjacent to the ROW. A noise wall would not provide the minimum required feasible reduction of 5 dBA.

Land use activity areas located adjacent to the roadway consist of Category E (schools and churches), Category B (Residential and Parks), and Category D (undeveloped land) properties. There is no Noise Abatement Criteria for undeveloped land. However, to avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs should ensure, to the maximum extent possible, no new activities are planned or constructed along or within the predicted noise impact contours (Table 4-4).

Table 4-4. Predicted Noise Impact Contours

Land Use	Impact Contour	Distance From ROW
Residential	66 dBA	Approximately 150 - 200 feet
Commercial	71 dBA	Within ROW

Source: Segment I-2 Study Team 2009

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

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

4.5 WETLANDS AND OTHER WATERS OF THE UNITED STATES

Wetlands and other waters of the United States impacts have been evaluated for the proposed construction of Segment I-2 from SH 146 to Fisher Road. However, until the USACE has approved the delineated boundaries and jurisdictional status of all of the potential waters of the United States, including wetlands, the impacts can only be estimated. During final design, the project, including the bridges over Cedar Bayou and Goose Lake, may be modified, which could change the final impacts to waters of the United States. *Table 3-6* shows a total of 34,538 acres of potential waters of United States, including wetlands, that are within the proposed and existing ROW. This total includes areas associated with the open waters of Black Duck Bay, Goose Lake, and Cedar Bayou, which are within the limits of the identified project ROW, but are not areas that would be acquired and owned by TxDOT as roadway ROW. The table shows that an estimated 1,828 acres would be impacted by the proposed project. *Table 3-6* includes an estimated impact of approximately 0.017 acre for construction of piers and columns associated with the bridge over Cedar Bayou (approximately 0.005 acre in Cedar Bayou and 0.012 acre in adjacent wetlands), and an estimated impact of approximately 0.003 acre for construction of 12 piers in Goose Lake. Anticipated impacts to potentially jurisdictional waters of the United States, including wetlands, are primarily in the western portion of the proposed project associated with water bodies, water courses, and wetlands in the area. Impacts to the identified waters/wetlands would be permanent, as the installation of piles and piers, and the discharge of fill material would be necessary to construct the proposed roadway improvements. There are a total of approximately 5.4 acres of 8 potentially non-jurisdictional wetlands and one swale that are within the proposed project ROW. Approximately 3.4 acres of 7 of these potentially non-jurisdictional wetlands would be filled as a result of construction of the proposed project.

Collectively, anticipated impacts to potentially jurisdictional waters of the United States, including wetlands, to construct the proposed roadway improvements exceed 1.8 acres. The majority of the wetlands impacts is to wetlands adjacent to navigable waters (i.e., waters subject to regulation under Section 10 of the Rivers and Harbors Act of 1899). It is expected that USACE authorization of anticipated impacts would require evaluation under an Individual Permit as opposed to authorization under one or more nationwide permits. Construction of the proposed bridges over Goose Lake and Cedar Bayou, both of which are navigable waters, would require authorization from the U.S. Coast Guard under authority of Section 9 of the Rivers and Harbors Act of 1899.

In accordance with the provisions of Section 404(b)(1) Guidelines, an applicant must demonstrate that the proposed project has avoided and minimized effects to waters of the United States, including wetlands, to the greatest extent practicable before compensatory mitigation can be proposed. The proposed ROW to be acquired is adjacent to the existing ROW, and avoids and minimizes effects to surrounding areas to the greatest extent practicable. A review of USACE requirements would be conducted as design plans are finalized. Compensatory mitigation for Section 404 effects would be coordinated with the USACE and performed in accordance with the terms of the approved permit(s).

4.5.1 Floodplains

The proposed project includes bridging or culverting of all regulatory floodways such that increases in base flood elevations would not exceed one foot, per Federal Emergency Management Agency (FEMA) regulations. Coordination with the local Floodplain Administrator is required and will be conducted. Feasible and practicable bridging of 100-year floodplains will be further evaluated during final design. In accordance with 23 CFR 650.113, FHWA shall not approve a proposed action

that includes a significant floodplain encroachment unless it finds that the proposed encroachment is the only practicable alternative.

A hydraulic study will be performed during final design of the proposed project to identify areas sensitive to local flooding. The study will provide detailed hydraulic information necessary to determine the use of culverts and bridges at each stream crossing, and to confirm that the proposed project does not increase the risk of flooding. Hydraulic features for the project would be designed in accordance with current TxDOT and FHWA design policies and standards. Roadway drainage facilities would permit conveyance of the 100-year flood without causing significant impacts to the main lanes of the proposed roadway, streams, or adjacent property. The proposed design would not adversely impact base flooding elevations to a level that would violate applicable floodplain regulations and ordinances. To the extent practicable, the design would also minimize the area of a floodplain impacted by the roadway. Fill placement in the floodplain would be mitigated with equivalent floodplain storage in the vicinity of the roadway. The location of detention basins, if required, would be determined during the hydraulic study, and would be analyzed in additional environmental documents.

Cross drainage and floodplain mitigation facilities associated with the proposed project would be designed to accommodate a 100-year flood event. Project-related increases in base flood elevations would not be allowed to exceed one foot, per FEMA regulations. Review of the final drainage and mitigation analyses by regulatory agencies would confirm that adequate measures have been taken to ensure that the project's floodplain encroachment would not increase the risk of flooding to adjacent properties. Areas sensitive to local flooding would be identified during the final design phase of the project. If areas of severe flooding are identified, design criteria may be more restrictive than those specified in local county orders.

The proposed project would be designed to meet the requirements for approval as a hurricane evacuation route. The project design would include placement of the main lanes for the proposed roadway above 100-year frequency flood elevations.

4.5.2 Water Quality

This project would include five or more acres of earth disturbance. TxDOT would comply with TCEQ's Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP). A Storm Water Pollution Prevention Plan (SW3P) would be implemented, and a construction site notice would be posted on the construction site. A Notice of Intent (NOI) would be required.

West of Cedar Bayou, in Harris County, this project is located within the boundaries of the Phase II Baytown Municipal Separate Storm Sewer System (MS4), and would comply with the applicable MS4 requirements. East of Cedar Bayou, in Chambers County, this project is not located within the boundaries of a regulated MS4.

The project will impact less than 1,500 linear feet of stream and 3 acres of waters of the U.S. and will not affect rare/ecologically significant wetlands. The Tier I 401 Certification requirements for the Section 404 Individual Permit will be met by implementing approved erosion controls, sediment controls, and post-construction total suspended solids (TSS) controls. A Tier I Checklist will be completed and submitted to TCEQ and the USACE.

The amount of disturbed earth would be limited so that the potential for excessive erosion is minimized and sedimentation outside of the ROW is avoided. Existing vegetation would be preserved to the extent practicable. Temporary erosion and sedimentation controls would be in place according to the construction plans prior to commencement of construction-related activities and inspected on a regular basis to ensure maximum effectiveness. Disturbed areas would be stabilized to prevent construction-related soil erosion and sedimentation during wet weather conditions. Approved erosion and sedimentation control BMPs would be maintained and remain in place until the area has been stabilized.

Permanent soil erosion control features would be constructed as soon as feasible during the early stages of the contract through proper sodding and/or seeding techniques. Disturbed areas would be restored and stabilized as soon as the construction schedule permits, and temporary sodding would be considered where large areas of disturbed ground would be left bare for a considerable length of time. Temporary erosion control measures would be coordinated with the permanent soil erosion control features that are to be part of the completed project to assure economical, effective, and continuous erosion control throughout the construction and post construction periods. In addition, efforts would be made to prevent long-term water pollution by reducing fertilizer and pesticide use during the installation and maintenance of landscaping.

The contractor would take appropriate measures to prevent, minimize, and control hazardous materials spills in the construction staging areas. Removal and disposal of all materials by the contractor would be in compliance with applicable federal and state laws, with no degradation of ambient water quality. Implementation of the proposed project would not result in any direct impacts to surface water quality or affect public water supply.

4.6 THREATENED AND ENDANGERED SPECIES

The FEIS documented a no effect finding to federally listed threatened or endangered species. Updated lists of federally and state listed threatened and endangered species, and state listed species of concern, were reviewed.

Federally Listed Species

No habitat is present in the project area for federally listed species. The proposed project would have no effect on federally listed species.

State Listed Species

Habitat for plains spotted skunk and American eel, two state listed species of concern, occurs within or adjacent to the ROW. Neither species has been documented within the project area. The proposed project may impact both species of concern, because suitable habitat is present. Potential habitat for the state listed threatened alligator snapping turtle exists within Goose Lake and Cedar Bayou. Bridge construction could disturb suitable habitat, which could displace or disrupt the alligator snapping turtle. Avoidance and minimization measures would be implemented to prevent debris from falling into the waterbodies. Although the alligator snapping turtle has not been documented in the project area, the proposed project may impact the alligator snapping turtle. Habitat exists in Goose Lake and Cedar Bayou for the state listed endangered Brown Pelican. Construction would occur within existing ROW at Goose Lake and Cedar Bayou. The Brown Pelican would likely avoid the ROW during construction. Construction activities could disturb the Brown Pelican. The

proposed project may impact the Brown Pelican. The proposed project would have no impact to other state listed species listed in *Table 3-7* due to lack of habitat.

4.7 CULTURAL RESOURCES

4.7.1 Historical Structures

The 1997 FEIS documented 26 structures in the project vicinity for possible inclusion in the NRHP. Coordination with the SHPO was concluded in February 1996. It was determined that none of the identified structures was eligible for inclusion in the NRHP. Except for the proposed overpass at Fisher Road, the planned project has been constructed from FM 1405 to IH 10(E). The historic resources investigation for this Re-evaluation addressed the project from SH 146 to FM 1405.

A review of NRHP listings, the list of SALs, and the list of RTFLs indicated that no historically significant resources have been previously documented within the APE for the proposed project between SH 146 and FM 1405. It has been determined through consultation with the SHPO that the APE for the proposed project is 150-ft from the proposed ROW. A reconnaissance survey conducted in May and August 2009 revealed that there are eleven historic-age resources (built prior to 1968) on five legally distinct parcels located within the project APE. The survey cut-off date is based on the current let date of 2013. There are two Official Texas Historical Markers commemorating the Baytown Orphanage and Ashbel Smith, M.D. in the project APE. The markers would not need to be relocated for the project as proposed and would not be affected during construction of the project.

Pursuant to Stipulation VI "Undertakings with Potential to Cause Effects," Appendix 4 (2) of the PATU between FHWA, the SHPO, the Advisory Council on Historic Preservation, and TxDOT, and the MOU, TxDOT historians determined that no historic properties are present within the proposed project's APE and individual project coordination with SHPO is not required (*Appendix D*).

4.7.2 Archeological Resources

Coordination with the SHPO was concluded in December 1996. It was determined that construction of Alternative 6 would have no effect on archeological or historic properties. Alternative 6 is the proposed route for SH 99, Segment 1-2; therefore, no further consultation with the SHPO would be necessary. TxDOT concluded in 2011 that there is no potential for the proposed project to affect significant archeological materials; therefore, additional archeological investigations are not warranted and consultation with the SHPO is not necessary (*Appendix D*). In the unlikely event that evidence of archaeological deposits is encountered during construction, work in the immediate area would cease and TxDOT's archaeological staff would be contacted to initiate accidental discovery procedures under the provisions of the Programmatic Agreement among TxDOT, UIC, FHWA, and the Advisory Council on Historic Preservation, and the MOU between TxDOT and UIC.

4.8 HAZARDOUS MATERIALS

Potential hazardous material impacts associated with the proposed project would be current operating sites and facilities, and historical sites and facilities that have already been impacted or have the potential to be impacted within the existing or proposed ROW. A general review of the potential for encountering hazardous materials during project construction was identified in *Section 3.8*.

Petroleum Storage Tanks

According to the environmental database records (*Section 3.8*), there are 6 UST sites within 0.5 mile of the proposed project. USTs can lead to soil and groundwater contamination, including soils proposed to be excavated during construction of the proposed project. No USTs are known to be in the proposed ROW; however, if found in the proposed ROW, the UST sites would be addressed during the ROW negotiation and acquisition process. Coordination with property owners, tank owners, operators, and TCEQ would be an ongoing process up to and during construction. If the removal of any UST is necessary, removal would be conducted in accordance with 30 TAC § 334, Subchapter C, Technical Standards and any other applicable requirements. Excavation, pumping, and/or dewatering activities of contaminated soil or water would require proper treatment and disposal. The rule provides specific procedures for the removal and handling of a UST system and associated materials, and provides for the proper management of work and public safety during construction. All tanks would be removed from the ground and proper closure activities conducted prior to construction. In addition, implementation of a Materials Management Plan would require proper handling of anticipated and unanticipated contaminated materials during the construction phase of the project.

Oil and Gas Well Installations and Pipelines

A general review of oil and gas well installations in Harris and Chambers Counties indicates previous exploration and development of the area. Applicable plugging and supervision requirements are provided in 16 TAC § 3.14 under the jurisdiction of the Texas RRC. Well plugging would need to be performed by cementing companies, service companies, or operators approved by the Texas RRC. Arrangements with the responsible well operator for proper plugging according to applicable regulations would be addressed during the ROW acquisition and negotiation process. If not plugged prior to construction, the wells would be addressed per TxDOT Standard Specification Item 103, Disposal of Wells. If contamination were encountered at any of the identified well or abandoned well sites, remediation would be conducted prior to construction. If a well were damaged during construction, the responsible party would be required to correct the damage and remediate any pollution resulting from the damage.

During preliminary investigations, multiple pipelines were noted traversing the proposed project. The locations of the pipelines are described in *Section 3.8* and shown on *Appendix A, Figure 3*. Negotiations would be conducted with the pipeline owners to properly relocate or deepen the affected pipelines, if necessary.

Asbestos-Containing Materials

Asbestos may be associated with existing bridge structures. In accordance with the Texas Department of State Health Services (DSHS) Notification Rules (25 TAC 295.61), the bridge structure(s) must be inspected by a licensed asbestos inspector prior to any demolition or renovation. The DSHS must be notified at least ten days prior to demolition or renovation (if asbestos-containing materials above EPA thresholds are to be disturbed) utilizing the DSHS Asbestos Demolition/Renovation Notification Form.

Construction

Temporary above-ground storage tanks (ASTs) and equipment, vehicles, and machinery that contain oil and diesel fuel are typically utilized during major construction projects. Temporary ASTs are regulated and their use would require spill containment and control strategies such as secondary containment. Typical impacts include leaking valves, hoses, or small spills that occur during refueling activities or small leaks that may occur from equipment, vehicles, and/or machinery. However, these impacts are infrequent and typically do not pose a serious risk to the environment. Activities related to hazardous materials use and storage during construction would conform to TxDOT standards and include appropriate spill containment and control strategies.

Should hazardous constituents be unexpectedly encountered in the soil and/or shallow groundwater during construction, appropriate measures for the proper assessment, remediation, and management of the contamination would be initiated in accordance with applicable federal and state regulations.

4.9 VISUAL AND AESTHETIC QUALITIES

There have been no significant changes to the roadway design since the original EIS. This portion of Segment I-2 from SH 146 to FM 1405 would follow an existing roadway alignment. An existing two-lane bridge over Cedar Bayou would remain and a new bridge north of and parallel to the existing bridge would be constructed. The eastbound bridge over Goose Lake would be reconstructed to meet current design standards. Proposed overpasses in the project area from SH 146 to Fisher Road would typically be less than 20 feet above existing ground, and would be a minor visual change in an existing roadway corridor. Visual impacts to the surrounding area would be minimal; therefore, the original finding in the EIS remains valid.

4.10 MIGRATORY BIRD TREATY ACT

Several bird species potentially occurring in the project area are considered migratory, however, the proposed project would not affect the migration patterns of these species. In the event that migratory birds or their nests are observed prior to construction activities, measures would be taken to avoid harm to migratory birds, their nests, eggs, or young.

To ensure compliance with the Migratory Bird Treaty Act, vegetation clearing and work within the proposed project area would be conducted outside of the normal nesting season (March 1 through August 31) or measures would be taken to discourage birds from nesting in existing structures. Additionally, contractors would be notified about and be responsible for complying with the Migratory Bird Treaty Act for migratory birds that may inhabit the project area throughout the construction period of the proposed project.

4.11 ESSENTIAL FISH HABITAT

Essential fish habitat (EFH) is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The portion of Segment I-2 from SH 146 to FM 1405 crosses Cedar Bayou, a tidally influenced water body that is approximately three miles upstream from Galveston Bay.

Six piers are expected to be placed below mean high water to construct the bridge over Cedar Bayou, and 12 piers are expected to be placed below mean high water to construct the bridges over Goose

Lake. Additional piles are also anticipated to construct a fender system for the bridges. Cofferdams composed of either steel sheet piling or earthen material would be used to construct the piers. Water column habitat would be subject to brief periods of variable turbidity during bridge construction. With the exception of the bridge piers and the additional piles for the fender systems, there would be no permanent change to the habitat types in the project area. Mobile species that may utilize these portions of Cedar Bayou and Goose Lake would be able to avoid the areas during construction activities. In addition, impacts to water quality from construction would be minimized and avoided where possible through the use of approved best management practices. Due to the nature and location of the proposed project, EFH would not be adversely impacted.

Coordination with the NMFS regarding proposed westbound bridges at Cedar Bayou and Goose Lake was completed in 2006 and 2008, respectively. NMFS concurred with the conclusions in the EFH assessment provided by TxDOT that the proposed projects would have minimal impact on EFH, and no further consultation with NMFS is required for the westbound Goose Lake bridge that is currently being constructed (*Appendix D*). TxDOT has re-evaluated the current proposed project, and determined that no adverse effects to EFH would result from the proposed westbound bridge at Cedar Bayou and the proposed bridge replacement/widening at Goose Lake. TxDOT is coordinating with NMFS regarding this assessment.

4.12 VEGETATION

Impacts to vegetation were discussed in the 1997 FEIS. There have been minor changes to the vegetation resources in the project area. Revisions to the preliminary schematic roadway design since the FEIS have slightly reduced the amount of proposed ROW acreage that would need to be acquired, thereby decreasing the acreage of wooded areas within the proposed ROW from approximately 24 acres to approximately 22.3 acres. Vegetation removal activities, including the removal of mature trees, were noted in spring 2010 on a wooded tract of land located east of Tri Cities Beach Road and south of the existing SH 99 ROW. The proposed ROW for this portion of Segment I-2 would acquire approximately 2.4 acres of this tract. Because there have been only minor changes in vegetative cover since the FEIS, the assessment of impacts to vegetation resources remains valid.

Invasive Species and Beneficial Landscape Practices

In accordance with EO 13112 on invasive species and the Executive Memorandum on beneficial landscaping, landscaping would be limited to seeding and replanting the ROW with native species of plants where possible. A mix of native grasses and native forbs would be used to re-vegetate the ROW per TxDOT Standard Specifications. Any landscaping that may be included with the proposed project would be in compliance with the EO and the guidelines for environmentally and economically beneficial landscape practices.

4.13 FARMLAND PROTECTION POLICY ACT

Coordination with the United States Department of Agriculture Soil Conservation Service (now known as the Natural Resources Conservation Service [NRCS]) was concluded May 30, 1991. Soil types along the proposed project are in Capability Classes that the NRCS considered potentially subject to the Farmland Protection Policy Act (FPPA). A Farmland Conversion Impact Rating form (Form AD-1006) was completed. The total Site Assessment Criteria points did not exceed 60; therefore, coordination with the NRCS was not required. Because it has been nearly 20 years since

coordination occurred with the NRCS, a NRCS CPA-106 form *Farmland Conversion Impact Rating For Corridor Type Projects* was completed (Appendix E). The project scored less than 60 on the impact rating form; therefore, no further coordination with the NRCS is required. The original determination in the FEIS for the FPPA remains valid.

4.14 CONSTRUCTION

Traffic control during project construction would be in accordance with Part VI (Traffic Controls for Street and Highway Construction and Maintenance Operations) of the *Texas Manual on Uniform Traffic Control Devices*. During construction, travel lanes in each direction would be maintained. However, short-term lane closures may occur during off-peak hours. Access to adjacent property would be maintained during construction. Street intersections would be constructed in phases to maintain through traffic.

There may be some short-term noise impacts resulting from construction of the project. It is possible that areas adjacent to the project ROW would experience above-normal noise levels during road construction. To minimize 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. Due to the relatively short-term exposure periods imposed on any one receiver, extended disruption of normal activities is not considered likely. Reasonable effort would be made to minimize construction noise.

There may be short-term, localized effects to air quality (e.g., increase in dust) in the immediate area adjacent to the project during construction, which may temporarily degrade air quality through dust and exhaust gases associated with construction equipment. Measures to control dust would be considered and incorporated into the final project design and construction specifications.

The proposed project includes the demolition of a bridge structure. The structure may contain asbestos-containing materials. Asbestos inspections, specifications, notification, abatement, and disposal, as applicable, would be conducted in compliance with federal and state regulations.

TxDOT would require its contractors to take appropriate measures to prevent, minimize, and control accidental spills that may occur during roadway construction. All construction equipment and materials would be removed as soon as the schedule permits.

4.15 INDIRECT IMPACTS

The CEQ defines indirect effects as "...effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.8). There are three general categories of indirect effects: encroachment-alteration effects, access-alteration effects (or project-influenced effects); and effects related to project-influenced development.

The 1997 FEIS addressed the indirect impacts associated with the proposed construction of a four-lane at-grade arterial and the impacts of preserving a 300 to 400-foot corridor (ROW width) for future transportation needs sufficient to accommodate a six-lane facility. The 2007 Re-evaluation

included an analysis of potential indirect impacts of Segment I-2, including documentation of changes in land use and economic activity in the study area since the FEIS. The analysis performed for the 2007 Re-evaluation was in accordance with the requirements and processes outlined in applicable regulations and guidance.

This indirect impact analysis supplements the analyses included in the 1997 FEIS and the 2007 Re-evaluation. In addition to addressing changes in the study area since 2007 and changes to the proposed project, the indirect impact analysis follows the 7-step analysis process suggested in TxDOT's "Guidance on Preparing Indirect and Cumulative Impact Analyses, June 2009."

Since the time of the last environmental documentation for this project, the proposed ROW has been reduced by approximately 4 acres. This section reviews and reassesses the indirect effects analyses of the 1997 FEIS and addresses subsequent design and operational changes to the project.

4.15.1 Step 1 - Scoping

A geographic study area for the proposed Segment I-2 project was developed for the FEIS. The boundary extended from two to eight miles from the project alignment, and includes 106 square miles. This study area was utilized as a geographic area of analysis for development of alternative alignments and the assessment of indirect and cumulative impacts of the proposed project. This same study area will be used as the Area of Influence (AOI) for the assessment of indirect impacts for this Re-evaluation. The AOI is shown on *Appendix A, Figure 6*, and is appropriate for use in this Re-evaluation for the following reasons:

1. The 1997 FEIS and the recent 2007 Re-evaluation utilized this study area for indirect impact analyses. The documents were approved by TxDOT and FHWV, indicating agreement that this boundary was reasonable and the analysis was consistent with CEQ regulations. In addition, agencies, the public, and other stakeholders participated in the study scoping meeting, public hearing, and had the opportunity to review and comment on both the DEIS and FEIS. No change was made to the study area.
2. The AOI boundary extends from two to eight miles from the project alignment, and includes 106 square miles. The boundary encompasses all or portions of Beach City, Baytown, Mont Belvieu, and Cove areas with existing development. Undeveloped areas are also within the AOI; most of the undeveloped area is east of Cedar Bayou and within the extraterritorial jurisdiction (ETJ) of the City of Baytown. Approximately 40 percent of the AOI boundary is along the shorelines of Galveston Bay, Tabbs Bay, and other water bodies, and the eastern boundary is close to other water bodies that are constraints to development – Cotton Lake, H&P cooling pond, and Lost River. The large AOI encompasses areas that would have the potential to develop or redevelop as a result of the proposed project.
3. Because Segment I-2 is a limited-access roadway where it was constructed on new location from Fisher Road to IH 10(E), it does not provide an opportunity for adjacent properties to have direct access to the roadway in those areas, which is one factor that can influence where development occurs. *Appendix A, Figure 7* shows the areas of developed land in the AOI in 1978, 1995, and 2008. An evaluation of changes in land use since the FEIS shows that some new development and redevelopment has occurred in the AOI since 1995, including some near SH 99. In the past 7 years, retailers, including Wal-Mart and Home Depot, have located distribution centers in western Chambers County, in part due to access to the SH 99.

IH 10(E), rail and barge service, and the Port of Houston's Barbour's Cut Container Port. The analysis of land development trends does not indicate that the proposed project has had a substantial influence on land development in the AOI, or that the AOI should be expanded for this Re-evaluation.

The use of the FEIS "study area" as the AOI for this Re-evaluation is based on the approval of the indirect impact analyses in previous environmental documents for the proposed project; a review of current land use in, and development constraints associated with, the 106-acre AOI; and a review of land use trends in the AOI. Indirect impacts will be analyzed for the time period from construction of the proposed project to 2035, the horizon year of the 2035 RTP.

4.15.2 Step 2 - Identify the Study Area's Goals and Trends

Most of the land within the AOI is in the City of Baytown and its ETJ. A portion of the AOI north of IH 10 is in Mont Belvieu. The population of Mont Belvieu was 2,637 in 2009, an increase of approximately 300 persons since 2000 (Long-Term Community Recovery Plan, April 2009; 2000 Census data). The City of Mont Belvieu has not published a comprehensive plan for development in the city, but has a list of proposed capital projects including transportation and landscape improvements on Eagle Drive, the road on which city buildings, public schools, and other attractions are located; a third city water tower and well; and a new city park.

Baytown's City and ETJ boundaries are shown on figures in *Appendix F*. The City of Baytown has grown from a population of nearly 23,000 in 1950 to 66,430 in 2000. The population is expected to increase to 90,500 by 2025 (City of Baytown 2025 Comprehensive Plan). The City made its first venture into land use regulation with the adoption of zoning in 1995. The City of Baytown adopted the "Baytown 2025 Comprehensive Plan" in May 2007. The comprehensive plan is an official public document that is a general guide for how Baytown plans to grow and operate. The City expects the plan to serve as a general "blueprint" for future development (and redevelopment) in and around Baytown with an emphasis on improving the community's desirability as a place to live, work, play, and shop; document the character of the community, as well as anticipated issues, trends, opportunities, and challenges facing the City; provide a common vision supported by a series of goals and objectives for the next 20 years (from 2005 to 2025); define policies to guide daily decision-making regarding Baytown's physical and economic growth; and establish a core set of strategies for aggressive implementation that emphasizes action and results.

The plan addresses a geographic area that encompasses most of the AOI. The plan includes these elements: Growth Capacity, Mobility, Land Use, Economic Opportunity, and Quality of Life. The goals for each of these elements are stated in the plan and listed below.

Growth Capacity

- Adequate supply, distribution, collection, and treatment systems to provide superior service to existing customers while also accommodating projected future growth
- Existing and projected flooding risks are eliminated or mitigated

Mobility

- A transportation network that is consistent with the Future Land Use Plan, accommodates existing and projected growth, and meets the diverse mobility needs of Baytown residents
- A well maintained, safe, and efficient mobility system
- A transportation network that provides optimum connectivity between existing, upcoming, and potential destinations

Land Use

- Development patterns resulting in the efficient use of land, infrastructure, and fiscal resources
- A community of diverse uses coexisting in a compatible manner with stable neighborhoods, viable commercial centers, and a healthy industrial economy
- Dynamic neighborhoods that offer residents a variety of housing options, and are well connected to other neighborhoods, commercial uses, employment centers, and community facilities
- Sensitive environmental areas are protected for the health and safety of the community
- The expansion of Baytown's city limits occurs in an orderly manner that promotes quality growth, economic development, and fiscal responsibility

Economic Opportunity

- Sites and infrastructure meet the needs of target industries and a growing population
- The City offers a place for residents to live, play, and work; it is a more appealing place to live for young professionals and individuals employed by target industry companies

Quality of Life

- A system of well-maintained parks, open spaces, trails, recreation areas, and public facilities to accommodate the needs of Baytown's current and future residents
- An interconnected network of greenways that are multipurpose, accessible, and convenient, which provides pedestrian and bicycle connections among neighborhoods, parks, schools, workplaces, and community focal points
- Library facilities and programs that continue to be community assets
- An enhanced community image that reflects Baytown's unique historical, cultural, and natural assets and promotes the community as a desirable place to live, work, and visit

The City of Baytown will use the plan to identify appropriate areas for development based on land use compatibility, infrastructure availability and environmental constraints, and to direct residential and nonresidential growth in appropriate areas. City planners believe that uncontrolled growth in

Baytown's ETJ can detract from many of the plan's goals. The City plans to annex areas in the ETJ to have greater control over the type, location, intensity, and quality of development.

The 2025 Comprehensive Plan includes a future land use map, which identifies areas where future development is likely to occur. This existing land use (Year 2006) and future land use maps are included in *Appendix F* of this Re-evaluation. It is expected that new industrial development would occur in existing rural areas along FM 1405, both north and south of SH 99. Commercial and residential uses would increase on both sides of SH 99, south of IH 10. Commercial/high-density residential uses would increase along Garth Road north and south of IH 10, and along the undeveloped areas adjacent to IH 10 between Garth Road and SH 146. The City recognizes that development activity is largely determined by market factors and the individual decisions of property owners and developers. In some cases, the City may offer incentives to encourage the type of development outlined in the Comprehensive Plan (i.e., redevelopment of difficult sites).

The H-GAC's RTP defines transportation systems and services in the area containing the boundaries of the AOL. The RTP addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives and selecting those options which best meet the mobility needs of the region. The proposed facility is included in the plan.

4.15.3 Step 3 - Inventory the Study Area's Notable Features

The AOI for the proposed project consists of developed areas and areas of flat coastal plains with scattered pasture and woodland. Approximately 40 percent of the AOI is developed, mostly within the cities of Baytown, Mont Belvieu, Beach City, and Cove. The AOI is bordered by Galveston Bay and Tabbs Bay, and is traversed from north to south by Cedar Bayou. Goose Creek is in the southwestern area of the AOI; the upstream portion has been cleared and modified in the past and is regularly maintained or is lined with concrete. The lower third of the channel is subject to tidal influences and is characterized by meandering loops through brackish to intermediate marsh. The creek drains into Goose Lake, a tidally influenced natural lake that becomes Tabbs Bay. Cedar Bayou and Goose Lake are navigable. Bayland Park is on the shore of Goose Lake and Tabbs Bay. WC Britton Park is on the shore of Goose Lake. Roseland Park is adjacent to Cedar Bayou, approximately 500 feet north of the SH 99 bridge. There are many other parks and recreational resources, such as marinas and boat ramps, in the AOI. Sensitive natural areas include bird rookeries and coastal resources.

The prevailing land uses within the study area consist of urban and rural development, with the majority of the area east of Cedar Bayou dedicated to farming, ranching, and industrial activities. Current land use in western Chambers County can be generally characterized as sparsely populated and primarily undeveloped. Land use patterns in the area are changing, however, as a large business park and a major auto raceway have been developed east of Cedar Bayou. Proposed residential and commercial development projects suggest a trend of increasing population and employment densities.

Existing land use categories in the study area include residential, industrial, commercial, public (such as schools), and parks. The landscape remains predominantly rural, reflecting the area's agricultural tradition. Industrial uses, primarily geared to the petrochemical industry, are also present, and are concentrated in the Mont Belvieu area. Single-family residential subdivisions have been developed in recent years, attracting more retail and service establishments. As mentioned in the *Western*

Chambers County Transportation Plan, 2003, a number of residential subdivisions are currently planned for western Chambers County. Single-family residential and commercial uses account for a small portion of the area adjacent to the proposed roadway. Since 2001, retailers like Wal-Mart and Home Depot have developed distribution centers in western Chambers County, in part due to access to SH 99 and IH 10, as well as rail and barge service and the Port of Houston's Barbour's Cut Container Port.

The Baytown area has been home to many influential events in Texas history. The first offshore drilling operation in Texas was in the area, which led to the construction of a refinery by the Humble Oil and Refinery Company (now ExxonMobil). The refinery caused the development of the town with the company supplying housing, roads, and utilities. The history of the Baytown area is documented at the Baytown Historical Museum and in the historical monuments and markers throughout the area such as the Republic of Texas Plaza, Bicentennial Park, the Wooster School, and Brown-McKay House.

4.15.4 Step 4 - Identify Impact-Causing Activities of Proposed Action and Alternatives

The proposed project would include the construction of Segment I-2 from SH 146 to FM 1405 as a 4-lane tollway with two 2-lane frontage roads and interchanges, overpasses at some interchanges, construction of an overpass at Fisher Road, and installation of two additional toll gantries along the existing SH 99 roadway section between FM 1405 and Fisher Road. The proposed project includes construction of eight bridges, including bridges across Cedar Bayou and Goose Lake. The acquisition of approximately 46 acres of ROW would be required between SH 146 and FM 1405. The portion of Segment I-2 from FM 1405 to IH 10(E) improved access to a predominantly rural area. The portion of the project addressed in this Re-evaluation is along an existing roadway corridor, from SH 146 to FM 1405 and on SH 99 at Fisher Road.

Most of the proposed construction would be within existing, previously disturbed roadway ROW. In areas of new ROW, vegetation would be removed, and areas that are not occupied by roadway pavement would be revegetated. Additional pavement within the existing ROW would require land clearing, and in some locations, there would be excavation or fill to meet design elevations. BMPs would be in place during construction to control soil erosion, and exposed soils would be revegetated when construction is complete.

Bridge replacement and widening at Goose Lake and new bridge construction at Cedar Bayou would disturb ground vegetation within a portion of the project ROW. All of the land that would be disturbed is within existing ROW. BMPs would be in place to control soil erosion, and the area would be revegetated when construction is complete. Construction of in-water bridge pilings would disturb areas under water. No permanent habitat alteration is anticipated. The natural flow and intertidal nature of the water bodies would be maintained during construction.

4.15.5 Step 5 - Identify Potentially Substantial Indirect Effects for Analysis

The analysis performed for the 1997 FEIS did not identify any potential substantial indirect effects of the proposed project from SH 225 to IH 10(E). The project section from FM 1405 to IH 10(E) is constructed and has been open to traffic since March 25, 2008. An updated review of potentially substantial indirect effects of the project was performed for this Re-evaluation. The resources considered are listed in *Table 4.7*.

Encroachment-alteration effects

Ecological effects: Construction of Segment I-2 from FM 1405 to IH 10(E) primarily affected existing or recently farmed land that was partly overgrown by Chinese tallow. Drainage improvements affected agricultural and irrigation drainage ditches that provided little habitat for wildlife. The proposed project between SH 146 and FM 1405, and the Fisher Road overpass, are in existing roadway corridors that traverse urban areas and agricultural land. Proposed ROW to be acquired would impact some wooded areas adjacent to the existing ROW, and the FEIS determined that no substantial indirect effects to habitat would be expected. Proposed bridges at Goose Lake and Cedar Bayou would span open waters within the limits of the identified existing roadway ROW. No habitat fragmentation, degradation of habitat, disruption of natural processes, pollution effects on species, or disruption of ecosystem functioning would be expected as a result of construction and operation of the proposed project. Use of BMPs during and after construction would minimize impacts to the water quality of Goose Lake and Cedar Bayou, and would not substantially alter the ecology of these water bodies.

Socioeconomic effects: The 1997 FEIS documented that the proposed project is consistent with land use planning in the AOI. Construction of the first section of the project from FM 1405 to IH 10(E) provides increased access and mobility in the AOI, as a new location roadway. The roadway is a limited-access roadway and has not caused substantial indirect effects to neighborhoods, public facilities, or other socioeconomic resources in the area. Baytown's 2025 Comprehensive Plan states that completion of projects in the thoroughfare plan, including Segment I-2, are important to maintain desirable levels of service on area roadways for expected population and economic growth. The FEIS documented that Segment I-2 is expected to enhance economic growth in the area by improving access and mobility; the current proposed project from SH 146 to FM 1405 would improve mobility.

No substantial encroachment-alteration effects would be anticipated as a result of the proposed project and, therefore, no additional study of these potential effects is included in this Re-evaluation.

Induced growth effects The FEIS documented that while land use changes in the AOI are primarily influenced by the local economy and population growth, Segment I-2 would cause a small amount of induced development. Land use planning and development trends since the FEIS was completed support this analysis. The portion of Segment I-2 that has been constructed has limited-access, and the proposed section from SH 146 to FM 1405 is along existing roadways. Neither of these sections would be expected to substantially influence growth in the AOI, although Segment I-2 may support business and residential growth. The 2007 Re-evaluation had the same conclusion. Induced growth effects do not appear to have the potential to be substantial, but will be discussed further because of design changes and proposed tolling from SH 146 to Fisher Road. The AOI is part of the EPA designated 8-county nonattainment area for ozone.

Effects related to induced growth Potential effects related to induced growth will be evaluated as an update to the previous environmental documents and to address project design and operational changes.

4.15.6 Step 6 - Analyze Indirect Effects and Evaluate Results

The construction of SH 99 from FM 1405 to IH 10(E) provides improved mobility within the study area, which would appeal to potential residents and developers. Access and mobility are factors in development decisions. The induced development effects of Segment I-2 are not quantified; therefore, the effects related to induced development are not quantified in the subsections below.

Segment I-2 is a limited-access roadway between FM 1405 and IH 10(E). Because the proposed project would have some indirect effects to land use, some indirect effects on agricultural land and prime farmland soils would be expected, primarily near areas where Segment I-2 crosses existing roadways. As part of the FEIS, the proposed Segment I-2 was scored using the NRCS AD 1006 form and the resulting score totaled less than 60 points; therefore, no coordination with NRCS was required. A current NRCS-CPA-106 form was completed as part of this Re-evaluation (*Appendix E*). The resulting score again totaled less than 60 points, indicating that coordination with the NRCS is not required.

If new commercial or residential facilities are built as a result of induced land use changes, emergency responders (i.e., police, fire departments, and ambulance services) would have additional responsibility of covering incidents at these facilities.

In the FEIS, the closest residential neighborhoods to Segment I-2 were identified as West Chambers County Estates and Southeastern Baytown. Although most of the project area adjacent to the Segment I-2 corridor is undeveloped land, some new low-density residential areas have developed along FM 2354, east of Segment I-2.

The proposed SH 99, Segment I-2 would follow an alignment that uses existing lanes and the Fred Hartman Memorial Bridge between the SH 225/SH 146 intersection and Missouri Street. From Missouri Street, Segment I-2 would improve BS 146, SH 99, and part of Fisher Road as a controlled access facility. Segment I-2 from Fisher Road to IH 10(E) is a newly constructed roadway. The proposed tolling of the portion of Segment I-2 from IH 10(E) to Fisher Road would not be expected to impact the traveling public, including low-income and minority persons/populations, due to the availability of existing non-tolled roadways within the study area. Nearby non-tolled options, including SH 146, FM 565, FM 2354, and FM 3180, provide access to IH 10(E) and the surrounding community. The traveling public, including minority and/or low-income persons, may choose to utilize the non-tolled roadways in the vicinity specifically for cost-saving measures. The non-tolled existing roadways would be used by motorists who do not want to use, or cannot afford to use, the proposed tolled facility. The use of alternative roads may result in a difference in travel time due to lower posted speed limits and signalization compared with travel time on the tolled facility.

Induced development would cause increased stormwater runoff during and after construction. It is expected that potential impacts would be avoided or mitigated through compliance with state and local regulation and, therefore, the indirect impact to water quality would be minor.

Development within floodplains would be in accordance with the National Flood Insurance Program and local regulations, and the proposed project would not indirectly impact the 100-year floodplain. No indirect impacts to floodplains would be anticipated from construction of Segment I-2.

Induced development could impact wetlands and vegetation. If wetlands were impacted by other developments, it is expected that mitigation would offset the impacts in accordance with permitting requirements. Vegetation would be permanently removed, except in areas that may be revegetated.

Because the proposed project would have some indirect effects to land use, some indirect effects to cultural resources could occur. Developers may not be required to consider impacts to known or unidentified historic and archeological resources prior to developing property. Because induced growth effects would not be substantial, it is not expected that indirect effects to cultural resources would be substantial. No impacts to the notable historic/cultural resources described in *Section 4.15.3* would be anticipated.

Induced development could result in use of hazardous materials during activities such as land clearing and building construction. Hazardous materials can indirectly affect soil, water, groundwater, and humans if exposed by road construction activities. If needed, contractors would need to conduct remedial action prior to or during construction, and use of appropriate management measures would limit the potential for adverse impacts to soil, water, groundwater, air, and from human exposure. During construction, appropriate measures would be taken to prevent, or minimize and control hazardous materials spills in construction assembly areas. Removal and proper disposal of all materials by contractors would comply with applicable state and federal requirements, and hazardous materials use during construction activities would not be expected to adversely impact soil, water, groundwater, air, or humans.

Induced development may lead to activities or business development that could contribute to increased hazardous air pollutants/VOCs that are precursors to ozone. However, all area sources must meet federal regulations and SIP standards. Construction of residential and commercial facilities due to induced development may contribute to dust and diesel exhaust; however, these effects would be temporary. Therefore, air quality impacts would be minor.

4.15.7 Step 7 - Assess Consequences and Consider/Develop Mitigation

Indirect effects to land use may include the development of residential and commercial areas. However, because large amounts of undeveloped land are present in the AOF to accommodate future growth, a substantial adverse impact to existing neighborhoods, community facilities, or public resources would not be expected.

Land use changes may result in the unavoidable, permanent conversion of areas currently in farmland or agricultural uses to urban uses. Conversion to residential, commercial, or industrial developments would represent a loss of agricultural land, but would serve to meet the housing and employment demands of the region.

Development of areas in the AOF located within mapped floodplains is likely to occur. Adherence to state and local floodplain regulations would not cause adverse impacts to floodplains and would reduce flood risks to structures or facilities constructed within the floodplain.

Development is also likely to occur in areas where aquatic resources are present. Impacts to jurisdictional and possibly non-jurisdictional wetlands and other waters of the United States would be mitigated in accordance with applicable regulations and permit requirements. Vegetation resources would be expected to be impacted by development activities. Natural vegetation would likely be removed and replaced in developed areas with ornamental plantings that are routinely maintained.

Potential adverse impacts to water quality from construction or routine operation/maintenance activities in developed areas can be mitigated through the implementation of BMPs and compliance with applicable regulations. Likewise, potential impacts from hazardous materials can be minimized through the implementation of appropriate measures and compliance with applicable regulations and guidelines related to the transportation, use, and storage of hazardous materials. No indirect impacts are expected to be substantially adverse, and no mitigation is proposed by TxDOT.

Regional Indirect Effects of Toll Facilities

The freeway and toll road system is a major component of the Houston-Galveston regional roadway network. Currently, the freeway/toll road system represents nearly 19 percent of regional lane miles and carries more than 48 percent of vehicle miles traveled. The 2009 regional roadway network consists of nearly 24,571 total lane miles. This includes nearly 658 tolled lane miles and 289 managed lane miles (Table 4-5). By 2035, these numbers are expected to increase to 32,855 lane miles of which 2,049 are tolled lane miles and 853 are managed lane miles. Exhibit 2 shows the tolled and managed lane improvements to the regional roadway network by year 2035.

Table 4-5. Regional Roadway Network (lane miles)

Network	Freeway	Toll Roads	Managed Lanes	Arterial	Total Lane Miles
2009 Network	3,669	658	289	19,955	24,571
2035 Network	4,339	2,049	853	25,614	32,855

Source: H GAC 2009.

In addition, the transit system has 485,000 daily passenger boardings and is expected to increase to nearly 725,000 by 2035. This increase will be attributed to:

- Expansion of transit services (increased bus and rail transit services)
- New transit modes (commuter rail transit and signature express bus service)
- Transit connectivity to multiple employment centers
- Coordination of transit services among regional public transportation providers

METRO's 2035 Long Range Plan recommends significant expansion of the current transit system and includes a network of integrated high capacity transit facilities on major travel corridors. This plan also identifies service expansions beyond the Metropolitan Transit Authority's (METRO) service area. New improvements scheduled for implementation through the year 2035 include high occupancy tolls, a new intermodal terminal, park-n-ride facilities, and several new high-capacity transit corridors throughout the region. Additional key elements of the plan include:

- 89 miles of fixed guideway transit – Light Rail Transit (LRT)
- 84 miles of Commuter Rail Transit (CRT)
- 40 miles of Signature Bus service

Exhibit 3 shows the future corridor and capital facilities projects in the 2035 METRO Long Range Plan.

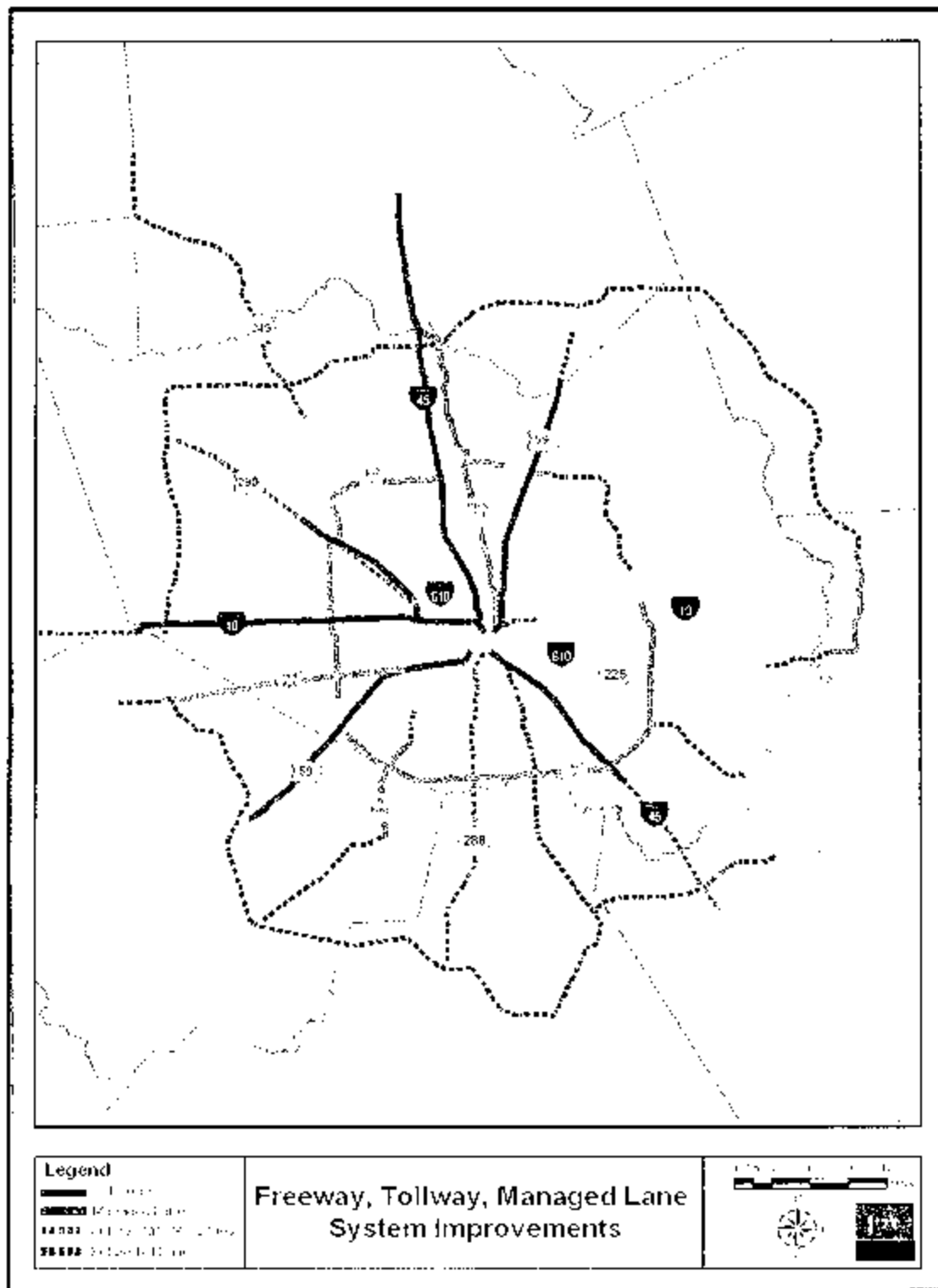


Exhibit 2. Proposed 2035 Regional Roadway Network

Source: H-GAC 2009

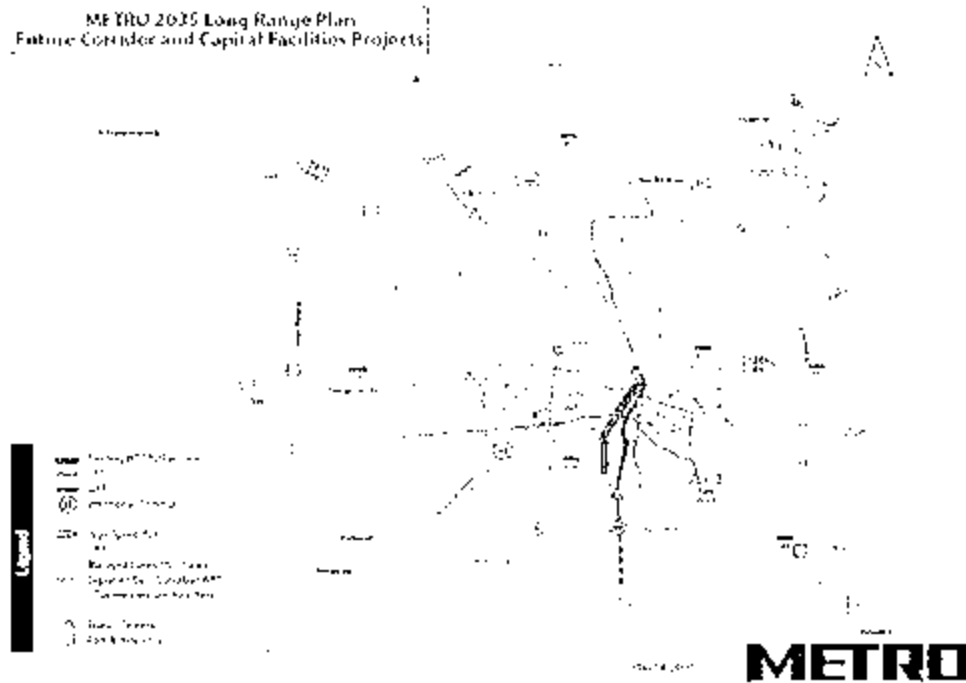


Exhibit 3. 2035 Future Corridor and Capital Facilities Projects

Source: Metro 2007.

Indirect Toll Impacts Conclusion

The expanding regional roadway network, including tolled facilities and managed lanes, along with the expanding transit network could have indirect and cumulative impacts. However, the impacts are not isolated to one location and would be better considered at the regional level. As a result, the consideration of the regional tolled roadway network is included in the cumulative impacts portion of this document.

4.16 CUMULATIVE EFFECTS ANALYSIS

This section presents the cumulative effects analysis conducted for this Re-evaluation. This section includes an introduction to the background and project-specific requirements for the cumulative effects evaluation followed by a description of the methodology utilized to perform the analysis. Subsequent subsections provide the resource-specific cumulative effects evaluations, followed by a summary of the results of the analysis.

4.16.1 Introduction

The CEQ regulations define cumulative effects as:

“...the impact on the environment which results from the incremental impact of the action (project) when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

Cumulative effects (impacts) include both direct and indirect, or induced, effects that would result from the project, as well as the effects from other projects (past, present, and reasonably foreseeable future actions) not related to or caused by the proposed action. The cumulative effects analysis considers the magnitude of the cumulative effect on the resource health. Health refers to the general overall condition, stability, or vitality of the resource and the trend of that condition. Laws, regulations, policies, or other factors that may change or sustain the resource trend were considered to determine if more or less stress on the resource is likely in the foreseeable future.

Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. Cumulative effects of the proposed project would be the incremental effects that the project's direct or indirect effects have on that resource in the context of other past, present, and reasonably foreseeable future effects on that resource from unrelated activities.

4.16.2 Methodology for Cumulative Impact Analysis

An eight-step process was followed to assess cumulative impacts, based on TxDOT's *Guidance on Preparing Indirect and Cumulative Impact Analyses*. The steps are listed in *Table 4-6*.

Table 4-6. Steps for Identifying and Assessing Cumulative Impacts

1	Identify the resources to consider in the analysis
2	Define the study area for each resource
3	Describe the current status/viability and historical context for each resource
4	Identify direct and indirect impacts that might contribute to a cumulative impact
5	Identify other reasonably foreseeable future effects
6	Identify and assess cumulative impacts
7	Report the results
8	Assess the need for mitigation

Source: TxDOT 2010

The eight steps used in this cumulative effects analysis are described below.

Step 1: Identify the Resources to Consider in the Analysis

The first step in performing the cumulative impact analysis was to identify which resources to consider in the analysis. The cumulative impact analysis should focus only on (1) those resources substantially impacted (directly or indirectly) by the proposed project; and (2) resources currently in poor or declining health or at risk, even if project impacts are relatively small (less than significant).

Construction of the proposed project would not be expected to have substantial direct or indirect impacts to any resources evaluated. *Table 4-7* summarizes direct and indirect impacts of the proposed project, presents a determination of which resources would be carried forward and evaluated in the cumulative effects analysis, and identifies the resources and effects categories that were eliminated from the cumulative effects evaluation.

Step 2: Define the Study Area for Each Resource

The cumulative effects analysis considered both geographic and temporal study limits, where applicable. A Resource Study Area (RSA) was defined for each resource and is discussed in the subsection for each resource. The RSAs are used for characterization of the resource status/viability and historical context for each resource, and to determine the potential cumulative effects on a resource when quantitative information was not available. Cumulative effects were determined considering the potential cumulative effect on the health and trend of the resource within the RSA.

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

The current status/viability and historical context of each resource is described and presented in each resource subsection. This information is important to establish the baseline condition and trend the resource is experiencing, and to be able to estimate the magnitude of effects to the resource. The historical context is described to provide an explanation of the factors that have caused the current health, condition, or status of the resource. As previously mentioned, health refers to the general overall condition, stability, or vitality of the resource and the trend of that condition. Past actions represent the projects or activities in the area that have collectively caused the current status, health, vitality, and trend of the resources summarized in each resource section. Where possible, a quantitative assessment of the current health condition and the trend it is experiencing was provided; however, for many resources, quantitative data were not available to document the current health or trend of the resource. For these resources, a qualitative discussion of the resource health and trend is presented, and the types of actions that have caused or influenced resource health and trends are discussed.

Step 4: Identify Direct and/or Indirect Impacts that Might Contribute to a Cumulative Impact

In this step, the direct and indirect effects are identified that could result from the proposed project that may contribute to a cumulative effect when added to non-project related effects. Direct and indirect impacts are defined by CEQ regulations (40 CFR 1508.8) as follows: "Direct impacts are caused by the action and occur at the same time and place", "Indirect (secondary) impacts are caused by the action and are later in time and farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate and related effects on air and water and other natural systems, including ecosystems." A summary of the direct and indirect effects is presented for each resource.

Step 5: Identify Other Reasonably Foreseeable Future Effects

A cumulative and indirect effects analysis requires consideration of past and present actions, and reasonably foreseeable future actions. The approach used for this cumulative effects analysis included an assessment of past, present, and future actions with the purpose of characterizing the types of actions that are representative of past, present, and future development and activities in the RSA. This provides a context for the types of development projects that have caused the current status/viability of the land and other resources, and the trends the resources are experiencing. It also provides insight as to the effect of development on future resource stress and future trends.

Step 6: Identify and Assess Cumulative Impacts

Quantitative assessment of the cumulative effects on resource health and trends in the RSA was the goal of the cumulative effects analysis. However, where incomplete or unavailable information precluded a quantitative assessment of all resources, a qualitative assessment of the cumulative effect on each resource was performed. The cumulative effects analysis considered the direct and indirect effects of the project, together with the effects of past, present, and reasonably foreseeable future projects. The magnitude of the cumulative effect was determined by comparing the effect to the health and trend of the affected resource.

Step 7: Report the Results

The results of the cumulative effects analysis are reported herein. Direct effects are summarized under each resource and indirect effects were reported in the *Indirect Impacts* section above. Both are summarized below as they are included in the cumulative effects analysis. The assumptions and analysis methods used are described in each resource section. Direct effects are from *Sections 4.1 to 4.14*, and indirect effects were reported in *Section 4.15*.

Step 8: Assess the Need for Mitigation

Opportunities for mitigation of adverse effects are discussed for each resource. These are not meant to be mitigation measures that TxDOT would, or has the authority to, implement. Rather, they are intended to disclose steps or actions that could be undertaken by local, state, and federal agencies and organizations to minimize the potential cumulative effect on each resource health and trend.

Table 4-7. Determination of Resources/Issues Considered in Cumulative Effects Analysis

Current Health of Resource	Direct Impacts	Indirect Impacts	Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation
<p>Land Use</p> <p>The available land uses within the study area consist of urban and rural development with the majority of the area east of Cedar Bayou dedicated to farming, ranching, or industrial activities.</p>	<p>Segment 1-2 required approximately 586 acres of ROW (per FEIS), of which 64 percent was existing roadway ROW, farmed fields, or pastures, and 36 percent was wooded. Acquisition of most of the project ROW is complete, and the initial project section is constructed from FM 1465 to IH 10(E). West of FM 1465, approximately 46 acres of ROW would be acquired, of which approximately 22 acres is wooded, and the rest is pasture or disturbed land adjacent to the existing ROW.</p>	<p>Some induced development would be expected, primarily near areas where Segment 1-2 crosses existing roadways.</p>	<p>Yes</p>
<p>Farmland</p> <p>Farmlands in Texas are increasingly being developed, with 2.3 million acres of rural land in Texas converted to developed use in a five-year period between 1992 and 1997.</p>	<p>Some areas that appear to be used for agricultural purposes (e.g., livestock pasture) are located within the proposed ROW and would be impacted by the proposed project. The impact would be minor compared to the acreage in the region used for agricultural purposes. There are 19 acres of land in the proposed ROW designated as prime farmland soils that would be impacted by the proposed project.</p>	<p>Within the AOI, there are approximately 24,300 acres of land with prime farmland soils. Some areas currently in agricultural use or underlain by prime farmland soils would likely be impacted by induced development and changes in land use in the study area. The analysis of potential land use impacts indicates that Segment 1-2 would not be expected to substantially influence growth in the AOI. Therefore, indirect impacts to farmlands and prime farmland soils are not expected to be substantial.</p>	<p>No</p>

Table 4-7 *cont.*

Communities/Quality of Life		Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation	
(The communities/quality of life resource-issue encompasses human environment effects. The issues listed below were evaluated.)			
Current Health of Resource	Direct Impacts	Indirect Impacts	
Displacements and Relocations	The FEIS documented that no residential or business displacements would be required, and this Re-evaluation indicates this is still valid. Parking areas may be reduced at several businesses. Land is available in the area to accommodate displacements.	Induced development could cause displacements and relocations, though undeveloped land exists. Most land planned for development is currently vacant and/or used for agriculture pasture.	No
Community and Public Resources	Segment 1-2 would not displace community or public resources or bisect any neighborhoods. Local emergency responders should have improved transit times.	If new commercial or residential facilities are built as a result of induced land use changes, emergency responders (i.e., police, fire departments, and ambulance services) would have additional responsibility of covering incidents at these facilities.	No
Environmental Justice, Population, and Demographics	There would be no direct impacts to low-income or minority persons. The project-level impacts of tolling on low-income individuals would be that motorists who choose to use tolled lanes would pay a toll regardless of their income; the tolling of the proposed improvements may constitute a greater burden on lower-income motorists. However, there would be access to free travel between SH 146 and Fisher Road using the roadway (on-ramp roads and main lanes of the Goose Lake and Cedar Bayou bridges. Overall, improved mobility in the vicinity of the project area would benefit all roadway users.	No indirect impact to population and demographics would be expected as a result of the proposed project. Expected improved mobility would benefit the entire traveling public, including low-income and minority persons.	No

Table 4-7 *cont.*

Economic Resources		Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation	
Current Health of Resource	Direct Impacts	Indirect Impacts	
	Roadway construction activities would create new job opportunities and income potential in the area in the short term. Direct impacts include those arising from purchases made by the new construction sector	No adverse impact on adjacent property values or the local tax base is anticipated. Indirect economic benefits of the proposed project are estimated to be 1,371 jobs and \$57 million in additional income during project construction. Indirect economic benefits would also be associated with induced development within the study area.	No
Noise	Traffic noise levels at two residential receivers would approach, equal, or exceed the Noise Abatement Criteria level in the predicted year. However, mitigation was not considered feasible because noise would not be reduced by a minimum of 5 dBA.	Induced development could cause changes in noise levels. Construction noise would be temporary. If undeveloped areas become urbanized, typical urban noise sources would be present.	No
Visual and Aesthetic Qualities	The project area from SH 146 to the BS 146 SH 99 intersection is mostly developed, with a variety of urban land uses along the roadway. East of that intersection, the project area is rural, characterized by agricultural land uses and some developed residential/business/industrial uses in the vicinity of SH 99.	SH 99 has introduced a new visual element in the immediate area where it is already constructed. West of FM 1405, the proposed project would be located in an existing roadway corridor, so the visual impacts would be less than for a new roadway. Proposed overpasses at some intersecting streets would be at higher elevations than existing, but are mostly in developed, urban areas and would be a minor visual change in the existing roadway corridor.	No

Table 4-7. *cont.*

Current Health of Resource	Direct Impacts	Indirect Impacts	Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation
Air Quality			
<p>Ozone and Carbon Monoxide</p> <p>The proposed project is located within Harris and Chambers Counties, which are in the HGB area that is currently classified as a "severe" nonattainment area for the 8-hour ozone standard. The attainment date is June 15, 2019.</p>	<p>Except for the proposed overpass at Fisher Road, the proposed project is consistent with the area's financially constrained 2035 RTP Update and 2017-2014 TIP proposed by JI-GAC and approved by FHWA on January 25, 2011 as conforming to the SIP. The Fisher Road overpass should be added to the RTP TIP with an amendment in summer of 2011. Through transportation conformity, transportation projects proposed for implementation within the HGB nonattainment area are required to demonstrate consistency with the area's SIP for attaining the ozone standard.</p>	<p>The AOI is part of the EPA designated nonattainment for ozone. The AOI is currently in attainment for all other NAAQS pollutants. Based on the results of Steps 1 through 4 that evaluated the possible project related actions that can indirectly impact air, it was determined that the proposed project would not be anticipated to cause major indirect air quality impacts in the AOI. No change in attainment status is anticipated within the AOI area as the result of emissions associated with the proposed project. In order for the region to achieve ozone attainment, a variety of point, non-point, and mobile source emission reduction strategies must be implemented for the entire HGB nonattainment area as outlined in the SIP.</p>	Yes
<p>According to studies conducted by JI-GAC, the regional Metropolitan Planning Organization, air quality has been improving in the Houston-Galveston area over the past 30 years and is expected to continue to improve.</p> <p>The HGB area is currently in attainment for all NAAQS, except for ozone.</p>	<p>There may be short-term, localized effects to air quality (e.g., increase in dust, diesel exhaust) during construction in the immediate area adjacent to the project</p>	<p>Indirect air quality impacts from MSATs are unquantifiable due to existing limitations to determine pollutant emissions, dispersion, and impacts to human health. Induced development may lead to activities or business development that could contribute to increased hazardous air pollutants VOCs that are precursors to ozone. MSAT emissions would likely be lower than present levels in future years as a result of the EPA's national control regulations (i.e., new light-duty and heavy-duty on road fuel and vehicle rules, the use of low sulfur diesel fuel). Even with an increase in VMT and possible temporary emission increases related to construction activities, the EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions of on road emissions, MSATs, and the ozone precursors VOC and NOx. As the proposed project is not anticipated to result in indirect air quality impacts, further discussion in Steps 6-7 is not necessary.</p>	
<p>Mobile Source Air Toxics</p> <p>According to EPA studies, MSATs are expected to be much lower in the future compared to current levels due to improvements in vehicle technology and fuel</p>			

Table 4-7. *cont.*

Current Health of Resource	Direct Impacts	Indirect Impacts	Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation
<p>Water Quality</p> <p>Water quality has been impacted in Harris and Chambers Counties primarily due to agricultural practices, oil and gas production, and the conversion of undeveloped land to an urban environment. Cedar Bayou is on the TCEQ's 2008 Texas Water Quality Inventory and 303(d) list, indicating that it does not meet water quality standards. The water quality issues are dissolved PCBs in edible tissue, and bacteria concerns.</p>	<p>During construction, exposed soil could run off into streams and increase turbidity and sediment leading downstream. Use of BMPs would minimize the impact to water quality. The presence of pavement would increase the non-permeable area, thus increasing stormwater runoff. Landscaping efforts and roadway design would minimize potential water quality effects from increased runoff. Bridges at Goose Lake and Cedar Bayou would be constructed utilizing construction methods and BMPs in accordance with regulations that protect water quality; therefore, adverse impacts to these waters would not be expected.</p>	<p>The proposed project would have minimal indirect effects on land use. Indirect effects to water quality would be minor because land developers would have to comply with local, state, and federal water quality standards for protection of water quality.</p>	<p>Yes</p>
<p>Floodplains</p> <p>Development has caused encroachment in floodplains. Development in the floodplain is typically offset with detention.</p>	<p>The project ROW includes approximately 73 acres of floodplain. The project would not raise base floodplain elevations.</p>	<p>Development within floodplains caused by induced land development would be in accordance with federal and local regulations. Stormwater detention and hydraulic features would offset any fill in the floodplain or increase in impermeable cover.</p>	<p>No</p>
<p>Wetlands Waters of the United States</p> <p>Changes in land use have impacted wetlands</p>	<p>Direct impacts would include an estimated 1.351 acres impact to potentially jurisdictional wetlands and 0.477 acre of other potentially jurisdictional waters of the United States.</p>	<p>Induced development could affect waters of the United States and wetlands. Future development would need to comply with Section 404 of the CWA for any impacts to jurisdictional waters of the United States, including wetlands.</p>	<p>Yes</p>

Table 4-7. *cont.*

Current Health of Resource	Direct Impacts	Indirect Impacts	Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation
<p>Vegetation</p> <p>Vegetation species occurring throughout the region are not anticipated to be diminished to a level by which it may become threatened or endangered</p>	<p>Direct impacts of the entire Segment I-2 project were predicted to include up to 503 acres of ROW, approximately 213 acres were wooded, and approximately 373 acres were farmed fields or pasture. Segment I-2 between Sfl 146 and Fisher Road would impact approximately 22 acres of wooded area. Vegetation removal activities were noted in spring 2010 on a wooded tract adjacent to the existing ROW, of which approximately 2.4 acres would be acquired as part of the proposed project ROW</p>	<p>It is expected that the proposed roadway improvements would have some effect on land use, and some indirect impacts to vegetative communities. Most of the vegetation in the area is agriculture, pasture, and urban.</p>	<p>Yes</p>
<p>Wildlife</p> <p>Future development may cause fragmentation and habitat loss, which affects species in the immediate vicinity. The majority of wildlife species in the area occur throughout southeast Texas and populations are not in jeopardy.</p>	<p>Loss of habitat would be minimal. The preferred alternative crosses land that is either currently being farmed or has been farmed in the past; however, some fragmentation of existing habitat would occur. Direct impact to wildlife could be mortality as a result of construction</p>	<p>It is expected that the proposed roadway improvements would have some effect on land use, and could indirectly impact wildlife habitat.</p>	<p>No</p>
<p>Wild and Scenic Rivers</p>			<p>Not Applicable</p>
<p>Coastal Barriers</p>			<p>Not Applicable</p>
<p>The study area is not within the boundaries of the Coastal Barrier Resources system</p>	<p>Construction of this portion of Segment I-2 would not impact coastal barrier resources.</p>	<p>Because the study area is not within the boundaries of the Coastal Barrier Resources system, indirect impacts resulting from induced development/land use changes in the study area would not impact coastal barrier resources.</p>	<p>No</p>

Table 4-7. *cont.*

Current Health of Resource	Direct Impacts	Indirect Impacts	Resource/Issue to be Included in Cumulative Effects Analysis in this Re-evaluation
<p>The entire project is located within the limits of the Coastal Management Zone.</p>	<p>Construction of the proposed project within the existing and proposed ROW would occur on land and water resources located within the Coastal Management Zone. However, the project is not expected to adversely impact or significantly degrade natural resources or water quality.</p>	<p>Coastal Management Zone Development occurring within the Coastal Management Zone that may be induced by the proposed project would require that the developers coordinate with the Texas General Land Office for consistency with the goals and objectives of the Texas Coastal Management Program, as applicable.</p>	<p>No</p>
<p>Tidal waters are Black Duck Bay, Goose Lake, and Cedar Bayou</p>	<p>Essential Fish Habitat In 2006, the NMFS concluded that construction of the westbound Cedar Bayou bridge would not affect EFH. In 2005, the NMFS concluded that replacement of the westbound Goose Lake bridge would not affect EFH. Coordination with NMFS regarding the currently proposed Goose Lake bridge replacement widening and westbound Cedar Bayou is ongoing.</p>	<p>No indirect impact to EFH habitat is expected as a result of the proposed project.</p>	<p>No</p>
<p>Impacts to individuals likely occur, especially plant species, threats to overall populations are not expected. Suitable habitat would continually be lost through land conversion</p>	<p>Threatened and Endangered Species No effects to federally listed species would occur. Impacts to the state-listed threatened species – alligator snapping turtle may occur. Coordination with NMFS regarding threatened endangered marine species is ongoing.</p>	<p>No indirect impacts to threatened and endangered species would be expected as a result of the proposed project.</p>	<p>No</p>
<p>Historic and archeological resources are potentially present within the region surrounding the project</p>	<p>Cultural Resources: Historic and Archeological No known historic or archeological resources are within the proposed project ROW or the Area of Potential Effect. No further coordination with the State Historic Preservation Officer is needed.</p>	<p>Potential impacts to historic and archeological resources from indirect development would need to be coordinated by the individual developers, as appropriate.</p>	<p>No</p>

Source: Segment 1-2 Study Team 2011

4.16.3 Land Use

Resource Study Area (RSA)

The land use RSA is the approximately 106 square-mile study area used for the SH 99, Segment I-2 EIS, and is the same study area used for the indirect effects analysis in this Re-evaluation. The study area is shown on *Appendix A, Figure 7*, and includes a portion of Harris County east of the Houston Ship Channel and the western portion of Chambers County. The time period of the cumulative effects analysis for land use is from 1978, a year that aerial mapping is available for the project area and prior to the completion of the FEIS for Segment I-2, to 2035, the horizon of the current 2035 RTP.

Current Status/Viability and Historical Context

Current Status/Viability

In 2003, the Texas A&M University System, in cooperation with American Farmland Trust, published *Texas Rural Lands: Trends and Conservation Implications for the 21st Century*. The 2003 *Texas Rural Lands* study found that Texas leads all other states in the loss of rural farming and ranching lands. According to the study, “if the trend continues at the same rate for the next two decades, much more of the land in south, central, and east-central portions of the state will become fragmented.” As discussed in *Section 3.1*, land use adjacent to the proposed SH 99, Segment I-2 consists of a mixture of mostly undeveloped wooded areas and/or farmland, a few residential properties, and some business and industrial properties. Existing land use categories in the study area include residential, industrial, commercial, public (such as schools), and parks. The prevailing land uses within the study area consist of sparsely populated urban and rural development with the majority of the area east of Cedar Bayou dedicated to farming, ranching, or industrial activities.

According to the *Western Chambers County Transportation Plan*, current land use in western Chambers County can be generally characterized as sparsely populated and primarily undeveloped. The landscape remains predominantly rural, reflecting the area’s agricultural tradition. Industrial uses, primarily geared to the petrochemical industry, are also present, and are concentrated in the Mont Belvieu area.

Historical Context

The 2003 *Texas Rural Lands* study evaluated historic, current, and future trends in rural land use within the State of Texas. The study found that rural land, including farmlands, in Texas is increasingly being developed, with 2.2 million acres of rural land in Texas converted to urban use in a five-year period between 1992 and 1997.

Appendix A, Figure 7 shows the approximate areas of existing and past developed land use within the RSA. The RSA is approximately 67,800 acres. Aerial photography from years 1978, 1995, and 2008 was reviewed to determine the extent of past and present development within the RSA. Cities and communities in the study area include Baytown, Cove, Mont Belvieu, Beach City, and rural areas adjacent to the proposed project within western Chambers County. Developed acreage in the RSA was 11,335 acres in 1978; 16,685 acres in 1995; and 27,255 in 2008. The total developed area in the RSA increased from approximately 17 percent in 1978, to 25 percent in 1995, to 40 percent in 2008.

Summary of Direct Effects

Segment I-2 is in an area with a long-term development trend. Construction of Segment I-2 could result in some additional development, near its northern terminus. As stated in the FEIS, the area may attract new industrial and commercial development due to its proximity to the Houston Ship Channel, existing rail lines, IH 10(E), the Houston Metropolitan Area, and existing industrial complexes in Baytown, Pasadena, and Mont Belvieu. Segment I-2 would require approximately 586 acres of ROW.

Summary of Indirect Effects

Some indirect land use changes are expected to occur as a result of the proposed project. Minimal development in the study area occurred between 1997 and 2008. The proposed roadway would be a limited access roadway, except in the urban area between SH 146 and the existing BS 146/SH 99 intersection. Some induced development would be expected, primarily near areas where Segment I-2 crosses existing roadways. Leveling and grading typical with development and construction would alter local topography; however, since the developments would be similar to the existing structures, no major topographic alterations would be anticipated. Construction activities would increase erosion potential in areas of disturbed ground cover and soils, and the presence of pavement and buildings would increase the non-permeable area thus increasing stormwater runoff. Land use changes cannot be accurately predicted or quantified, as they would be dependent on individual land owners' desires, economic conditions, and other factors.

Other Reasonably Foreseeable Future Effects

Reasonably foreseeable actions are those that are likely to occur, or are probable, rather than those that are possible. Reasonably foreseeable projects include roadway projects and large master planned communities. These reasonably foreseeable projects could contribute to land use changes in the study area. Reasonably foreseeable roadway projects in the RSA include the following, with the estimated construction letting date in parentheses:

- FM 3360 from Hatcherville Road to SH 146, construct new 4-lane undivided roadway, project status long range (2018)
- FM 565 from FM 2354 to FM 1405, reconstruct and realign roadway, project status short range (2013)
- IH 10(E) at Cotton Bayou and Hackberry Gully, widen bridges and frontage road, project status short range (2012)
- SH 146 from Ferry Road to IH 10(E), widen and upgrade to 6-lane freeway, project status short range (2011)
- SH 99, Segment I-1 from Liberty County line to IH 10(E), construct 4-lane tollway with limited frontage roads and interchanges, project status short range (2011)
- IH 10(E) from SH 146 to FM 563, widen from 4 to 8 lanes, with bridges, project status long range (2023)

Land use patterns in the area are changing and suggest a trend to increasing population and employment densities. According to the *Western Chambers County Transportation Plan*, a number of residential subdivisions are currently planned for western Chambers County. Large residential developments (totaling approximately 800 acres) along FM 565 north of IH 10 and near the intersection of FM 3360 and SH 146 are under construction or are currently being planned.

In 2001, commercial developments in Cedar Crossing (a master-planned industrial park) included a one million square foot Home Depot warehouse and in 2005, Wal-Mart opened a four million square foot development. The Cedar Crossing Industrial Park comprises 15,000 acres of prime acreage with 12,000 acres available for development. The area may attract new commercial and industrial development due in part to its access to the Houston Ship Channel, IH 10(E), as well as rail and barge service and the Port of Houston's Barbour's Cut Container Port. Developers in the area are anticipating more industrial development to occur in the area.

Results of Cumulative Effects Analysis

Cumulatively, the proposed project would cause some indirect changes to land use and directly convert approximately 586 acres of land to roadway ROW. Some direct impacts to land within the RSA as a result of other planned private development are expected. Land uses in the SH 99, Segment I-2 RSA would change over time as population and employment increases, resulting in development of vacant land and redevelopment of other land uses.

Need for Mitigation

The 2003 Texas Rural Lands study indicated that Purchase of Development Rights (PDR) programs are used in other states to slow the land use conversion and fragmentation of farms, ranches, and wildlife habitats. According to the study, PDR programs buy development rights from willing landowners, and based on simulation models, the study found that Texas would benefit most if a PDR was to be implemented in areas where relatively large ownerships (greater than 2,000 acres) are present. Because the mean farm size in Harris County is 124 acres and the mean farm size in Chambers County 451 acres (USDA Census of Agriculture, 2002), a PDR program by the State of Texas would not be an effective mitigation within the RSA.

4.16.4 Water Resources

Resource Study Area (RSA)

The RSA for cumulative impacts to water resources was developed by identifying the watersheds that intersect the proposed roadway improvements. The RSA for water resources is over 772,928 acres in eastern Harris County and western Chambers County (*Appendix A, Figure 8*). During the last 20 years, agencies and local governments have moved toward managing water quality by using the watershed approach (EPA 2005). TCEQ manages the Water Pollution Control Program in Texas. FEMA and Harris County manages and oversees floodplains in Harris County, FEMA and Chambers County manages and oversees floodplains in Chambers County, and the U.S. Army Corps of Engineers has jurisdiction over waters of the United States in Texas. The cumulative effects RSA boundary for water resources was defined by connecting the outer limits of the Cedar Bayou watershed and a portion of the San Jacinto River watershed.

Current Status/Viability and Historical Context

Water Quality

Water bodies flowing through the project area include Cedar Bayou and Goose Lake. No long-term water quality impacts are expected as a result of the proposed project. Subsurface water would not be required for this project; therefore, no adverse effects to groundwater are expected to occur. The proposed project is not expected to alter rainfall drainage patterns or contaminate or otherwise adversely affect the public water supply, water treatment facilities, or water distribution systems. The proposed bridge construction would not change, divert, or add to the existing water resource. Construction phase impacts may occur, but BMPs would be implemented throughout the duration of the project.

Clean Water Act: Section 303(d)

The proposed project is located within the San Jacinto River Basin and the Trinity-San Jacinto Coastal Basin. Section 303(d) of the federal CWA requires state agencies to make a list of water bodies with impairments or water quality concerns. Cedar Bayou Tidal is an impaired water body near the proposed project that is listed in the Section 303(d) 2008 list. Cedar Bayou (Segment ID 0901_01) is listed for dioxin and polychlorinated biphenyls (PCBs) in edible tissue and bacteria concerns. Goose Lake is not listed in the 303(d) list. Since Cedar Bayou (Segment ID 0901_01) is on the 303(d) list and crosses or is in close proximity to the proposed project, coordination with TCEQ is required.

Floodplains

Flooding has been an issue and continues to be an issue in east Harris County and Chambers County, due to an increase in development and the relatively flat topography. Historically, development in the floodplains of Cedar Bayou has contributed to flooding and an increase in runoff. EO 11988 requires federal agencies to avoid to the extent possible the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Additionally, both counties and other local agencies regulate development in floodplains.

Summary of Direct Effects

Water Quality

Construction could impact water quality on a temporary basis. During construction, exposed soil could runoff into streams and increase turbidity and sediment loading downstream. Operation of the roadway would cause an increase in stormwater runoff due to an increase in impermeable cover, and the runoff could contain oil and grease constituents that could be carried to water bodies outside of the roadway.

Floodplains

Segment 1-2 would cross the floodplains of Black Duck Bay, Goose Lake, and Cedar Bayou. A hydraulics study for Cedar Bayou was conducted during the Segment 1-2 EIS, and reported that the proposed bridge construction over Cedar Bayou would have a negligible effect on the 100-year floodplain of Cedar Bayou, and no impacts would occur to the Black Duck Bay or Goose Lake

100-year floodplains. Hydraulic features for the project would be designed in accordance with current TxDOT and FHWA design policies and standards. Roadway drainage facilities would permit conveyance of the 100-year flood without causing significant impacts to the main lanes of the proposed roadways, streams, or adjacent property. The proposed design would not adversely impact the base flooding elevations to a level that would violate applicable floodplain regulations and ordinances. To the extent practicable, the design would also minimize the area of a floodplain impacted by the roadway. Fill placement in the floodplain would be mitigated with equivalent floodplain storage in the vicinity of the roadway, if necessary.

Summary of Indirect Effects

Water Quality

Land development, as an indirect impact of Segment I-2, could potentially cause increased stormwater runoff during and after construction. It is expected that potential impacts would be avoided or mitigated through compliance with state and local regulations, and therefore the indirect impact to water quality would be minor.

Floodplains

Development within floodplains would be in accordance with the NFIP and local regulations, and the proposed project would not indirectly impact the 100-year floodplain. No indirect impacts to floodplains would be anticipated from the construction of Segment I-2.

Other Reasonably Foreseeable Future Effects

Reasonably foreseeable actions are those that are likely to occur, or are probable, rather than those that are possible. Reasonably foreseeable projects include roadway projects and large master planned communities. Reasonably foreseeable roadway projects in the RSA include those identified in Section 4.16.3, as well as other proposed development in the water resources RSA.

These reasonably foreseeable projects could cause potential temporary and permanent degradation or loss of water resources from an increase in stormwater runoff, and possible stream modifications due to an increase in stormwater runoff. It is expected that compliance with water quality regulations would minimize impacts to water quality.

Results of Cumulative Effects Analysis

Water Quality

The proposed project would increase impervious roadway surface and indirectly induce land development in the area. The increase in developed area creates new sources for point and non-point source pollution, such as potential contaminants into the area via household chemicals, domestic pet waste, and pollutants from automobiles. Construction could impact water quality on a temporary basis. During construction, exposed soil could runoff into streams increasing turbidity and sediment loading downstream. The proposed roadway would cause an increase in stormwater runoff due to an increase in impermeable cover, and the runoff could contain oil and grease constituents that could be carried to water bodies outside of the roadway.

Floodplains

The proposed project would partly be constructed on floodplains, but would not adversely impact the base flooding elevations to a level that would violate applicable floodplain regulations and ordinances. Indirect development and other planned projects in the RSA would be designed in accordance with floodplain regulations, would not adversely impact the base flooding elevations, and therefore would not impact floodplains in the region.

Need for Mitigation

Water Quality

Potential impacts of the proposed roadway to water quality would be mitigated through development and implementation of a Stormwater Pollution Prevention Plan (SW3P). The plan would address measures to prevent or correct erosion that may develop during construction. BMPs for temporary and permanent soil erosion and sedimentation controls would be implemented, as would measures to prevent and control hazardous materials spills during construction. Stormwater discharges would be collected in retention/detention areas or directed to culverts and open drainageways. Increased stormwater/vegetation contact and slowed flows through retention/detention areas would promote settling of suspended solids and reduce potential pollutant concentrations. Short-term and long-term BMPs implemented as part of the proposed project would minimize water quality degradation of surface waters and groundwater in the study area.

Floodplains

The proposed roadway would be designed in compliance with appropriate local, state, and federal standards to ensure that floodplain encroachment does not increase the risk of flooding to adjacent properties. Adverse impacts would be mitigated through measures such as implementation of BMPs during construction and development of detention facilities to offset anticipated increased flows.

4.16.5 Wetlands, Vegetation, and Waters of the United States

Resource Study Area (RSA)

Wetlands

The cumulative effects RSA was developed by identifying the watersheds that intersect the proposed roadway improvements. The RSA for wetlands is over 772,928 acres in areas of east Harris County and western Chambers County (*Appendix A, Figure 8*). Over the past approximately 20 years, agencies and local governments have moved toward managing water quality by using the watershed approach. The USACE has jurisdiction over waters of the United States in Texas. The cumulative effects RSA boundary for wetlands was defined by connecting the outer limit of the watersheds that intersected the proposed roadway improvements. The watersheds are Cedar Bayou and a portion of the San Jacinto River watershed.

Vegetation

The RSA for vegetation is the same as the RSA for land use, approximately 106 square miles (*Appendix A, Figure 7*). The RSA for land use encompasses primarily farmland/rangeland.

Waters of the United States

The RSA for waters of the United States is the same as for wetlands. A watershed approach was used for the same reasons as described above in wetlands.

Current Status/Viability and Historical Context

Wetlands and Vegetation

There have been substantial losses to wetlands and other habitats, resulting in reduced wildlife habitat diversity, in Harris and Chambers Counties since the 1950s. Continued urbanization and industrialization of the Houston area will cause continued pressure on remaining habitats and the ecosystem.

Waters of the United States

Waters of the United States within the watersheds have been modified to reduce flooding in east Harris County and Chambers County. The majority of the modifications have included channelizing original stream channels. Rectifying stream channels usually requires the removal of streamside vegetation and straightening meanders in the streams. This improves flow but reduces the natural diversity of the stream channels and potentially removes riparian habitat. Streams in the Cedar Bayou watershed have been altered over time. The majority of the streams consist of channels of uniform width, and side slopes with little undisturbed vegetation.

Summary of Direct Effects

Wetlands

Twenty (20) wetland areas potentially subject to jurisdiction under the CWA were identified within the existing and proposed ROW with a total area of approximately 9.9 acres (Table 3-6). Approximately 1.351 acres of the 9.9 acres would be permanently impacted by the project. A small portion of one wetland area would be temporarily impacted during construction, by use of wooden mats instead of temporary fill, to help preserve and ensure the integrity of the wetland.

Vegetation

As documented in the FEIS, most of the vegetation impacts from Segment 1-2 from SH 225 to IH 10(E) were to occur on agricultural and pastureland communities; a total of approximately 373 acres. Vegetation impacts would also occur to wooded areas, which total approximately 213 acres within the project corridor. Of the 213 acres of wooded areas, approximately 185 acres consisted of Chinese tallow forests. These areas were likely once pastureland and/or agricultural land that were left to natural abandonment. The remaining 28 acres were mixed pine-hardwood and mixed hardwood forests. The majority of the impacts would occur to open habitat areas or to the Chinese tallow forests. A large portion of eastern Harris County and Chambers County are primarily pastureland/agricultural land and wooded areas dominated by the invasive Chinese tallow. Segment 1-2 between SH 146 and Fisher Road would impact approximately 22 acres of wooded area. Vegetation removal activities have occurred on a tract of wooded land located east of Tri-Cities Beach Road and south of the existing SH 99 ROW. Approximately 2.4 acres of this tract would be acquired as part of the proposed project ROW. The loss of these habitats would have a negligible effect on species diversity in the region.

Waters of the United States

Numerous waters of the United States are in the study area, including Black Duck Bay, Goose Lake, and Cedar Bayou. Black Duck Bay, Goose Lake, and Cedar Bayou are navigable waterways. Two bridges would be constructed, and one bridge would be widened. At the Goose Lake crossing, one bridge would be widened to accommodate 2 main lanes and an auxiliary lane, and one bridge would be replaced. The replacement bridge would be configured the same as the widened bridge. A new 2-lane bridge would be constructed at Cedar Bayou. Six bridge piers would be constructed in Cedar Bayou, resulting in an impact of 0.005 acre. The existing fender system would be extended to aid in navigation under the proposed bridge. Approximately 0.012 acre of impact would occur as a result of the extension of the fender system. A total of approximately 0.017 acre of Cedar Bayou would be impacted. A Section 9 U.S. Coast Guard (USCG) permit would be required. Initial coordination has occurred with the USCG. The replacement bridge over Goose Lake would include 12 piles that total approximately 0.003 acre. Approximately 0.007 acre of Black Duck Bay would be impacted by drainage improvements for the project. As discussed above, construction activities could temporarily impact water quality in area streams. An increase in suspended sediments could occur at or near construction sites; however, BMPs such as hay bales, silt fences, and rock berms would be used during construction to minimize potential impacts to the immediate construction area.

Summary of Indirect Effects

Wetlands and Vegetation

Implementation of the proposed project could indirectly cause some development. If wetlands were impacted by other developments, it is expected that mitigation would offset the impacts in accordance with permitting requirements. Other developments would be expected to impact vegetation in the areas of development. Existing vegetation would likely be removed and replaced with ornamental plantings that are routinely maintained.

Waters of the United States

No indirect impacts to waters of the United States, excluding wetlands, would be anticipated as a result of Segment 1-2.

Other Reasonably Foreseeable Future Effects

Reasonably foreseeable actions are those that are likely to occur, or are probable, rather than those that are possible. Reasonably foreseeable projects include roadway projects and large master planned communities. Reasonably foreseeable projects in the RSA include planned roadway improvements and other proposed development in the water resources RSA. These reasonably foreseeable projects could cause permanent degradation or loss of pastureland and small amounts of forest land, and potential loss and degradation of wetlands and waters of the United States.

Results of Cumulative Effects Analysis

Wetlands

The proposed Segment 1-2 from SH 146 to FM 1405 would directly impact an estimated 1,351 acres of potentially jurisdictional wetlands and would cause some land development that could affect wetlands beyond the project ROW. If development continues at the pace of the last 11 years, minor

amounts of wetlands would be filled. Per wetlands guidelines and regulations, impacts to jurisdictional and possibly non-jurisdictional wetlands would be mitigated.

Vegetation

The majority of the vegetation within the RSA has been impacted by urbanization or farming practices. Most of the vegetation that would be impacted by the proposed project is contained within existing or abandoned farmland/ranchland. As other development occurs in the area, vegetation would be eliminated through construction of housing, business centers, and commercial developments.

Waters of the United States

The proposed project would impact approximately 0.005 acre of waters of the United States associated with bridge and fender construction in Cedar Bayou, approximately 0.003 acre of Goose Lake for the replacement bridge over Goose Lake, and approximately 0.007 acre of Black Duck Bay for drainage improvements (*Table 3-6*). Approximately 0.462 acre of other waters potentially subject to USACE regulation would be impacted by construction of the proposed roadway improvements. This would be a total impact of approximately 0.477 acre to waters of the United States other than wetlands. The impact would be caused by the placement of concrete piers for the bridges and wood piles for the fender systems, and fills associated with roadway construction. These improvements would not substantially increase flows or raise the 100-year base flood elevation. Other than a minor cumulative impact to water quality, which is discussed above, only minor impacts to waters of the United States are expected. Little or no indirect impacts are anticipated.

Need for Mitigation

Wetlands

During construction of the project, approximately 1.351 acres of potentially jurisdictional wetlands would be permanently impacted by the project. A review of USACE requirements would be conducted as design plans are finalized. Compensatory mitigation for effects on Section 404 waters would be coordinated with the USACE and performed in accordance with the terms of the approved permit(s).

Vegetation

Unavoidable vegetation impacts are expected to occur as part of proposed construction of Segment I-2. Due to funding limitations, TxDOT Houston District is not proposing compensatory mitigation for non-regulatory habitat at this time. Mitigation for cumulative effects, other than direct effects, would not be considered by TxDOT.

Waters of the United States

The proposed project would have minor impacts to waters of the United States (non-wetland impacts) and mitigation is not proposed.

4.16.6 Air Quality

Resource Study Area (RSA)

The RSA selected for evaluating air quality associated with NAAQS and transportation conformity was the HGB area that has been designated by EPA as a severe nonattainment area for ozone. The counties included in this area are: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller. This large area represents the management unit for mobile source pollutants as regulated by federal, state, and local government agencies. The NAAQS criteria pollutants include ozone, carbon monoxide, particulate matter, nitrogen dioxide, sulfur dioxide, and lead. Unlike the other resources evaluated, air quality impacts from mobile sources are evaluated and managed on a regional basis primarily through the H-GAC, in coordination with the EPA, TCEQ, TxDOT, and FHWA. This transportation management area (TMA) is home to over 5 million residents and contains over 7,000 square miles. The affected transportation network for this project was derived from comparing traffic volume changes of 1.5 percent differences for the 2025 and 2035 Build versus No-Build Scenarios. All major roads with traffic volume changes of +5 percent differences for the entire HGB transportation network were included in the MSAT emissions analysis.

Current Status/Viability and Historical Context

The EPA establishes limits on atmospheric pollutant concentrations through enactment of the NAAQS for six principal, or criteria, pollutants. The EPA designated eight counties in the HGB area as nonattainment for ozone. The region is currently in attainment for all other criteria pollutants. Although there have been year-to-year fluctuations, the ozone trend continues to show improvement. The trend of improving air quality in the region is attributable in part to the effective integration of highway and alternative modes of transportation, cleaner fuels, improved emission control technologies, and H-GAC regional clean air initiatives. However, hazardous air pollutants and MSATs are regulated under the CAA, and in 2007 the EPA issued a set of final rules on *Control of Hazardous Air Pollutants for Mobile Sources*, as discussed in Section 3.3. Other regulatory controls for motor vehicle efficiency and improved fuels (gasoline and diesel) and other air toxics reductions are in place or will be phased in to reduce MSATs in the future. The population increase of Harris County and the surrounding region has led to an increase in VMT and mobile source emissions. Industrial activities and growing suburban development has led to land uses that contribute to regulated emissions. However, all area sources (i.e., dry cleaners, gas stations, etc.) and point sources (i.e., industrial facilities) must follow federal regulations and meet SIP standards.

Summary of Direct Effects

Direct impacts on air quality and MSATs from the project are primarily those associated with the increased capacity, and the resulting projected increases in VMT. Emission reductions as a result of EPA's new fuel and vehicle standards are anticipated to offset impacts associated with VMT increases.

Summary of Indirect Effects

Induced land development would be primarily residential and commercial/industrial uses, bringing with it the types of associated businesses that generate emissions that can contribute to a decline in air quality. This type of indirect commercial development may lead to activities or business

development that could contribute to increased HAPs/VOCs, which are precursors to ozone. Based on current development trends, the proposed project would not be expected to induce construction of large industrial facilities with associated air emissions. Although some induced development could increase the rate of emissions, all area sources must follow state and federal regulations and meet SIP standards. Induced development may also contribute to dust and other air pollutants; however, these effects would occur over the time period of analysis and would be temporary.

Based on the results of Steps 1 through 4 that evaluated the possible project-related actions that can indirectly impact air, it was determined that the proposed project would not be anticipated to cause indirect air quality impacts in the AOI. No change in attainment status is anticipated within the AOI area as the result of emissions associated with the proposed project. In order for the region to achieve ozone attainment, a variety of point, non-point, and mobile source emission reduction strategies must be implemented for the entire HGB area as outlined in the SIP. Indirect air quality impacts from MSATs are unquantifiable due to existing limitations to determine pollutant emissions, dispersion, and impacts to human health. MSAT emissions would likely be lower than present levels in future years as a result of the EPA's national control regulations (i.e., new light-duty and heavy duty on road fuel and vehicle rules, the use of low sulfur diesel fuel). Even with an increase in VMT and possible temporary emission increases related to construction activities, the EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions of on road emissions, MSATs, and the ozone precursors VOC and NOx.

Other Reasonably Foreseeable Future Effects

The temporal boundary of the cumulative impact analysis is 2035. This corresponds to the region's RTP and population projections. Reasonably foreseeable projects within the air RSA include all proposed projects in the 2035 RTP. Many other transportation projects are planned within the air RSA that would contribute to MSATs. According to the 2035 RTP, the RSA is expected to grow to 8.8 million residents by 2035.

Results of Cumulative Effects Analysis

Any increased air pollutant or MSAT emissions resulting from increased capacity, accessibility, and development are projected to be more than offset by emissions reductions from EPA's new fuel and vehicle standards or addressed by EPA's and TCEQ's regulatory emissions limits programs. Projected traffic volumes are expected to result in no impacts on air quality; improved mobility and circulation may benefit air quality. Increases in urbanization would likely have a negative impact on air quality. However, planned transportation improvements in the project area as listed in a conforming RTP and TIP, coupled with EPA's vehicle and fuel regulations fleet turnover, are anticipated to have a cumulatively beneficial impact on air quality.

As discussed in *Section 3.3*, MSATs for the entire air quality RSA are expected to decrease due to improved vehicle technology, changes in fuel (gasoline and diesel), and other regulatory controls of air toxics that are currently in place or will be phased in to reduce MSATs in the future.

The population in the HGB area is expected to increase by 60 percent between 2005 and 2035. Rapid population growth would continue to create air quality challenges for the HGB area. The TCEQ continues to evaluate potential options to further reduce pollutant emissions. Growth patterns will lead to increased VMT, and induced land changes would increase area source emissions that

contribute to HAP/VOC emissions. Quantifying the associated emissions of future area sources is not possible due to uncertainties of future land use.

The TCEQ establishes the level of quality to be maintained in the state's air and to control the quality of the state's air by preparing and developing a general comprehensive plan. Regulatory emission limits set by TCEQ and EPA are established to attain and maintain the NAAQS by assuring any emissions sources resulting from new development or redevelopment will not cause or contribute to a violation of those standards. The proposed project and the other reasonably foreseeable transportation projects are addressed at the regional level by analyzing the air quality impacts of transportation projects in the 2035 RTP and the 2008-2011 TIP, as amended, which were found to conform to the TCEQ SIP on July 21, 2010. In accordance with 43 CFR 93.124, the motor vehicle emissions budget within the SIP represents the emission allowance allocated to mobile sources in order to attain the NAAQS within a given area. The emissions resulting from all projects within the conforming transportation plan combined with cleaner fuels, improved emission control technologies, alternative modes of transportation, and regional clean air initiatives should result in continually improving air quality in the area. In addition, the projected traffic volume and the minimal to no impact causing actions such as changes in land use designations, mobility, or vehicle fleet make-up, would not result in anticipated cumulative impacts to air quality. Based on the aforementioned reasons, cumulative air quality impacts were not evaluated.

Need for Mitigation

A variety of federal, state, and local regulatory controls as well as local plans and projects have had a beneficial impact on regional air quality. The CAA, as amended, provides the framework for federal, state, tribal, and local rules and regulations to protect air quality. The CAA required the EPA to establish NAAQS for pollutants considered harmful to public health and the environment. In Texas, the TCEQ has the legal authority to implement, maintain, and enforce the NAAQS. The TCEQ establishes the level of quality to be maintained to control the quality of the state's air by preparing and developing a general comprehensive plan. Authorization in the Texas Clean Air Act (TCAA) allows the TCEQ to do the following: collect information and develop an inventory of emissions; conduct research and investigations; prescribe monitoring requirements; institute enforcement; formulate rules to control and reduce emissions; establish air quality control regions; encourage cooperation with citizens' groups and other agencies and political subdivisions of the state as well as with industries and the federal government; and to establish and operate a system of permits for construction or modification of facilities. Local governments having some of the same powers as the TCEQ can make recommendations to the commission concerning any action of the TCEQ that may affect their territorial jurisdiction, and can execute cooperative agreements with the TCEQ or other local governments. In addition, a city or town may enact and enforce ordinances for the control and abatement of air pollution not inconsistent with the provisions of the TCAA or the rules or orders of the TCEQ.

The CAA also requires states with areas that fail to meet the NAAQS prescribed for criteria pollutants to develop a SIP. The SIP describes how the state would reduce and maintain air pollution emissions in order to comply with the federal standards. Important components of a SIP include emission inventories, motor vehicle emission budgets, control strategies to reduce emissions, and an attainment demonstration. The TCEQ develops the Texas SIP for submittal to the EPA. One SIP is created for each state, but portions of the plan are specifically written to address each of the non-attainment areas. These regulatory controls, as well as other local transportation and development initiatives implemented throughout the Houston metropolitan area by local governments and other

entireties provide the framework for growth throughout the area consistent with air quality goals. As part of this framework, all major transportation projects, including the proposed project, are evaluated at the regional level by the H-GAC for conformity with the SIP.

The cumulative impact of reasonably foreseeable future growth and urbanization on air quality within this area would be minimized by enforcement of federal and state regulations, including the EPA and TCEQ, which are mandated to ensure that such growth and urbanization would not prevent attainment with the ozone standard or threaten the maintenance of the other air quality standards.

4.16.7 Regional Cumulative Effects of Tolloed Facilities and Managed Lanes

As the Metropolitan Planning Organization (MPO) for the Houston-Galveston region, the Houston-Galveston Area Council (H-GAC) is charged with enabling and creating a regional perspective for transportation and mobility. The 2035 Regional Transportation Plan (RTP) provides the major strategies that would accommodate forecasted growth and preserve mobility in the region. H-GAC prepared a planning-level assessment, *Regional Cumulative and Indirect Effects of Toll Facilities*¹ report, to determine how the 2035 RTP regional toll roadway network could indirectly or cumulatively affect socioeconomic and natural resources. Resources evaluated in this planning study included Environmental Justice (EJ) populations (low-income and/or minority populations as defined in Executive Order (EO) 12898²), air quality, water resources, vegetation, and land use. However, the majority of the H-GAC analysis focused on the potential impact of the regional toll roadway network on EJ populations in the region. For more information on the resources evaluated and for more detail on the EJ analysis, please see the H-GAC *Regional Cumulative and Indirect Effects of Toll Facilities* report.

The indirect impact portion of this document identified the need to consider impacts of the expanding regional roadway network, specifically the expansion of toll facilities and managed lanes (*Exhibit 2*). An evaluation of the regional cumulative effects of these facilities was considered for potential impacts on Environmental Justice (EJ) populations, air quality, water quality, vegetation, and land use. The Resource Study Area (RSA) for this evaluation is the Houston-Galveston Area Council (H-GAC) eight county region.

Environmental Justice

Methodology

H-GAC conducted an evaluation to determine the effects of a regional tolloed roadway network on EJ populations. Initially, the evaluation identified those 2000 Census block groups which contained 51 percent or more of minority and/or low income populations. Once the EJ block groups were identified, EJ TAZs were identified if 50 percent or more of its area was identified as an EJ population. Approximately 46 percent of the TAZs are EJ TAZs. In addition, they contain nearly a third of the regional population (*Table 4-8*). *Exhibit 4* depicts the EJ TAZ for low income populations and/or minority populations.

¹ H-GAC, *Regional Cumulative and Indirect Effects of Toll Facilities*, April, 2009.

² Executive Order 12898, Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations.

Table 4-8. Traffic Analysis Zone Data

	2000 Population	Percent of Regional Population	Number of TAZ	Percent of Total TAZ
Total EJ TAZ Population	1,634,500	31	1,383	46
Total Regional Population	5,214,051	100	3,000	100

Source: H-GAC 2009.

Following the identification of the EJ TAZs, two regional roadway network scenarios were utilized, the 2035 RTP Build Scenario and the 2035 RTP No-Build Scenario, to conduct an analysis on travel time for persons within the EJ TAZs and non-EJ TAZs. The Build Scenario includes the new tolled lanes, managed lanes, and high occupancy tolled (HOT) lanes projects identified in the 2035 RTP (*Exhibit 5*). The No Build Scenario includes the current roadway network, the fiscally constrained 2035 RTP roadway network and the Katy Freeway HOT lanes (*Exhibit 6*).

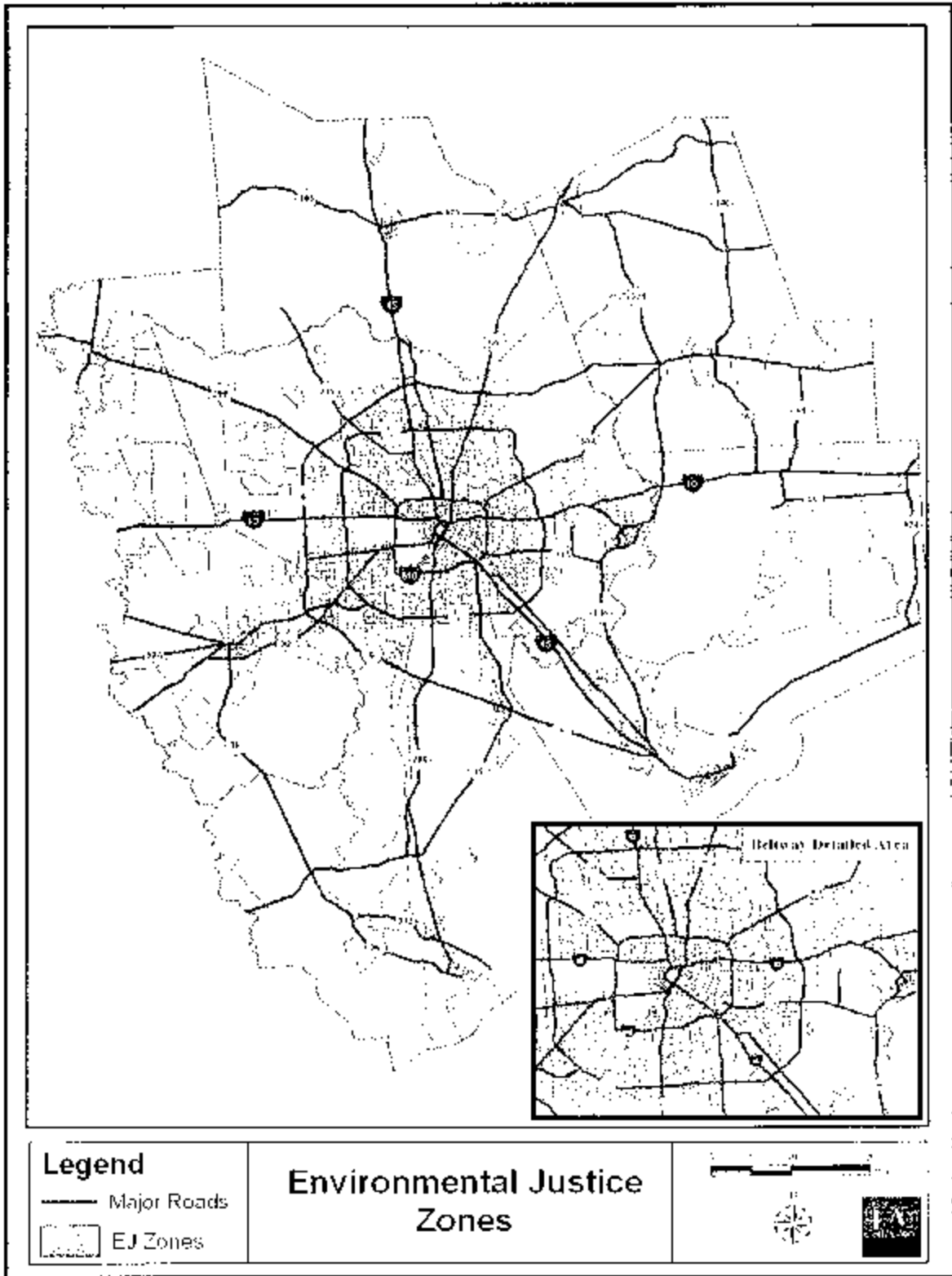


Exhibit 4. Environmental Justice Traffic Analysis Zones

Source: H-GAC 2009.

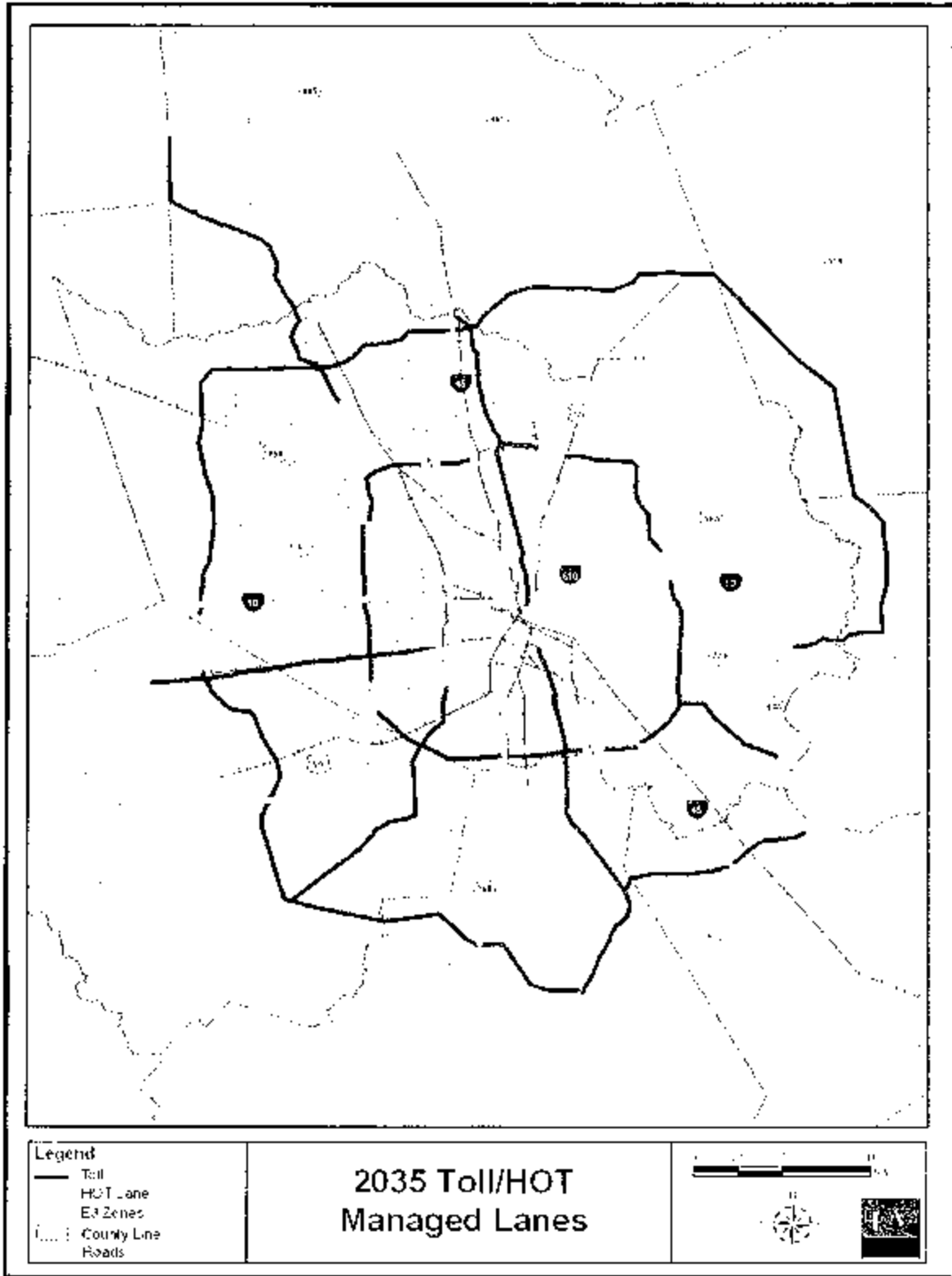


Exhibit 5. 2035 Build Scenario Regional Roadway Network

Source: H GAC 2009

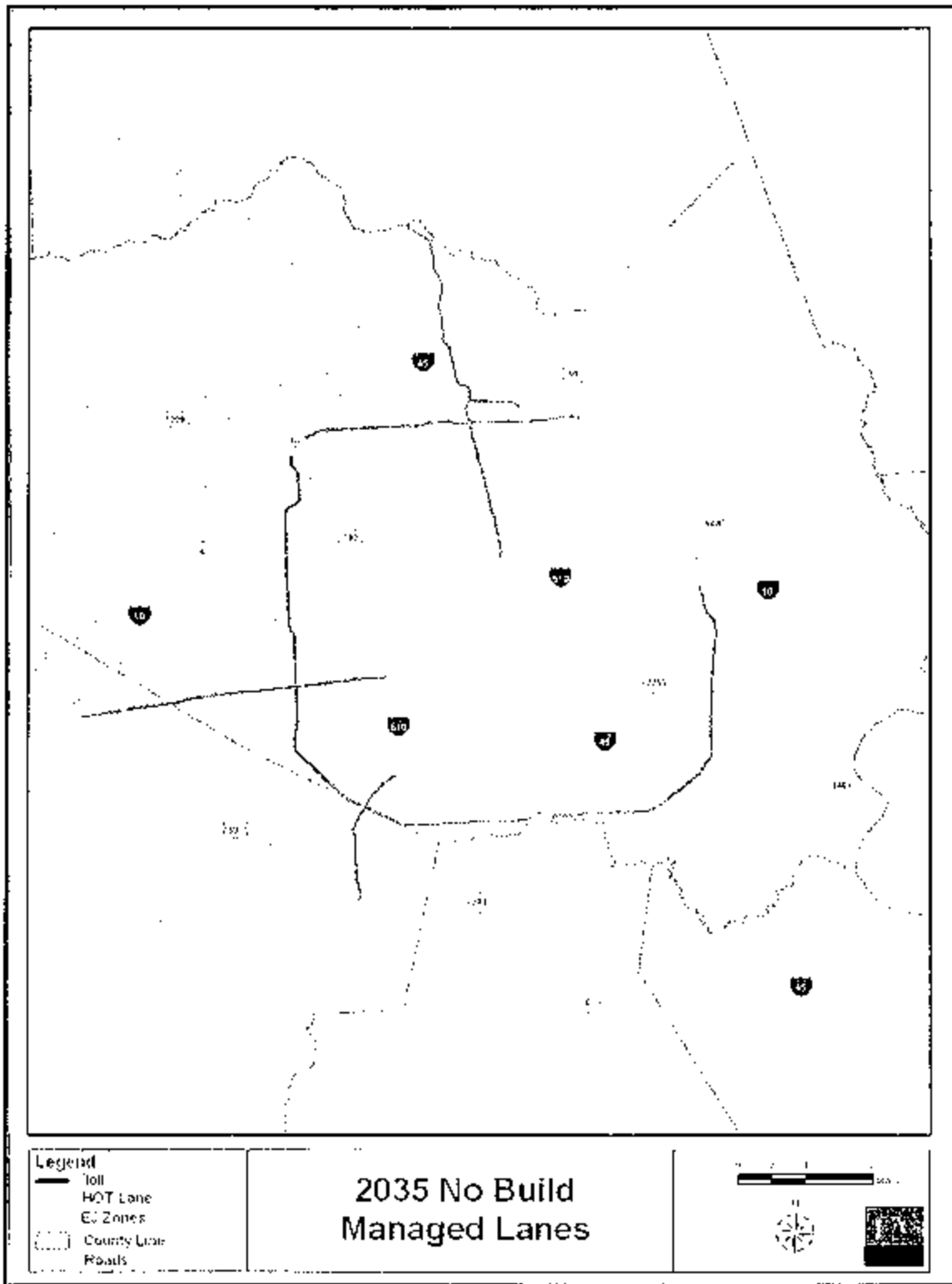


Exhibit 6. 2035 No-Build Regional Roadway Network

Source: H GAC 2009.

Analysis Assumptions and Limitations

The region's travel demand models do not provide a means for tracking travel at an individual household level, but do provide a means for tracking travel at a zonal level. For purposes of the analyses, the zones are specified as either EJ zones or non-EJ zones based on the socioeconomic characteristics of the zonal populations. Some regional travel models employ a generalized cost assignment procedure for toll analyses. The H-GAC models perform toll analyses at the mode choice level. Hence, the H-GAC travel model uses a multi-class assignment procedure rather than a generalized cost procedure.

The mode choice models are applied by trip purpose. For the mode choice toll analyses, two travel time estimates are developed from each zone to all other zones: 1) the travel time using both toll and non-toll links (commonly referred to as "toll path" travel times), and 2) the travel time using only non-toll links (commonly referred to as the "free path" travel time). In the mode choice model, if the toll path does not offer a shorter travel time between two zones than the free path travel time, the trip is not considered a "candidate" for the toll facility. If a trip can save travel time using a toll path over a free path then it is considered a "candidate" trip. Of course, not all candidate trips will choose to use a tolled path. The probability of a candidate trip using a tolled path is a function of a number of variables such as the magnitude of the potential travel time savings, the toll costs and the income characteristics of the zones residents. Aspects of this approach are employed in the analyses presented in this report.

In mode choice model applications, there is a single highway network which is used to estimate the travel times for toll paths and free paths. For the regional toll analyses, there are two networks: the "Build" network (i.e., the forecasted roadway network containing the subject toll facilities) and the "No-Build" network (i.e., the network containing all the forecasted roadways except the subject toll facilities). Existing and committed toll facilities are contained in both networks. In this analytical setting, simply comparing the toll path versus free path option will not identify the candidate trips for only the new toll facilities being studied. Indeed, such a grouping would include trips using both existing and proposed toll facilities.

To focus on candidate trips for the new toll facilities, the travel time for toll paths in the Build network is compared to the toll path travel time in the No-build network. Trips that have a shorter toll path travel time in the Build network than the toll path travel time in the No-build network are defined as candidate trips for the new toll facilities. The trips from EJ zones are stratified as either candidate trips or non-candidate trips using the data from the two networks. Likewise, the trips produced by the Non-EJ zone are similarly stratified. Stated differently, the trips for a given trip purpose is segmented into four groups:

1. Trips produced by EJ zones that are classified as "Candidate" trips
2. The remaining trips produced by EJ zones are classified as non-"Candidate" trips
3. Trips produced by non-EJ zones that are classified as "Candidate" trips
4. The remaining trips produced by non-EJ zones are classified as non-"Candidate" trips

Using toll path travel times and free path travel times from the Build and the No-Build networks, there are four travel times for each trip, (i.e. 1) Build network-toll path option, 2) Build network-free

path option, 3) No-Build network-toll path option, and 4) No-Build network – free path option). By computing the average trip lengths for each of the options, the impacts of the two networks on the choice options can be quantified, compared, and analyzed.

Using this approach, the results allow the comparison of the toll and free path options for each network for each segmentation of trips. Clearly, the implementation of new toll facilities should be expected to benefit those who might choose to use a toll facility. Of perhaps more interest is determining if there are any expected overall disadvantages to those who might choose not to use a toll facility or that are not candidates for using one of the new toll facilities.

One of the interesting side benefits of the approach used is that it calls attention to the fact that there will be some potential travel time savings realized for trip makers who chose not to use a toll facility. These time savings would be expected to accrue from the reduced congestion on free facilities due to trips diverted to toll facilities.

These analyses are regional level analyses and focus on average regional results. Such analyses do not isolate any zone specific analyses or the impacts in the immediate proximity of the new proposed facilities. These impacts were addressed by the analyses performed for the individual facilities. Indeed, the purpose of these analyses are to determine if there are any cumulative regional impacts to the EJ populations represented by the zones designated as EJ zones.

To determine the time analysis for the different scenarios, trips were divided into home based work (HBW) trips and home based non-work (HBNW) trips for both tolled and free facilities. *Table 4-9* shows the 2035 HBW person trips and the average trip length (ATL) in minutes for the Build and No-Build Scenarios

The results for the home based work trips analysis indicate:

- The addition of the tolled facilities to the regional roadway network under the Build Scenario results in a reduction of travel time in the EJ and Non-EJ Zones for all trips on tolled facilities (4.77 and 8.75 minutes respectively).
- The addition of the tolled facilities to the regional roadway network under the Build Scenario results in a reduction of travel time in the EJ and Non-EJ Zones for all trips on free facilities (2.32 and 5.05 minutes respectively).
- Overall, the Build Scenario provides a reduction in travel time for both the tolled and free facilities within the regional roadway network for all zones. As a result, there is no potential for a disproportionate negative effect to the Environmental Justice populations from the regional tolled roadway network. In fact, the entire region, including the EJ Zones, will recognize a benefit in travel time savings because of the added capacity the tolled roadway facilities provide to the regional roadway network.

Table 4-9. AM Peak Home Base Work Trips

Zones	2035 HBW Trip Scenarios	Number of 2035 HBW Person Trips	AM Peak Average Trip Length (ATL) in minutes for Free and Tolled Facilities under the Build and No-Build Network Scenarios				Difference in AM Peak ATL in minutes	
			Build Network Scenario		Non-Build Network Scenario		Difference in ATL for the Tolled Facility (No-Build Build)	Difference in ATL for Free Facility (No-Build - Build)
			ATL Using Tolled Facility	ATL Using Free Facility	ATL Using Tolled Facility	ATL using Free Facility		
EJ Zone	Trips that save 0+ minutes using a new tolled facility	1,174,445	38.59	42.87	43.36	45.19	4.77	2.32
	Trips that cannot save 0+ minutes using a new tolled facility	1,487,852	20.81	20.89	21.66	21.76	0.85	0.87
Non-EJ Zone	Trips that save 0+ minutes using a new tolled facility	1,590,356	50.76	56.51	59.51	61.56	8.75	5.05
	Trips that cannot save 0+ minutes using a new tolled facility	1,627,399	23.40	23.46	24.61	24.70	1.21	1.24

Table 4-10 shows the 2035 HBW person trips and the ATL in minutes for the Build and No-Build Scenarios.

Source: H-GAC 2009.

Table 4-10. AM Peak Home Based Non-Work Trips

Zones	2035 HBW Trip Scenarios	Number of 2035 HBW Person Trips	AM Peak Average Trip Length (ATL) in minutes for Free and Tolled Facilities under the Build and No-Build Network Scenarios				Difference in AM Peak ATL in minutes	
			Build Network Scenario		Non-Build Network Scenario		Difference in ATL for the Tolled Facility (No-Build Build)	Difference in ATL for Free Facility (No-Build Build)
			ATL Using Tolled Facility	ATL Using Free Facility	ATL Using Tolled Facility	ATL Using Free Facility		
EJ Zone	Trips that save 0+ minutes using a new tolled facility	960,791	26.14	27.68	28.94	29.20	2.80	1.52
	Trips that cannot save 0+ minutes using a new tolled facility	5,393,943	12.94	12.97	13.28	13.31	0.34	0.34
Non-EJ Zone	Trips that save 0+ minutes using a new tolled facility	1,235,114	31.09	33.29	36.57	36.85	5.48	3.56
	Trips that cannot save 0+ minutes using a new tolled facility	5,817,081	14.98	15.04	15.69	15.72	0.71	0.68

Source: H-GAC 2009.

The results for the HBW trips analysis indicate:

- The addition of the tolled facilities to the regional roadway network under the Build Scenario results in a reduction of travel time in the EJ and Non-EJ Zones for all tolled facilities (2.80 and 5.48 minutes respectively).
- The addition of the tolled facilities to the regional roadway network under the Build Scenario results in a reduction of travel time in the EJ and Non-EJ Zones for all free facilities (1.52 and 3.56 minutes respectively).

- Overall, the Build Scenario provides a reduction in travel time for both the tolled and free facilities within the regional roadway network for all zones. As a result, there is no potential for a disproportionate negative effect to the Environmental Justice populations from the regional tolled roadway network. In fact, the entire region, including the EJ Zones will recognize a benefit in travel time savings because of the added capacity the tolled roadway facilities provide to the regional roadway network.

In addition, it is evident that the Build Scenario, which includes the regional tolled roadway network, reduces congestion in the region. As seen in *Table 4-11*, the daily VMT decreases by over 1.5 million miles in the Build Scenario versus No-Build Scenario. Furthermore, daily vehicle hours traveled (VHT) decreases by nearly 7 percent for the region for the 2035 regional roadway network. This gives evidence that the 2035 roadway network with tolled facilities will improve the overall system performance and provide travel time savings to both EJ and non-EJ populations.

Table 4-11. 2035 Regional VMT and VHT

	Build	No-Build
Daily VMT	273,566,820	275,140,200
Daily VHT	8,027,063	8,563,797
AM VMT	54,441,814	54,674,299

Source: IIGAC 2009.

Overall Environmental Justice Toll Network Findings

For HBW and HBNW trips, EJ population trips that are candidate toll users are benefited by the introduction of the new toll facilities in terms of both the toll and free path travel times. Equally important, EJ population trips that are not candidate toll users benefit by the introduction of the new toll facilities as the free path travel time average trip length is reduced between the No-Build and Build scenarios. As such, EJ populations experience an overall benefit under the Build Alternative for their HBW and HBNW travel.

Although EJ zones are spread throughout the region, they are generally clustered within Beltway 8 and are not in close proximity to the majority of future toll facilities as the Non-EJ zones are. Consequently, as the ATL of the EJ zones are less than the ATL of non-EJ zones, the EJ zones cannot derive as much travel time savings as the longer trips from Non-EJ zones. However, this analysis did not explicitly examine the impact on average trip length. A substantial amount of future transit improvements are targeted at EJ zones; the ATLs for the populations within those zones will tend to improve due to increased access to improved transit facilities. As previously mentioned METRO's 2035 Long Range Plan recommends significant expansion of the current transit system and includes a network of integrated high capacity transit facilities on major travel corridors. This plan also identifies service expansions beyond the METRO service area. New improvements scheduled for implementation through the year 2035 include high occupancy tolls, a new intermodal terminal, park-n-ride facilities, 40 miles of Signature Bus lines, and several new high capacity transit corridors throughout the region including the 89 miles of LRT, and 84 miles of CRT.

An analysis was also conducted to determine the annual financial burden of utilizing the toll road system for HBW trips. The analysis assumed a 2035 toll rate per mile of 19.96 cents (current toll rate of 10 cents per mile with an annual escalation rate of 2.5 percent). In addition the analysis

assumed that an average HBW trip length is 23.30 miles and the SOV user makes 250 round-trips per year using the toll facility. Under this scenario, the annual cost would be approximately \$2,325 per year. However, the accrual cost should be substantially less since the likelihood of a trip using only tolled facilities is diminutive.

Although EJ populations will see an increase in spending for toll facilities, the entire region will also see an increase in spending and usage as the toll and managed lane system expands. Both EJ and Non-EJ populations will benefit from future toll facilities. In fact, the 2035 RTP relies heavily on toll funding to finance a portion of future added capacity projects, both free and toll. Additionally, for both populations who choose to use non-toll options, the Build scenario for 2035 will provide a roadway network that will operate at better traffic conditions than the No-Build scenario and would provide an increased benefit for those users over the No-Build scenario.

In September 2009, the toll rates were increased in the Houston metropolitan area by 3.75%. With the implementation of the new toll policy, the EZ-tag toll users were assessed a \$0.05 increase for all main-lane toll plazas on the Sam Houston, Westpark, and Hardy Toll Roads for a 2-axle passenger vehicle. The price for cash paying users did not change. As a result, the previously discussed toll analysis for EJ populations was re-evaluated to insure that no disproportionately high and adverse cumulative impact would occur because of the toll increase. The findings of this analysis demonstrate that there is a slight decrease in overall toll demand among EJ and non-EJ populations as a result of the toll increase (1.5%-2.0% for HBW trips and 0.5%-1.0% for HBNW trips). The consistency in the toll demand decrease among the EJ and non-EJ populations suggests that the 3.75% toll rate increase will have minimal impact on demand for the toll system. The implementation of the toll system will still allow the 2035 roadway network to improve the overall transportation system performance and provide travel time savings to both EJ and non-EJ populations.

Based on the previous discussion and analysis, the Build scenario for the 2035 RTP, even with the toll increase implemented, would not cause cumulative disproportionately high and adverse effects on EJ populations as per Executive Order 12898 regarding environmental justice.

Air Quality

The CAAA of 1990 require transportation plans, programs, and projects in nonattainment areas, which are funded or approved by the FHWA or FTA, to conform to the SIP. This ensures that transportation plans, programs, and projects do not produce new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. Under the Clean Air Act, the EPA established criterion called the NAAQS to determine the health threat of criteria pollutants, generally located within CMSAs. If a CMSA has a health threat, it is designated as a 'non-attainment' area until compliance is achieved. The Houston-Galveston region is classified as a non-attainment area for the 1997 8-hour Ozone standard, and it has been further classified as "severe".

Transportation conformity is an analytical methodology that establishes the connection between projected on-road emissions from the RTP and the known reductions in the motor vehicle emission budget from the SIP. Through the process of transportation conformity, the RTP uses the SIP on-road mobile strategies and air quality targets to demonstrate if the RTP complies with the federal air quality requirements. Vehicle emissions resulting from the implementation of transportation projects in the 2035 RTP cannot exceed emission budgets established by the SIP. The Houston-Galveston region must demonstrate that the 2008 - 2011 TIP, as amended, and the long-range plan (2035 RTP)

result in less VOCs and NO_x than established and approved by EPA for each analysis year. On November 9, 2007, the USDOT determined that the 2035 RTP and the 2008 - 2011 TIP, as amended, conformed to the requirements of the SIP for the Houston-Galveston ozone non-attainment area. The Level of Mobility (LOM) was developed to illustrate the degree of congestion on roadways within the region. Exhibit 7 shows the relative distribution of morning peak period congestion levels for the current and future regional roadway network as a percentage of vehicle miles traveled in each LOM category. There will be an increase in regional congestion levels if the forecasted growth occurs. The proposed 2035 RTP Regional Roadway Network would reduce the percentage of severely congested VMT in the morning peak period, from approximately 50 percent to less than 30 percent compared to the 2035 No-Build Scenario.

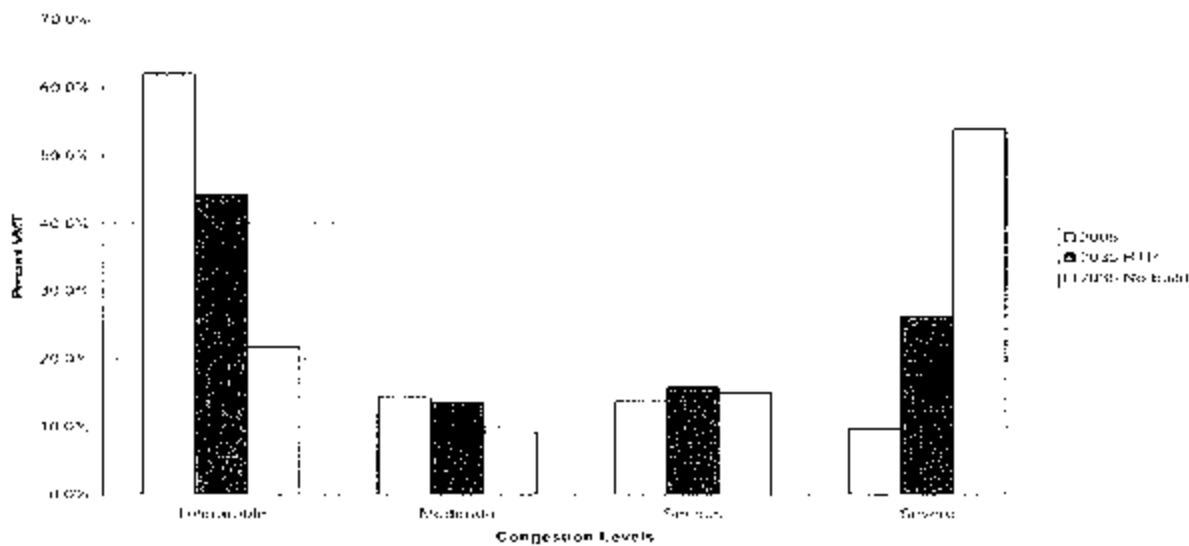


Exhibit 7. Level of Mobility – AM Peak

Source: H-GAC 2009.

Air Quality Findings

The addition of tolled facilities and managed lanes into the existing regional roadway network would not have any cumulative impacts to air quality. Moreover, a tolled roadway network adds capacity to the regional roadway network, thus allowing a better flow of traffic and decreasing the amount of cars traveling at lower speeds or idling conditions. The improved traffic flow results in less fuel combustion and lower emissions including MSATs, CO, and Ozone. As noted in the direct, indirect, and project level cumulative analysis discussions, EPA’s vehicle and fuel regulations, coupled with fleet turnover, are expected to result in substantial reductions of on-road emissions, including MSATs, CO and ozone precursors.

Water Quality

The Houston-Galveston region has an abundance of water resources including rivers, lakes, and bays. The TCEQ, along with the Clean Rivers Program and numerous local agencies, are responsible for monitoring all major bodies of water and reporting those conditions in a biennial Texas Water Quality Inventory report. Section 303(d) of this report details those water bodies TCEQ has identified as impaired because of water contamination. The 303(d) list identifies several major water systems as impaired with pollutants and bacteria in the RSA. A majority of the waterways located in the Trinity-San Jacinto Coastal Basin, San Jacinto River Basin, San Jacinto-Brazos Coastal Basin, Brazos-Colorado Coastal Basin, including bays and estuaries that flow to the Gulf of Mexico, are impaired and included in the 303(d) list. The construction of the regional tolled roadway network would cross and impact the above mentioned water bodies at various locations and could cause water quality impacts. The increase of impervious cover from adding capacity to the regional roadway network greatly increases non-point source pollution and the potential to cause further impairment to the region's waterways. As stated previously, TCEQ regulates water quality through Stormwater Pollution Prevention Plans (SWP3), Municipal Separate Storm Sewer Systems (MS4), and BMPs. All construction of the regional tolled roadway network in the RTP would follow these water quality regulations that would aid in preventing further pollution to these impaired waters and to waters that are not impaired. Additionally, any land use development that would occur from the construction of these facilities would follow TCEQ's regulations for water quality through SWP3 and MS4.

Water Quality Findings

Although overall impacts cannot be avoided, the above mentioned mitigation techniques will ensure that the regional tolled roadway network would not have significant cumulative impacts to water quality.

Vegetation

Prairie, Wetland, Bottomland Forest, Upland Forest, and Riparian Corridor ecosystems are all located in the Houston-Galveston region. Each of these resources provides vital functions such as flood protection, air quality, water quality and wildlife habitat. Protection of these natural resources which contribute to our region's quality of life is an important priority when planning for our region's future growth and transportation infrastructure. This sentiment was voiced strongly at the Envision Houston Region workshops and forums.

As growth and development are part of our region's future, it is not feasible that every undeveloped parcel be preserved. However, it is feasible that the region identify and work to conserve those areas that are most ecologically sensitive. H-GAC identified areas that have sensitive environmental resources for special consideration in the transportation planning process. However, the identification is not intended to be used for project-level screening. The results are intended to be used for long-range planning purposes and screening to identify areas in which future transportation projects or development may potentially impact these sensitive resources. In addition, the identified environmental resources are areas in which mitigation efforts may be focused.

In some instances, disturbing natural resources may be unavoidable for regionally significant projects or projects located on facilities that are multiple-lane, limited access facilities, such as highways and toll roads. Due to their scale, regionally significant projects potentially have a larger impact on the environment than a local project and therefore were closely examined. Currently, projects within the

2035 RTP are individually subject to environmental requirements but have no mechanism for cumulatively identifying or mitigating environmental impacts. At the project level, the TxDOT Houston District can mitigate for loss of vegetation with the Texas Parks and Wildlife Department, and wetlands mitigation would occur through the permitting process under the jurisdiction of the U.S. Army Corps of Engineers. Locally, cities can also curb vegetation loss by implementing measures to protect vegetation areas.

Vegetation Findings

Impacts to vegetation will undoubtedly occur from the regional tolled roadway network. However, these impacts are best evaluated and mitigated at the project level.

Land Use

While we can increase system capacity, manage demand, and improve the efficiency of the existing regional roadway network, the greatest potential effect upon improving mobility and quality of life is connecting transportation and land use planning. Land use has a direct impact on the ability of the region's transportation system and agencies to deliver a variety of travel choices. The 2035 RTP has shown that sustained major investments in roadway capacity will only moderate, and will not eliminate the level of future traffic congestion. However, improved mobility is possible through better coordinated land use and transportation planning.

The Envision Houston Region process was initiated by the H-GAC and its partners to engage residents in a discussion of the region's future growth and development. The process focused on land use and transportation alternatives. Citizen input from workshops was used to develop growth scenarios representing two different types of alternative development patterns. The objective was to provide information on the projected impacts of the alternatives and to highlight the difference between the two growth scenarios developed from the workshops and the Base Case or traditional growth scenario. Brief descriptions of each scenario are found below:

- Scenario A: (Base Case) denotes the current growth and development pattern for the Houston-Galveston region, based on H-GAC's 2035 demographic forecasts. It is characterized by low-density housing development in currently undeveloped portions of the region with mixed-use development along major roadways. Jobs are concentrated in the central business district, and several other employment centers are scattered throughout the region.
- Scenario B: denotes the workshop participants' ideal growth pattern, adjusted to the *regional forecast* of household and employment growth. This scenario is characterized by development along major roadways, in a radial pattern, creating centers at major intersections.
- Scenario C: denotes the workshop participants' ideal growth pattern, adjusted to the forecast of household and employment *growth by county*. This scenario clusters mixed-use development in satellite cities and along major roadways in a radial pattern. Satellite employment centers emerge throughout the region.

Table 4-12 identifies the transportation-related data associated with the growth scenarios.

Table 4-12. Alternative Growth Scenarios

Data of Interest	Scenario A	Scenario B	Scenario C
Transit Boardings	758,000	+10%*	+20%*
Vehicle Miles Traveled	248M	-7%*	-7%*
Vehicle Hours Traveled	7M	-16%*	-15%*
NOx Emissions	46.58	46.43	43.74
VOC Emissions	50.72	48.65	47.65

Source: H-GAC 2009.

*Denotes change over Scenario A

These results reinforce the public's intuitive notions about coordinated transportation and land use planning. H-GAC has identified a three-pronged land use and transportation coordination strategy that calls for the creation of bicycle and pedestrian friendly Centers; establishment of better Connections between the centers, and designs based on the Context of the surrounding land uses. This "3C's" strategy, in addition to enhancing mobility choices, is expected to produce economic, environmental and "quality of place" benefits for the region.

In order to integrate the 3C's concepts into regional transportation planning, H-GAC has identified the following five strategies:

1. Coordinate transit and roadway planning to connect existing and planned centers with the region's multi-modal transportation network.
2. Promote roadway designs appropriate for the context of the surrounding community to ensure safe, convenient travel choices for all user modes.
3. Coordinate transportation improvements and private sector development efforts to promote projects that combine sustainable mobility and economic benefits.
4. Help fund local planning studies to assist in the development of centers, and
5. Provide funding support for infrastructure projects that enhance connections within and between centers.

In addition to expanding the regional transit system, transit ridership and efficiency can be improved by coordinating transit and land use. Development along transit lines that increases density and integrates transit with development can make transit more accessible and decrease the need for single-occupancy vehicle trips. Recommended strategies include:

- Promote community design that provides convenient access to transit systems.
- Promote transit-oriented development investments around regional transit facilities.
- Enhance access opportunities for the transportation disadvantaged.

These land use/transportation coordination tools are tools that can be used in the H-GAC region to reduce the need for additional infrastructure, including utilities, transportation, water, and tolled facilities for the region. Without sustainable land use, the additional cost of new infrastructure items will increase beyond the current estimated costs.

The proposed 2035 regional roadway network is in support of the predicted land use changes and growth in the region. To meet the demand of the expansive growth and changes in land use from development, the aim of the 2035 regional roadway network is to supply the transportation portion of infrastructure requirements for the expanding growth and development. Current and future predicted available funds from the federal government for transportation alone will not be able meet the demands for the transportation infrastructure needed to support the predicted changes. Tolled roads and managed lanes are methods that the RTP employs to ensure the transportation demands from future growth is met when considering the limited transportation funds available.

Land Use Findings

The proposed 2035 regional tolled roadway network may affect land use within the MPO boundaries by creating land development and/or redevelopment opportunities. However, the regional tolled roadway network is only one factor in creating favorable land development conditions; other prerequisites for growth in the region include demand for new development, favorable local and regional economic conditions, adequate utilities, and supportive local land development policies. The proposed 2035 regional tolled roadway network may influence and facilitate the additional planned regional land use conversion, redevelopment, and growth.

Cumulative Toll Impact Conclusion

The regional tolled roadway network would cause some impacts to natural and socio-economic resources. However, the regional tolled roadway network would have a beneficial impact on EJ populations and air quality in the Houston-Galveston area. Overall, with the 2035 build scenario, which includes the regional tolled roadway network in place, travel efficiencies in the region will benefit both EJ and non-EJ populations. The net benefit may be slightly greater for the non-EJ populations because the average trip length in these zones is greater than the average trip length from the EJ zones. The additional vehicle lane miles that the regional tolled roadway network provides enables traffic to flow more efficiently thereby reducing emissions associated with cars traveling at lower speeds or idling conditions.

In addition, regional mitigation for air quality and EJ populations are also addressed by the H-GAC as part of 2035 RTP. The transportation planning process at the MPO regional level is required to incorporate measures to minimize the potential to affect the environment and communities, including populations protected under Title VI of the Civil Rights Act of 1964 and Executive Order 12898 and air quality which is protected by the CAAA. Any transportation facility including the regional tolled roadway network would be required to meet these standards in order to be included in the TIP/STIP and RTP. Furthermore, all new projects to be added to the TIP/STIP and RTP must be in conformance with the SIP.

Although land use impacts cannot be mitigated at a regional level, they can at a municipal level because these entities have direct control over land use. However, the MPO can aid in land use impact avoidance at the regional level by only funding transportation projects consistent with the regional vision and by working with municipalities to address regional infrastructure changes in their

comprehensive plans. State and Federal regulatory agencies are required to institute policies and monitor project-level effects to the natural and cultural resources that are found in their jurisdictions. Avoidance, minimization and mitigation strategies are used to support those policies in order to reduce impacts to these resources.

Finally, as required by NEPA, appropriate mitigation for direct impacts would occur at the project level. Because of these mitigation measures, the regional proposed tolled roadway network is not anticipated to have a substantial cumulative impact on the resources considered in this section.

4.17 CONCLUSION

Since the time of the last environmental documentation for this project, there are several proposed design changes in the area of the project between SH 146 and FM 1405, and a proposed overpass at Fisher Road. The current proposed project is described in detail in *Section 1.2*. Tolling of SH 99 is proposed between SH 146 and Fisher Road, connecting to the existing SH 99 tollway. A public meeting was conducted on July 27, 2010 during preparation of this Re-evaluation. TxDOT finalized the public meeting summary, including responses to comments, in January 2011. The summary will be posted on TxDOT's website by summer of 2011.

There have been no changes in condition that have resulted in significant social, economic, indirect, or cumulative consequences not previously addressed. This Re-evaluation details that project modifications assessed in this re-evaluation would not result in impacts substantially different than those considered in the previously approved studies. Implementation of these changes would not appreciably increase the potential for impacts beyond those considered in previous assessments. No additional public involvement is required, and further environmental studies are not warranted.

5.0 AGENCY/PUBLIC COORDINATION

5.0 AGENCY/PUBLIC COORDINATION

5.1 AGENCY COORDINATION

The most recent project coordination with the Chambers County Historical Commission and the Harris County Historical Commission was conducted in 2009. Letters were sent to these agencies regarding their knowledge concerning the location of any historically or archeologically significant properties in the subject area that might be eligible for inclusion in, or under nomination to, the NRHP. Although no recorded historical or archeological sites were reported by these groups, the Chambers County Historical Commission representative reported that broken pottery has been found below the water surface along the banks of Cedar Bayou. No specific location or documentation of this was provided by the representatives (*Appendix D*).

Coordination with the NMFS was initiated in 2006 regarding the potential effects to EFH resulting from the proposed bridge construction over Cedar Bayou. Coordination with the NMFS was concluded on October 26, 2006. NMFS concurred with the conclusions in the EFH assessment provided by TxDOT that the proposed project would have minimal impact on EFH and no further consultation with NMFS is required for the proposed project at Cedar Bayou (*Appendix D*). Coordination with the NMFS regarding the proposed eastbound bridge replacement at Goose Lake was initiated in 2010, and is ongoing.

Coordination with the USACE and the USCG regarding permit authorization for bridge construction over a navigable waterway, Cedar Bayou, was initiated in 2006. TxDOT will continue to coordinate with both agencies to obtain permits for bridge construction at Goose Lake and Cedar Bayou.

Coordination would be initiated with the USACE for impacts to approximately 1.8 acres of waters of the United States, including wetlands. A Department of the Army Individual Permit (IP) Application would be prepared and submitted to the USACE. Compensatory mitigation for potential impacts to regulated waters of the U.S. would be coordinated with the USACE and performed in accordance with the terms of the approved permit(s). The IP would be obtained prior to construction letting.

5.2 PUBLIC COORDINATION

Public involvement for highway improvement projects that use federal aid highway funds will be consistent with applicable state and federal law and 43 Texas Administrative Code (TAC) §2.43 (b) (relating to Highway Construction Projects-State Funds). As stated in 43 TAC §2.43 (b), public involvement shall be encouraged as an important element of project planning and meetings shall be initiated by the pertinent district office and will depend on and be consistent with the type and complexity of each state project.

During the EIS planning process, seven public meetings and a public hearing were held, starting in March 1992 and ending at the public hearing in January 1995. Meetings were announced in local newspapers, and public meeting notices were mailed to elected officials. To comply with EO 13166, newspaper announcements provided opportunities for citizens to request language interpreters. Following completion of the EIS, and during preparation of the Re-evaluation that addressed proposed tolling of Segment 1-2 from IH 10(E) to Fisher Road, a public meeting was held on October 20, 2005, in Mont Belvieu, Texas. To comply with EO 13166, newspaper announcements were published in a Spanish language newspaper, and Spanish-speaking individuals were available to

discuss the project during the public meeting. Due to proposed design changes and tolling of the roadway from SH 146 to Fisher Road, one public meeting was conducted on July 27, 2010 during preparation of this Re-evaluation. Approximately 118 individuals registered at the public meeting at the Baytown Community Center. The meeting was an open house format. Public notices were published in the *Houston Chronicle*, *Baytown Sun*, and *La Voz* (Spanish Newspaper). The following common comments or public concerns were documented:

- requests for roadway improvements and safety improvements
- concerns about speed limits, roadway access, tolling, and roadway flooding

TxDOT prepared a public meeting summary, including responses to comments, in January 2011. The summary will be posted on TxDOT's website in the summer of 2011.

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Reevaluation Consultation Checklist (RCC)

Original Environmental Decision Date: 8/13/1998

Let Date: October 2016

RCC Date: 6/21/2016

Project Number:

RCC Prepared by: Callie Barnes

RCC Reviewed by: Julia Ragsdale

Project Name: Grand Parkway I-2

Project Limits From: I-10 E Near Belvieu

Project Limits To: SH 146 in Baytown

Control Section Job Number (CSJ): 3187-01-005 is the original control CSJ. 3187-01-009 (from BS 146 West to SH 146) is the CSJ where the Reevaluation is occurring. Other child CSJs associated with the control CSJ (entire project) are as follows: 3187-01-008, 011 and 3187-02-006, 009, 010, 011 and 3510-10-016.

District(s): Houston

County(ies): Galveston, Harris

Check this box if the project is being reclassified without a reevaluation.

No **Has the project design concept or scope changed since the original environmental decision and subsequent reevaluations?**

Project Description:

The originally cleared GP I-2 project was proposed as a four-lane at-grade arterial for the interim design with a preservation of ROW which would accommodate the future ultimate 6-lane freeway with frontage roads and overpasses. The preferred alternative follows an alignment which utilizes existing lanes and the Fred Hartman Memorial Bridge between the SH 225/SH 146 intersection and Missouri Street, approximately 198 meters (650 feet) west of Goose Creek. From Missouri Street, Segment I-2 would improve SH 146, Spur 55, and part of Fisher Road to a controlled access facility. It would then turn north across undeveloped land to intersect with I-10 E. Segment I-2 would be constructed as a four-lane, at grade arterial in a 91 to 122-meter (300-400 foot) ROW.

See Figure Attached. The current concept is the same as what was proposed in the original environmental clearance (1998 ROD) - the ultimate 6 lane schematics in the FEIS showed the main lanes on two bridges over the railroad, and the frontage roads were shown at-grade. However, in the October 2012 Reevaluation the originally cleared area at the RR crossing was revised, and the frontage roads were proposed to be below-grade (below the railroad) and the main lanes would be over the railroad. This design change reduced the ROW requirement in the area of the railroad by approximately 1.8 acres. Since the October 2012 Reevaluation, it has been determined to revert back to the original design as proposed in the FEIS and cleared in the ROD; thus resulting in (since the October 2012) an additional 1.72 acres of ROW. As stated previously, this 1.72 acres was originally cleared in the 1998 ROD.

Project Phasing Plan and Portions Completed (if warranted):

A construction contract for the area from I-10(I) to FM 1405, known as Segment I-2A was awarded in 2003 and the road opened to traffic in March 2008. A construction contract for the area from FM1405 to SH 146B in Baytown, including a second bridge over Cedar Bayou, was awarded in July 2013. Construction for this portion is on-going.

Portion of Project Currently Being Advanced:

Segment I-2B, from north of Fisher Road east to SH 146 near the Fred Hartman Bridge is a portion of the design-build contract TxDOT is proposing for Segments H & I-1 and I-2B from US 59(N) to US 90 to I-10(E) to SH 146 thru Montgomery, Harris, Liberty, Chambers and back into Harris County. This contract is scheduled to be awarded in July 2016, construction will begin in early 2017.

Date(s) of Prior Reevaluations:

2012



Reevaluation Consultation Checklist (RCC)

Who is the lead agency responsible for the approval of the entire project?

- FHWA (Not Assigned to TxDOT) State
 TxDOT (Assigned by FHWA) FTA
 Other federal agency

I. Project Funding and Planning Consistency

Yes Is the project still consistent with the current, approved, financially constrained MTP, STIP/ TIP?

What are the project funding sources?

Select all applicable funding sources, holding the Ctrl Key to select multiple sources. To exit the menu, press the Tab Key.

Federal
State
Local

II. Environmental Classification

Select the project's environmental classification: Final Environmental Impact Statement (FEIS)

Yes Have major steps to advance the action occurred within three years after the approval of the FEIS, SEIS, or the last major approval or grant? Major steps include authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates.

III. Project Information

1. Proposed Action

No Have substantial changes occurred to the project design concept and/or scope since the original environmental decision or subsequent reevaluations?

2. Project Limits

No Has there been a change to the project limits from what was described in the original environmental decision or subsequent reevaluations?

3. Right of Way

Yes Have the ROW requirements changed since the original environmental decision or subsequent reevaluations?

Yes Would the changes require the acquisition of any new ROW not covered by the previous decision?

What was the amount of ROW originally required (in acres): 586 000



Reevaluation Consultation Checklist (RCC)

How much did ROW change since the previous decision? (in acres): 1.720

If the required acreage is reduced, enter a negative number.

Total ROW required (in acres): 587.720

Describe:

The addition of 1.72 acres is a change since the previous environmental decision - 2012 Reevaluation; however, it is not a change from the original 1998 ROD.

No Would any additional ROW be required from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or historic site?

4. Easements

No Have the requirements for temporary or permanent easements changed since the original environmental decision or subsequent reevaluations?

5. Displacements

No Will changes, if any, result in residential or nonresidential displacements that were not covered by the original environmental decision or subsequent reevaluations?

6. Access

No Will changes, if any, to the project design result in a temporary or permanent adverse change of access to any residential or nonresidential properties that were not covered in the original environmental decision or subsequent reevaluations?

7. Traffic

No Have there been substantial changes to the projected ADT from what was described in the original environmental decision or subsequent reevaluations?

8. Laws and Regulations

No Have there been any changes to laws or regulations that would result in the need for any updated analyses since the original environmental decision or subsequent reevaluations?

9. Land Use and Population

No Have there been any substantial changes in land use or population within the project area since the original environmental decision or subsequent reevaluations?

IV. Required Action

Project Name: Grand Parkway I-2



Reevaluation Consultation Checklist (RCC)

Control Section Job Number (CSJ): 3187-01-005 is the original control CSJ. 3187-01-009 (from BS 146 West to SH 146) is the CSJ where the Reevaluation is occurring. Other child CSJs associated with the control CSJ (entire project) are as follows: 3187 01-008, 011 and 3187-02-006, 009, 010, 011 and 3510-10-016.

Responses to the previous questions indicate there are potential changes that may affect the previous environmental decision. Further evaluation is required. Complete the reevaluation and Sections V-XII.

V. Environmental Setting and Affected Environment

Indicate whether there have been changes in the affected environment since the environmental decision. Changes in the affected environment could result from changes in design, in the environmental setting, or laws and regulations.

Only select NA if a resource was not addressed in the original environmental documentation and does not need to be addressed as a result of the changes.

If Yes is selected, describe the changes in the field provided.

Changed?	Resource/Setting	Comments
<u>No</u>	Environmental Justice	
<u>No</u>	Socio economics	
<u>No</u>	Farmlands	
<u>No</u>	Threatened/Endangered Species	
<u>No</u>	Vegetation	
<u>No</u>	Water Quality	
<u>No</u>	Wetlands/Waters of the U.S. (including any changes in permitting)	
<u>No</u>	Floodplains	
<u>No</u>	Air Quality	
<u>No</u>	Noise Impacts	
<u>Yes</u>	Hazardous Materials	The additional 1.72 acres was previously covered in the 1998 ROD; therefore, no additional investigations are needed in the 1.72 acres.
<u>No</u>	Archaeological Resources	
<u>No</u>	Historic Resources	
<u>No</u>	Section 4(f)/6(f)	
<u>No</u>	Visual Resources/Aesthetics	
<u>No</u>	Indirect and Cumulative Impacts	
<u>Yes</u>	Others	Need to conduct a MAPO for affected property owners.

VI. Resource Agency Coordination

Check the box in the NA Column if no additional coordination was required.

If additional coordination was required, describe it, and enter the dates the original and additional coordination were completed. List documentation of additional coordination in Section XI below.

NA	Agency	Previous Coordination Completed	Additional Completed
	Texas Historical Commission		
<input checked="" type="checkbox"/>	Archeology		
<input checked="" type="checkbox"/>	Historical Structures		
<input type="checkbox"/>	Texas Parks and Wildlife Department		
<input checked="" type="checkbox"/>	Texas Commission on Environmental Quality		
<input checked="" type="checkbox"/>	U.S. Army Corps of Engineers		
<input checked="" type="checkbox"/>	U.S. Coast Guard		
<input type="checkbox"/>	U.S. Fish & Wildlife Service		
<input checked="" type="checkbox"/>	FHWA (Conformity Determination)		
<input type="checkbox"/>	Other: A MAPO is required. Describe: MAPO is required. Meetings are being scheduled with two affected property owners that own the 1.72 acres.	PH was held Jan. 26, 1995. ROD issued 1998.	MAPO is required. Meetings are being scheduled with two affected property owners that own the 1.72 acres.

VII. Additional Studies

If applicable, describe any additional environmental studies that were conducted. Select NA if changes to the project did not result in a need for new studies. Indicate whether studies have been conducted or remain to be completed. Describe additional studies, and list them in Section XI below.

NA **Were additional studies needed?**

VIII. MTP/TIP Consistency

- No **Is the project located outside the MPD area?**
- Yes **Is the project listed in the current, approved, financially constrained MTP and TIP?**
What is the ETC? Early 2017
- Yes **Is the current ETC consistent with the ETC indicated in the initial environmental document or last reevaluation?**
- No **Has a revised CO and MSAT analysis been conducted?**
What is the total project cost? \$108,000,000
- Yes **Is the project located in a non-attainment area?**



Reevaluation Consultation Checklist (RCC)

No **Would any changes to the project result in an inconsistency with the fiscally constrained MTP and TIP?**

Note: Estimated Time of Completion (ETC) is the fiscally constrained MTP/LRTP ultimate proposed project versus an interim and/or intermediate phase of an ultimate proposed project.

No **Will a revised conformity determination be required?**

Note: Shifts, earlier or later not within, in AQ analysis years can cause revisions to conformity.

IX. EPICS

Indicate the status of required any permits and/or commitments, and describe any changes in the related requirements. List any required documentation in Section XI below. Selecting some options will trigger the appearance of a description field. If a field appears after making a selection, a description is required.

Select the applicable finding from the dropdown field below:

All mitigation and/or commitments from the original approval remain the same.

X. Public Involvement

If additional public involvement is required, list summaries or required documentation in Section XI below. If no additional public involvement was required, select NA.

No **Is there substantial controversy on environmental grounds?**

Yes **Was additional public involvement completed for this reevaluation?**

Previously Completed Public Involvement Activities:

Meeting with Affected Property Owners

Yes **Does any additional public involvement remain to be completed?**

Public Involvement Activities yet to be completed:

Meeting with Affected Property Owners

XI. Attachments and References

Attachments:

List any studies, permits, coordination, etc. attached to this checklist. If there are no associated attachments, enter NA into the field.

Figure 1 attached shows the additional 1.72 acres needed at the RR ROW.

References:

List any studies, permits, coordination, etc. incorporated into the RCC by reference. Include the names and locations of electronic files. If there are no associated references, enter NA into the field.

N/A

XII. Conclusion and Recommendation

Project Name: Grand Parkway I-2



Reevaluation Consultation Checklist (RCC)

Control Section Job Number (CSJ): 3187-01-005 is the original control CSJ. 3187-01-009 (from BS 146 West to SH 146) is the CSJ where the Reevaluation is occurring. Other child CSJs associated with the control CSJ (entire project) are as follows: 3187-01-008, 011 and 3187-02-006, 009, 010, 011 and 3510-10-016.

Reevaluation Preparer's Recommendation

The environmental decision has been reevaluated as required by 23 CFR 771.129 and/or 43 TAC 92.85 and it has been determined that no substantial changes have occurred to the social, economic or environmental impacts of the proposed action that would substantially impact the quality of the human or natural environment. Therefore, the original environmental decision remains valid. It is recommended that the project be advanced to the next phase of project development.

Callie Barnes

Reevaluation Preparer Name

Environmental Specialist

Title

Callie Barnes

Reevaluation Preparer Signature

Digitally signed by Callie Barnes, DN: cn=Callie Barnes, o=Washington State Department of Ecology, email=callie.barnes@ecology.wa.gov

July 7, 2016

Date

Reevaluation Reviewer's Recommendation

The environmental decision has been reevaluated as required by 23 CFR 771.129 and/or 43 TAC 92.85 and it has been determined that no substantial changes have occurred to the social, economic or environmental impacts of the proposed action that would substantially impact the quality of the human or natural environment. Therefore, the original environmental decision remains valid. It is recommended that the project be advanced to the next phase of project development.

Comments (Optional):

Julia Ragsdale

Reevaluation Reviewer Name

Project Delivery Manager

Title

Julia Ragsdale

Reevaluation Reviewer Signature

Digitally signed by Julia Ragsdale, DN: cn=Julia Ragsdale, o=Washington State Department of Ecology, email=julia.ragsdale@ecology.wa.gov

July 7, 2016

Date



Department Delegate's Decision

The environmental decision has been reevaluated as required by 23 CFR 771.129 and/or 43 TAC §2.85 and it has been determined that no substantial changes have occurred to the social, economic or environmental impacts of the proposed action that would substantially impact the quality of the human or natural environment. Therefore, the original environmental decision remains valid. It is recommended that the project be advanced to the next phase of project development.

Comments (Optional):

Jenise Walton
Department Delegate Name

PD Deputy Section Director
Title

Jenise Walton
Department Delegate Signature

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
1205 NORTH MOUNTAIN AVENUE, SUITE 1000
DENVER, COLORADO 80202

July 7, 2016
Date



Documented Reevaluation Checklist (DRC)

For detailed instructions on completing this checklist please see *Guidance: Preparing a Documented Reevaluation Using the Documented Reevaluation Checklist (DRC)* available in the TxDOT Environmental Compliance Toolkit.

Original Environmental Decision Date: 8/13/1998

Let Date: May 2017

DRC Prepared by: Andrew Leske

DRC Reviewed by: Scott Ford

Project Name: SH 99, Segment I-2

Project Limits From: SH 225

Project Limits To: I-10(E)

Control Section Job Number (CSJ): Original Control CSJ: 3187-01-005. Additional child CSJs associated with the control CSJ: 3187-01-008, 011 and 3187-02-006, 009, 010, 011 and 3510-10-016. Additional CSJ's from Prior Reevaluations include: 3187-01-009 and 3510-10-901.

District(s): Beaumont, Houston

County(ies): Chambers, Harris

Yes **Has the project design or scope changed since the original environmental decision and subsequent reevaluations?**

Project Description:

The originally cleared SH 99 Segment I-2 project was proposed as a four-lane at-grade arterial with a preservation of ROW which would accommodate the future ultimate 6-lane freeway with frontage roads and overpasses, once justified. The preferred alternative follows an alignment which utilizes existing lanes and the Fred Hartman Memorial Bridge between the SH 225/SH 146 intersection and Missouri Street, approximately 650 feet west of Goose Creek. From Missouri Street, Segment I-2 would improve SH 146, Spur 55, and part of Fisher Road to a controlled access facility. It would then turn north across undeveloped land to intersect with IH 10 E. Segment I-2 would be constructed as a four-lane, at grade arterial in a 300 to 400 foot ROW.

Project History:

A construction contract for the area from IH-10(E) to FM 1405, known as Segment I-2A was awarded in 2003 and the road opened to traffic in March 2008. A construction contract for the area from FM 1405 to SH 146B in Baytown, including a second bridge over Cedar Bayou, was awarded in July 2013. Construction for this portion is on-going.

Portion of Project Currently Being Advanced:

Segment I-2 from East of ML Wisner Road to Evergreen Road, acquisition of a drainage easement.

Date(s) of Prior Reevaluations:

2002 Reevaluation which included a nine mile section from IH 10 (E) to BS 146 at SH99, for the redesign of the U-turn at Cedar Bayou and as well as the alteration of drainage channel B.

2006 CF which included the design change of the proposed bridge at FM 565.

2007 Reevaluation for the proposed tolling from IH 10 (E) to Fisher Road.

2008 CL for a bridge replacement at BS 146 westbound at Goose Lake.

October 9, 2012 Reevaluation: construction of an 8.7 mile portion of project from SH 146 to FM 1405, tolling of the roadway from SH 146 to Fisher Road, and a proposed overpass at Fisher Road.

July 7, 2016 Reevaluation: reverted Design at RR crossing back to original design approved in RCDI resulting in additional ROW.



Who is the lead agency responsible for the approval of the entire project?

- FHWA (Not Assigned to TxDOT); State
- TxDOT (Assigned by FHWA) FTA
- Other federal agency

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014 and executed by FHWA and TxDOT.

I. Project Funding and Planning Consistency

Yes **Is the project still consistent with the current, approved, financially constrained MTP, STIP/ TIP?**

Funding Source(s): State

II. Environmental Classification

Select the project's environmental classification: Final Environmental Impact Statement (FEIS)

Yes **Have major steps to advance the action occurred within three years after the approval of the FEIS, SEIS, or the last major approval or grant? Major steps include authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates.**

III. Project Information

1. Proposed Action

Yes **Have substantial changes occurred to the project design and/or scope since the original environmental decision or subsequent reevaluations?**

Explain:

This Re-Evaluation is to cover the acquisition of a drainage easement located east of ML Wisner Road to Evergreen Road (Figure 1 and Figure 2). The proposed drainage easement is approximately 12.2 acres. The width of the drainage easement varies from 100-feet to 150-feet and is approximately 0.75-mile long. The proposed action includes the acquisition of a drainage easement and does not include any construction activities, earth-moving activities, or vegetation clearing within the proposed easement. Maintenance activities within the proposed easement would be limited to the periodic removal of beaver dams.

2. Project Limits

No **Has there been a change to the project limits from what was described in the original environmental decision or subsequent reevaluations?**



3. Right of Way

No Have the ROW requirements changed since the original environmental decision or subsequent reevaluations?

4. Easements

Yes Have the requirements for temporary or permanent easements changed since the original environmental decision or subsequent reevaluations?

Yes Would the changes require the acquisition of any new easements not covered by the previous decision?

What was the amount of easements originally required (in acres): 0.000

How much did easements change since the previous decision? (in acres): 12.200

If the required acreage is reduced, enter a negative number.

Total easements required (in acres): 12.200

Describe:

The proposed project is for the acquisition of a drainage easement. The drainage easement varies in width from 100 feet to 150-foot wide and is approximately 0.75 mile long.

No Would any additional easements be required from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or historic site?

5. Displacements

No Will changes, if any, result in residential or nonresidential displacements that were not covered by the original environmental decision or subsequent reevaluations?

6. Access

No Will changes, if any, to the project design result in a temporary or permanent adverse change of access to any residential or nonresidential properties that were not covered in the original environmental decision or subsequent reevaluations?

7. Traffic

No Have there been substantial changes to the projected ADT from what was described in the original environmental decision or subsequent reevaluations?

8. Laws and Regulations

No Have there been any changes to laws or regulations that would result in the need for any updated analyses since the original environmental decision or subsequent reevaluations?



9. Land Use and Population

No **Have there been any substantial changes in land use or population within the project area since the original environmental decision or subsequent reevaluations?**

IV. Required Action

Project Name: SH 99, Segment I-2

Control Section Job Number (CSJ): Original Control CSJ: 3187-01-005. Additional child CSJs associated with the control CSJ: 3187-01-008, 011 and 3187-02-006, 009, 010, 011 and 3510-10-016. Additional CSJ's from Prior Reevaluations include: 3187-01-009 and 3510-10-901.

Responses to the previous questions indicate there are potential changes that may affect the previous environmental decision. Further evaluation is required. Complete the reevaluation and Sections V-XII.

V. Environmental Setting and Affected Environment

Indicate whether there have been changes in the affected environment since the environmental decision. Changes in the affected environment could result from changes in design, in the environmental setting, or laws and regulations.

Only select NA if a resource was not addressed in the original environmental documentation and does not need to be addressed as a result of the changes.

If Yes is selected, describe the changes in the field provided.

Changed?	Resource/Setting
No	Environmental Justice
No	Socio-economics
No	Farmlands
No	Threatened/Endangered Species
	<p>Comments:</p> <p>Potential impacts to Threatened and Endangered Species were analyzed in the the BEF. The project would have no impact on Threatened or Endangered Species as no construction activities would occur. No TPWD Coordination is required.</p>
No	Vegetation
	<p>Comments:</p> <p>Vegetation impacts were analyzed in the BEF. No impacts to vegetation, including riparian vegetation, are anticipated as no construction activities are involved.</p>
No	Water Quality
No	Wetlands/Waters of the U.S. (including any changes in permitting)
	<p>Comments:</p> <p>Design change only involves acquisition of drainage easement and periodic removal of beaver dams. No construction actives will occur.</p>
No	Floodplains
No	Air Quality
No	Noise Impacts
No	Hazardous Materials
	<p>Comments:</p> <p>A Phase I ESA and Hazardous Materials ISA Report were completed for the proposed project. There are three active oil/gas wells on the subject property and three oil/gas well locations that are either plugged oil/gas wells and/or dry holes. The presence of oil wells and associated piping with ground staining and stressed and dead</p>



Documented Reevaluation Checklist (DRC)

Changed?	Resource/Setting
	vegetation is a recognized environmental condition. Further investigation, including a Phase II if necessary will be completed.
No	Archeological Resources <i>Comments:</i> An Archeological Resources Background Study and pedestrian survey was conducted. SHPO concurred on 6/29/17 with TxDOT's determination that no further archaeological work is required within the proposed easement.
No	Historic Resources <i>Comments:</i> On 11/21/16, ENV historians determined that there are no historic, non archaeological properties in area of easement and that no coordination with SHPO would be required.
No	Section 4(f)/6(f)
No	Visual Resources/Aesthetics
No	Indirect and Cumulative Impacts
Yes	Others <i>Comments:</i> The proposed action includes the periodic removal of beaver dams. Section IX of this form identifies BMPs to be followed.



VI. Resource Agency Coordination

Check the box in the NA Column if no additional coordination was required.

If additional coordination was required, describe it, and enter the dates the original and additional coordination were completed. List documentation of additional coordination in Section XI below.

NA	Agency	Previous Coordination Completed	Additional Completed
	Texas Historical Commission		
<input type="checkbox"/>	Archeology <i>Describe: Additional THC coordination for new survey was required and has been completed.</i>	12/2014	6/29/2017
<input checked="" type="checkbox"/>	Historical Structures		
<input checked="" type="checkbox"/>	Texas Parks and Wildlife Department		
<input checked="" type="checkbox"/>	Texas Commission on Environmental Quality		
<input checked="" type="checkbox"/>	U.S. Army Corps of Engineers		
<input checked="" type="checkbox"/>	U.S. Coast Guard		
<input checked="" type="checkbox"/>	U.S. Fish & Wildlife Service		
<input checked="" type="checkbox"/>	FIRWA (Conformity Determination)		
<input checked="" type="checkbox"/>	Other: N/A		

VII. Additional Studies

If applicable, describe any additional environmental studies that were conducted. Select NA if changes to the project did not result in a need for new studies. Indicate whether studies have been conducted or remain to be completed. Describe additional studies, and list them in Section XI below.

Yes Were additional studies needed?

Describe:

A Biological Evaluation Form, a Phase I ESA, HAZMAT ISA, a Historic Background Study and PCR, and an Archaeological Survey.

No Are there studies that remain to be completed?

VIII. MTP/TIP Consistency

No Is the project located outside the MPO area?

Yes Is the project listed in the current, approved, financially constrained MTP and TIP?

What is the ETC? TBD

Yes Is the current ETC consistent with the ETC indicated in the initial environmental document or last reevaluation?

No Has a revised CO and MSAT analysis been conducted?

What is the total project cost? 58,394,821



Documented Reevaluation Checklist (DRC)

Yes **Is the project located in a non-attainment area?**

No **Would any changes to the project result in an inconsistency with the fiscally constrained MTP and TIP?**

Note: Estimated Time of Completion (ETC) is the fiscally constrained MTP/LRTP ultimate proposed project versus an interim and/or intermediate phase of an ultimate proposed project.

No **Will a revised conformity determination be required?**

Note: Shifts, earlier or later not within, in AQ analysis years can cause revisions to conformity.

IX. EPICS

Indicate the status of required any permits and/or commitments, and describe any changes in the related requirements. List any required documentation in Section XI below. Selecting some options will trigger the appearance of a description field. If a field appears after making a selection, a description is required.

Select the applicable finding from the dropdown field below:

There are additional mitigation requirements or commitments.

Describe:

- If excavation activities occur within the areas of past/current oil/gas operations (pump jacks, underground piping, etc.), stained/discolored soils will be further investigated and handled according to applicable federal and state regulations and TxDOT Standard Specifications.
- Avoid disturbing beaver dams, whenever feasible, particularly when the dam supports an offsite wetland or when the dam does not cause drainage or other issues that could create safety hazards or accelerate the deterioration of transportation infrastructure.
- Ensure TxDOT personnel and contractors use humane techniques to discourage beaver reestablishment of dams where roadway safety is an issue.
- At all times, work cooperatively with landowners when resolving beaver damage problems. When working with landowners to secure permission for a trapper, the objectives for removing the beaver from the roadside area must be made very clear to the trapper.
- When impounded water from an upstream or downstream beaver dam is damaging a road, employ regulated trapping as the most efficient and cost-effective solution.
- At all times, observe state wildlife agency regulations concerning beaver trapping, installation of water level control devices, and beaver dam removal. Contact state wildlife offices for questions concerning conservation law.

X. Public Involvement

If additional public involvement is required, list summaries or required documentation in Section XI below. If no additional public involvement was required, select NA.

No **Is there substantial controversy on environmental grounds?**

Yes **Was additional public involvement completed for this reevaluation?**

Previously Completed Public Involvement Activities:

Meeting with Affected Property Owners

No **Does any additional public involvement remain to be completed?**

Comments:

MAPO letters were sent out on 12/27/16. A MAPO Summary can be found in ECOS.



XI. Attachments and References

Attachments:

List any studies, permits, coordination, etc. attached to this checklist. If there are no associated attachments, enter NA into the field.

- Figure showing proposed drainage easement.
- SHPO concurrence letter related to archaeology, concurrence 6/29/17.
- TxDOT ENV memo related to historic resources, approved 11/21/16.

References:

List any studies, permits, coordination, etc. incorporated into the DRC by reference. Include the names and locations of electronic files. If there are no associated references, enter NA into the field.

The following are located in ICOS:

- Archaeological Survey, Final Approved 0387-01-005 Survey.pdf
- Tier I Site Assessment Form, Final Approved GP I-2 Drainage Easement ReEval TPWD Tier 1.pdf
- Biological Evaluation Form, Final Approved GP I-2 Drainage Easement ReEval BEF.pdf
- Hazmat ISA, Final Approved GP I-2 Drainage Easement ReEval ISA Form.pdf
- Phase I ESA, Final Approved GP I-2 Drainage Easement ReEval Phase I Site Assessment.pdf
- MAPO documentation, Final Approved GP I-2 Drainage Easement MAPO Summary.pdf

XII. Conclusion and Recommendation

Project Name: SH 99, Segment 1-2

Control Section Job Number (CSJ): Original Control CSJ: 3187-01-005. Additional child CSJs associated with the control CSJ: 3187-01-008, 011 and 3187-02-006, 009, 010, 011 and 3510-10-016. Additional CSJs from Prior Reevaluations include: 3187-01-009 and 3510-10-001

Reevaluation Preparer's Recommendation

The environmental decision has been reevaluated as required by 23 CFR 771.179 and/or 43 TAC §2.85 and it has been determined that no substantial changes have occurred to the social, economic or environmental impacts of the proposed action that would substantially impact the quality of the human or natural environment. Therefore, the original environmental decision remains valid. It is recommended that the project be advanced to the next phase of project development.

Andrew Leske

Reevaluation Preparer Name

Environmental Specialist

Title

Andrew Leske

Reevaluation Preparer Signature

Signature of Preparer

July 26, 2017

Date



Reevaluation Reviewer's Recommendation

The environmental decision has been reevaluated as required by 23 CFR 771.129 and/or 43 TAC §2.85 and it has been determined that no substantial changes have occurred to the social, economic or environmental impacts of the proposed action that would substantially impact the quality of the human or natural environment. Therefore, the original environmental decision remains valid. It is recommended that the project be advanced to the next phase of project development.

Comments (Optional):

This DRC evaluates the acquisition of a 12 acre drainage easement. Activities in the easement will be limited to the periodic removal of beaver dams. BMPs were developed to manage impacts to beavers. ENV-arch and ENV-hist determined no resources would be impacted. No impacts to vegetation or waters of the US are expected. A Phase I ESA identified oil and gas operations in the area.

Scott Ford
Reevaluation Reviewer Name

ENV Project Delivery Manager
Title

Scott Ford
Reevaluation Reviewer Signature

Digitally signed by Scott Ford
DN: cn=Scott Ford, o=U.S. Department of
Transportation, ou=Federal Highway Administration, email=Scott.Ford@dot.gov

October 3, 2017
Date

Department Delegate's Decision

The environmental decision has been reevaluated as required by 23 CFR 771.129 and/or 43 TAC §2.85 and it has been determined that no substantial changes have occurred to the social, economic or environmental impacts of the proposed action that would substantially impact the quality of the human or natural environment. Therefore, the original environmental decision remains valid. It is recommended that the project be advanced to the next phase of project development.

Comments (Optional):

Jenise Walton
Department Delegate Name

Project Delivery Deputy Section Dir.
Title

Jenise Walton
Department Delegate Signature

Digitally signed by Jenise Walton
DN: cn=Jenise Walton, o=U.S. Department of
Transportation, ou=Federal Highway Administration, email=jenise.walton@dot.gov

October 3, 2017
Date

GP I-2 Drainage
Easement DRC
Attachments

SH-1P
CHANNEL

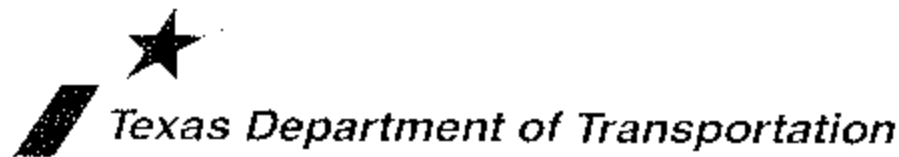
EVERTON RD

PROP. 80
DRAINAGE EASEMENT

Page 108
DRAINAGE EA



Archeology Coordination



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

June 22, 2017

Section 106/Antiquities Code of Texas; Coordination, Review and Comments (Permit #7901)
Intensive Survey Draft Report: State Highway 99, Segment I-2 Drainage Easement Improvement
Project
Houston District; Harris County (CSJ: 3187-01-005)

Ms. Patricia A. Mercado-Allinger
Division Director/State Archeologist
Archeology Division
Texas Historical Commission
PO Box 12276
Austin, TX 78711-2276

Dear Ms. Mercado-Allinger:

The proposed project will be undertaken with Federal funding. In accordance with Section 106 (and the First Amended Programmatic Agreement among the Texas Department of Transportation [TxDOT], the Texas State Historical Preservation Officer [TSHPO], the Federal Highway Administration [FHWA], and the Advisory Council on Historic Preservation) and the Antiquities Code of Texas (and the Memorandum of Understanding between the Texas Historical Commission [THC] and TxDOT), this letter initiates consultation for the proposed undertaking.

The Houston District of the Texas Department of Transportation (TxDOT) proposes to improve drainage for State Highway (SH) 99 at Goose Creek (CSJ: 3187-01-005) via acquiring and improving an existing drainage easement between SH 146 and Evergreen Road to the east of Tallant Road and north of Tabbs Bay. The proposed project would remove existing drainage impediments (beaver dams) and perform needed maintenance on this drainage easement. The proposed project consists of 0.75 mile of an existing drainage easement, approximately 100 to 150 feet in width, covering approximately 12.1 acres. The area of potential effect (APE) is defined as the proposed project length, the existing easement width, and the depth of construction impacts (historically, maintenance activities in a drainage ditch involve cleaning out the ditch which will likely impact less than 12 inches of depth).

AnaTerra Environmental, Inc. (AnaTerra) archeologists, under contract to Ecosystem Planning and Restoration, LLC and on behalf of TxDOT, conducted an intensive survey of the above proposed project during May 2017. Archival review determined that there were three recorded archeological properties and two previous archeological surveys within one kilometer (3,300 feet) to the proposed project APE. The nearest cemetery is approximately one kilometer outside the APE. The survey would cover approximately 0.4 mile of the APE due to 0.35 mile being

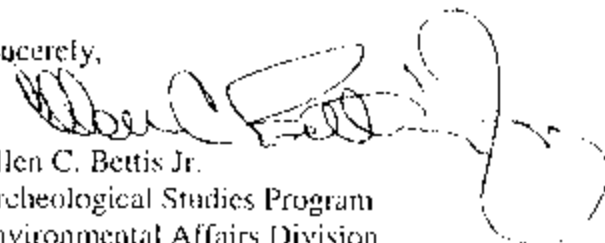
inundated. The APE was assessed via pedestrian survey and 21 shovel-tests, across the 0.4 mile of the APE that was not inundated. Mechanical trenching was not needed due to the depth of construction impacts for this project. One site was recorded during this survey, 41HR1196, a historic-era site related to oil exploration and extraction. This site was determined to be ineligible based on the site's commonality and lack of research potential.

Please find attached for your review and comments the AnaTerra draft survey report, *Archeological Survey for State Highway 99, Segment I-2 Drainage Easement at Goose Creek, Harris County, Texas*. If you have no objections to the recommendations made or any comments on this draft report and find it acceptable, please sign below to indicate your concurrence and stamp the cover to indicate acceptance.

Thank you for your consideration in this matter. If you have any questions or further need of assistance, please contact Allen Bettis of the TxDOT Archeological Studies Program at (512) 416-2747.

Sincerely,

Allen C. Bettis Jr.
Archeological Studies Program
Environmental Affairs Division



Attachment

cc w/o attachments:

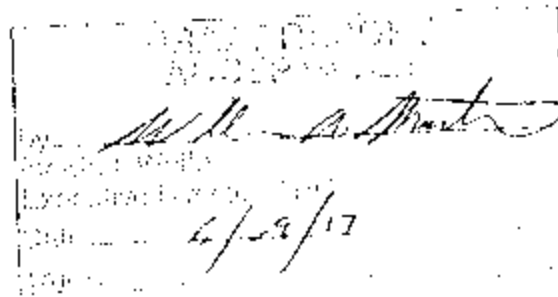
Mindy Bonine, AnaTerra – Austin
Callie Barnes, Houston District Office
ACB ECOS



Concurrence,
for Mark S. Wolfe, State Historic Preservation Officer

6/29/17
Date

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.



Archeological Survey for State Highway 99,
Segment 1-2 Drainage Easement at Goose Creek
Harris County, Texas

CSJ: 3187-01-005

Antiquities Permit No. 7901

Prepared by: Amy M. Goldstein

Date: June 2017

Historic
Resources
Coordination



MEMO

November 17, 2016

TO: Administrative File
From: Renee Benn

District: Houston
County: Harris
CSJ#: 3167-01-009
Highway: SH 99 (Grand Parkway) Segment I-2
Let Date: January 2017

Project Limits: East of ML Wismer Rd/S Main St to Evergreen Rd, Baytown

Project Description: Stipulation IX, Appendix 6. Construct permanent drainage easement. 12.13 acres of new ROW. No historic, non-archeological properties present.

SUBJECT: Internal review under the Section 106 Programmatic Agreement (Section 106 PA) among the Texas Department of Transportation, Texas State Historic Preservation Officer, Advisory Council on Historic Preservation, and Federal Highway Administration; and the Memorandum of Understanding (MOU) between the Texas Historical Commission and the Texas Department of Transportation

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

Existing Conditions:

Currently, the area that would contain the easement is an existing shallow drainage area containing some beaver dams. It is mostly forested and is considered part of the Goose Creek Oil Field.

Proposed Project:

The proposed drainage easement would vary from 100-150 feet in width and extend from ML Wismer Dr for approximately 0.75 miles to Evergreen Road (see attached map). The permanent drainage ditch would reduce flooding risks from the construction of SH 99 Segment I-2, which was cleared for construction with a FONSI issued in 1997. The construction for the drainage easement would require 12.13 acres of new ROW.

Determination of Eligibility:

A review of the National Register of Historic Places (NRHP), the list of State Antiquities Landmarks (SAL), the list of Recorded Texas Historic Landmarks (RTHL), and TxDOT files indicated that no historically significant resources were previously documented within the area of potential effects (APE). It has been determined through consultation with the State Historic Preservation Officer (SHPO) that the APE for the proposed project is 300' from the ROW.

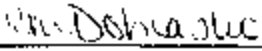
OUR VALUES: People • Accountability • Trust • Honesty

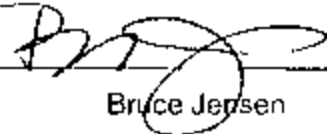
OUR MISSION: Through collaboration and leadership, we deliver a safe, reliable, and integrated transportation system that enables the movement of people and goods.

An Equal Opportunity Employer

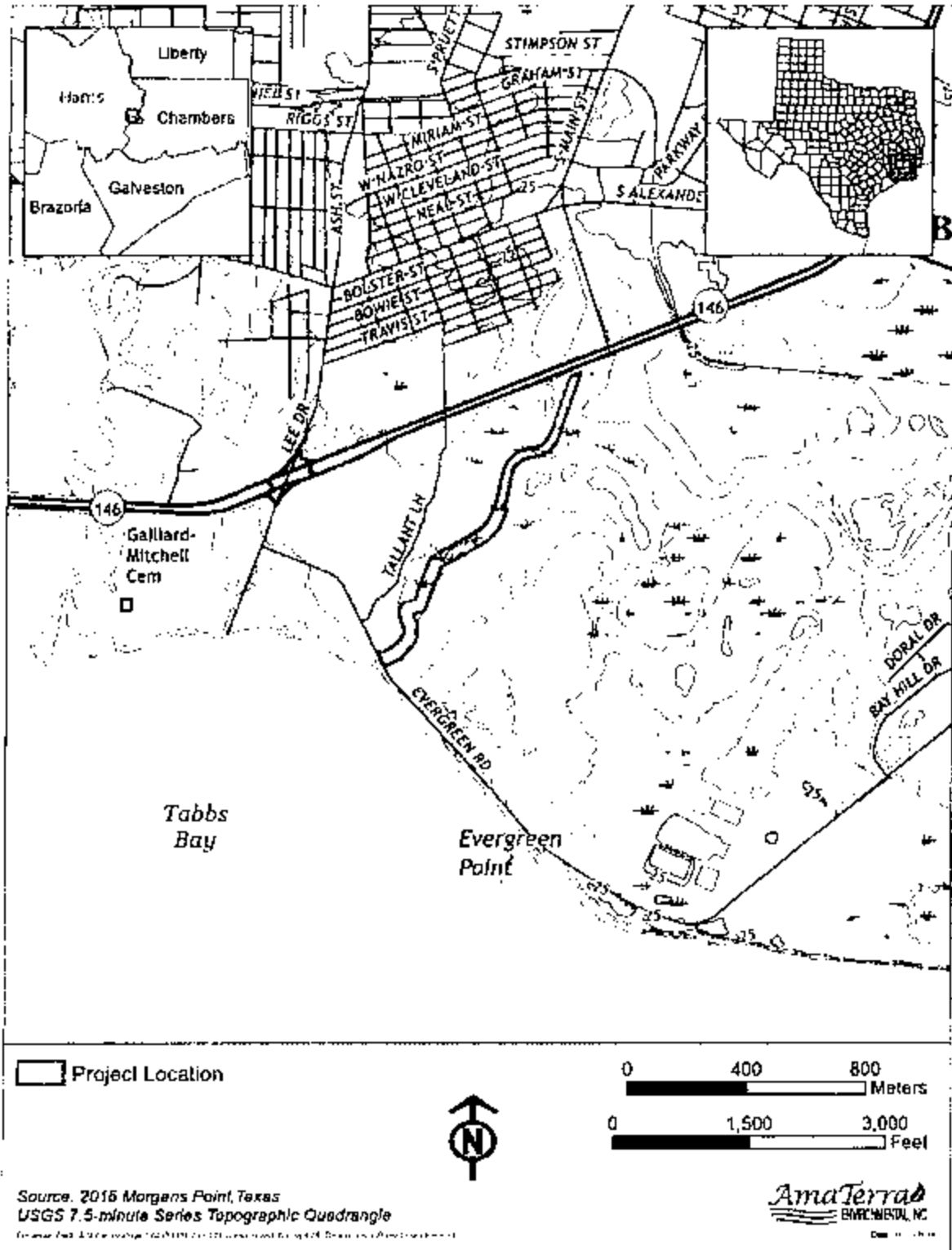
Based on the PCR and thorough examination of historic aerials, attached, staff determined that there is only one historic-age (built prior to 1972) property in the APE, the Goose Creek Oil Field. The Oil Field was determined **not eligible** for NRHP-listing under any criteria in a 2009 study of this project area (see attached memo).

Therefore, pursuant to Stipulation IX, Appendix 6 "Undertakings with the Potential to Cause Effects per 36 CFR 800.16(i)" of the Section 106 PA and the MOU, TxDOT historians determined that there are no historic, non-archeological properties in the APE. Individual project coordination with SHPO is not required.

Lead Reviewer  for TxDOT 11/18/2018
Rebekah Dobrasco Date

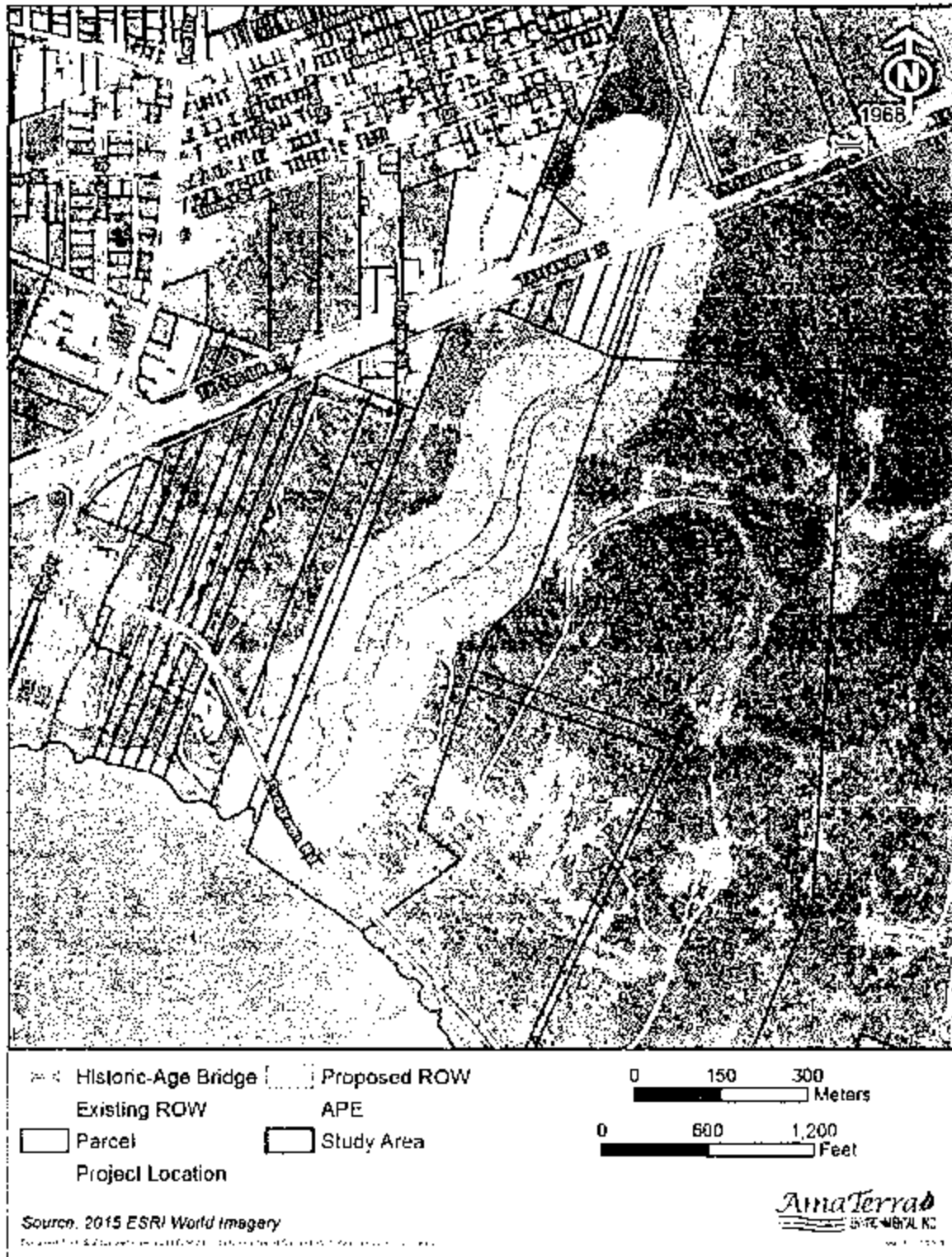
Approved by  for TxDOT 11-21-18
Bruce Jensen Date

SH 99 (Grand Parkway) Segment I-2 From East of ML Wismer Rd/ S Main St to Evergreen Rd
 CSJ # 3187-01-009
 Harris County, Texas



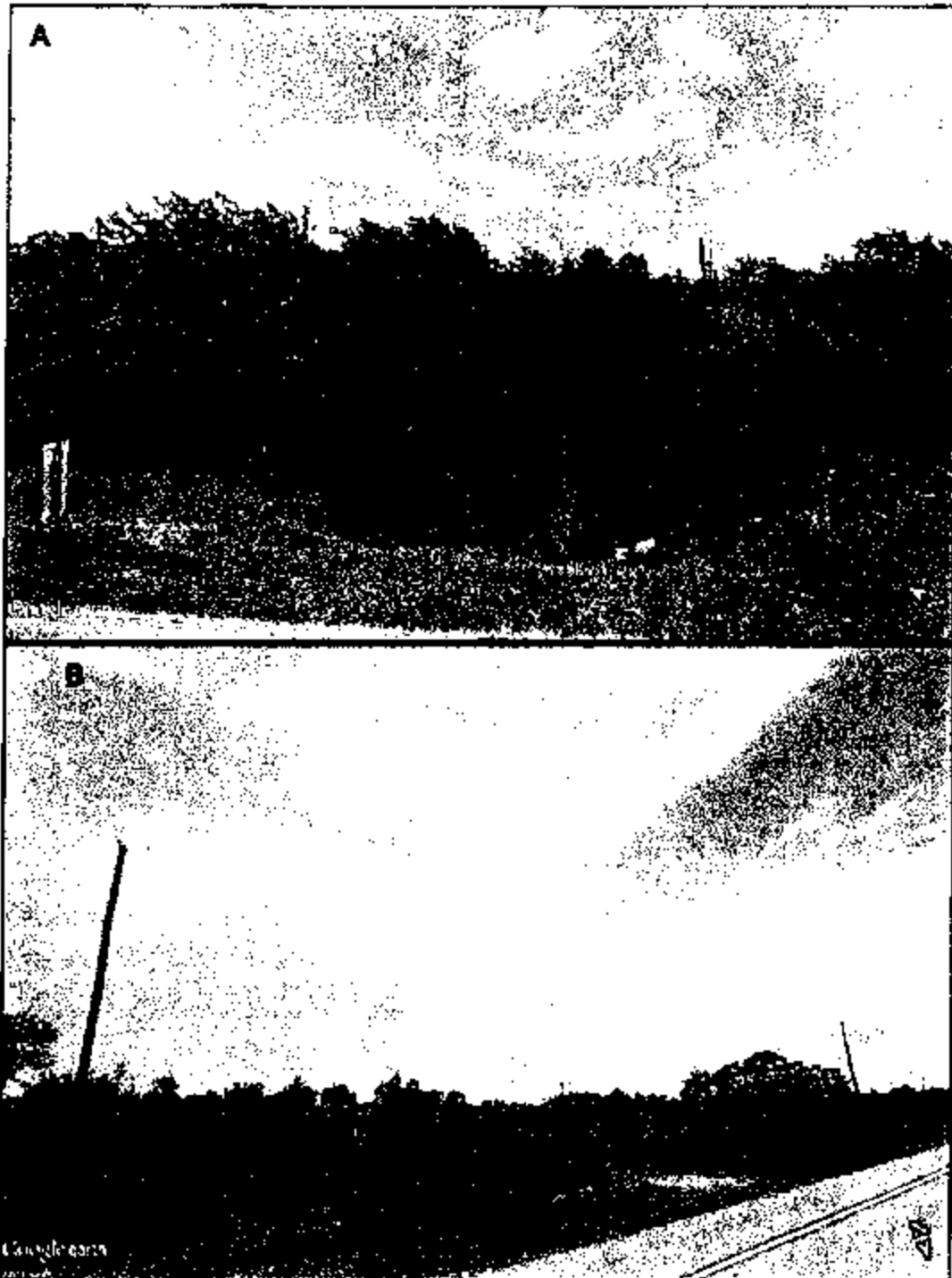
Project Location Map

SH 99 (Grand Parkway) Segment 1-2 From East of ML Wisner Rd/ S Main St to Evergreen Rd
CSJ # 3187-01-009
Harris County, Texas



ROW and APE Map, showing 0.25-mile study area and previously identified resources.

SH 99 (Grand Parkway) Segment I-2 From East of ML Wismer Rd/ S. Main St to Evergreen Rd
CSJ # 3187-01-009
Harris County, Texas



Project Area Photographs. A) view of the APE from Evergreen Road, B) view of the APE from SH 146 (Source: Google Earth).



Note to File

TO: Doug Booher
Deputy Director Environmental Affairs Division

From: Christine Bergren - Houston District

Subject: Consultation Reevaluation

Project Name: GP 1-2

Project Limits From: SH 225

Project Limits To: I 10 East

Control Section Job Number (CSJ): 3187-01-005

District(s): Houston

County(ies): Harris

Clearance Type:

Original Clearance Date:

Project Description:

The 15 mile long project includes construction of 4 main lanes with intermittent frontage roads within a 300-400 foot ROW. The latest Reevaluation for this project was cleared on October 3, 2017.

Description of Proposed Changes:

The proposed change is a U-turn under Cedar Bayou Bridge on the east side designed further north towards the existing U-turn to avoid Center Point Utility relocation issues.

For each question below, indicate if there have been any changes since the NEPA approval or previous reevaluation.

No **Additional ROW?**

No **Additional Easements?**

No **Relocations or Displacements?**

No **Environmental Issues of Concern?**

- No Section 106 related issues?
- No Tribal Coordination related issues?
- No Section 4(f) related issues?
- No Endangered Species Act related issues?
- No Additional Public Involvement required?

Was a call conducted with ENV to discuss this consultation reevaluation?

No

This memo serves as documentation of the Consultation Reevaluation for this particular issue.

TxDOT (Environmental Affairs Division and the District) has determined based on the information provided herein that the original environmental decision remains valid.

ENV

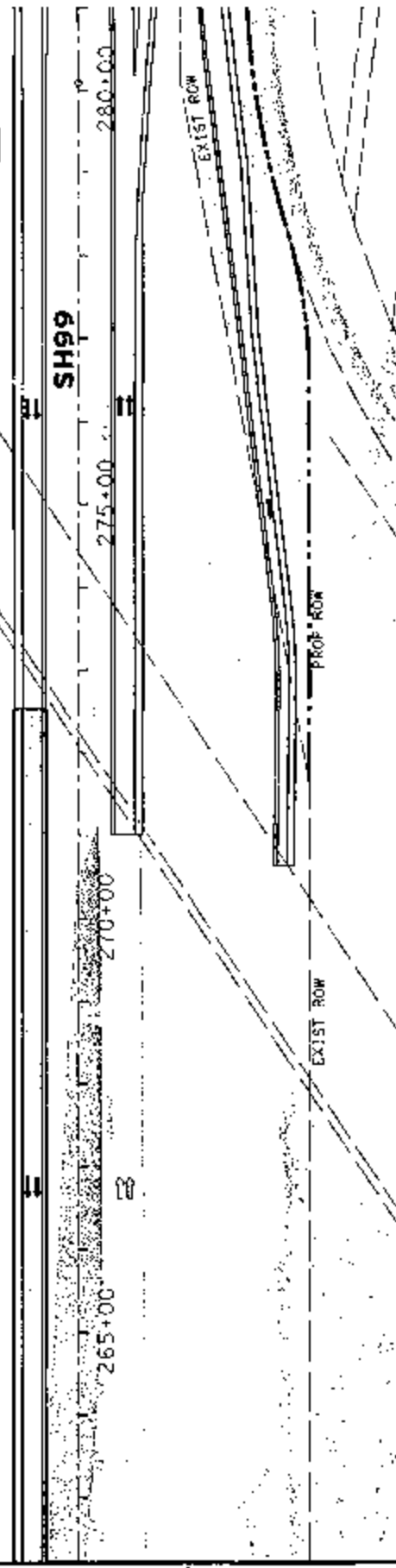
Concurrence:

Doug Booher

Big Lilly signed by Doug Booher
 EMail: Doug.Booher@txdot.gov
 email: doug.booher@txdot.gov, c US
 Date: 2017.11.17 15:42:51 -06:00

CEDAR BAYOU

PRELIMINARY
NOT FOR CONSTRUCTION
SUBJECT TO CHANGE

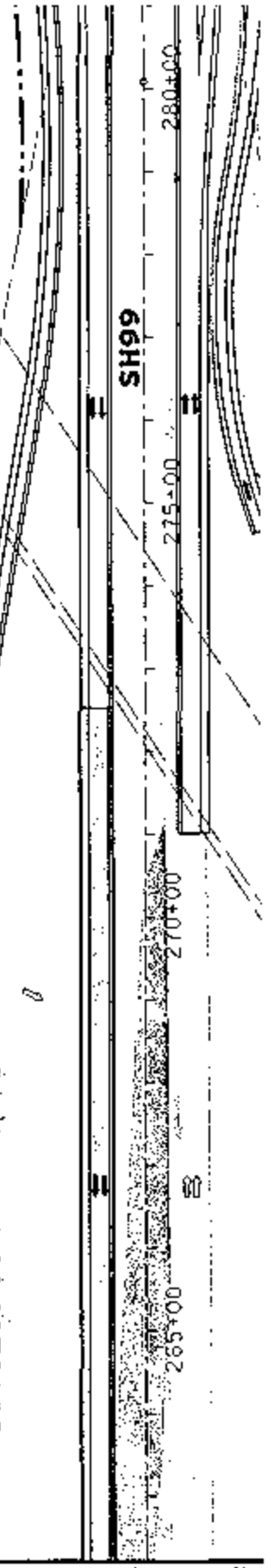


PRE
NOT FOR
SUBJEC

PROPOSED ORIGINAL RFP SCHEMATIC

CEDAR BAYOU

PRELIMINARY
NOT FOR CONSTRUCTION
SUBJECT TO CHANGE





Project Information - Grand Parkway Segment H&I Environmental Decision Documents

Segments H and I - (See blue report links below)

[Final Environmental Impact Statement \(FEIS\) Re-evaluation \(approved March 24, 2016\)](#)

[Record of Decision \(ROD\) \(issued June 24, 2016\)](#)

Re-evaluations to date:

- o Re-evaluation 1 (ATC 21) – approved February 8, 2018
- o Re-evaluation 2 (Water 18) – approved April 13, 2018
- o Re-evaluation 3 (ATC 24) – THC concurrence of ‘No Effect’ April 19, 2018
- o Re-evaluation 4 (Water crossing mod, new ditches, new ROW) - approved February 27, 2019
- o Re-evaluation 5 (ATC 21) - approved February 18, 2018
- o Re-evaluation 6 (Water 18) – approved April 16, 2018
- o Re-evaluation 7 (Various design changes) – approved February 27, 2019
- o Re-evaluation 8 (Various design changes) – approved May 12, 2020
- o Re-evaluation 9 (Add detention at FM 1960) – approved August 18, 2020
- o Re-evaluation 10 (Drainage changes/corner clips) – approved February 4, 2021

Segments I-2 - (See blue report links below)

[Re-evaluation \(issued October 3, 2017\)](#)

[Re-evaluation \(issued July 7, 2016\)](#)

[Re-evaluation \(issued October 9, 2012\)](#)

Re-evaluations to date:

- o Re-evaluation 1 – (U-turn at Cedar Bayou) - May 2002
- o Re-evaluation 2 – (Tolling Conversation) – October 2007
- o Re-evaluation 3 – (Fisher Road) – October 2012
- o Re-evaluation 4 – (Various design changes) – January 2014
- o Re-evaluation 5 – (Additional ROW at RR) – July 2016
- o Re-evaluation 6 – (Drainage easement) – October 2017
- o Re-evaluation 7 – (ATC 13) – November 2017
- o Re-evaluation 8 – (ATC 18) – December 2017
- o Re-evaluation 9 – (Temp Easement) – February 2018
- o Re-evaluation 10 – (Wismer Road corner clips) – January 2019
- o Re-evaluation 11 (Koppel Road) approved by ENV December 10, 2019
- o Re-evaluation 12 (Wismer Road) approved by ENV April 16, 2020
- o Re-evaluation 13 (Overpass at Thoroughfare A) – maybe needed?



Section C: Project Information - Grand Parkway Segment H&I Environmental Decision Documents

Table 1-1. Segment I-2 Environmental Documents

Date	Environmental Document	Project
1997/1998	FEIS/ROD	Four-lane at-grade arterial from SH 225 to IH 10(E). Included preserving a 300- to 400-foot wide corridor ROW to accommodate future 6-lane freeway, once justified.
2002	Re-evaluation Approved	Nine-mile section of Segment I-2, from IH 10(E) to Business State Highway (BS) 146 at SH 99 (formerly Spur 55), redesign of U-turn at Cedar Bayou, and alteration of drainage Channel B.
2006	Categorical Exclusion Approved	Design change (proposed bridge) at FM 565.
2007	Re-evaluation Approved	Proposed tolling of Segment I-2 from IH 10(E) to Fisher Road.
2008	Categorical Exclusion Approved	Bridge replacement, BS 146 westbound at Goose Lake.

Source: Segment I-2 Study Team 2010

SCHEDULE 14(f)

LITIGATION

None

SCHEDULE 14(u)

INSURANCE

None

SCHEDULE 17(g)

TRANSACTIONS WITH GOVERNMENTAL AUTHORITIES

Contracts with Governmental Authorities:

- Toll Rate Agreement, as amended
- Amended and Restated Toll Equity Loan Agreement
- Market Valuation Waiver Agreement, as amended

EXHIBIT A

FORM OF PROMISSORY NOTE

GRAND PARKWAY TRANSPORTATION CORPORATION

GRAND PARKWAY SYSTEM

(TIFIA Project Number-20211015A)

FIRST TIER TOLL REVENUE PROMISSORY NOTE

Maximum Principal Amount: \$605,330,000
(excluding capitalized interest)

Effective Date: August 19, 2021

Due: October 1, 2052

GRAND PARKWAY TRANSPORTATION CORPORATION, a public non-profit corporation and instrumentality of the Texas Transportation Commission created under the laws of the State of Texas (the “Borrower”), for value received, hereby promises to pay to the order of the **UNITED STATES DEPARTMENT OF TRANSPORTATION**, acting by and through the Executive Director of the Build America Bureau, or its assigns (the “**TIFIA Lender**”), the lesser of (x) the Maximum Principal Amount set forth above and (y) the aggregate unpaid principal amount of all disbursements (the “**Disbursements**”) made by the TIFIA Lender (such lesser amount, together with any interest that is capitalized and added to principal in accordance with the provisions of the TIFIA Loan Agreement (as defined below), being hereinafter referred to as the “**Outstanding Principal Sum**”), together with accrued and unpaid interest (including, if applicable, interest at the Default Rate, as defined in the TIFIA Loan Agreement) on the Outstanding Principal Sum and all fees, costs and other amounts payable in connection therewith, all as more fully described in the TIFIA Loan Agreement. The principal hereof shall be payable in the manner and at the place provided in the TIFIA Loan Agreement in accordance with **Exhibit G** to the TIFIA Loan Agreement, as revised from time to time in accordance with the TIFIA Loan Agreement, until paid in full. The TIFIA Lender is hereby authorized to modify the Loan Amortization Schedule included in **Exhibit G** to the TIFIA Loan Agreement from time to time in accordance with the terms of the TIFIA Loan Agreement to reflect the amount of each disbursement made thereunder and the date and amount of principal or interest paid by the Borrower thereunder. Absent manifest error, the TIFIA Lender’s determination of such matters as set forth on **Exhibit G** to the TIFIA Loan Agreement shall be conclusive evidence thereof; provided, however, that neither the failure to make any such recordation nor any error in such recordation shall affect in any manner the Borrower’s obligations hereunder or under any other TIFIA Loan Document.

Payments hereon are to be made in accordance with Section 9(e) (*Manner of Payment*) and Section 37 (*Notices; Payment Instructions*) of the TIFIA Loan Agreement as the same become due. Principal of and interest on this Note shall be paid in funds available on or before the due date and in any lawful coin or currency of the United States of America that at the date of payment is legal tender for the payment of public and private debts. If the Final Maturity Date is amended in connection with an update to the Financial Plan submitted to the TIFIA Lender pursuant to Section 22(a)(iii)(B) (*Financial Plan*) of the TIFIA Loan Agreement, the due date of this Note shall be deemed to be amended to change the due date to such revised Final Maturity Date without any further action required on the part of the Borrower or the TIFIA Lender and such amendment shall in no way amend, modify or affect the other provisions of this Note without the prior written agreement of the TIFIA Lender.

This Note has been executed under and pursuant to that certain TIFIA Loan Agreement, dated as of the date hereof, between the TIFIA Lender and the Borrower (the “**TIFIA Loan Agreement**”) and is issued to evidence the obligation of the Borrower under the TIFIA Loan Agreement to repay the loan made by the TIFIA Lender and any other payments of any kind required to be paid by the Borrower under the TIFIA Loan Agreement or the other TIFIA Loan Documents referred to therein. Reference is made to the TIFIA Loan Agreement for all details relating to the Borrower’s obligations hereunder. All capitalized terms used in this Note and not defined herein shall have the meanings set forth in the TIFIA Loan Agreement.

This Note shall be subject to mandatory prepayment in accordance with the TIFIA Loan Agreement.

This Note may be prepaid at the option of the Borrower in whole or in part (and, if in part, the principal installments and amounts thereof to be prepaid are to be determined in accordance with the TIFIA Loan Agreement; provided, however, such prepayments shall be in principal amounts of at least \$1,000,000), at any time or from time to time, without penalty or premium, by paying to the TIFIA Lender all or part of the principal amount of the Note in accordance with the TIFIA Loan Agreement.

Payment of the obligations of the Borrower under this Note is secured pursuant to Security Documents referred to in the TIFIA Loan Agreement.

The obligations of the Borrower under this Note, the TIFIA Loan Agreement and the other TIFIA Loan Documents referred to therein are First Tier Obligations secured by a first priority security interest in the Trust Estate on a parity with all other First Tier Obligations, in the manner and to the extent provided in a Trust Agreement dated August 1, 2013 by and between the Borrower and U.S. Bank National Association, as trustee, as amended and supplemented from time to time and specifically as supplemented by the Ninth Supplemental Agreement.

On each payment due date, payments hereon are to be made in the manner and at the place specified by the TIFIA Lender.

Any delay on the part of the TIFIA Lender in exercising any right hereunder shall not operate as a waiver of any such right, and any waiver granted with respect to one default shall not operate as a waiver in the event of any subsequent default.

All acts, conditions and things required by the Constitution and laws of the State to happen, exist, and be performed precedent to and in the issuance of this Note have happened, exist and have been performed as so required. This Note is issued with the intent that the federal laws of the United States of America shall govern its construction to the extent such federal laws are applicable and the internal laws of the State shall govern its construction to the extent such federal laws are not applicable.

IN WITNESS WHEREOF, GRAND PARKWAY TRANSPORTATION CORPORATION has caused this Note to be executed in its name and its seal to be affixed hereto and attested by its duly authorized officer, all as of the Effective Date set forth above.

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

(SEAL)

By _____
Name: Stephen Stewart, CPA
Title: President

ATTEST:

Name: Benjamin Asher
Title: Secretary/Treasurer

(FORM OF ASSIGNMENT)

FOR VALUE RECEIVED, the Undersigned hereby unconditionally sells, assigns and transfers unto _____

(Please Insert Social Security or other identifying number of Assignee(s)):

the within note and all rights thereunder.

Dated: _____

NOTICE: The signature to this assignment must correspond with the name as it appears upon the face of the within note in every particular, without alteration or enlargement or any change whatever.

EXHIBIT B

ANTICIPATED TIFIA LOAN DISBURSEMENT SCHEDULE

<u>Borrower Fiscal Year</u>	<u>Amount</u>
2022	\$605,330,000

EXHIBIT C

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS— PRIMARY COVERED TRANSACTIONS

The undersigned on behalf of Grand Parkway Transportation Corporation (the "Borrower"), hereby certifies that the Borrower has fully complied with its verification obligations under 2 C.F.R. § 180.320 and hereby further confirms, in accordance with 2 C.F.R. § 180.335, that, to its knowledge, the Borrower and its principals (as defined in 2 C.F.R. § 180.995):

(a) Are not presently excluded (as defined in 2 C.F.R. § 180.940) or disqualified (as defined in 2 C.F.R. § 180.935);

(b) Have not within a three (3) year period preceding the Effective Date been convicted of any of the offenses listed in 2 C.F.R. §180.800(a) or had a civil judgment rendered against them for one of those offenses within that time period;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses listed in 2 C.F.R. §180.800(a); and

(d) Have not within a three (3) year period preceding the Effective Date had one or more public transactions (federal, state or local) terminated for cause or default.

(e) Capitalized terms used in the certificate and not defined shall have the respective meanings ascribed to such terms in that certain TIFIA Loan Agreement, dated as of August 19, 2021, between the TIFIA Lender and the Borrower, as the same may be amended from time to time.

[Signature page to follow]

Dated: August 19, 2021

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

By: _____
Name: Stephen Stewart, CPA
Title: President, Board of Directors

[Borrower Signature Page to Non-Debarment Certificate – Grand Parkway Segments H & I]

EXHIBIT D

REQUISITION PROCEDURES

This **Exhibit D** sets out the procedures which the Borrower agrees to follow in submitting Requisitions for the disbursement of TIFIA Loan proceeds in respect of the Eligible Project Costs incurred in connection with the Project. Section 1 sets out the manner in which Requisitions are to be submitted and reviewed. Sections 2 through Section 4 set out the circumstances in which the TIFIA Lender may reject or correct Requisitions submitted by the Borrower or withhold a disbursement. The Borrower expressly agrees to the terms hereof, and further agrees that (i) the rights of the TIFIA Lender contained herein are in addition to (and not in lieu of) any other rights or remedies available to the TIFIA Lender under the TIFIA Loan Agreement, and (ii) nothing contained herein shall be construed to limit the rights of the TIFIA Lender to take actions including administrative enforcement action and actions for breach of contract against the Borrower if it fails to carry out its obligations under the TIFIA Loan Agreement during the term thereof.

Section 1. General Requirements. All requests by the Borrower for the disbursement of TIFIA Loan proceeds shall be made by electronic mail or overnight delivery service by submission to the TIFIA Lender, in accordance with Section 37 (*Notices; Payment Instructions*) of the TIFIA Loan Agreement, of a Requisition, in form and substance satisfactory to the TIFIA Lender and completed and executed by the Borrower's Authorized Representative. The form of Requisition is attached as Appendix One to this **Exhibit D**. Supporting documentation should be submitted with the requisition.

All disbursement requests must be received by the TIFIA Lender at or before 5:00 P.M. (Eastern) on the first (1st) Business Day of a calendar month in order to obtain disbursement by the fifteenth (15th) day of such calendar month or, if such day is not a Business Day, the next succeeding Business Day.

Section 2. Rejection. A Requisition may be rejected in whole or in part by the TIFIA Lender if it is:

- (a) submitted without signature;
- (b) submitted under signature of a Person other than a Borrower's Authorized Representative;
- (c) submitted after prior disbursement of all proceeds of the TIFIA Loan; or
- (d) submitted without adequate documentation of Eligible Project Costs incurred or paid. Such documentation shall include invoices for costs incurred or paid and the most recent certificate of or report prepared by the Independent Engineer relating to the construction of the Project (to the extent not previously delivered to the TIFIA Lender).

The TIFIA Lender shall promptly send to the Borrower, in accordance with Section 37 (*Notices; Payment Instructions*) of the TIFIA Loan Agreement, a notice of any Requisition so rejected, and the reasons therefor, substantially in the form attached hereto as Appendix Two to this **Exhibit D**. Any Requisition rejected for the reasons specified in (a), (b) or (d) above must be resubmitted in proper form in order to be considered for approval. If a Requisition exceeds the

balance of the TIFIA Loan proceeds remaining to be disbursed, the request will be treated as if submitted in the amount of the balance so remaining, and the TIFIA Lender will so notify the Borrower.

Section 3. Correction. A Requisition containing an apparent mathematical error will be corrected by the TIFIA Lender, after telephonic or email notification to the Borrower, and will thereafter be treated as if submitted in the corrected amount.

Section 4. Withholding. The TIFIA Lender shall be entitled to withhold approval (in whole or in part) of any pending or subsequent requests for the disbursement of TIFIA Loan proceeds if:

(a) an Event of Default or event that, with the giving of notice or the passage of time or both, would constitute an Event of Default under the TIFIA Loan Agreement shall have occurred and be continuing; or

(b) the Borrower

(i) knowingly takes any action, or omits to take any action, amounting to fraud or violation of any applicable federal or local criminal law, in connection with the transactions contemplated hereby; or

(ii) fails to construct the Project in a manner consistent with the Governmental Approvals with respect to the Project, or in accordance with the highest standards of the Borrower's industry, where such failure prevents or materially impairs the Project from fulfilling its intended purpose, or prevents or materially impairs the ability of the TIFIA Lender to monitor compliance by the Borrower with applicable federal or local law pertaining to the Project, or with the terms and conditions of the TIFIA Loan Agreement; or

(iii) fails to observe or comply with any applicable federal or local law, or any term or condition of the TIFIA Loan Agreement; or

(iv) fails to satisfy any condition set forth in Sections 4 (*Disbursement Conditions*) or Section 13(b) (*Conditions Precedent to All Disbursements*) of the TIFIA Loan Agreement; or

(v) fails to deliver documentation satisfactory to the TIFIA Lender evidencing Eligible Project Costs claimed for disbursement at the times and in the manner specified by the TIFIA Loan Agreement; provided, that in such case the TIFIA Lender may, in its sole discretion, partially approve a disbursement request in respect of any amounts for which adequate documentation evidencing Eligible Project Costs has been provided and may, in its sole discretion, disburse in respect of such properly documented amounts.

Section 5. Federal Government Shutdown. Notwithstanding anything to the contrary set forth in this **Exhibit D**, the TIFIA Lender (a) shall be entitled to withhold approval of any pending or subsequent requests for the disbursement of TIFIA Loan proceeds and (b) shall have no obligation to make any disbursement of proceeds of the TIFIA Loan to the Borrower (even if

such disbursement has been submitted to the TIFIA Lender), in each case if the TIFIA Lender's ability to make the relevant disbursement is impaired as a result of a partial or total shutdown of the operations of any federal department or agency (including the USDOT or any of its agencies), or any contractor of any such department or agency, due to a lapse in appropriations by Congress.

APPENDIX ONE TO EXHIBIT D

FORM OF REQUISITION

Build America Bureau
United States Department of Transportation
c/o Director, Office of Credit Programs
Room W12-464
1200 New Jersey Avenue, SE,
Washington, D.C. 20590

Federal Highway Administration
Texas Division Office
300 E. 8th Street, Room 826
Attention: Division Administrator

Re: GRAND PARKWAY PROJECT (TIFIA # 20211015A)

Ladies and Gentlemen:

Pursuant to Section 4 (*Disbursement Conditions*) of the TIFIA Loan Agreement, dated as of August 19, 2021 (the “**TIFIA Loan Agreement**”), by and between GRAND PARKWAY TRANSPORTATION CORPORATION (the “Borrower”) and the UNITED STATES DEPARTMENT OF TRANSPORTATION, acting by and through the Executive Director of the Build America Bureau (the “**TIFIA Lender**”), we hereby request disbursement in the amount of \$[] in respect of Eligible Project Costs paid or incurred by or on behalf of the Borrower. Capitalized terms used but not defined herein have the meaning set forth in the TIFIA Loan Agreement. In connection with this Requisition the undersigned does hereby represent and certify the following:

1. This Requisition is Requisition number [].
2. The requested date of disbursement is [] 15, 20[] [the “**Disbursement Date**”][, which is the first Business Day following [] 15, 20[]].
3. The amounts previously disbursed under the TIFIA Loan Agreement equal, in the aggregate, \$[]. The amounts previously disbursed and to be disbursed from the Construction Fund under the Trust Agreement as of the date of the requested disbursement equal, in the aggregate, \$[]. The amounts previously disbursed and to be disbursed under the [*applicable funding document*] as of the date of the requested disbursement equal, in the aggregate, \$[].
4. The amounts hereby requisitioned have been paid or incurred by or on behalf of the Borrower for Eligible Project Costs and have not been paid for or reimbursed by any previous disbursement from TIFIA Loan proceeds.
5. The amount of this Requisition, together with all prior Requisitions, does not exceed the amount of the TIFIA Loan.

6. All documentation evidencing the Eligible Project Costs to be reimbursed by the above-requested disbursement has been delivered by the Borrower at the times and in the manner specified by the TIFIA Loan Agreement.
7. The Borrower or TxDOT has all Governmental Approvals necessary as of the date hereof and as of the Disbursement Date (immediately after giving effect to the above-requested disbursement of TIFIA Loan proceeds), for the development, construction, operation and maintenance of the Project and each such Governmental Approval is in full force and effect (and is not subject to any notice of violation, breach or revocation).
8. Each of the insurance policies obtained by the Borrower in satisfaction of the condition in Section 13(a)(xx) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement is in full force and effect and complies with the requirements of Section 16(f) (*Insurance*), and no notice of termination thereof has been issued by the applicable insurance provider.
9. The Project has been, and is being, constructed in a manner consistent with all plans, specifications, engineering reports and facilities plans previously submitted to the TIFIA Lender and the FHWA Division Office and in accordance with the highest standards of the Borrower's industry.
10. The representations and warranties of the Borrower set forth in the TIFIA Loan Agreement and in each other TIFIA Loan Document are true and correct as of the date hereof and as of the Disbursement Date, except to the extent such representations and warranties expressly relate to an earlier date (in which case, such representations and warranties shall be true and correct as of such earlier date).
11. As of the date hereof and on the Disbursement Date (immediately after giving effect to the above-requested disbursement of TIFIA Loan proceeds), (i) no Event of Default or event of default under any TIFIA Loan Document or any Principal Project Contract and (ii) no event that, with the giving of notice or the passage of time or both, would constitute an Event of Default or event of default under any TIFIA Loan Document has occurred and is continuing.
12. No Material Adverse Effect, or any event or condition that could reasonably be expected to have a Material Adverse Effect, has occurred since [_____, 20__] and is continuing.
13. A copy of the most recent certificate or report of the Independent Engineer delivered pursuant to Section 504 of the Indenture has been delivered to each of the above named addressees.
14. A copy of the quarterly construction progress report pursuant to Section 23(b)(i) (*Quarterly Construction Progress Report*) of the TIFIA Loan Agreement for the Borrower Fiscal Quarter preceding the date of the applicable Requisition has been delivered to each of the above named addresses.
15. The undersigned acknowledges that if the Borrower makes a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government in connection with the Project, the Federal Government reserves the right to impose on the Borrower the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5323(1)(1), to the extent the Federal Government deems appropriate.

16. A copy of this requisition has been delivered to each of the above named addressees.
17. The undersigned is duly authorized to execute and deliver this requisition on behalf of the Borrower.

[Add wire instructions for Trustee.]

Date: _____

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

By _____
Name: [_____]
Title: President

APPENDIX TWO TO EXHIBIT D

DISAPPROVAL OF THE TIFIA LENDER

(To be delivered to the Borrower)

Requisition Number [●] is [approved in part in the amount of \$[●]] [not approved]¹ by the TIFIA Lender (as defined herein) pursuant to Section 4 (*Disbursement Conditions*) of the TIFIA Loan Agreement, dated as of [Dated Date], by and between GRAND PARKWAY TRANSPORTATION CORPORATION (the “**Borrower**”) and the United States Department of Transportation, acting by and through the Executive Director of the Build America Bureau (the “**TIFIA Lender**”).

Any determination, action or failure to act by the TIFIA Lender with respect to the Requisition set forth above, including any withholding of a disbursement, shall be at the TIFIA Lender’s sole discretion, and in no event shall the TIFIA Lender be responsible for or liable to the Borrower for any and/or all consequence(s) which are the result thereof.

**UNITED STATES DEPARTMENT OF
TRANSPORTATION**, acting by and through the
Executive Director of the Build America Bureau

By: _____
TIFIA Lender’s Authorized Representative

Name: _____
Title: _____
Dated: _____

¹ Attached hereto as Exhibit A are reasons for any partial or full denial of approval.

EXHIBIT A TO APPENDIX TWO TO EXHIBIT D

[Insert reasons for any partial or full denial of approval.]

EXHIBIT E

COMPLIANCE WITH LAWS

The Borrower shall, and shall require its contractors and subcontractors at all tiers for the Project to, comply in all material respects with any and all applicable federal and state laws. The following list of federal laws is illustrative of the type of requirements generally applicable to transportation projects. It is not intended to be exhaustive.

- (i) The Americans With Disabilities Act of 1990 and implementing regulations (42 U.S.C. § 12101 *et seq.*; 28 C.F.R. § 35; 29 C.F.R. § 1630);
- (ii) Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. § 2000d *et seq.*), and USDOT implementing regulations (49 C.F.R. § 21);
- (iii) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. § 4601 *et seq.*), with the understanding that the requirements of said Act are not applicable with respect to utility relocations except with respect to acquisitions by the Borrower of easements or other real property rights for the relocated facilities;
- (iv) Equal employment opportunity requirements under Executive Order 11246 dated September 24, 1965 (30 F.R. 12319), any Executive Order amending such order, and implementing regulations (29 C.F.R. §§ 1625-27, 1630; 28 C.F.R. § 35; 41 C.F.R. § 60; and 49 C.F.R. § 27);
- (v) Restrictions governing the use of federal appropriated funds for lobbying (31 U.S.C. § 1352; 49 C.F.R. Part 20);
- (vi) The Clean Air Act, as amended (42 U.S.C. § 7401 *et seq.*);
- (vii) The National Environmental Policy Act of 1969 (42 U.S.C. § 4321 *et seq.*), including the environmental mitigation requirements and commitments made by the Borrower that result in FHWA's approval of the NEPA Determination (as defined in the Agreement);
- (viii) The Federal Water Pollution Control Act, as amended (33 U.S.C. § 1251 *et seq.*);
- (ix) The Endangered Species Act, 16 U.S.C. § 1531, *et seq.*;
- (x) 23 U.S.C. §138 and 49 U.S.C. § 303, as applicable;
- (xi) The health and safety requirements set forth in 40 U.S.C. §§ 3701-3702 and implementing regulations (29 CFR Part 1926 and 23 CFR § 635.108, as applicable);

- (xii) The prevailing wage requirements set forth in 40 U.S.C. § 3141 *et seq.*, and implementing regulations (29 CFR Part 5), and, as applicable, 23 U.S.C. § 113 and implementing regulations (23 CFR §§ 635.117(f) and 635.118), and FHWA Form 1273 §§ IV and V for those contracts that involve construction of highway improvements;;
- (xiii) The Buy America requirements set forth in 23 U.S.C. § 313 and implementing regulations (23 C.F.R. § 635.410);
- (xiv) The requirements of 23 U.S.C. § 101 *et seq.* and 23 C.F.R.;
- (xv) The Cargo Preference Act of 1954, as amended (46 U.S.C., § 1241(b)), and implementing regulations (46 C.F.R. Part 381); and
- (xvi) The applicable requirements of 49 C.F.R. Part 26 relating to the Disadvantaged Business Enterprise program.
- (xvii) The requirements of Section 889 of the *John S. McCain National Defense Authorization Act for Fiscal Year 2019* (Pub. L. 115–232) and implementing regulations (2 CFR § 200.216).

EXHIBIT F
FHWA OVERSIGHT AGREEMENT

**Federal Highway Administration
Texas Division Office
Oversight Agreement
For Public-Private Partnership Projects**

This Oversight Agreement is applicable to those projects that have been identified by the Federal Highway Administration (FHWA) and Texas Department of Transportation (TxDOT) as oversight projects and have been assigned a FHWA Project Engineer. Such oversight projects may include those in which the development and design involve a federal action such as a change in Interstate access. The intent of this agreement is to have a programmatic approach to how FHWA will have oversight and stewardship of projects under this program.

This Oversight Agreement governs only those oversight projects that are procured and delivered by TxDOT through public-private partnerships authorized by Chapters 223 and 227 of the Texas Transportation Code and by necessary FHWA authorization, including any Early Development Agreement entered into under a SEP-15 approval for the project (“P3 Projects”). TxDOT will pursue P3 Projects pursuant to a Comprehensive Development Agreement or a Facility Concession Agreement and related technical provisions with the P3 Project developer (together a “CDA” or “FCA”).

This Oversight Agreement defines the relationship between the Federal Highway Administration and those other agencies involved in a P3 Project. P3 Projects may be partially or fully funded by the use of a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, State Infrastructure Bank (SIB) loan, Title 23 funds, or other combination of Federal, State, local, and private monies. The P3 Project may use design-build contracting as a method for developing and delivering a Project as described in 23 CFR 636, in which case this Oversight Agreement, and not any separate oversight agreement for design-build projects, shall apply.

Many Federal actions may be involved with any particular project including approval of a SEP-15 for the P3 Project, approval of Request for Proposals (RFP), approval of an Environmental Document through the National Environmental Policy Act (NEPA) process, review of design schematics, and the processing of a TIFIA or SIB loan, (if applicable). Attachment A contains a listing of Federal oversight responsibilities requiring approvals and other actions.

FHWA Project Personnel and Resources for Oversight:

A FHWA project engineer has been or will be provided for the oversight of each P3 Project. This project engineer will be responsible for all delegated project actions with the guidance of the FHWA Division Office leadership, the assistance of Division Office and other FHWA personnel, and in accordance with the approved CDA/FCA documents. This project engineer will consult Division Office specialists, per established Division Office procedures, for project reviews to provide expeditious reviews of the P3 Project. Specialists may include pavement and materials engineers, environmental specialists,

financial specialists, bridge engineers, marketing specialists, technology transfer engineers, legal counsel, and others. Oversight will be conducted through Project monitoring and audit.

Planning and Environment:

FHWA will provide oversight of environmental responsibilities including possible reevaluations of the decision documents and implementation of mitigation plans. In addition, FHWA will provide oversight of planning responsibilities including conformance with the Transportation Plan and Transportation Improvement Plan and amendments.

Proposal Solicitations:

FHWA will 1) review the Request for Proposer Qualifications (RFPQ) for compliance with federal requirements (two-phase process), 2) review and approve the Request for Detailed Proposals (RFDP), 3) review and approve any subsequent major addenda / proposal revisions, and 4) concur in award. To the extent possible, FHWA will participate in proposal review and selection.

Project Management and Quality Assurance and Control

As part of each CDA or FCA, TxDOT will require that the P3 Project developer develop, for TxDOT review and approval, a management plan ("MP") or facility management plan ("FMP") for the P3 Project that will establish procedures, processes and quality management systems to assure compliance with applicable Federal requirements. FHWA will review and comment, as appropriate, on the MP or FMP and its component parts. TxDOT will require the P3 Project developer to submit to TxDOT and obtain TxDOT approval of specified parts of the MP or FMP prior to executing the CDA or FCA. TxDOT will require the P3 Project developer to submit to TxDOT and obtain TxDOT approval of remaining parts of the MP or FMP (such as those addressing maintenance and operations work) prior to commencing the work described by those parts.

If the P3 Project is considered a Major Project (as defined in Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (Pub.L. 109-59, 119 Stat. 1144), section 1904(a) of SAFETEA-LU), then prior to the execution of any proposed CDA or FCA TxDOT shall obtain FHWA review and approval of the following elements of the MP or FMP for the P3 Project (for further information see also: <http://www.fhwa.dot.gov/programadmin/mega/index.htm>):

- A Project Management Plan
- A Quality Management Plan, including the description of the QA/QC process proposed.

- A conceptual Financial Plan, recognizing that close of finance may occur post award.

The P3 Project developer will be responsible to conduct all necessary auditing, inspection, informational and acceptance testing consistent with CDA or FCA requirements and the approved MP or FMP.

Design:

The P3 Project developer will be required to submit design and construction plans, specifications, drawings and other documents to TxDOT and the Independent Engineer as and when prepared. TxDOT will make available to FHWA all design submissions TxDOT receives from the P3 Project developer. FHWA will monitor design schematics as outlined in Attachment A and in accordance with the design criteria established in the CDA or FCA. Design Exceptions (i.e. deviations from and exceptions to the requirements and standards for design set forth in the CDA or FCA) shall receive FHWA review, comment and approval (if appropriate) prior to implementation. No prior review and comment, or prior review and approval, for designs prepared by the P3 Project developer shall be required from the FHWA except as expressly set forth in Attachment A.

Right of Way:

Right of Way activities will be accomplished in accordance with the Uniform Relocation Assistance Act and FHWA actions will be as described in Attachment A.

Construction:

FHWA will maintain a project engineer to provide construction oversight for the P3 Project. This oversight will include routine monitoring and auditing throughout the construction of the P3 Project or during any federally funded reconstruction, rehabilitation, renewal or replacement of the P3 Project that involves Federal aid or a federal action.

Laws and Standards:

TxDOT will require the P3 Project developer to comply with the policies and objectives of Title 23 and with applicable laws, regulations, standards, and directives. Projects implemented under this agreement for the NHS will be developed in accordance with American Association of State Highway and Transportation Officials (AASHTO) Guidelines and the technical requirements, documents and provisions as contained or incorporated in each CDA or FCA.

Modification to such technical requirements, documents and provisions related to construction or design requires FHWA Texas Division approval prior to implementation. This may occur through FHWA's concurrence in or approval of a CDA or FCA

amendment. TxDOT will consult with FHWA concerning other changes in the CDA or FCA (change orders, supplemental agreements, time extensions, claims, etc.).

Federal Requirements:

Public-Private Partnership agencies are reminded certain Title 23 requirements dealing with transportation planning, procurement of professional services, value engineering studies, disadvantaged business enterprise, wage rates, advertising and award of bids, convict produced materials, and Buy America provisions and all non-Title 23 requirements apply to all Federal-aid projects.

Independent Engineer:

TxDOT may authorize the use of an independent engineer (the "Independent Engineer") to carry out monitoring, statistical validation, oversight, construction inspection, review, audit and similar functions for P3 Projects. The terms for use of an Independent Engineer, its scope of responsibility and provisions to enable the Independent Engineer to act independently and neutrally shall be subject to the FHWA's review and approval prior to TxDOT's execution of a CDA or FCA for a P3 Project. In addition if federal funding is expected for the consultant contract with the Independent Engineer, it is subject to 23 CFR172, which includes approval of the contract prior to execution with the Independent Engineer.

Audit and Monitoring:

In general, FHWA Division Office personnel may audit P3 Project designs and conduct field audits.

TxDOT and the Texas Division of FHWA will monitor P3 Project activities within their respective areas of responsibility to ensure that the P3 Project is designed, constructed and completed in compliance with applicable laws, regulations and standards.

FHWA may at any time have access to and review P3 Project records and documents held by TxDOT and by the Independent Engineer. TxDOT shall require the P3 Project developer to provide TxDOT with reasonable access to the developer's P3 Project records and documents and to provide TxDOT the right to review and audit the developer, its contractors and their respective books and records pertaining to the P3 Project.

Reporting Requirements:

The FHWA Project Engineer will be responsible for providing Division Office staff and Headquarters staff (as requested/required) with periodic P3 Project updates that will monitor and report on the P3 Project developer's compliance with the CDA or FCA. At a minimum, updates will be provided by TxDOT, or those acting in its capacity on the P3

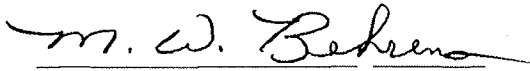
Project (including the P3 Project developer) to FHWA as outlined in the approved MP or FMP for the P3 Project.

TxDOT and the Texas Division enter into this agreement and agree to carry out their respective responsibilities in a true spirit of cooperation. Nothing in this plan is intended to preclude TxDOT from requesting assistance with respect to any program or project regardless of the oversight status.

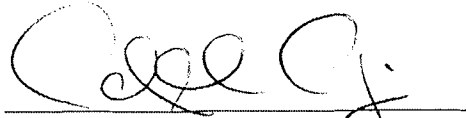
Approved by:

For Texas Department of Transportation

For Federal Highway Administration



Michael W. Behrens, PE
Executive Director, TxDOT



Achille Alonzi
Acting Division Administrator, FHWA

**Attachment A to the Supplement to the Texas Division Office
Oversight Agreement
For the Oversight of Public-Private Partnership Projects**

Activities Requiring FHWA approval including, but not limited to:

- Special Experimental Projects No. 15 (SEP-15) applications and Early Development Agreements (EDA). Note the EDA may modify the requirements noted in this Oversight Agreement.
- Alternate Technical Concepts (ATCs) (if applicable).
- Loan Agreement (TIFIA) (if applicable).
- Toll Agreement (Section 129 (a)) (if applicable.)
- Any divergence from the right of way acquisition procedures defined by the FCA or CDA, Project developer's approved FMP or MP, and the Uniform Relocation Assistance Act.
- Advance Construction and conversion to Federal funding (if applicable).
- Participation in costs incurred before FHWA authorization.
- TxDOT's Design Schematics included in the RFDP (if applicable).
- Design Exceptions.
- Experimental features on National Highway System (NHS) projects (reference: <http://www.fhwa.dot.gov/programadmin/contracts/expermnt.htm>).
- Modifications to access to Interstates (Interstate Access Justification).
- Project Authorization for ROW acquisition (if Federal funds are to be used).
- Project Authorization for use of construction funds (if Federal funds are to be used).
- Obligation of funds (if Federal funds are to be used).
- Waivers to Federal Requirements including but not limited to Buy America, etc.
- Actions or approvals identified in the Texas Division Stewardship Plan (a copy of which is attached)("Texas Division Stewardship Plan", July 31, 2003) not discussed herein and if consistent herewith.
- Deviations from the TxDOT letting process.
- Deviations from DBE goals. The requirements of 49 CFR Part 26 and the State's approved DBE plan apply.
- Civil Rights actions.
- Construction Change Orders and Claims as per the process defined by the FCA or CDA if federal reimbursement is desired.

FHWA will participate in the development of the processes and procedures for and will participate when possible in all:

- Over-the-shoulder reviews (if any)
- Design workshops (if any)
- Oversight visits

- Quality audits by TxDOT

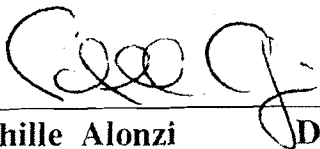
In addition to those items noted above, the following submittals will be provided to FHWA promptly after TxDOT receives them from the P3 Project developer:

- Corridor Structure Type Study and Report (as applicable)
- Value Engineering [23CFR627.5(e)]
- Preliminary Bridge Layout Submittals (as applicable)
- Preliminary Design (30%) Submittals (as applicable)
- Intermediate Design (60%) Submittals (as applicable)
- Preliminary PS&E (90%) Submittals (as applicable)
- Final PS&E (100%) Submittals (as applicable)
- Design Re-submittals and Addenda (as applicable)
- “Released for Construction” Design Documents (as applicable)
- Proposed Design Changes (as applicable)
- Requests for Early Start of Construction (as applicable)
- Requests for Early Opening (as applicable)

FHWA will attend the meetings and complete reviews listed in this Oversight Agreement in accordance with the CDA or FCA. In order to attend multiple, concurrent meetings and complete multiple, concurrent design audits, FHWA will allocate resources from the Division Office, Resource Center, or other means to assist the FHWA Project Engineer. In the event that FHWA is not able to provide sufficient resources to complete these tasks, it is agreed that the Project will move forward with FHWA involvement in those activities to the extent practicable so as to not impact the Project schedule.

**U.S. Department of Transportation
Federal Highway Administration
and the
Texas Department of Transportation**

**Stewardship/Oversight Agreement
For
Design and Construction**

 10/4/2006

Achille Alonzi
Acting Division Administrator
Federal Highway Administration

 10-13-06

Michael W. Behrens
Executive Director
Texas Department of Transportation

GLOSSARY

Control Document – Applicable standards, manuals, policies, procedures, standard specifications, etc., that are acceptable to FHWA for application in the design and construction of highways.

Core Functions – Activities that make up the main elements of the Division's Federal-aid oversight responsibilities based on regulations and national policies. Core functions in the Division Office are Planning, Environment, Right-of-Way, Design, Construction, Finance, Operations, System Preservation, Safety, and Civil Rights. Core functions covered by this document include Design and Construction.

Delegated Projects – Projects that do not require FHWA to review and approve actions pertaining to design, plans, specifications, estimates, right-of-way certification statements, contract awards, inspections and final acceptance of Federal-aid projects on a project by project basis.

Full Oversight Projects – Projects that require FHWA to review and approve actions pertaining to design, plans, specifications, estimates, right-of-way certification statements, contract awards, inspections, and final acceptance of Federal-aid projects on a project by project basis.

Major Projects – Those projects receiving Federal financial assistance 1) with an estimated cost of \$500 million or more or 2) that has been identified by FHWA as being a Major Project as a result of special interest. Such other projects include: 1) those receiving Federal financial assistance, as designated by FHWA, that require a substantial amount of the State's program resources or have a high level of public or congressional attention and 2) those that have extraordinary implications for the national transportation system. Major Projects were previously called Mega Projects.

National Highway System (NHS) - The National Highway System, as defined in 23 CFR 470, includes the Interstate Highway System.

Oversight – The act of ensuring that the Federal highway program is delivered consistent with laws, regulations and policies

Risk Management – The systematic identification, assessment, planning, and management of threats and opportunities faced by FHWA projects and programs.

Stewardship – The efficient and effective management of the public funds that have been entrusted to the FHWA

Transportation Infrastructure Finance and Innovation Act (TIFIA) - Federal credit program under which the Department of Transportation may provide credit assistance for surface transportation projects of national or regional significance.

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**FEDERAL-AID HIGHWAY PROGRAM
STEWARDSHIP/OVERSIGHT AGREEMENT
For
DESIGN & CONSTRUCTION**

I. PURPOSE

- A. Stewardship efforts include oversight and approval actions routinely performed by the Federal Highway Administration, Texas Division (FHWA) and/or the Texas Department of Transportation (TxDOT) to ensure the Federal-aid Highway Program (FAHP) is administered in regulatory compliance and in ways that enhance the value of program funds authorized by Congress. The purpose of this Stewardship/Oversight Agreement (Agreement) is to formalize these delegated responsibilities and agreements to address how the FAHP will be administered in Texas relative to design and construction. It provides a roadmap to effectively and efficiently execute the FAHP relating to programs/project delivery to include financial integrity. Furthermore, it provides for the delegation of certain project actions to TxDOT with specified exceptions as noted further in this document.
- B. Congress has charged the FHWA with administering the FAHP under Title 23, and other associated laws. FHWA's responsibility for administering this Program has been clearly outlined in the following legislation.
- Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991
 - Transportation Equity Act for the 21st Century (TEA-21) of 1998
 - Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005.

These laws allow TxDOT to assume certain delegated responsibilities for FHWA in the design, construction, award and inspection of certain Federal-aid projects.

- C. On the broader program level, FHWA will continue to provide stewardship and oversight of the FAHP through a rigorous risk management process and through general actions and concurrences in its day-to-day activities, including improvements to program procedures, training, technical assistance, and developing and deploying new technologies, as well as routine program/project approval. Each of these activities contributes to the intent that the FAHP operates with integrity and for the public's maximum benefit. This Agreement acknowledges FHWA and TxDOT (including sub-recipients) are responsible for the effective and efficient use of Federal funds. Notwithstanding the Agreement, FHWA retains overall responsibility for all aspects of Federal-aid programs and an Agreement does not preclude FHWA's access to and review of a Federal-aid project at any time and does not replace the provisions of *Title 23, USC*.

II. STATE AND DIVISION OFFICE ROLES AND RESPONSIBILITIES

- A. The TxDOT Executive Director, through the Headquarters Divisions, Program Offices, and District Offices, is responsible for TxDOT's stewardship and oversight of projects that are not under FHWA direct review and approval as covered by this Agreement. Each District Office has the responsibility for design, construction, and maintenance of transportation projects in its respective area. The TxDOT Headquarters Divisions and Program Offices establish operating policies and procedures, review information from the Districts, and retain certain approval actions.
- B. TxDOT is delegated FHWA's responsibilities for all project approval and oversight for Federal-aid projects (including Emergency Relief projects), except those designated as Federal Oversight projects. Projects selected for FHWA Oversight will be by agreement between TxDOT and the Texas Division Office. The Texas Division Office and TxDOT went through a rigorous risk analysis to develop the oversight criteria contained within this Agreement. The following two basic premises serve as the foundation for the oversight criteria contained herein; 1) maintain a presence in each TxDOT District to retain oversight on a number of projects to verify the effective and efficient use of Federal funds, and 2) maintain FHWA oversight responsibilities on those projects representing the largest investment of Federal-aid funds. The agreement also provides for the flexibility to increase or decrease the level of FHWA oversight within a TxDOT District. The criteria for selection of these projects are outlined in Appendix A – Federal Oversight Project Thresholds. Projects may also be selected for Federal Oversight if the proposed project is particularly complex, highly controversial, or involves innovative or unique design, construction, or administrative features. Furthermore, certain types of Federal-aid projects shall be excluded from the established thresholds shown in Appendix A, and, therefore, remain State Oversight. These are shown in Appendix B - Federal Oversight Project Exclusions. Once established, oversight responsibility for a project can change only by a formally documented agreement between TxDOT and the Texas Division Office.
- C. TxDOT is responsible for compliance with all laws and regulations for State oversight projects, and will monitor the programs and projects by making periodic reviews. Following the obligation of Federal funds by FHWA, the appropriate TxDOT Divisions shall issue Letters of Authority for projects. TxDOT will make construction and final inspections, and will accept all State oversight projects in accordance with guidelines published by the Construction Division. Federal-aid reimbursement for work performed will be made using FHWA's Federal-aid current billing and payment system.
- D. Major Projects, Project Management Plans and Financial Plans:
1. In the early development of each major Federal-aid project on the NHS, TxDOT shall submit to FHWA an initial Project Management Plan (PMP). The ultimate purpose of the PMP is to clearly define the roles, responsibilities, processes, and activities, which will result in the Major Project being completed on time, within budget, with the highest degree of quality and safety, and in a manner in which the public trust, support and

confidence in the project is maintained. The preparation of an initial PMP prior to initiating the project's environmental study is critical to ensure the project is delivered in an efficient and effective manner. The initial PMP shall be prepared by TxDOT and submitted to the FHWA Division Office. The PMP is to be a living document in which revisions will be issued as the project progresses in order to add, modify, or delete provisions that will result in the most effectively managed project. These revisions and updates to the PMP will occur prior to issuing the environmental decision, prior to authorization of Federal-aid funds for right of way acquisition, and prior to authorization of Federal-aid funds for construction. During construction, TxDOT continues to update the PMP to reflect the current status of the major project. PMP guidance is posted on the FHWA Major Project Web site <http://www.fhwa.dot.gov/programadmin/mega/index.htm>

2. In addition to the PMP, every Major Project also requires the development and submittal of a Financial Plan. A Financial Plan is a comprehensive document that reflects the Project's cost estimate and revenue structure and provides a reasonable assurance that there will be sufficient financial resources available to implement and complete the project as planned. A Financial Plan provides a description of how a project will be implemented over time by identifying project costs and the financial resources to be utilized in meeting those costs. The plan should clearly explain the assumptions about both cost and revenue upon which the plan is based. Financial Plans for Major Projects shall be prepared by TxDOT and submitted to the Texas Division. The Initial Financial Plan should be prepared as early in the project development process as practical. In all cases, the Initial Financial Plan must be submitted and approved by FHWA before authorization of Federal-aid funding for project construction. On a Design-Build project the Initial Financial Plan must be approved prior to FHWA concurrence in the issuance of a Request for Proposal (RFP). The Initial Financial Plan will provide information on the immediate and longer-term financial implications resulting from project initiation. Financial Plans are to be updated annually. The annual updates of the Financial Plan should provide information on actual cost, expenditure, and revenue performance in comparison to initial estimates as well as updated estimates of future year's obligations and expenditures. Identified funding shortfalls should be highlighted along with proposed resource solutions. TxDOT will provide FHWA an independent validation of the cost estimate anytime the annual update shows a cost increase of more than 5 percent, schedule slippage of more than 6 months or significant scope change from the previous Finance Plan or PMP update. Financial Plan guidance is undergoing revision and will be posted on the FHWA Major Project web site upon completion. Details for developing cost estimates can be found at <http://www.fhwa.dot.gov/programadmin/mega/cefina.htm>

3. SAFETEA-LU also requires that Projects in the \$100-500 million range have Financial Plans and Annual Updates prepared by the project owner. The Financial Plan should address the same items as those for Major Projects. The initial Financial Plan may be developed and approved at the earliest feasible point in the Project development process but it needs to be completed by the Project Owner prior to construction contract authorization and obligation of Federal-aid funds under the design-bid-build process and

prior to RFP approval for design-build projects. The greatest difference between these Financial Plans and those of Major Project is FHWA will not approve these financial plans but they will be subject to review by FHWA as part of its ongoing stewardship and oversight responsibilities.

4. Transportation Infrastructure Finance and Innovation Act (TIFIA) Projects also require Financial Plans. Additional information on TIFIA can be found at the TIFIA website <http://tifa.fhwa.dot.gov/home.html> and at the Major Projects Web site noted above.
5. Value Engineering, as with any Federal-aid project with an estimated cost over \$25 million, is required for major projects. The Division Administrator may require more than one Value Engineering analysis.

E. Design-Build Projects.

1. As stated in Section 1503 of SAFETEA-LU, a State transportation department or local transportation agency can issue a request for proposal (RFP), proceed with awards of design-build contracts or issue notice to proceed prior to the completion of a NEPA process; however, the State or local agency shall receive concurrence from the Secretary before carrying out any of these activities. Section 1503 precludes the design-build contractor from proceeding with final design or construction of any permanent improvements prior to the completion of the NEPA. FHWA is currently revising its design-build regulations to accommodate the provisions of Section 1503 of the SAFETEA-LU.
2. SAFETEA-LU allows the States to use the design-build contracting method for any project they deem necessary. States are no longer required to submit Special Experimental Project Number 14 (SEP-14) request to use the design-build contracting method.
3. For Federal oversight projects, TxDOT must get FHWA approval (via formal request) prior to releasing the RFP document. FHWA approval of the RFP document carries the same significance as PS&E approval.

F. Public, Private Partnerships.

1. Public, Private Partnership (3P) Projects involving Federal-aid funds typically require preparation of an Oversight Agreement unique to the specific project. This 3P Oversight Agreement defines the relationship between the Federal Highway Administration and those other agencies involved in the project. The 3P Project may be a recipient of a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, State Infrastructure Bank (SIB) loan, SEP-15 Public-Private Partnership, or other combination of Federal, State, local, and private monies. The 3P Project may also include Design-Build contracting procedures as described in 23 CFR 636.

2. Many Federal actions may be involved with any particular 3P project including approval of a SEP-15 for the Public-Private Partnership, approval of Request for Proposals (RFP), approval of an Environmental Document through the National Environmental Policy Act (NEPA) process, review of design schematics, and the processing of a TIFIA or SIB loan, (if applicable). Public-Private Partnership agencies are reminded certain Title 23 requirements dealing with transportation planning, procurement of professional services, disadvantaged business enterprise, wage rates advertising and award of bids, convict produced materials, and Buy America provisions and all non-Title 23 requirements apply to all Federal-aid projects.

3. TxDOT and the FHWA Texas Division will monitor activities and exercise controls as necessary within their respective areas of responsibility to ensure that all Federal-aid projects are carried out in compliance with applicable laws, regulations and standards. TxDOT will develop and document a plan to monitor sub-recipient activities to assure compliance with applicable Federal requirements. Sub-recipient monitoring will cover each program, function, or activity, and will include an assessment of the sub-recipient's ability to manage Federal-aid projects. FHWA may at any time have access to and review project phases and records under this agreement.

III. METHODS OF OVERSIGHT

- A. FHWA will employ a risk management framework in consultation with TxDOT to evaluate program areas to balance risk with consideration of staffing resources, funding within FAHP, and highway needs within the state. TxDOT will work collaboratively with FHWA to identify risks and make practical resources available to address FHWA's risk assessment findings. The following table highlights some potential risks that may affect an individual project's risk profile.

Design / Construction Risks
<ul style="list-style-type: none"> • Permitting problems • Design Changes • Poor / Incomplete Design • Cost Overruns • Cash Flow Deficiencies • Technology Risks • Schedule Delays • Litigation

- B. TxDOT and FHWA will monitor activities and exercise controls as necessary within their respective areas of responsibility to ensure all Federal-aid projects are carried out in compliance with applicable laws, regulations and standards. The monitoring of these activities is intended to evaluate procedures and policies used in delivering the FAHP, along with identifying deficiencies and opportunities for improvement. Furthermore, the monitoring activity will be both on a program-wide and project level basis, as necessary, using key processes such as (but not necessarily limited to) project reviews, program reviews,

stewardship assessment reviews (SARs), peer reviews, partnering activities, and task force activities. Other methods of monitoring projects and programs include reviewing TxDOT reports, attending monthly meetings, and performing the normal day-to-day interactions with the various agencies. Reviews may encompass the total operation or be limited to one or more segments; i.e., the project development phase, the contracting phase, or the construction phase. Further discussion of the key processes is provided below.

- C. Project Reviews. Project reviews may focus on any aspect of the FAHP; however, project monitoring focuses on a goal that the project be completed on time, within budget, with highest degree of quality and safety. See section V.C.3b for discussions on Project Reviews.
- D. Program Reviews. Program reviews assist both TxDOT and FHWA with the implementation of the Federal-aid program. Program reviews establish or improve control processes and documents for functional areas of responsibility (environment, design, construction, etc.). In these activities, TxDOT often seeks the Texas Division's active participation. In many cases, industry, as well as other partners, may also be participants. We will take maximum advantage of these opportunities to enhance the overall efficiency of the program.
- E. Stewardship Assessment Reviews (SARs)
 - 1. The Texas Division utilizes an SAR Program to evaluate project development and construction activities. The primary purpose of the SAR program is to provide the FHWA Texas Division with a monitoring and control technique that documents procedures and processes and further assures FHWA that Federal-aid funds are being spent in accordance with Federal laws, regulations, and policies. In addition, SARs evaluate the effectiveness of the processes, procedures, and products developed by TxDOT in all phases of a project, as well as the internal operations of the FHWA Texas Division. Based in part on these reviews, assurances can be made that a program is being implemented as intended and is producing a product of expected quality. Stewardship Assessment Reviews can be conducted on a statewide, area-wide, or program basis. The SAR program coverage is applicable to Title 23 and non-Title 23 activities on all Federal-aid projects, regardless of route designation [i.e., National Highway System (NHS) or non-NHS] or Federal-aid funding category.
 - 2. SARs are generally selected as a result of the Risk Assessment Process conducted biannually. This Risk Process is a systematic process of consistent discovery and detection of potential risk events in all areas of the FAHP. SARs may also be initiated and conducted as necessary throughout the year if an emerging topic/issue is determined by the FHWA Division leadership team to be of significant risk to FHWA at the national, regional, statewide, or area-wide level. The FHWA Division Office staff will involve and discuss potential projects with their TxDOT counterparts prior to topic selection. With the limited number of resources (staff, budget, etc.) available to the FHWA Division Office, SARs will be conducted on an "as needed" basis. That is, there will not be a specified total number of SARs to be conducted per year in the FHWA Division Office, and accordingly, there will not be a specified number of SARs to be conducted in a

particular emphasis area (i.e., environment, design, construction, etc.) in a year.

3. The SAR topics should be strategically identified to achieve program goals, while balancing the associated risks, priorities, and available resources in the Division Office. The associated risks may include statutory requirements, evidence of non-compliance, lack of established procedures, quality and competencies of personnel, and the Division Office relationship with TxDOT. Benefits or payoffs should also be considered in the selection of SAR topics. Payoff issues include looking at the quality of the system, technical complexities, advancing innovative technologies, and cost-effective solutions.
 4. The SARs will be conducted using a joint Division Office/TxDOT team approach, typically with 3-4 members to a team. It is the goal of the Division Office to have TxDOT personnel as active members on each SAR team, recognizing that there may be times when, due to differing priorities or lack of available resources, this may not be possible. The TxDOT team member(s) should periodically brief TxDOT management of the status and findings of the SAR and encourage implementation of recommendations.
- F. Peer Reviews. The peer review is designed to have an outside team of invited qualified peer reviewers to meet with the host agency to discuss and review its management process. Information on the host agency and team members' policies and procedures are exchanged with the intent to improve the overall management process. The information gathered from the exchange is presented to agency management. This technique maintains the principles of voluntarism and confidentiality, and the selection of the team is normally performed by the host organization.
- G. Partnering Activities. Partnering is an effective management technique used to improve communications and enhance the resolution of conflicts during project development and construction. Active participation in partnering activities has resulted in high payoffs relative to improved communications and working relationships between FHWA, TxDOT, Resource Agencies, and industry.
- H. Task Force Activities. Texas Division staff may participate in numerous joint FHWA/TxDOT teams under the purview of value-added, re-engineering, or quality improvement. These activities, when used, have been shown to be an effective method of oversight, an opportunity to strengthen the FHWA/TxDOT partnership, and an effective means of adding value and effecting change to a program.
- I. Sub-recipient Activities. TxDOT will also monitor sub-recipient activities to assure compliance with applicable Federal requirements. Sub-recipient monitoring will cover each program, function, or activity, and will include an assessment of the sub-recipient's ability to manage Federal-aid projects.

IV. CONTROL DOCUMENTS

A. The TxDOT will comply with the policies and objectives of Title 23 through the enforcement of applicable laws, regulations, standards, and directives. Projects on the NHS System will be developed in accordance with federally approved standards. Projects implemented under this Agreement for the NHS will be developed in accordance with American Association of State Highway and Transportation Officials (AASHTO) Guidelines and the control documents listed below (latest versions), whose standards and procedures will apply to design and construction activities.

- TxDOT Roadway Design Manual
- TxDOT Project Development Process Manual
- TxDOT Project Development Policy Manual
- TxDOT Pavement Design Guide
- Texas Manual on Uniform Traffic Control Devices (MUTCD)
- TxDOT Traffic Engineering Standard Sheets (including Barricade & Construction (BC) sheets)
- TxDOT Standard Specifications
- TxDOT Special Provisions
- TxDOT Special Specifications
- TxDOT Departmental Material Specifications (DMS)
- TxDOT Construction Contract Administration Manual (CCAM)
- TxDOT Local Government Project Procedures (LGPP)
- TxDOT Alternate Procedures (consultant selection/utilities)
- TxDOT Bridge Design Manual
- TxDOT Quality Assurance Program for Construction
- TxDOT Manual of Testing Procedures
- TxDOT Hazard Elimination Program Manual (HSIP Program)

Modification to the above control documents or any other control documents related to construction or design requires FHWA Texas Division approval prior to implementation on NHS projects.

B. Non-NHS projects will be developed in accordance with applicable standards, guidelines, policies and procedures, as adopted by TxDOT.

V. DELEGATED PROGRAM AND PROJECT RESPONSIBILITIES

A. Notwithstanding this Agreement, FHWA retains overall responsibility for all aspects of Federal-aid programs. This Agreement does not preclude FHWA access to and review of a Federal-aid project at any time and does not replace the provisions of Title 23 of the U.S. Code (USC). Program and project responsibilities are discussed in the sections below.

B. TxDOT Responsibilities

1. TxDOT assuming FHWA review and approval authority does not alter the applicability of Federal laws on Federal-aid projects. It is agreed that Title 23 requirements pertaining to contract bid proposal contents (including Davis-Bacon and the Disadvantaged Business Enterprise program) and procurement procedures (competitive bidding) apply to projects where required by the implementing Federal regulation. Additionally, the provisions of this Agreement do not modify the FHWA's non-Title 23 program oversight and project approval responsibilities for activities such as required under the Clean Air Act, NEPA and other related environmental laws and statutes, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and the Civil Rights Act of 1964 and related statutes, unless expressly permitted by SAFETEA-LU Section 6004 and 6005. By signing this Agreement, TxDOT accepts responsibility for FHWA review and approval actions to the extent such review and approval is required by Federal law and regulation.
2. Once delegated, TxDOT assumes responsibility for all Title 23 approval actions relative to project level design (including approval of design exceptions, PS&E approval, and concurrence in award), and construction (including construction inspection, change order approval, claims settlement, sampling and testing activities, project acceptance, preparation and submission of required project data, i.e. FHWA 45 and 47 forms) for State oversight projects. It is understood certain actions and responsibilities on State oversight projects cannot be or are not delegated to TxDOT. Those project level actions requiring FHWA approval are listed in Section V.C.1. below.
3. For delegated projects or programs that are developed and administered by local agencies/governments (including Transportation Enhancement Projects), TxDOT shall provide the necessary review and approval to assure compliance with Federal requirements. TxDOT will be responsible for determining that sub-recipients of Federal funds have adequate staffing, project delivery systems, and sufficient accounting control. Furthermore, TxDOT is ultimately accountable to FHWA for ensuring compliance with Federal-aid requirements on such projects.

C. FHWA Division Office Responsibilities

1. FHWA delegates to TxDOT project approvals for all State oversight of Federal-aid projects, as defined elsewhere in this Agreement (see Appendices A & B). However, as mentioned above, certain actions and responsibilities on State oversight projects cannot be or are not delegated to TxDOT. The FHWA retains authority for the following actions on Federal oversight projects in addition to those noted under Division Office Roles and Responsibilities:
 - All Federal responsibilities for planning and programming oversight specified in 23 USC 134 and 135 (Statewide Transportation Improvement Plan and amendments)
 - Federal air quality conformity determinations required by the Clean Air Act
 - Obligation of funds

- Waivers to Buy America requirements
- Civil Rights program approvals
- Environmental approvals except those specifically delegated under Sections 6004 and 6005 of SAFETEA-LU (National Environmental Policy Act actions)
- Addition and changes of access points on the Interstate Highway System
- Use of Interstate airspace for non-highway-related purposes
- Uniform Relocation Assistance Act (Hardship acquisition and protective buying)
- Modifications to project agreements
- Final vouchers
- Civil Rights actions
- Experimental features on National Highway System (NHS) projects
- Fund transfers to other agencies
- Advance Construction and conversion to Federal funding
- Approval of financial plans for Mega projects
- Participation in costs incurred before FHWA authorization
- Approval of innovative contracting techniques that require evaluation under the current Special Experimental Projects No. 14 (SEP-14) criteria (project specific, non-traditional contracting methods)
- Approval of innovative contracting techniques that require evaluation under the current Special Experimental Projects No. 15 (SEP-15) criteria (Public-Private Partnerships)
- Design exceptions on all Federal oversight projects and all projects on the Interstate Highway System regardless of funding source
- All schematics on the NHS with the exception of preventive maintenance, freeway safety and 3R type projects.

2. Design

- a) The Texas Division will use various techniques, as mentioned earlier in this Agreement, which may include project reviews, program reviews, SARs, telephone contacts, participation in value engineering activities, and participation in design concept conferences.
- b) Project reviews are conducted by FHWA Area Engineers, Major Project Engineers and Urban Programs Engineers (FHWA Engineers) on Federal Oversight projects as a tool in providing reasonable assurance that these projects are designed in accordance with applicable standards. FHWA Engineers will review design documents for Federal Oversight projects during routine visits to their TxDOT Districts of responsibility. This review of PS&E's, environmental documents, schematics, etc. early in the life of the project reduces the number of comments during the later stages of project development i.e. at preliminary and final PS&E. For State Oversight projects, the FHWA Texas Division's involvement will generally be directly related to environmental determinations and requests for technical assistance, and through SARs on selected functional areas.

- c) Project reviews can take many forms which include meetings with TxDOT design staff and consultants (where applicable) to identify standards and discuss issues, review draft or completed portions of plans, and through field reviews. For Federal oversight projects, reviews are conducted throughout project development so that expeditious approvals can be made by the Texas Division when the schematics and PS&Es are submitted by TxDOT. Review frequencies are not specified but are determined by the FHWA Engineers in consultation with their District Engineer. However, FHWA Engineers are expected to maintain a general knowledge of major proposed and active projects in their assigned geographic areas. FHWA Engineers are responsible for PS&E review and approval on Federal oversight projects. The engineering staff occasionally serves on multi-disciplined value engineering teams to improve project design, construction and cost effectiveness.
- d) Technical Assistance. A significant role of the FHWA Engineers and Technical Specialists is to provide technical assistance on design activities to TxDOT and other partners. Technical assistance includes, but is not limited to, current and emerging construction methods and techniques, interpretation of Federal contract administration requirements, funding eligibility issues, innovative design, and innovative contracting.
- e) Documentation. Reports are prepared for each project review. The format and content of the report is left to the discretion of the FHWA Engineers and FHWA District Engineers. However, as a minimum, the report should cover who participated in the review, when the review was conducted, items of significance noted during the reviews, decisions made, agreements reached and any other information needed for future reference. Texas Division reports should be prepared and distributed to the TxDOT Design and Environmental Divisions, the TxDOT District, and other affected parties, and sent to the project file. Additionally, design review data shall also be entered into the Division's Project Tracking System. Reports prepared by TxDOT or consultants (i.e. meeting minutes) may be used as part of our documentation if they are reviewed and validated.

3. Construction

- a) The Texas Division's stewardship program for construction uses various techniques, as mentioned earlier in this Agreement, including project reviews, program reviews, SARs, telephone contacts, and participation in partnering activities. For the purposes of this section on construction projects, the topic of Project Reviews is discussed in more detail below.
- b) Project Reviews (and/or Construction Project Inspections)
 - (1) Focus of Reviews.

- (a) Project reviews are designed to focus primarily on evaluating and improving current activities and following-up on unresolved issues from previous reviews. If possible, issues should be resolved at the time of the review. Each FHWA Area Engineer and FHWA Technical Specialist will devise a method of insuring proper follow-up.
 - (b) Project reviews also give the Texas Division a general understanding of individual TxDOT Districts' oversight. For example, in many cases project reviews feed the selection process for future SARs. The Texas Division may also use various other project review techniques, including participation in project related meetings, participation in value engineering teams, partnering activities, and telephone contacts.
- (2) Review Types. Specific types of project reviews include (but are not necessarily limited to) the following:
- Process Review/Product Evaluation
 - Inspections-in-Depth
 - Project Inspection
 - Final Inspection
 - Specialty Reviews

More detailed information on each type of review can be found in Section 3 of FHWA's Construction Program Management and Inspection Guide, August 2004 (<http://www.fhwa.dot.gov/construction/cpmi04tc.htm>).

- (3) Review Objectives. Some of the objectives of project reviews conducted on Federal oversight projects are listed below.
- Obtain assurance that the project has been completed in reasonably close conformity with approved plans, specifications, estimates, and authorized changes
 - Monitor the quality of construction
 - Identify and/or share best practices with other TxDOT Districts
 - Acquire information on problems and construction changes
 - Assess TxDOT's abilities and effectiveness in managing and controlling Federal-aid construction projects
 - Promote the development and implementation of quality management programs
 - Offer technical and procedural advice
 - Report on special or innovative construction materials, methods, procedures, new equipment, and other technological innovations
 - Professional development of FHWA and TxDOT review personnel
 - Establish contact and communications with project staff

- Become familiar with project
- Attend partnering workshops and project progress meetings
- Monitor and evaluate progress of work
- Provide support and encouragement for project personnel
- Focus Division resources on critical construction features and practices
- Follow up on previous inspection findings
- Discuss/document claims
- Lessons learned

(4) Items for Review. According to the Construction Program Management and Inspection Guide referenced above,

“Many items can be reviewed during a construction inspection, and the list of possible concerns about each item reviewed is also extensive. The amount of detail to be covered depends on the scope of the inspection and the time available. All data gathering and analysis should relate to the objectives of the inspection.”

Some of the main items to be considered in conducting the reviews are listed in Section 4 of the Guide under the topic on Inspection and Review Activities (refer also to Appendices C and D of the guide). It is not necessary that all items be covered on every project review. The degree of project review activity, in general, is based on risk, comfort level, and resources to conduct reviews.

(5) Review Frequency. Federal-oversight, construction projects shall be reviewed/inspected in the field by the appropriate Area Engineer during active operation(s) at a rate agreed upon by the FHWA Area Engineer and FHWA District Engineer.

c) Technical Assistance. A significant role of the FHWA Area Engineers and Technical Specialists is to provide technical assistance on construction activities to TxDOT and other partners. Technical assistance includes, but is not limited to, current and emerging construction methods and techniques, interpretation of Federal contract administration requirements, funding eligibility issues, quality of workmanship, and highlighting best practices. Personnel from the FHWA Division Office, Technical Assistance Section, may perform project field reviews, as frequently as necessary. These reviews can be with or without the accompaniment of the appropriate FHWA Area Engineer.

d) Project Review Reports.

(1) The format and content of project review reports (and/or Construction Inspection Reports) is left to the discretion of the FHWA Area and District Engineers. However, a report form is provided in the FHWA Texas Division’s Project Tracking System that should be used for uniformity.

- (2) The report should focus on items of significance noted during reviews, agreements reached with TxDOT on items such as change orders, best practices observed that could be shared, or other discussions that need to be documented. Details of routine review activities may be included at the Area Engineer's discretion. Purposes of the project review reports are further detailed in the list below.
- (a) Document Project History and Compliance
 - (i) Provide permanent file evidence (historical record) that inspections are being made as required by Federal regulations.
 - (ii) Provide a basis for acceptance of completed work
 - (iii) Document field conditions, contractor performance, and TxDOT's project management
 - (iv) Document FHWA's role, observations, findings, resolution of identified problems, claims, and any other topics of interest
 - (b) Convey Information to the Reader. The report should cover the following areas.
 - (i) Activities taking place on the project during the inspection
 - (ii) Observations and actions taken regarding quality and progress of work
 - (iii) Comments on the adequacy of the project administration by the contracting agency's representatives (staffing, supervision, documentation, measurement and payment of contract items, material issues, etc.)
 - (iv) Adequacy of addressing traffic control, safety, and environmental issues
 - (v) TxDOT's handling of change or extra work including proper justification for the work and adequacy of supporting documentation
 - (vi) Information on special or unusual technical topics
 - (vii) Followups from previous reports
- (3) Reports that only contain routine review activities do not, necessarily, need to be distributed outside of the Texas Division and can just be sent to the file. Reports of inspections containing significant findings should be prepared within two weeks of the inspection and transmitted to the TxDOT Construction Division and to the TxDOT District office. Each Area Engineer should determine whether additional distribution within FHWA and TxDOT is desired. Construction inspection data shall also be entered into the Division's Project Tracking System.
- (4) FHWA Area Engineers are encouraged to note new types of equipment, material usage or processing, new construction methods and devices, or unusual construction operations and to coordinate with the Research and Technology Transfer Engineer as appropriate. The Research and Technology Transfer Engineer and Area Engineers will work together to develop a special report outlining the operations, use, associated problems or advantages, cost factors, and performance.

VI. SUMMARY

By signing this agreement, TxDOT and the Texas Division document the delegation and acceptance of oversight options provided under current legislation, and identify policies and procedures that govern or are applicable to Federal-aid projects. Nothing in this agreement shall be construed to relieve the Texas Division from ultimate responsibility and accountability for compliance with Federal laws and regulations with respect to the expenditure of Federal-aid highway funds.

TxDOT and the Texas Division enter into this agreement and agree to carry out their respective responsibilities in a true spirit of cooperation. Nothing in this plan is intended to preclude TxDOT from requesting assistance with respect to any program or project regardless of the oversight status.

This agreement supersedes all previous oversight agreements on the subjects of Design and Construction and will become effective the date of signing by both parties. This agreement will remain in effect until FHWA and TxDOT agree to revise the agreement.

APPENDIX A

Federal Oversight Project Thresholds

Federal-aid projects on the National Highway System (NHS), meeting the values in the table below, shall be Federal oversight. The value will be established based on the estimated cost of the contract when TxDOT Districts develop their one-year letting schedules for approval. Oversight responsibility will not change on projects where the estimated cost goes above or below the established threshold subsequent to being placed on the one-year letting schedule. Further, combining several projects into one contract for letting purposes will not change established oversight responsibility. FHWA will continue to review and approve all schematics on the National Highway System regardless of project cost, with the exception of preventive maintenance, freeway safety and 3R type projects. FHWA will also review all design exception requests submitted with these schematics.

Federal Oversight Project Thresholds for Districts Shown		
≥ \$4 million	≥ \$10 million	≥ \$30 million
Abilene	Amarillo	Austin
Atlanta	Beaumont	Dallas
Brownwood	Bryan	Fort Worth
Childress	Corpus Christi	Houston
Lufkin	El Paso	Pharr
Odessa	Laredo	San Antonio
Paris	Lubbock	
San Angelo	Waco	
Tyler		
Wichita Falls		
Yoakum		

If the number of projects on the preliminary one-year letting schedule qualifying for Federal oversight (for any individual District) exceeds four, FHWA shall have the option to select which projects they will exercise oversight responsibilities on for that individual District. If the number is less than three, FHWA shall have the option to select additional projects in the affected District(s) for Federal oversight. This determination shall be made during FHWA's review of the one-year letting schedule. Prior to publishing the final schedule, TxDOT shall provide FHWA a draft list of projects and allow FHWA 10 work days for review of same. The review copy of the 12 Month Letting Schedule will be ready for distribution in June (approximately) for the coming year. Certain types of projects, as described in Appendix B, will generally be exempt from Federal oversight unless oversight is specifically retained as per the above described procedure.

APPENDIX B

Federal Oversight Project Exclusions

The following types of Federal-aid projects shall be excluded from the established \$ thresholds shown in Appendix A, and, therefore, remain State Oversight.

NHS Preventive Maintenance

This type project includes all NHS roadways, including Interstate Highways. Preventive Maintenance projects consist of work proposed to preserve, rather than improve, the structural integrity of the pavement and/or structure. Examples of preventive maintenance activities include ACP overlays (maximum 2" thick, excluding level-up); PFC; seal coats; cleaning and sealing joints and cracks; patching concrete pavement; shoulder repair; scour countermeasures; cleaning and painting steel members to include application of other coatings; steel beam repair, repair or replacement of slopes and/or riprap, restore drainage systems; cleaning and sealing bridge joints; microsurfacing; bridge deck protection; milling or bituminous level-up; clean, lubricate and reset bearings; clean rebar/strand and patch structural concrete and seal cracks.

NHS Freeways Safety Projects

This type project includes improvements to safety appurtenances on existing mainlanes and frontage roads of all freeways, including Interstate Highways. Work is limited to roadside safety, shoulder texturing, refurbishing existing signing and pavement markings, maintenance or replacement of existing impact attenuators, MBGF upgrade, installation, repair or replacement of longitudinal barrier. The roadway typical section is not changed. Design is in accordance with established department safety criteria and standards.

EXHIBIT G

TIFIA DEBT SERVICE

Period	Period Ending	Beginning TIFIA Loan Balance	Principal	Repayment of Deferred Interest	Deferred Interest	Interest	Debt Service	Prepayments	Ending TIFIA Loan Balance
1	4/1/2018								
2	10/1/2018								
3	4/1/2019								
4	10/1/2019								
5	4/1/2020								
6	10/1/2020								
7	4/1/2021								
8	10/1/2021								
9	6/1/2022								605,330,000.00
10	10/1/2022	605,330,000.00			3,803,794.21				609,133,794.21
11	4/1/2023	609,133,794.21			5,710,170.38				614,843,964.59
12	10/1/2023	614,843,964.59			5,795,367.60				620,639,332.19
13	4/1/2024	620,639,332.19			5,834,009.72				626,473,341.91
14	10/1/2024	626,473,341.91			5,888,849.41				632,362,191.32
15	4/1/2025	632,362,191.32			5,927,919.11				638,290,110.43
16	10/1/2025	638,290,110.43			6,016,365.19				644,306,475.62
17	4/1/2026	644,306,475.62			6,039,887.77				650,346,363.39
18	10/1/2026	650,346,363.39				6,130,004.46	6,130,004.46		650,346,363.39
19	4/1/2027	650,346,363.39				6,096,507.17	6,096,507.17		650,346,363.39
20	10/1/2027	650,346,363.39				6,130,004.46	6,130,004.46		650,346,363.39
21	4/1/2028	650,346,363.39				6,113,255.82	6,113,255.82		650,346,363.39
22	10/1/2028	650,346,363.39				6,113,255.82	6,113,255.82		650,346,363.39
23	4/1/2029	650,346,363.39				6,096,507.17	6,096,507.17		650,346,363.39
24	10/1/2029	650,346,363.39				6,130,004.46	6,130,004.46		650,346,363.39
25	4/1/2030	650,346,363.39				6,096,507.17	6,096,507.17		650,346,363.39
26	10/1/2030	650,346,363.39	1,613,750.06	120,009.18		6,130,004.46	7,863,763.70		648,612,604.15
27	4/1/2031	648,612,604.15	1,613,750.06	120,009.18		6,080,254.48	7,814,013.72		646,878,844.91
28	10/1/2031	646,878,844.91	1,658,901.38	123,366.94		6,097,320.49	7,879,588.81		645,096,576.59
29	4/1/2032	645,096,576.59	1,658,901.40	123,366.94		6,063,907.82	7,846,176.16		643,314,308.25
30	10/1/2032	643,314,308.25	3,434,305.93	255,397.82		6,047,154.50	9,736,858.25		639,624,604.50
31	4/1/2033	639,624,604.50	3,434,305.94	255,397.82		5,995,998.76	9,685,702.52		635,934,900.74
32	10/1/2033	635,934,900.74	4,435,079.85	329,822.02		5,994,165.57	10,759,067.44		631,169,998.87
33	4/1/2034	631,169,998.87	4,435,079.86	329,822.03		5,916,743.20	10,681,645.09		626,405,096.98
34	10/1/2034	626,405,096.98	5,488,830.55	408,185.93		5,904,339.99	11,801,356.47		620,508,080.50
35	4/1/2035	620,508,080.50	5,488,830.56	408,185.93		5,816,795.75	11,713,812.24		614,611,064.01
36	10/1/2035	614,611,064.01	5,680,360.18	422,429.35		5,793,172.34	11,895,961.87		608,508,274.48
37	4/1/2036	608,508,274.48	5,680,360.19	422,429.35		5,719,977.78	11,822,767.32		602,405,484.94
38	10/1/2036	602,405,484.94	6,366,244.87	473,436.30		5,662,611.56	12,502,292.73		595,565,803.77
39	4/1/2037	595,565,803.77	6,366,244.88	473,436.30		5,582,980.70	12,422,661.88		588,726,122.59
40	10/1/2037	588,726,122.59	7,034,476.58	523,130.45		5,549,187.27	13,106,794.30		581,168,515.56
41	4/1/2038	581,168,515.56	7,034,476.59	523,130.45		5,448,016.97	13,005,624.01		573,610,908.52
42	10/1/2038	573,610,908.52	7,742,219.43	575,762.91		5,406,714.99	13,724,697.33		565,292,926.18
43	4/1/2039	565,292,926.18	7,742,219.43	575,762.91		5,299,195.28	13,617,177.62		556,974,943.84
44	10/1/2039	556,974,943.84	8,463,421.75	629,396.31		5,249,908.48	14,342,726.54		547,882,125.78
45	4/1/2040	547,882,125.78	8,463,421.75	629,396.31		5,150,091.98	14,242,910.04		538,789,307.72
46	10/1/2040	538,789,307.72	9,250,831.41	687,953.33		5,064,619.49	15,003,404.23		528,850,522.98
47	4/1/2041	528,850,522.98	9,250,831.41	687,953.33		4,957,575.20	14,896,359.94		518,911,738.24
48	10/1/2041	518,911,738.24	10,028,897.10	745,815.47		4,891,134.09	15,665,846.66		508,137,025.67
49	4/1/2042	508,137,025.67	10,028,897.11	745,815.47		4,763,401.77	15,538,114.35		497,362,313.09
50	10/1/2042	497,362,313.09	13,048,182.35	970,349.59		4,688,014.53	18,706,546.47		483,343,781.15
51	4/1/2043	483,343,781.15	13,048,182.36	970,349.59		4,530,983.79	18,549,515.74		469,325,249.20
52	10/1/2043	469,325,249.20	15,245,065.44	1,133,724.42		4,423,744.07	20,802,533.93		452,946,459.34
53	4/1/2044	452,946,459.34	15,245,065.46	1,133,724.43		4,257,696.72	20,636,486.61		436,567,669.45
54	10/1/2044	436,567,669.45	16,816,164.74	1,250,561.81		4,103,736.09	22,170,462.64		418,500,942.90
55	4/1/2045	418,500,942.90	16,816,164.74	1,250,561.81		3,923,131.03	21,989,857.58		400,434,216.35
56	10/1/2045	400,434,216.35	17,925,822.22	1,333,083.32		3,774,394.19	23,033,299.73		381,175,310.81
57	4/1/2046	381,175,310.81	17,925,822.22	1,333,083.32		3,573,231.35	22,832,136.89		361,916,405.27
58	10/1/2046	361,916,405.27	21,632,781.30	1,608,757.44		3,411,334.80	26,652,873.54		338,674,866.53
59	4/1/2047	338,674,866.53	21,632,781.30	1,608,757.44		3,174,821.71	26,416,360.45		315,433,327.79
60	10/1/2047	315,433,327.79	23,253,639.99	1,729,295.27		2,973,196.77	27,956,132.03		290,450,392.53
61	4/1/2048	290,450,392.53	23,253,639.98	1,729,295.27		2,730,233.69	27,713,168.94		265,467,457.28
62	10/1/2048	265,467,457.28	26,136,988.55	1,943,720.24		2,495,394.10	30,576,102.89		237,386,748.49
63	4/1/2049	237,386,748.49	26,136,988.55	1,943,720.24		2,225,321.91	30,306,030.70		209,306,039.70
64	10/1/2049	209,306,039.70	29,084,757.23	2,162,935.92		1,972,867.12	33,220,560.27		178,058,346.55
65	4/1/2050	178,058,346.55	29,084,757.24	2,162,935.92		1,669,162.85	32,916,856.01		146,810,653.39
66	10/1/2050	146,810,653.39	21,869,100.53	1,826,331.71		1,383,801.02	24,879,233.26		123,315,221.15
67	4/1/2051	123,315,221.15	21,869,100.52	1,826,331.71		1,155,987.29	24,651,419.52		99,819,788.92
68	10/1/2051	99,819,788.92	22,688,440.89	1,687,263.31		940,876.72	25,316,580.92		75,444,084.72
69	4/1/2052	75,444,084.72	22,688,440.88	1,687,263.31		709,174.40	25,084,878.59		51,068,380.53
70	10/1/2052	51,068,380.53	47,533,475.24	3,534,905.29		480,042.78	51,548,423.31		
71	4/1/2053								
72	10/1/2053								
73	4/1/2054								
74	10/1/2054								
Total			605,330,000.00	45,016,363.39	45,016,363.39	242,088,466.38	892,434,829.77		
Notes	Rate:	0.02							

EXHIBIT H-1

FORM OF OPINIONS REQUIRED OF COUNSEL TO BORROWER

An opinion of the counsel of the Borrower, dated the Effective Date, to the effect that: (a) the Borrower and each other Borrower Related Party is duly formed, validly existing, and in good standing under the laws of the jurisdiction of its organization; (b) the Borrower and each other Borrower Related Party has all requisite power and authority to conduct its business and to execute and deliver, and to perform its obligations under the TIFIA Loan Documents and the Related Documents to which it is a party; (c) the execution and delivery by the Borrower and each other Borrower Related Party of, and the performance of its respective obligations under, the TIFIA Loan Documents and Related Documents to which it is a party, have been duly authorized by all necessary organizational or regulatory action; (d) the Borrower and each other Borrower Related Party has duly executed and delivered each TIFIA Loan Document and Related Document to which it is a party and each such TIFIA Loan Document and Related Document constitutes the legal, valid and binding obligation of such party; enforceable against such party in accordance with its terms; (e) no authorization, consent or other approval of, or registration, declaration or other filing with any governmental authority of the United States of America or of the State is required on the part of the Borrower and each other Borrower Related Party for the execution and delivery by such party of, and the performance of such party under, any TIFIA Loan Document and Related Document to which it is a party other than authorizations, consents, approvals, registrations, declarations and filings that have already been timely obtained or made by the Borrower and each other Borrower Related Party; (f) the execution and delivery by the Borrower and each other Borrower Related Party, and compliance with the provisions of the TIFIA Loan Documents and Related Documents to which it is a party in each case do not (i) violate the Organizational Documents of the Borrower and each other Borrower Related Party, (ii) violate the law of the United States of America or of the State or (iii) conflict with or constitute a breach of or default under any material agreement or other instrument known to such counsel to which the Borrower and each other Borrower Related Party is a party, or to the best of such counsel's knowledge, after reasonable review, any court order, consent decree, statute, rule, regulation or any other law to which the Borrower and each other Borrower Related Party is subject; (g) the Trust Agreement establishes, in favor of the Trustee for the benefit of the TIFIA Lender, the valid and perfected Lien on the Trust Estate which it purports to create without any further action by the Borrower or any other party, and no documents or instruments are required or necessary to be recorded or filed for record in any place to establish the Trustee's lien in the Trust Estate (for the benefit of the Secured Parties); (h) none of the Borrower or any Borrower Related Party is an investment company required to register under the Investment Company Act of 1940, as amended; and (i) to our knowledge after due inquiry, there are no actions, suits, proceedings or investigations against the Borrower and any other Borrower Related Party by or before any court, arbitrator or any other Governmental Authority in connection with the TIFIA Loan Documents and Related Documents or the Project that are pending.

EXHIBIT H-2

FORM OF OPINIONS REQUIRED FROM BOND COUNSEL

An opinion of bond counsel, dated as of the Effective Date, to the effect that: (a) each of the TIFIA Note, the Trust Agreement, and the Ninth Supplemental Agreement has been duly authorized, executed, and delivered by the Borrower in accordance with the Organizational Documents of the Borrower and in compliance with all applicable laws;² (b) each of the TIFIA Note, the Trust Agreement, and the Ninth Supplemental Agreement is in full force and effect and constitutes the legal, valid, and binding obligation of the Borrower, enforceable in accordance with its respective terms and conditions; (c) the TIFIA Note is secured by the Trust Estate and is a First Tier Non-TELA Obligation entitled to the benefits of a First Tier Non-TELA Obligation under the Trust Agreement, enforceable under the laws of the State without any further action by the Borrower or any other Person;³ (d) the Trust Agreement creates the valid and binding assignment and pledge of the Trust Estate to secure the payment of the principal of, interest on, and other amounts payable in respect of, the TIFIA Note, irrespective of whether any party has notice of the pledge and without the need for any physical delivery, recordation, filing or further act; (e) all actions by the Borrower that are required for the use of Revenues of the System as defined in and required under the Trust Agreement and under the TIFIA Loan Agreement have been duly and lawfully made; (f) the Borrower has complied with the requirements of State law to lawfully pledge the Trust Estate as required by the terms of the Trust Agreement and the TIFIA Loan Agreement; (g) [the Borrower is not eligible to be a debtor in either a voluntary or involuntary case under the United States Bankruptcy Code].⁴

² Subject to modification if the Indenture is already in place at the time the TIFIA Loan is executed.

³ The opinions described in clause (c) or (d) may further describe the TIFIA Bond's priority in relation to other Bonds issued under the Indenture.

⁴ Subject to modification based on State bankruptcy law and the legal status of the Borrower as an entity.

EXHIBIT I

FORM OF CERTIFICATE OF TRUSTEE

GRAND PARKWAY TRANSPORTATION CORPORATION

GRAND PARKWAY SYSTEM

(TIFIA Project Number-20211015A)

FIRST TIER TOLL REVENUE PROMISSORY NOTE

The undersigned, U.S. Bank National Association (the “*Trustee*”), by its duly appointed, qualified and acting Vice President, certifies with respect to the above referenced note (the “*Note*”) dated as of August 19, 2021, as follows (capitalized terms used in this Certificate which are not otherwise defined shall have the meanings given to such terms in the Indenture (as defined below)):

1. That the Trustee is a national banking association duly organized and validly existing under the laws of the United States of America.
2. All approvals, consents and orders of any governmental authority or agency having jurisdiction in the matter which would constitute a condition precedent to the performance by the Trustee of its duties and obligations under the documents pertaining to the delivery of the TIFIA Loan Agreement (as defined below) and the Note have been obtained and are in full force and effect.
3. That the documents pertaining to the delivery of the TIFIA Loan Agreement and the Note to which the Trustee is a party, including the Ninth Supplemental Agreement (as defined below), were executed on behalf of the Trustee by one or more of the persons whose names and offices appear on Annex One attached hereto and made part hereof, that each person was at the time of the execution of such documents and now is duly appointed, qualified and acting incumbent of his or her respective office, that each such person was authorized to execute such documents, and that the signature appearing after the name of each such person is a true and correct specimen of that person’s genuine signature.
4. That the undersigned is authorized to act as Trustee and accept the trusts conveyed to it under the Indenture (“*Trusts*”), has accepted the Trusts so conveyed and in so accepting the Trusts and so acting is not in violation of any provision of its articles of association or bylaws, any law, regulation or court or administrative order or any agreement or other instrument to which it is a party or by which it may be bound.
5. That attached to this Certificate as part of Annex One is a full, true and correct copy of excerpts from the Bylaws of the Trustee and other applicable documents that evidence the Trustee’s trust powers and the authority of the officers referred to above to act on behalf of the Trustee; and that these excerpts and other applicable documents were in effect on the date or dates such officers acted and remain in full force and effect today, and such excerpts

and documents have not been amended since the date of the last amendment thereto shown on any such copy, as applicable.

6. That receipt is acknowledged of all instruments, certifications and other documents or confirmations required to be received by the Trustee pursuant to Section 207 of that certain Trust Agreement, dated as of August 1, 2013, between Grand Parkway Transportation Corporation (the “*Borrower*”) and the Trustee, as amended and supplemented, including by the Sixth Supplemental Agreement, dated as of May 1, 2018 (the “*Master Trust Agreement*”), as further supplemented by a Ninth Supplemental Agreement dated as of August 1, 2021 (the “*Ninth Supplement Agreement*” and together with the Master Trust Agreement, collectively, the “*Indenture*”).
7. That receipt is also acknowledged of that certain TIFIA Loan Agreement, dated as of August 19, 2021 (the “*TIFIA Loan Agreement*”), between the Borrower and the United States Department of Transportation, acting by and through the Executive Director of the Build America Bureau.
8. That the Trustee also accepts its appointment and agrees to perform the duties and responsibilities of Trustee and Paying Agent for and in respect of the TIFIA Loan Agreement and the Note as set forth in the Indenture and the TIFIA Loan Agreement. In accepting such duties and responsibilities, the Trustee shall be entitled to all of the privileges, immunities, rights and protections set forth in the Indenture.
9. That all funds and accounts for the payment of the Note pursuant to the Indenture (including, but not limited to, First Tier Interest Account, the First Tier Redemption Account and the First Tier Reserve Account) have been established as provided in the Indenture.

[Signature page to follow]

Dated: _____, 2021

**U.S. BANK NATIONAL
ASSOCIATION, as Trustee**

By: _____
Name: _____
Title: _____

[Trustee Signature Page to Certificate of Trustee – Grand Parkway Segments H & I]

ANNEX ONE

EXHIBIT J

FORM OF BORROWER'S OFFICER'S CERTIFICATE

Reference is made to that certain TIFIA Loan Agreement, dated as of August 19, 2021 (the "TIFIA Loan Agreement"), by and among Grand Parkway Transportation Corporation, a public non-profit corporation and instrumentality of the Texas Transportation Commission created under the laws of the State of Texas (the "Borrower"), and the United States Department of Transportation, acting by and through the Executive Director of the Build America Bureau (the "TIFIA Lender"). Capitalized terms used in this certificate and not defined shall have the respective meanings ascribed to such terms in the TIFIA Loan Agreement.

The undersigned, President, as Borrower's Authorized Representative, does hereby certify on behalf of the Borrower and not in his personal capacity, as of the date hereof:

- (a) pursuant to Section 13(a)(ii) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit A are certified, complete, and fully executed copies of each Security Document, together with any amendments, waivers or modifications thereto, in each case that has been entered into on or prior to the Effective Date, and each such agreement is in full force and effect, and all conditions contained in such documents to the closing of the transactions contemplated thereby have been fulfilled or effectively waived by the TIFIA Lender in its sole discretion;
- (b) pursuant to Section 13(a)(vii) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit B is an incumbency certificate that lists all persons, together with their positions and specimen signatures, who are duly authorized by the Borrower to execute the TIFIA Loan Documents to which the Borrower is or will be a party, and who have been appointed a Borrower's Authorized Representative in accordance with Section 26 (*Borrower's Authorized Representative*) of the TIFIA Loan Agreement;
- (c) pursuant to Section 13(a)(x) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit C is an originally fully executed counterpart (or a certified copy) of the Borrower's Traffic and Revenue Study, accompanied by a letter from the preparer of such study, certifying that the assumptions and projections contained in the Traffic and Revenue Study are reasonable and may be relied upon by the TIFIA Lender;
- (d) pursuant to Section 13(a)(xi) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit D are certified, complete, and fully executed copies of each Principal Project Contract and each of the other Related Documents, together with any amendments, waivers, or modifications thereto, in each case that has been executed on or prior to the Effective Date (as listed below), and each such Principal Project Contract and other Related Document is in full force and effect and has not been amended, amended and restated, modified or supplemented except as listed below and attached hereto as part of Exhibit D:
 - 1. Design-Build Agreement;
 - 2. D-B Assignment Agreement;

3. Project Agreement;
 4. Master Custodial Agreement (and all joinder agreements);
 5. Toll Rate Agreement;
 6. Toll Equity Loan Agreement; and
 7. Market Valuation Waiver Agreement.
- (e) pursuant to Section 13(a)(xii) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, based on information from TxDOT, TxDOT has acquired, or will acquire in a timely manner and as necessary to construct the Project, all of the right of way to be financed with the 2018 Debt and refinanced with proceeds of the TIFIA Loan;
- (f) pursuant to Section 13(a)(xiii) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, the Borrower has obtained all Governmental Approvals necessary to commence construction of the Project and each such Governmental Approval is final, non-appealable, and in full force and effect (and is not subject to any notice of violation, breach or revocation);
- (g) pursuant to Section 13(a)(xiv) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit E is the Base Case Financial Model, which Base Case Financial Model (i) demonstrates that projected Project Revenues are sufficient to meet the Loan Amortization Schedule, (ii) demonstrates a Total Debt Service Coverage Ratio for each Calculation Period through the Final Maturity Date that is not less than 1.0, (iii) does not reflect (1) the commencement of amortization of the principal amount of any Senior Obligations, other than the Existing Senior Obligations that, as of the Effective Date, are scheduled to commence amortization, before the Debt Service Payment Commencement Date, (2) the payment of any interest on any Second Tier Obligations or Subordinate Tier Obligations, other than the Existing Obligations, before the Debt Service Payment Commencement Date, or (3) the commencement of amortization of the principal amount of any Second Tier Obligations or Subordinate Tier Obligations, other than the Existing Obligations, before the commencement of amortization of the principal amount of the TIFIA Loan;
- (h) pursuant to Section 13(a)(xvii) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit F is a true, correct and complete copy of the final NEPA Determination, which documents have not been revoked or amended on or prior to the date hereof. The Borrower has complied with all applicable requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601 *et seq.*) and Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*);
- (i) pursuant to Section 13(a)(xix) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, (i) the Borrower's Federal Employer Identification Number is 45-5600062 and attached hereto as Exhibit G-1 is evidence thereof, (ii) the Borrower's Data Universal

Numbering System number is 062103394, and (iii) the Borrower has registered with, and obtained confirmation of active registration status from, the federal System for Award Management (www.SAM.gov), and attached hereto as Exhibit G-2 is evidence of each of (ii) and (iii);

- (j) pursuant to Section 13(a)(xx) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, the insurance required pursuant to Section 16(f) (*Insurance*) of the TIFIA Loan Agreement is in full force and effect and such insurance complies with the requirements thereof;
- (k) pursuant to Section 13(a)(xxi) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as (i) Exhibit H-1 is a copy of the Borrower's Organizational Documents, as in effect on the Effective Date (and certified by the Secretary of State of the State, to the extent applicable), which Organizational Documents are in full force and effect and have not been amended since the date of the last amendment thereto shown on the certificate, (ii) Exhibit H-2 is a copy of all resolutions authorizing the Borrower to execute and deliver, and to perform its respective obligations under, the TIFIA Loan Documents to which it is a party, and such resolutions have not been subsequently modified, rescinded or amended, are in full force and effect in the form adopted, and are the only resolutions adopted by the Borrower relating to the matters described therein, and (iii) as Exhibit H-3 is a copy of such further instruments and documents as are necessary, appropriate or advisable to effectuate the foregoing resolutions and to consummate and implement the transactions contemplated by such resolutions and the TIFIA Loan Documents;
- (l) pursuant to Section 13(a)(xxiii) (*Conditions Precedent to Effectiveness*) of the TIFIA Loan Agreement, attached hereto as Exhibit I are complete and fully executed copies of each performance security instrument delivered to or by the Borrower pursuant to any Principal Project Contract as of the Effective Date, each of which performance security instruments is in compliance with the requirements for such performance security instrument pursuant to the applicable Principal Project Contract and is in full force and effect;
- (m) the representations and warranties of the Borrower set forth in the TIFIA Loan Agreement and in each other Related Document to which the Borrower is a party are true and correct on and as of the date hereof, except to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties were true and correct as of such earlier date; and
- (n) (i) the maximum principal amount of the TIFIA Loan (excluding any interest that is capitalized in accordance with the terms hereof), together with the amount of any other credit assistance provided for the Project under the Act to the Borrower, does not exceed thirty-three percent (33%) of reasonably anticipated Eligible Project Costs and (ii) as required pursuant to § 603(b)(9) of the Act, the total federal assistance provided to the Project, including the maximum principal amount of the TIFIA Loan (excluding any interest that is capitalized in accordance with the terms hereof), does not exceed eighty percent (80%) of Eligible Project Costs.

IN WITNESS WHEREOF, the undersigned has executed this certificate as of the date first mentioned above.

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

By: _____
Name: Stephen Stewart, CPA
Title: President, Board of Directors

[Borrower Signature Page to Borrower's Officer's Certificate – Grand Parkway Segments H & I]

EXHIBIT B TO BORROWER'S OFFICER'S CERTIFICATE

INCUMBENCY CERTIFICATE

The undersigned certifies that he is the Secretary/Treasurer of Grand Parkway Transportation Corporation, a public non-profit corporation and instrumentality of the Texas Transportation Commission created under the laws of the State of Texas (the "Borrower"), and as such he is authorized to execute this certificate and further certifies that the following persons have been elected or appointed, are qualified, and are now acting as officers or authorized persons of the Borrower in the capacity or capacities indicated below, and that the signatures set forth opposite their respective names are their true and genuine signatures. He further certifies that any of the officers listed below is authorized to sign agreements and give written instructions with regard to any matters pertaining to the TIFIA Loan Documents and/or the Security Documents as the Borrower's Authorized Representative (each as defined in that certain TIFIA Loan Agreement, dated as of the date hereof, between the Borrower and the United States Department of Transportation, acting by and through the Executive Director of the Build America Bureau):

<u>Name</u>	<u>Title</u>	<u>Signature</u>
Stephen Stewart, CPA	President, Board of Directors	_____
Benjamin H. Asher	Secretary/Treasurer	_____

[Signature page to follow]

IN WITNESS WHEREOF, the undersigned has executed this certificate as of this _____
day of _____, 2021.

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

By: _____
Name: Benjamin H. Asher
Title: Secretary/Treasurer

[Borrower Signature Page to Incumbency Certificate – Grand Parkway Segments H & I]

EXHIBIT K

FORM OF CERTIFICATE OF SUBSTANTIAL COMPLETION

[Letterhead of Borrower]

[Date]

Build America Bureau
United States Department of Transportation
Room W12-464
1200 New Jersey Avenue, SE
Washington, D.C. 20590
Attention: Director, Office of Credit Programs

Project: Grand Parkway Project 20211015A

Dear Director:

This Notice is provided pursuant to Section 16(g)(i)(A) (*Substantial Completion*) of that certain TIFIA Loan Agreement (the “TIFIA Loan Agreement”), dated as of August 19, 2021, by and between Grand Parkway Transportation Corporation, a public non-profit corporation and instrumentality of the Texas Transportation Commission created under the laws of the State of Texas (the “**Borrower**”), and the United States Department of Transportation, acting by and through the Executive Director of the Build America Bureau (the “**TIFIA Lender**”).

Unless otherwise defined herein, all capitalized terms in this Notice have the meanings assigned to those terms in the TIFIA Loan Agreement.

I, the undersigned, in my capacity as the Borrower’s Authorized Representative and not in my individual capacity, do hereby certify to the TIFIA Lender that:

- (a) on *[insert date Substantial Completion requirements were satisfied]*, the Project satisfied each of the requirements for Substantial Completion set forth in the Design-Build Agreement;
- (b) Substantial Completion has been declared under the above-referenced agreement and a copy of the notice of Substantial Completion under such agreement is attached to this certification; and
- (c) Substantial Completion, as defined in the TIFIA Loan Agreement, has been achieved.

Grand Parkway Transportation Corporation

Name:

Title: Borrower's Authorized Representative

EXHIBIT L

CERTIFICATION REGARDING THE PROHIBITION ON THE USE OF APPROPRIATED FUNDS FOR LOBBYING

The undersigned, on behalf of Grand Parkway Transportation Corporation, a public non-profit corporation and instrumentality of the Texas Transportation Commission created under the laws of the State of Texas, hereby certifies, to the best of his or her knowledge and belief, that Grand Parkway Transportation Corporation:

(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Borrower, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the making of the TIFIA Loan.

(b) If any funds other than proceeds of the TIFIA Loan have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the TIFIA Loan, the Borrower shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(c) The Borrower shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when the TIFIA Lender entered into this Agreement. Submission of this certification is a prerequisite to the effectiveness of this Agreement imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Signature page to follow]

Dated: _____, 2021

**GRAND PARKWAY TRANSPORTATION
CORPORATION**

By: _____
Name: Stephen Stewart, CPA
Title: President, Board of Directors

[Borrower Signature Page to Certification Regarding Lobbying – Grand Parkway Segments H & I]

EXHIBIT M

TIFIA LOAN REAMORTIZATION METHODOLOGY

Payment Date	Original Base Case Financial Model Amortization (8/19/2021)	Principal Amount %(1)
6/1/2022	-	
10/1/2022	-	
4/1/2023	-	
10/1/2023	-	
4/1/2024	-	
10/1/2024	-	
4/1/2025	-	
10/1/2025	-	
4/1/2026	-	
10/1/2026	-	
4/1/2027	-	
10/1/2027	-	
4/1/2028	-	
10/1/2028	-	
4/1/2029	-	
10/1/2029	-	
4/1/2030	-	
10/1/2030	\$ 1,733,759.24	0.2666%
4/1/2031	\$ 1,733,759.24	0.2666%
10/1/2031	\$ 1,782,268.32	0.2740%
4/1/2032	\$ 1,782,268.34	0.2740%
10/1/2032	\$ 3,689,703.75	0.5673%
4/1/2033	\$ 3,689,703.76	0.5673%
10/1/2033	\$ 4,764,901.87	0.7327%
4/1/2034	\$ 4,764,901.89	0.7327%
10/1/2034	\$ 5,897,016.48	0.9088%
4/1/2035	\$ 5,897,016.49	0.9088%
10/1/2035	\$ 6,102,789.53	0.9384%
4/1/2036	\$ 6,102,789.54	0.9384%
10/1/2036	\$ 6,839,681.17	1.0517%
4/1/2037	\$ 6,839,681.18	1.0517%
10/1/2037	\$ 7,557,607.03	1.1621%
4/1/2038	\$ 7,557,607.04	1.1621%
10/1/2038	\$ 8,317,982.34	1.2790%
4/1/2039	\$ 8,317,982.34	1.2790%
10/1/2039	\$ 9,092,818.06	1.3982%
4/1/2040	\$ 9,092,818.06	1.3982%
10/1/2040	\$ 9,938,784.74	1.5282%
4/1/2041	\$ 9,938,784.74	1.5282%
10/1/2041	\$ 10,774,712.57	1.6568%
4/1/2042	\$ 10,774,712.58	1.6568%
10/1/2042	\$ 14,018,531.94	2.1555%
4/1/2043	\$ 14,018,531.95	2.1555%
10/1/2043	\$ 16,378,789.86	2.5185%
4/1/2044	\$ 16,378,789.89	2.5185%
10/1/2044	\$ 18,066,726.55	2.7780%
4/1/2045	\$ 18,066,726.55	2.7780%
10/1/2045	\$ 19,258,905.54	2.9613%
4/1/2046	\$ 19,258,905.54	2.9613%
10/1/2046	\$ 23,241,538.74	3.5737%
4/1/2047	\$ 23,241,538.74	3.5737%
10/1/2047	\$ 24,982,935.26	3.8415%
4/1/2048	\$ 24,982,935.25	3.8415%
10/1/2048	\$ 28,080,708.79	4.3178%
4/1/2049	\$ 28,080,708.79	4.3178%
10/1/2049	\$ 31,247,693.15	4.8048%
4/1/2050	\$ 31,247,693.16	4.8048%
10/1/2050	\$ 23,495,432.24	3.6128%
4/1/2051	\$ 23,495,432.23	3.6128%
10/1/2051	\$ 24,375,704.20	3.7481%
4/1/2052	\$ 24,375,704.19	3.7481%
10/1/2052	\$ 51,068,380.53	7.8525%
	\$ 650,346,383.39	100.0000%

(1) % is based upon the anticipated TIFIA Loan Balance as of the Debt Service Commencement Date.

EXHIBIT N

2 CFR Part 170

I. REPORTING SUBAWARDS AND EXECUTIVE COMPENSATION

a. *Reporting of first-tier subawards.*

1. *Applicability.* Unless you are exempt as provided in paragraph (d) below, you must report each action that equals or exceeds \$30,000 in Federal funds for a subaward to a non-Federal entity or Federal agency (see definitions in paragraph (e) below).

2. *Where and when to report.*

i. The non-Federal entity or Federal agency must report each obligating action described in paragraph (a)(1) above to <http://www.fsrs.gov>.

ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. *What to report.* You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

b. *Reporting total compensation of recipient executives for non-Federal entities.*

1. *Applicability and what to report.* You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—

i. The total Federal funding authorized to date under this TIFIA Loan equals or exceeds \$30,000 as defined in 2 CFR § 170.320;

ii. In the preceding fiscal year, you received—

(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards), and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and,

iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report executive total compensation described in paragraph (b)(1) above:

i. As part of your registration profile at <https://www.sam.gov>.

ii. By the end of the month following the month of the Effective Date, and annually thereafter.

c. Reporting of Total Compensation of Subrecipient Executives.

1. *Applicability and what to report.* Unless you are exempt as provided in paragraph (d) below, for each first-tier non-Federal entity subrecipient under this TIFIA Loan, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if—

i. In the subrecipient's preceding fiscal year, the subrecipient received—

(A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards) and,

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report subrecipient executive total compensation described in paragraph (c)(1) above:

i. To the recipient.

ii. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (*i.e.*, between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. *Exemptions.* If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

1. Subawards, and

2. The total compensation of the five most highly compensated executives of any subrecipient.

e. Definitions. For purposes of this **Exhibit N**:

1. *Federal Agency* means a Federal agency as defined at 5 U.S.C. § 551(1) and further clarified by 5 U.S.C. § 552(f).

2. *Non-Federal entity* means all of the following, as defined in 2 CFR Part 25:

i. A Governmental organization, which is a State, local government, or Indian tribe;

ii. A foreign public entity;

- iii. A domestic or foreign nonprofit organization; and,
- iv. A domestic or foreign for-profit organization

3. *Executive* means officers, managing partners, or any other employees in management positions.

4. *Subaward*:

i. This term means a legal instrument to provide support for the performance of any portion of the Project and that you as the Borrower award to an eligible subrecipient.

ii. The term does not include your procurement of property and services needed to carry out the Project (for further explanation, see 2 CFR § 200.331).

iii. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

5. *Subrecipient* means a non-Federal entity or Federal agency that:

i. Receives a subaward from you (the recipient) under this TIFIA Loan; and

ii. Is accountable to you for the use of the Federal funds provided by the subaward.

6. *Total compensation* means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR § 229.402(c)(2)).