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E. Major Structure Locations - The following lists indicate the general location of major structures on the proposed near-term Facilities:

1. Austin – San Antonio Area, SH 130, Segments 5 and 6.

- Fully directional interchanges at:

- ◆ 45 Southeast/US 183
- ◆ US 183 North of Lockhart
- ◆ IH 10

- Diamond interchanges at:

- ◆ Laws Road ◆ SH 80
- ◆ SH 21 ◆ FM 621
- ◆ FM 1185 ◆ FM 20

- Railroad crossings at:

- ◆ Parallel to SH 80, West of Lockhart
- ◆ Parallel to IH 10, East of Seguin

- Water crossings at:

- ◆ Plum Creek
- ◆ Clear Fork Plum Creek
- ◆ Big West Fork Plum Creek
- ◆ Little West Fork Plum Creek
- ◆ Dickerson Creek
- ◆ San Marcos River
- ◆ York Creek Tributary
- ◆ York Creek

2. Dallas Area, TTC-35, Dallas Southeast Connector.

- Fully directional interchanges at:

- ◆ IH 35E ◆ IH 20
- ◆ IH 45 ◆ IH 30

- Diamond interchanges at:

- ◆ FM 813 ◆ SH 205
- ◆ US 175 ◆ SH 276
- ◆ US 80

- Railroad crossings at:

- ◆ Parallel to US 80, West of Terrell
- ◆ Parallel to IH 45, North of Ferris
- ◆ Parallel to IH 35E, North of Waxahachie

- Water crossings at:

- ◆ Bearpen Creek ◆ Trinity River
- ◆ South Fork ◆ Old Tenmile Creek◆
- ◆ Sabine River
- ◆ Little High Point ◆ Bear Creek
- Creek ◆ Red Oak Creek
- ◆ High Point Creek ◆ Grove Creek
- ◆ Big Brushy Creek ◆ Unnamed
- ◆ Unnamed ◆ Red Oak Creek
- ◆ Anthony Branch◆ ◆ Red Oak Creek◆
- East Fork Trinity Grove Creek
- ◆ Parsons Slough

3. Dallas Area, TTC-35 Dallas Northeast Connector.

- Fully directional interchanges at:

- ◆ US 75
- ◆ IH 30 (included in the Near Term)

- Three-level Diamond Interchange at:

- US 380

- Diamond interchanges at:

- ◆ FM 902 ◆ FM 981
- ◆ FM 121 ◆ FM 2194
- ◆ SH 121 ◆ SH 66
- ◆ SH 78

- Railroad crossings at:

- ◆ Parallel to US 75, South of Sherman
- ◆ Parallel to FM 2194, Northeast of Farmersville
- ◆ Parallel to US 380, East of Farmersville
- ◆ Parallel to SH 66, Southwest of Greenville

- Water crossings at:

- ◆ Bear Creek ◆ East Prong Sister Grove Creek
- ◆ Delba Creek ◆ West Prong Sister Grove Creek
- ◆ Indian Creek ◆ Cedar Creek
- ◆ Desert Creek ◆ Choctaw Creek
- ◆ Pilot Grove Creek
- ◆ Wolf Run Creek

4. Austin – Temple Area, TTC-35, Georgetown to Temple

- Fully directional interchanges at:

- ◆ IH 35

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- Diamond interchanges at:
 - ◆ FM 935 ◆ FM 2268
 - ◆ FM 438 ◆ FM 487
 - ◆ SH 53 ◆ FM 971
 - ◆ SH 190/SH 36 ◆ FM 972
 - ◆ SH 95 ◆ SH 29
 - Railroad crossings at:
 - ◆ Parallel to US 190, South of Temple
 - ◆ Parallel to SH 95, South of Temple
 - ◆ Parallel to FM 971, Northeast of Georgetown
 - Water crossings at:
 - ◆ San Gabriel ◆ Little Elm Creek
 - ◆ Opossum Creek ◆ Tributary No. 1
 - ◆ Willis Creek ◆ Little Elm Creek
 - ◆ Donahoe Creek ◆ Cottonwood Creek
 - ◆ Little River ◆ Pecan Creek
 - ◆ Boggy Creek ◆ Big Elm Creek
 - ◆ Knob Creek
5. San Antonio Area, TTC-35, San Antonio Southeast Loop.
- Fully directional interchanges at:
 - ◆ IH 10 ◆ IH 37
 - Three-Level Diamond Interchange at:
 - ◆ US 181
 - Diamond interchanges at:
 - ◆ US 87 ◆ FM 1346
 - Railroad crossings at:
 - ◆ Parallel to US 181, Southeast of San Antonio
 - Water crossings at:
 - ◆ Martinez Creek ◆ Calaveras Creek
 - ◆ Dry Hollow Creek ◆ San Antonio
 - ◆ Parita Creek River
6. Temple – Dallas Area, TTC-35, Temple to TTC-35 Dallas Southeast Connector.
- Fully directional interchanges at:
 - ◆ IH 35 ◆ TTC-35 Spur
 - ◆ US 287
- Three-level Interchanges at:
 - ◆ SH 6 ◆ US 77
 - Diamond interchanges at:
 - ◆ SH 22/ ◆ FM 434
 - SH 171 ◆ SH 7
 - ◆ FM 1242 ◆ FM 878
 - ◆ FM 2114 ◆ SH 34
 - ◆ FM 308 ◆ FM 308
 - ◆ SH 31 ◆ SH 22
 - ◆ US 84 ◆ SH 171
 - ◆ FM 2957
 - Railroad crossings at:
 - ◆ Parallel to FM 879, East of Waxahachie
 - ◆ Parallel to US 287, Southeast of Waxahachie
 - ◆ Parallel to SH 6, East of Waco
 - Water crossings at:
 - ◆ Deer Creek ◆ Shaw Creek
 - ◆ Indian Grave ◆ Tradinghouse
 - Creek Creek
 - ◆ Hoolia Creek ◆ Williams Creek
 - ◆ South Cow ◆ Wolf Creek
 - Bayou ◆ Tehucana Creek
 - ◆ North Cow Bayou ◆ Rock Creek
 - ◆ Castleman Creek ◆ Richland Creek
 - ◆ Brazos River ◆ Grove Creek
7. UP Railroad Relocation (MoPac) - Build new and upgraded rail facilities from Georgetown to San Antonio and relocate through freight rail service out of Austin and neighboring communities.
- Grade separations for Red Rock to Bastrop new location at:
 - ◆ SH 71
 - Railroad crossings for Red Rock to Bastrop new location at:
 - ◆ FM 535
 - ◆ Five county roads
 - Railroad crossings for Lockhart to Luling new location at:
 - ◆ FM 20 ◆ FM 86
 - ◆ FM 1322 ◆ Eight county roads

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■ Water crossings at:

- ◆ Colorado River
- ◆ Cedar Creek
- ◆ Lentz Branch
- ◆ Lower Cedar Hollow
- ◆ Upper Cedar Hollow
- ◆ Clear Fork Plum Creek
- ◆ West Fork Plum Creek
- ◆ Rocky Creek
- ◆ Salt Branch

4.3.1.11 Facility Connectivity

The following describes the connectivity of each proposed Facility.

1. Austin – San Antonio Area, SH 130 – Segments 5 and 6.

Segments 5 and 6 of SH 130 will provide for the continuation of the roadway portion of TTC-35 from the intersection of SH 130 Segment 4 and SH 45 Southeast to IH 10 in Seguin.

In Segment 5, a directional interchange will be constructed at SH 45 Southeast. In Segment 6, limited directional interchanges will be constructed where SH 130 leaves the existing US 183 alignment and at IH 10. Diamond interchanges will be constructed at Laws Road, SH 21, and FM 1185 for Segment 5 and at SH 80, FM 621, and FM 20 for Segment 6.

2. Dallas Area, TTC-35 Dallas Southeast Connector – Between IH 35E, IH 45, IH 20 and IH 30.

Beginning at IH 30, East of Dallas, this facility will provide a route around the Dallas area mainly for traffic going west to south and north to east. For the near term, a spur will be constructed to connect to the southern part of IH 35E. This will provide access to major existing facilities on both ends of the facility.

Fully directional interchanges will be constructed at IH 35E, IH 45, IH 20 and IH 30. Diamond interchanges will be provided for SH 276, SH 205, US 80, US 175, and FM 813.

3. Dallas Area, TTC-35 Dallas Northeast Connector – Between IH 30 and US 75.

Beginning at IH 30, East of Dallas, and continuing North to US 75, this facility will provide a route around the Northeast Dallas area mainly for traffic going west to north and south to east. This will provide access to major existing facilities on both ends of the facility.

Fully directional interchanges will be constructed at US 75, and expanded at IH 30. Diamond interchanges will be provided for FM 902, FM 121, SH 121, SH 78, FM 981, FM 2194 and SH 66.

4. Austin – Temple Area, TTC-35 Georgetown to Temple – Between SH 130, Segment 1 and IH 35 North of Temple.

This facility will provide a route around the Temple-Belton area and connect into and provide a continuation of SH 130 going south. A spur will be constructed from IH 35 north of Temple to connect to the TTC-35 alignment. A second spur will be constructed from the TTC-35 alignment to SH 130, Segment 1 north of US 79.

A fully directional interchange will be constructed at IH 35. Diamond interchanges will be constructed at FM 935, FM 438, SH 53, SH 190, SH 95, FM 2268, FM 487, FM 971, and SH 29.

TTC-35 will be expanded north during the Mid Term

5. San Antonio Area, TTC-35 San Antonio Southeast Loop – Between IH 10 and IH 37.

This facility will provide a route around the San Antonio area to facilitate movement of people and goods from/to the east along IH 10, and from/to the Rio Grande Valley along IH 37. IH 10 and IH 37 will be connected by this facility.

Fully directional interchanges will be constructed at IH 10 and IH 37. A three-level diamond interchange will be constructed at US 181 and diamond interchanges will be constructed at US 87 and FM 1346.

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- 6. Temple – Dallas Area, TTC-35 – Temple to TTC-35 Dallas Southeast Connector.

This facility will provide a route around the Waco - Hillsboro area and connect into and provide a continuation of TTC-35 between the Temple and South Dallas area. A spur will be constructed from IH 35 north of Hillsboro to connect to the TTC-35 alignment.

Fully directional interchanges will be constructed at IH 35, US 287 and TTC-35 Spur. Three-level interchanges will be provided at SH 6 and US 77. Diamond interchanges will be constructed at SH 22/SH 171, FM 1242, FM 2114, FM 308, SH 31, US 84, FM 2957, FM 434, SH 7, FM 878, SH 34, FM 308, SH 22 and SH 171.

- 7. UP Railroad Relocation (MoPac) - Build new and upgraded rail facilities from Georgetown to San Antonio and relocate through freight rail service out of Austin and neighboring communities.

This Facility will be connected to the appropriate existing and planned rail lines.

4.3.1.12 Conceptual Cost Estimates

Costs will vary considerably between Facilities, however, as a percentage of construction, the costs of preparing the following items will remain approximately the same.

The Appendix contains the cost estimates for all of the facilities identified in Section 4.3.1.6. Detailed cost estimates were developed for SH 130 - Segments 5 and 6 and for TTC-35 Southeast Connector. Using these as a basis and approach, the cost estimates for the other facilities were developed.

A. Pre-development and Facility Feasibility - Costs to prepare a Facility for Close of Finance include \$3,500,000 for development and 2% of the construction cost for sponsor fees.

B. Design and Engineering - Costs included in designing Facilities will be divided into several stages.

When a Facility appears feasible, and there is general consensus that the Facility can be developed, preliminary engineering will be required to establish a preliminary construction cost. This preliminary engineering will be to approximately the 30% level of completion, and will cost approximately 2% of the construction cost.

When the Facility has been finalized and approved, final detailed engineering plans can be developed. This will include all plans required by TxDOT for review and approval for letting, or self performed by the Team. Preparation of the Plans, Specifications and Estimates (PS&E) will cost approximately 3% to 4% of the construction cost.

C. Right-of-way - Cost included in acquiring real property for the TTC-35 Corridor include professional services provider fees for ROW and Surveying. ROW fees include monthly project administrative fees and the following services: title, initial appraisal and appraisal updates, initial appraisal review and appraisal review updates, negotiation, residential and business relocation, closing, condemnation support and disposal of property.

ROW acquisition provider fees could be in the range of \$16,500 per parcel, depending on its location. Another variable would be the type of appraisal as to land, residential, small or large commercial, vacant or improved, damages to the improvements or remainders, land locked parcels, and purchase of access rights.

The last factor to consider would be the percentage of condemnations in a specific Facility with the associated costs of obtaining updated appraisals and appraisal updates and updating title.

Additional services in preparing for and testifying at condemnation would be \$175.00/hour for appraisers, \$150.00/hour for land planners and \$100.00/hour for negotiators.

Additional services for specific project cost estimates by a project manager would be @ \$100.00/hour.

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Surveying services to produce the ROW documents required for acquisition will cost approximately \$3,000 to \$5,000 per parcel.

All combined, ROW acquisition will cost approximately 15% to 20% of the construction cost.

■ Georgetown to Temple:	\$666,000,000
■ San Antonio Southeast Loop:	\$343,500,000
■ Temple to Dallas:	\$1,146,804,000
■ Mopac Rail Relocation:	\$600,000,000

Total: \$4,481,323,000

D. Environmental Mitigation and Re-evaluation - Environmental documents prepared for each Facility will identify certain resources that will require mitigation for prior to, or during construction. These include, stream and wetland impacts, protected species relocations, archaeological site investigations, historic structure evaluation and mitigation, park or recreation areas, wildlife crossings, hazardous waste site cleanup, cemetery relocation, noise walls, and other context sensitive design commitments.

The costs associated with environmental mitigation will vary widely depending upon the type and location of the Facility. For the purposes of this Proposal estimated costs were developed for three types of roadway Facilities:

- a. widening of existing urban road, \$366,000 per mile;
- b. widening of existing rural road, \$326,000 per mile;
- c. and new location rural road, \$286,000 per mile.

Depending on how much time passes from the date of the Finding of No Significant Impact (FONSI) or Record of Decision (ROD), it is possible that the environmental document will need to be re-visited, and updated. It is anticipated that TxDOT, or their consultants will perform this work, to avoid any conflict of interest. These costs will be fairly minor, generally less than \$75,000 to ensure the document is still valid, or to bring it up to date.

E. Construction - Construction costs will be the largest cost of developing any Facility. The following summarizes the estimated construction costs for each of the suggested near-term Facilities listed in Section 4.3.1.6 including 10% contingency for SH 130, Segments 5 & 6 and 20% contingency for all other facilities:

- SH 130 – Segments 5 and 6: \$495,804,000
- Dallas Southeast Connector: \$680,851,000
- Dallas Northeast Connector: \$548,364,000

F. Annual Operations - Annual Operations for each Facility will cost approximately 2.5% of the initial construction cost of the Facility. (Based on \$3m/yr for a \$300M Facility + 1.5% for toll collection) This includes administrative and toll revenue collection expenses.

G. Maintenance - Maintenance costs will be approximately \$300,000 per centerline mile per year for each Facility for the initial construction, an additional \$150,000 per centerline mile per year for the first expansion of the Facility and an additional \$75,000 per centerline mile per year for the second expansion.

H. Expansion of Capacity - None of the suggested near-term Facilities are expected to require expansion within the near-term. The traffic studies performed identified the anticipated future years when the Facilities will need to be expanded to keep traffic operations at a Level-of-service (LOS) C or better. For the roadway Facilities, generally the construction costs for the expansion projects will be approximately 80% of the original construction costs. This is due to the fact that the ultimate truck lanes (four lanes) will be constructed first, and then when traffic operations are projected to be worse than a LOS C, four lanes of automobile toll lanes will be constructed.

I. Major Systems - The suggested near-term Facilities will not contain unusual major systems or equipment other than the ETC tolling hardware (as opposed to future Facilities that will contain unique items such as high speed rail vehicles). The ETC equipment generally is approximately 1% of the other construction costs for the Facility.

J. Financing Costs - Typically the financing costs for bond financing will be approximately 0.7% of the value of the bond and 1% bond insurance fee on the total debt service. Bank debt financing will be approximately 1%

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of the debt drawn and 0.6% commitment fee on the outstanding balance, and a margin over the base rate of 1.35% per annum.

4.3.1.13 Right of Way Approach

A. Right-of-Way Acquisition Approach - The right-of-way (ROW) process is one of the most critical elements in the development of facilities. There can be significant delays to facility implementation if it is not handled properly. The approach of the Proposer will be to institute an experienced team to perform all aspects of the right-of-way acquisition process up to and including the actual purchase. The team includes the ROW acquisition in the financial models, and plans to acquire the real property to transfer to the state.

The right-of-way acquisition process will also require early coordination and integration with TxDOT and the Team will facilitate this communication. The Team will follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (The Uniform Act), and other applicable Federal and State laws, will use standard TxDOT approved forms and follow TxDOT policies and procedures.

The success of the acquisition process begins with the development of right of way maps, identification of the land to be acquired for the project, and correct ownership identification.

A survey of each parcel of land needed for the project will be completed with a metes and bounds description (field note description). The Team will begin owner contact during the survey phase to secure rights of entry to permit access for surveys, environmental reviews, soil testing, appraisals, and other necessary activities. After surveys and field notes are completed a title examination will be ordered from a State-approved title insurance company, which will identify the owner and provides further details of each parcel. This information will be provided to the appraiser.

After this initial contact, upon the Team's receipt of parcel descriptions including field notes, parcel sketches and the TxDOT approved Right of Way map, the Team

will secure a Title Commitment on each parcel of land to be acquired from a State approved Title Company at the Proposer's or TxDOT's expense.

The Team will then secure the services of a State approved certified Appraiser(s) to evaluate the properties to be acquired. The Appraiser will offer property owners the opportunity to accompany appraisers during inspection of properties and will use TxDOT forms for appraisals. Appraisals will be reviewed by an Appraisal Reviewer and submitted to TxDOT for concurrence prior to offers being made to landowners.

The Team will present initial offers and conduct "good faith" negotiations, document owner contacts on negotiators reports, advise property owners of the administrative settlement procedure, and transmit written counteroffers for review and approval or rejection by TxDOT.

The Team will schedule and attend closings and prepare final offer letters and if required, in the event that the owner does not accept the final offer, submit ROW-E-49 documentation as part of Condemnation Support Services. Furthermore, the Team will continue to assist TxDOT in the condemnation process by providing all documents and personnel to bring the property into TxDOT's possession.

The Team's Relocation Agent will also notify all property owners or representatives, tenants and potential displacees of eligibility for Relocation Assistance in accordance with the Uniform Act. The Relocation Agent will provide advisory services including making personal contact with displacees and businesses to determine special needs, if any. The Relocation Agent will provide housing market information and assist residential displacees in relocating to decent, safe and sanitary replacement housing. Displaced businesses will be assisted in finding suitable relocation locations. The Relocation Agent will distribute Relocation Assistance information through brochures and other written materials to each displaced person or by other means. The Relocation Agent will attend closing and deliver all relocation and incidental expense payments to the displacee in accordance with the separation of duties.

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The Team will perform Property Management functions for the disposal of property in accordance with TxDOT guidelines and regulations for clearance of right-of-way. The Team will coordinate with property owners for the removal and clearance of personal property, notify the Developer of vacant dwellings and buildings after displacees have moved and provide TxDOT with notices regarding the remaining improvements.

The above information describes the administrative process the team will utilize to acquire right-of-way. It is the intent of the Proposer to actually acquire the right-of-way for self-performed facilities and to transfer titles to the State.

B. Corridor Preservation Techniques - There are several techniques that are available for preserving corridors. As part of a study to assess the techniques for corridor preservation in South Dakota¹, the South Dakota Department of Transportation reviewed what other states were doing. A portion of their findings is presented below.

Corridor Identification and Planning Approaches	
Corridors identified and designated through long range planning	Many states identify and designate protection corridors through long range planning efforts, in many cases linked to the federal requirement to produce a statewide long range transportation plan.
Corridors selected on an individual project basis	Some states that do not have a program to identify and designate corridors for protection instead select corridors on an individual project basis.
Corridors adopted under a Map Act	A transportation corridor Official Map Act allows local governments and the state to file a corridor for protection in order to preserve future right of way for priority highway projects.
Techniques for Early Property Acquisition	
Protective Purchase	Advance acquisition of one or a limited number of properties to prevent imminent development or increased cost.
Hardship Acquisition	Advance acquisition of one or a limited number of properties to relieve distress circumstances relating to health, safety, financial hardship or inability to sell because of public knowledge of the pending project.
Early Acquisition	Property acquisition before federal approval of project. State DOT may apply value of early acquired property to state share of project cost after federal project agreement.
Early Acquisition of Total Takes	Design division identifies definite acquisitions early, such as properties that are on all alignments which will be considered in planning and environmental studies. Right of Way focuses on acquiring rights on targeted parcels.
Donations	Donations of real estate property rights are used by many states in varying degrees to purchase right of way. The limiting factors on federal projects are that owners must be advised of their right to have property appraised and to be paid fair market value. Also, coercive tactics are prohibited in requesting donations.

¹South Dakota Department of Transportation. *Assessment of Techniques for Corridor Preservation in South Dakota, Study SD2001-11-F, Final Report*. Bellevue, Washington: Dye Management Group, March 2002. (page iii, Technical Report Standard Title Page).

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Techniques to Acquire Less Than Fee Simple Property Rights	
Options	Options are generally contracts that give the agency the right to purchase the property at a later date. "Right of first refusal" gives the public agency the first chance to purchase the property if and when the landowner decides to sell.
Purchase of Development Rights (Easements)	Easements are a method through which the state or other government agency can purchase a landowner's development rights to a parcel. Under this agreement, the landowner retains title to the land, but is not allowed to develop it or make significant improvements.
Techniques to Acquire Less Than Fee Simple Property Rights (continued)	
Property Exchange	Highway agencies control rights to real estate which are not needed for transportation use. These rights might be used to exchange with owners to maximize total property value and utility, or the value of other property, while protecting transportation corridors from incompatible use.
Access Management Regulation	The DOT negotiates access alternatives that will satisfy access management and corridor protection objectives, and optimize after value and utility of remaining property.
Land Use Regulation Techniques	
Setback Regulations	Setback regulations prohibit construction of any building or large structure within a certain distance of a landowner's property line, and are designed to promote aesthetic qualities and public safety.
Site Plan Review and Subdivision Controls	As part of their land use regulation powers, local governments are allowed to oversee the subdivision and development process so that growth occurs in a manner that assures adequate infrastructure and access.
Conditional Use Permits and Interim Uses	In most counties and municipalities, procedures exist for landowners to apply for variances and exceptions to local land use regulations. One particular type of variance with applications to corridor preservation programs is the conditional use permit, which allows a particular land use as an exception to existing zoning regulations.
Dedications and Exactions	Requires dedication of property rights that will protect corridor in return for access that will optimize property value (and comply with access management rules).
Transfer of Development Rights and Density Transfers	Government entities can provide incentives for developers and landowners to participate in corridor preservation programs using the transfer of development rights and density transfers.
Zoning Ordinances	In terms of corridor preservation, zoning ordinances are not corridor preservation tools, but do allow local government agencies to regulate intensity of land use. While land cannot be "zoned" for a highway, zoning ordinances allow local agencies to preserve land in an undeveloped state for later construction of new or expansion of existing transportation corridors.

C. Innovative Financing Arrangements - The Proposer proposes to include ROW acquisition in the financing plan, for self-performed facilities. After NTP3, the Team plans to acquire required ROW on an accelerated schedule and transfer titles to the State. The Team will strive to acquire as many properties as possible through this methodology, but because the Team will not have condemnation authority, "problematic" parcels may go through TxDOT's condemnation process, funded by the Developer/Sponsor.

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Utilities - Utilities located within the TTC-35 Corridor will likely be constructed in partnership with existing Texas utility providers and will be funded by the utility concession holder. For example, the cost of constructing an electric transmission line is expected to be borne by the transmission service provider.

To provide utility services to the Corridor facilities, it may be necessary to provide local utility providers with initial Contributions in Aid of Construction, as this user provided funding avoids the potential for intra-customer subsidization of utility service. Some of this cost may need to be provided by the Corridor for items such as electricity for lights and rest stops while other costs may be borne by service franchise holders (e.g. restaurants, service centers).

Easements - TxDOT has standard legal forms for use in acquiring several types of easements. These are listed below under "TxDOT - Standard Conveyance Forms". It is anticipated that the TTC 35 project will use these standard forms.

TxDOT - Standard Conveyance Forms

1. **Form Number ROW-N-13:** Release and Relinquishment of Access Rights, Controlled Access Highway Facility (No land taking, access to and from abutting property waived, released and relinquished)
2. **Form Number ROW-N-14:** Deed (This form is to be used for all State system highways, both controlled and non-controlled access, for donations, and for Special Warranty Deeds.)
3. **Form Number ROW-N-15:** Right of Way Easement (for right of way)
4. **Form Number ROW-N-16:** Right of Way Lien Release (All lien release situations)
5. **Form Number ROW-N-17:** Release of Easement (Use to acquire utility or any other existing easement interest)

6. **Form Number ROW-N-21:** Release of Mineral Surface Rights (All existing surface rights released)
7. **Form Number ROW-N-30:** Quitclaim Deed (For release of advertising sign interest(s) and other interests where quitclaim is needed to clear title)
8. **Form Number ROW-N-31:** Drainage Easement for Highway Purposes
9. **Form Number ROW-N-83:** Temporary Easement (For detour and other construction easement purposes)
10. **Form Number ROW-N-85:** Subordination of Mineral Lease (Non-Controlled Access Highway Facility)
11. **Form Number ROW-N-88:** Subordination of Mineral Lease (Joint use)
12. **Form Number ROW-N-147:** For information on use of Correction Deed, see Use of Form ROW-N-147. (Partial takings, access control to remainder fully stated in all cases on either new or old location).
13. **Form Number ROW-N-271:** Easement for Purpose of Producing and Hauling Materials (Borrow and base material pits)

Easements can be purchased from adjacent landowners where local grading extends beyond the TTC 35 ROW. Form ROW-N-83 can be used for temporary easements needed for slope grading or minor channel grading outside the ROW. This grading is typically unknown prior to detailed design, therefore these easements will be acquired after the ROW is obtained. Based on the significant width of the proposed TTC 35 ROW, it is anticipated that the number of temporary easements will be low because of the ample width of ROW located outside the edge of pavement or rail. No concrete or fixed structures are allowed within a temporary easement; this is used strictly for earthwork grading.

Where a significant length of stream channel realignment must occur or a concrete headwall or drop inlet is needed outside the standard ROW, then the preferred option is to acquire additional ROW. Additional ROW

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rather than a drainage easement is preferred because the cost is roughly the same and the length of channel realignment will need to be maintained by TxDOT for the life of the facility and the landowner cannot use or fill this area. If it is determined that a channel-realignment is required after ROW is purchased, then Form ROW-N-31, Drainage Easement for Highway Purposes can be used. In this case a permanent drainage easement would be purchased from the landowner. This option will be employed when the standard corridor ROW has been purchased years before irrespective of the additional ROW needs for major channel grading or realignment at stream crossings.

4.3.1.14 Approach to Environmental Management

The Team is committed to making sure that the TTC-35 is developed in an environmentally safe manner and in accordance with all applicable laws and regulations. A key component to environmental management for the TTC-35 will be the establishment of an Environmental Manager. It will be the responsibility of the Environmental Manager to track and monitor environmental permit requirements and environmental commitments. The following identifies the major environmental and governmental permits, approvals, and authorizations to be obtained for various parts of the project as well as procedures to be put in place to insure that environmental commitments are met and the necessary permits are obtained.

A. Applicable laws, rules, and regulations - The Team will identify all probable permit types that will be required for the TTC-35 Facility. A wide variety of permits, approvals, or certifications will be necessary to construct various portions of the project. The following is a list of major permits that will need to be considered and/or obtained:

- 404 Wetland Permit - US Army Corps of Engineers
- Section 9 Bridge Permit - US Coast Guard
- 401 Water Quality Certification - Texas Department of Natural Resources
- CAMA Permit - Texas Coastal Management Program

- Water Rights Permit – Texas Commission on Environmental Quality
- Wastewater Permit – Texas Commission on Environmental Quality
- Building and Occupancy Permits for Service Centers – Various local and county governments
- Soil and Erosion (Land Disturbance) Permits – Texas Commission on Environmental Quality
- Storm Water Pollution Prevention Plan - Texas Commission on Environmental Quality
- FAA Airway-Highway Clearance Permit

The different utilities proposed for the corridor will each require their own permits and/or approvals. These include the following:

- Permit to Operate a Pipeline – Railroad Commission of Texas
- Pipeline approval – Federal Energy Regulatory Commission
- Fiber-optic Line approval– Federal Telecommunications Commission

Construction activities located in the Edwards Aquifer Recharge Zone, or within that area upstream from the recharge zone and defined as the contributing zone, must meet the additional requirements of the Edwards Aquifer Rule. These facilities will need to be coordinated with the TCEQ regional office that serves the county where the project is located. These counties include Comal, Bexar, Medina, Williamson, Travis, and Hays.

B. Construction Monitoring - It is assumed that a variety of environmental commitments will be made that will require monitoring during construction. Construction monitors will be hired to oversee various aspects of construction to ensure that various commitments are fulfilled. The construction monitors will be trained in special areas such as wetlands, endangered species, or soil and erosion control, as appropriate. Construction monitors will report to the Environmental Manager.

C. Environmental Commitments and Mitigation - Mitigation will be required for impacts from construction of the Project. Proposed mitigation will be coordinated

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with the appropriate state or federal agency and will be completed in a timely manner as to not affect construction of the Facility. Mitigation for impacts to the following resources may be required:

- Wetlands
- Streams
- Endangered or rare species
- Noise
- Archaeological and historic resources
- Cemeteries
- Hazardous waste sites
- Community resources
- Parks and recreation areas

The Environmental Manager will be responsible for tracking environmental commitments and ensuring that the appropriate mitigation is performed or obtained as required by the environmental documents, permits, or other agreements.

D. Ensuring Planning Commitments are Integrated into Design, Construction, and Operation - During the EIS process a variety of environmental commitments are likely to be made to mitigate impacts and obtain approval from state and federal agencies. Another role of the Environmental Manager will be to ensure that these commitments are integrated into the design, construction, and operation of the Project.

4.3.1.15 Preliminary Development Schedule

The Team has identified and has provided a detailed description of the suggested list of near-term Facilities in Section 4.3.1.6. The following table represents the anticipated schedule for each Facility.

4.3.1.16 Revenue Generation, Administration and Interoperability

A. Revenue collection strategies and structures

Toll system approach - The revenue collection solution proposed for TTC-35 comprises a very flexible approach. This consists on the fact that the Team does not rule out any tolling system, as each system presents advantages for particular types of Facilities. Automatic systems (Electronic Toll Collection), semiautomatic systems (coin machines) and manual systems (human toll collectors) could be used depending on future more accurate parameters such as ADTs, number of ramps, schematic of the Facility, and, above all, TxDOT's desires and the legal implementation framework.

If manual lanes are needed, the Concessionaire will minimize the number of toll plazas to optimize user efficiency and simplify toll management and equipment maintenance. The Concessionaire will also use lane capacities and distribution to staff tollbooths to minimize waiting time at the toll plazas. The Concessionaire will also collect traffic data during operation to develop a more accurate traffic forecast and improved toll facilities.

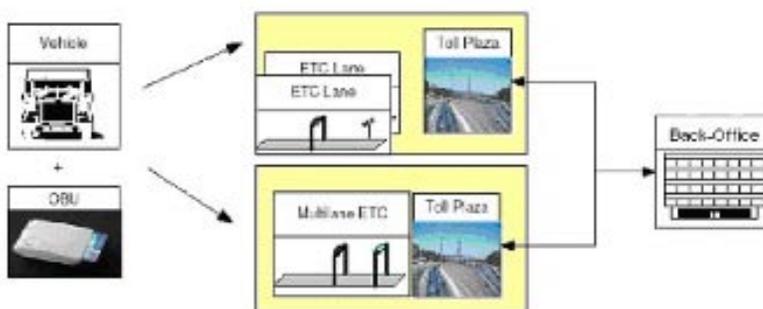
However, **it is the firm intention of the Proposer to implement ETC** at both toll plazas and ramps from the beginning of operation, in combination with other payment methods. Drivers wishing to use the ETC lanes will carry transponders to pay their toll fees electronically. Drivers without transponders will be identified by an automatic digital camera, which will take a picture of their vehicle's license plate. The unauthorized user will then be charged the basic toll rate plus an additional fee.

Furthermore, the Proposer offers TxDOT (if financially feasible) the possibility to provide TTC-35 with what is without doubt, the latest electronic tolling technology: the **pure Free Flow tolling system**. With this system, traffic flows through the toll collection sections non-stop and without the necessity to have a transponder in the vehicle.

A free flow system minimizes the need for extensive infrastructure. There is no change to the highway section, there are no barriers or gates, therefore drivers do not need to slow down or avoid roadway obstacles. Overhead bridges supporting the tolling equipment replace complete toll plazas.

Free Flow System Overview

The overall system solution is presented in the figure below. When the user enters the tolling point he/she will either be charged based on the transponder or vehicle license plate.



More detailed information can be found in the Appendix.

Based on this modular tolling system, it will be fully adaptable to the evolution of TTC-35.

The flexibility of the system allows the implementation of open and/or closed tolling systems, depending on the needs of each Facility, the implementation phase and multiple pricing systems (e.g. Value Pricing by day, time of day, length of trip).

Special attention must be paid to the **key factors for the success of the system**:

- **Video Enforcement.** A strong settled legislation that supports enforcement, based on vehicular license plate information provided by the concessionaire, is required. Multilateral agreements have to be established with other countries / states.
- **License plate information.** The Concessionaire must have license plate information attached to the transponder. The user can easily provide this information when filling out the application form.

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- **Vehicle's Classification Information.** To compare classification provided by the video detection cameras to the one attached to the transponder, it is important to have the vehicle classification data provided by TxDOT or the user.
- **Vehicle's Classification Structure.** It is important to develop classification based on direct measurement of vehicle's dimensions (width, height and length).
- **Administration Fees.** Toll collection from non-transponder users. The extra cost is justified on the limited accuracy of automatic license plate recognition, and the additional manpower to manage this information. To compensate for this extra cost, toll administration fees, charged to non-transponder users, should be high enough for the Concessionaire recover this cost and also to increase transponder use.

B. Administration, management and processing procedures - The Team will either provide the employees to operate the toll facilities or will contract out the work to another company. The Team will develop a structure that will put importance on human resources while also allowing control of the Toll facilities to maximize the Level of Service. The Team will perform the following duties (if applicable):

- Customer services; including marketing and third party claims
- Toll collectors organization to meet the level of service required
- Toll collection process, transportation of money and bank relationships
- Traffic control
- Fraud control from users or toll collectors
- Enforcement procedures.
- Money transfer and cash handling control
- Periodic audit of revenues

The Team will use different strategies to manage high traffic volumes in the toll plazas while maintaining the required level of service. The Team's aim is to set up procedures to handle peak hour fluctuations in traffic flow. The Team will forecast these traffic volume peaks using recorded counts and vehicle counts taken at the toll stations.

The Team's strategy could be different if ETC free flow is implemented. In the event manual toll lanes are implemented, the Team will choose a company specializing in money transport to collect and deposit all cash collected at the toll facilities on a determined schedule. The Team will ensure every possible safety precaution is taken, including having all money transfers made under video surveillance.

C. Interoperability with existing and future facilities and other existing and planned transportation infrastructure in State - The Federal Highway Administration (FHWA) and the American Society for Testing and Materials (ASTM) are currently developing a nationwide standard for Dedicated Short Range Communications (DSRC). The new standard will operate in the 5.9 GHz band where the Federal Communications Commission (FCC) has allocated 75 MHz of bandwidth for Intelligent Transport System (ITS). The creation of the standard and implementation of equipment should occur around 2010. At that time, the tolling agencies using ETC will be pressured to migrate from the 915 MHz systems currently deployed to new 5.9 GHz standard compliant systems. Future planned in-vehicle transponders will comply with the new standard, and it will probably not be necessary to provide transponders to new-car users. Recent developments from the International Bridge, Tunnel and Turnpike Association (IBTTA) to define requirements on new ETC operations indicate that the only change for existing facilities will be a new overhead antenna, reader and reader processor.

The use of a common ETC technology will allow vehicles issued transponders by one agency to execute transactions on another agency's ETC equipment. Because of this transaction interoperability, different Texas toll agencies will join existing (OmniAir) or new organizations, which will establish methods and procedures that allow agencies to exchange databases and ETC transactions via the Internet.

4.3.1.17 Intermodal Transfer

A. Auto/Truck - Major intermodal hub terminals for the transfer of freight between truck carriers and between

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truck and rail carriers either exist or are under development in Dallas, Fort Worth and Houston as well as in Mexico City and San Luis Potosi. An additional intermodal center complimenting these others in Texas as well as Mexico is essential to the successful development of the entire TTC-35 Corridor Project. Connections between the truck lanes, rail lines and the intermodal centers should be provided to encourage use of the Facility.

Sizable critical masses of originating and terminating freight are required for the economic development of intermodal hubs. Intermodal facilities are inefficient when positioned to support smaller markets. With the north end of the TTC-35 already well served by the existing and planned Dallas and Fort Worth facilities, San Antonio represents the preferred location for development of such a hub on the southern portion of the TTC-35 Corridor.

San Antonio is ideally located for such a facility, it sits at the intersection of major east/west and north/south rivers of trade. Such a hub will, in addition to serving the growth generated by the Corridor, serve as an efficient funnel relieving existing congestion at Laredo, potentially relieve congestion in Houston, and support increased commerce from Asia. International freight can be transferred truck-to-truck, truck-to-rail and rail-to-truck in a new facility.

The Team's conceptual plans provide for consolidating carload rail freight into a new classification yard south of San Antonio. This plan frees UP's East Yard to support commuter rail and potentially frees UP's South Yard for intermodal hub development. The close proximity of South Yard to KellyUSA could permit the San Antonio hub to be much more than simply an intermodal hub; it can become a multi-modal logistics center serving a large market region and benefiting the entire TTC-35 Project.

Team member Railroad Industries has extensive related experience. Within this project's regional reach the firm has provided analysis for terminal development in Corpus Christi as well as intermodal development work in Laredo, Monterrey, and San Luis Potosi. They are also the rail advisors to KellyUSA.

B. High Speed Intercity Passenger Rail - High Speed Rail is not anticipated as a near-term Facility. High speed rail will be the single most costly component of the TTC-35 corridor. However, the anticipated population and economic growth of Texas may drive the ultimate development of High Speed Intercity Rail in the state. The technology presently exists and should be improved in time for effective deployment in Texas.

If high speed rail is found viable, two single direction tracks will need to be deployed at the same time, requiring a significant investment. Such tracks will need to be grade separated to permit safe and efficient operation at high speeds. These tracks should be developed on the then existing rail ROW connecting and serving the major urban areas on the chosen route or routes. For high speed rail to be successful, it must have connections into the centers of the urban areas.

The Team has made preliminary investigations as to the viability of high speed passenger rail, and it appears that it may be viable in the near-mid-term. Earth Tech (under its prior entity Lichliter/Jameson) developed the Texas Triangle High Speed Rail Study for the Texas Turnpike Authority in 1989. However, the Texas T-Bone and Brazos Express Corridor, being promoted by the Texas High Speed Rail and Transportation Corporation (THSRTC), may provide a more economic routing connecting all of the major population centers in Texas. As interest for high speed rail grows, the Team will study the alternatives and develop the most effective and economic plan.

C. Freight Rail - The Team envisions rerouting and developing new or upgraded facilities for the Union Pacific Railroad (UP). A new double track mainline will be built between Georgetown and Seguin running east of Austin, San Marcos and New Braunfels and utilizing both existing and new ROW. The line from Seguin to San Antonio (Kirby yard) will also be double tracked to handle the additional westbound trains from Georgetown to Seguin. These lines will be for the exclusive use of UP and will handle all through freight trains presently running on the MoPac corridor.

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Local rail freight service on the MoPac corridor will be provided by a shortline railroad interchanging traffic exclusively with UP at Georgetown and San Marcos. This local service will be carefully coordinated to provide appropriate service levels to rail shippers in the MoPac corridor without interfering with commuter rail operations.

The UP will also be rerouted on new ROW from near the Kirby yard to run south of its existing east/west mainline and major San Antonio population centers and reconnect with the mainline at a point south and west of San Antonio. Such a reroute will remove rail freight operations from UP's East yard and existing mainline running adjacent to the Alamo Dome, both of which will become available for commuter rail service. This new mainline will be double track and for the exclusive use of UP. A new classification yard will be developed for UP south of San Antonio at a green field site located between KellyUSA and the new Toyota plant. This new yard facility will be of sufficient capacity to handle the present and anticipated rail freight needs of San Antonio as well as being a north/south and east/west hub for UP mainlines. This will enable UP to efficiently consolidate the operations of its East and South yards. The South yard could be converted to a dedicated intermodal facility if volumes dictate and could be operated in cooperation with KellyUSA.

Team member Railroad Industries has extensive related experience providing both strategic and tactical advice to numerous public and private entities and railroads of all sizes. They have provided analysis, planning, and implementation related to trackage, facilities, operations, marketing, business development, and equipment. Their work has included railroad start-up, privatization, and rationalization.

D. Commuter Rail - TxDOT has identified two commuter rail tracks, one for each direction, for the ultimate TTC-35 facility. The portions of TTC-35 between Austin and San Antonio parallel a currently planned commuter rail line located on the west side of IH 35. Commuter rail on the main alignment of TTC-35 in this length would be in direct competition, and it is unlikely that there is enough passenger rail demand to make both corridors viable.

It is possible that the Team could develop the Georgetown to San Antonio commuter rail service after the through freight rail is removed from the MoPac corridor. This commuter rail operation would form a parallel system to the main TTC-35 alignment. The Team envisions developing a commuter rail system utilizing primarily the MoPac corridor from Georgetown to San Antonio. Through freight train service will be relocated to a line from Georgetown to Seguin running to the east of Austin, San Marcos and New Braunfels utilizing existing and new ROW. Local rail freight service would be provided by a shortline railroad on behalf of UP in the MoPac corridor from Georgetown to San Marcos. This rail freight service will be carefully scheduled such that business interests requiring rail freight service are properly addressed without interfering with the rail commuter operations.

This concept also envisions relocating UP operations to the south of San Antonio on a new ROW from Kirby yard to a point rejoining the UP east/west mainline southwest of San Antonio. A new classification yard will be developed for the UP thus consolidating its operations to one major yard location outside the main San Antonio population center. This will increase the UP's yard capacity in the market and allow for substantial anticipated growth. Such a relocation would make UP's East yard available to serve as the operational center for the rail commuter operation. This facility will be upgraded to provide a secure coach yard as well as passenger car, locomotive and track repair and maintenance facilities. Local San Antonio rail freight service will be provided by a shortline railroad and/or through transload.

The MoPac corridor will be upgraded to double track from Georgetown to San Marcos to permit bi-directional commuter rail operations. Portions of the line between San Marcos and San Antonio will be triple tracked to provide UP and BNSF capacity for freight operations without interfering with bi-directional commuter rail operations. The plan will provide for under-passing major urban arterials and the elimination of as many grade crossings as possible to permit safe rail operations at passenger speeds.

Team member Railroad Industries is experienced in the passenger rail arena. They have advised AMTRAK on

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both business and equipment issues. In addition they have helped a number of large and small commuter and transit entities with development and operational issues. Related to this specific project, they have assisted in situations where commuter and freight operations coexist.

E. Utilities - Utilities will be located within the TTC-35 Corridor to serve both the corridor itself and as a means of providing bulk commodity transfer to distribution centers along and at the terminus of the Corridor. To provide utility service to the Corridor infrastructure, it may be most efficient if certain utilities, such as wastewater, are provided by a local service provider so as to avoid the expense of transiting the utility from the Corridor to the individual Corridor user and to avoid any problems with pre-defined utility service areas and franchises. In the case of each utility service described below, it will be necessary to determine the most cost effective means of providing service and the potential customers for the selected utility. In addition, it is expected that utility-source revenue will be a source of funds to offset the cost of the Corridor to be supported by other users.

E.1 Types of Utilities - Several types of utilities may be placed within the TTC-35 Corridor to provide bulk transport and local service requirements, specifically these include, but are not limited to:

Bulk Transport - The most favorable current prospects are in the areas of Electric Commodity Transmission service and wireless communication facilities.

The TTC-35 corridor is an excellent location to place 345-500 MW electric transmission lines. Such facilities can transport bulk electric power from generating stations and existing transmission lines in the proximity of the Corridor to the major Texas population centers, (San Antonio, Austin, Dallas), near the TC-35 Corridor. As the population in these areas increase, it will be possible to expand the transmission capacity of the Corridor to accommodate this future growth.

Wired and wireless communication, in various forms, (e.g., cellular phones, optic cable, data transfer, internet, etc.) for the Corridor, users of the Corridor, and population centers along the Corridor can be provided

through attachment to the electric transmission towers, stand-alone facilities, and buried cable/conduit will find the Corridor an attractive location to provide service to Central Texas.

Further into the life-cycle of the Project, additional utilities may become practical. These would include, water transmission from reverse osmosis facilities located on the Gulf of Mexico to any or all of the cities along the Corridor. A specific target for this portable water resource would be the growing Dallas-Ft. Worth area.

In summary, the bulk utilities to be considered for inclusion in the TTC-35 Corridor include:

- 1. Electrical** - Due to the active competitive Electric Transmission Market in Texas there is an opportunity, early in project, to develop a large Transmission line to serve these markets.

The Proposal will address the immediate and longer-term potential for development, possible partners, and anticipated costs and revenues associated with the potential development.

- 2. Water** - The growth of the central Texas population centers of Austin, Waco, and the Dallas-Fort Worth areas will give rise to the possibility of using TTC-35 as a means to deliver desalinated water from the Texas coast to inland areas. Although not an immediate prospect for development, the medium and longer-term potential for this important longer-term resource makes the TTC-35 Corridor an important location for development. The Ferrovial Group currently operates six desalination plants in Spain under its Cadagua company, and is well positioned to further study desalination plants for the corridor.

- 3. Gas and Petroleum** pipelines may have potential in the longer term. The possibility for development exists to integrate the TTC-35 Corridor into the extensive existing infrastructures that already exist near and/or across the TTC-35 alignment.

- 4. Communications - (data, fiber optic, etc.)** - Utilities are additional possible uses of the TTC-35 Corridor between the various population centers.

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5. **Other opportunities for development** within the utility-corridor, such as the utility needs of the corridor itself and nearby communities, will also be addressed. Specifically, utilities of all types (electric, natural gas, water, wastewater, telephone) will be required along the transportation corridor. These utilities will directly service the needs of the corridor (e.g. tollbooths, service facilities, electrified rail, highway lighting, or optic fiber, etc.) and may be a source of revenue if located and sized to accommodate third party usage, (e.g. electric transmission).

TTC-35 Corridor Services - The Corridor will be a consumer of various utility services, (e.g., electricity, highway lighting, natural gas, water, wastewater, telephone, internet, etc.). However, due to franchise restrictions, the cost of providing service, and regulations, (e.g., the Safe Drinking Water Act, Environmental requirements, etc.) each user or type of user, (restaurant, toll booth, gas station, electric powered train, etc.), needs to be examined to determine the possible methods of providing utility services and the alternative costs thereof.

4.3.1.18 Risk Management Approach

The Team will develop a Risk Management System that will analyze each risk category, identifying potential risks and facilitating early warnings to minimize or eliminate the risks. All aspects of the Facilities will be analyzed with respect to the following risks:

- Risk to the State;
- Risk to the whole Project;
- Risk to the design;
- Risk to the environment;
- Risk to the financial profile;
- Risk to safety; and
- Risk to completion dates.

The Proposer will undertake this Risk Management System for each specific Facility and mode.

Proposer's Risk Matrix - The table included below schematically summarizes the Proposer's risk management philosophy in relation to the following aspects:

- Risks description
- Potential consequences
- Likelihood of occurrence
- Allocation of the risk
- Risk-mitigation strategies

Most of the risks that are included in the table are common for the TTC-35 Project. However, some other risks may be added when further developing each particular Facility. These additional risks would deal with the specifics of each Facility's location, surroundings and social implications, and will be included in the risk management system for appropriate treatment. The Proposer's risk analysis is focused on infrastructure projects developed under a concession scheme; therefore the analysis would further be modified for different contract methods.

The Team believes that the criteria and methods presented below will minimize both TxDOT and Project risks.

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RISK DESCRIPTION	POTENTIAL CONSEQUENCES	LIKELIHOOD	RISK ALLOCATION	RISK MITIGATION	RISK SENSITIVITY ANALYSIS
Political / legal risks					
Change in law	Delay, increased costs, loss of revenue, conclusion of concession.	Medium	TxDOT	Developer's right to re-optimize the financial model with the new input data.	n/a
Change in Sales Tax	Increased costs.	Low	TxDOT	Developer's right to re-optimize the financial model with the new Sales Tax.	Risk sensitivity analysis is carried out with different sales tax rates.
Design risks					
Inadequate designs	Damage to works, delay, increased costs, loss of revenue.	Low	Contractor	Professional indemnity cover. Design check carried out by an independent consultant.	n/a
Delay in design process	Delay, increased costs, loss of revenue.	Medium	Contractor	Professional indemnity cover. Economic penalties for the contractor.	Risk sensitivity analysis is carried out with different processes length
Legislative changes	Delay, increased costs, loss of revenue.	High	Contractor / TxDOT	Legislative changes before bidding must be considered by the Developer. If legislative changes after bidding are to be considered, Developer must be indemnified.	n/a
Construction risks					
Construction price	Increased costs.	Low	Contractor	Risk transferred to the contractor in a back-to-back basis with a fixed price.	Risk sensitivity analysis is carried out with different construction prices.
Construction failures	Damage to works, delay, increased costs, loss of revenue.	Low	Contractor	Construction warranty. Construction quality control carried out by an independent consultant.	n/a

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RISK DESCRIPTION	POTENTIAL CONSEQUENCES	LIKELIHOOD	RISK ALLOCATION	RISK MITIGATION	RISK SENSITIVITY ANALYSIS
Construction risks (continued)					
Acquisition of land	Delay, increased costs, loss of revenue.	Medium	Developer	Independent advisor is to carry out a report on both cost and time. Developer will have a Liability Director.	Risk sensitivity analysis is carried out with different timing and costs for the availability of the land.
Planning Approvals	Delay, increased costs, loss of revenue.	Medium	Contractor	Contractor must procure all necessary approvals from the authorities to carry out the Facility in a timely manner and ensure that they remain in force.	Risk sensitivity analysis is carried out with different construction length.
Operation risks					
Operating performance	Penalties, additional costs, loss of revenue.	Low	Developer	Developer will establish an operating manual that will describe the operating procedures to maintain the standard levels.	Risk sensitivity analysis is carried out with different operation costs.
Operating costs	Increased costs.	Low	Developer	Developer will establish an operating manual that will describe the operating procedures to maintain the standard levels.	Risk sensitivity analysis is carried out with different operation costs.
Liability to users	User's claims.	Medium	Developer	Developer will have a customer service.	n/a
Emergency service	Road accidents.	Medium	Developer	Developer will establish a 24 hour, 7 day a week emergency service.	n/a
Environmental risks					
Permissions	Delay, increased costs, loss of revenue.	Medium	Contractor	Contractor must procure all necessary permits.	Risk sensitivity analysis is carried out with different construction length

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RISK DESCRIPTION	POTENTIAL CONSEQUENCES	LIKELIHOOD	RISK ALLOCATION	RISK MITIGATION	RISK SENSITIVITY ANALYSIS
Environmental risks (continued)					
Contamination and pollution	Additional costs.	Low	Contractor and Developer / TxDOT	Payments to Contractor will <u>not</u> be indexed (fixed price). Operational costs will be indexed. Risk of cost increase fully covered through indexation of toll tariffs to CPI.	n/a
Discovery of hazardous materials	Delay, increased costs, loss of revenue.	Medium	Contractor	Environmental manual for disposal of hazardous materials.	n/a
Geotechnical conditions	Delay, increased costs, loss of revenue.	Low	Contractor	In-situ and laboratory testing to check the soil assumptions of the design.	n/a
Financial / economic risks					
Inflation	Additional cost.	Medium	Contractor and Developer / TxDOT	Payments to Contractor will not be indexed (fixed price). Operational costs will be indexed. Risk of cost increase fully covered through indexation of toll tariffs to CPI.	Risk sensitivity analysis is carried out with different inflation rates.
Interest rate	Additional cost.	Low	Developer	Hedging plan will be established in accordance with lenders' request. The Developer will conclude a fixed interest rate swap for all/part of the loan tenor.	Risk sensitivity analysis is carried out with different interest rates.
Traffic	Loss of revenue.	Medium	Developer	Traffic studies are audited by a specialist consultant to provide enough comfort.	Risk sensitivity analysis is carried out with different traffic assumptions.

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RISK DESCRIPTION	POTENTIAL CONSEQUENCES	LIKELIHOOD	RISK ALLOCATION	RISK MITIGATION	RISK SENSITIVITY ANALYSIS
Financial / economic risks (continued)					
Enforceability of tolls	Loss of revenue.	Medium	TxDOT	Prosecution of the vehicles that don't pay the toll fees. Consider a certain percentage loss of the total toll revenue.	Risk sensitivity analysis is carried out with different percentages of loss of the total toll revenue.
Other events					
Health & safety	Damage to workers during construction and operation.	Medium	Contractor and Developer (Insurance)	Risk is transferred to the insurance company.	n/a
Third party liability	Damage to third parties because the existence, construction and operation of the infrastructure.	Medium	Contractor and Developer (Insurance)	Risk is transferred to the insurance company.	n/a
Insurable events	Damage to works, delay, additional costs, loss of revenue, interruption, termination.	Medium	Contractor and Developer (Insurance)	Risk is transferred to the insurance company.	n/a
Terrorism and sabotage	Damage to works, delay, additional costs, loss of revenue, interruption, and termination.	Low	TxDOT	TxDOT shall support this risk because of its uncertainty.	n/a
Force Majeure event	Interruption, termination.	Low	TxDOT	The Developer is released from its obligation and can terminate the contract.	n/a

4.3.1.19 Major System and Equipment Supply Needs

A. Unique or Limited Availability Items - All of the suggested near-term Facilities are standard highway and railroad construction projects. The only unique items on these Facilities comprise the in-lane Electronic Toll Collection infrastructure. The Team will utilize standardized WAVE hardware and currently owned back office support systems. The use of standardized hardware will help ensure its availability, as more and more entities will be utilizing it, thus making the supply more certain. The other highway and railroad construction items contain many commodity items (e.g. steel and concrete), and labor hours, which do fluctuate over time, however, the construction partners in the Team have vast experience in “mega-projects,” and are able to control these fluctuations through various market and hedge techniques.

B. Design and Procurement Issues - As a Facility is moving along the various NTP stages, agreements with the major suppliers and vendors of the various construction components will be finalized. The long duration of construction, and long time periods of operation and maintenance will be useful in achieving optimum pricing, and availability of equipment and materials.

Long lead items will be identified early in the design and procurement process for each of the potential rail construction contracts. If necessary these items need to be purchased early and supplied to the installer. For the early contracts these items could include special trackwork and project specific track items, grade crossing protection devices along with other signal devices mentioned above. Rail availability to UP specifications fluctuates widely and needs to be reviewed as a potential long lead item early in the design process for each construction contract.

For the future contracts regarding High Speed Ground Transportation, either High Speed Rail (steel wheel-on-steel rail) technology or maglev technology, other unique and limited available items will be required. These include the vehicles, which will be a long lead item for both High Speed Rail and maglev and the support / running beams for maglev. For High Speed Rail there are suppli-

ers with proven technology in Europe (France, Germany and Spain) and in Asia (Japan). Proven current commercial maglev technology is only available from Germany at this time. However by the time this contract is effective similar technology should be available from Japan and China. This applies to both the vehicles and the structural support / running beams for maglev.

Buy America clauses are an issue in the procurement of vehicles. However, the suppliers usually agree to either assemble the vehicles in the US and/or include the requisite amount of US manufactured equipment in the vehicle. The maglev technology includes the beams, which China is anticipating to fabricate in the future as a competitive supplier. They would have to be 25% lower in cost than other potential US manufacturers to be competitive under current rules.

Selecting a technology and qualified supplier for the High Speed Ground Transportation will be required early in the design process since many items will be unique to each technology and supplier. The transportation systems will need to be designed to accommodate these unique features. The selection should be made prior to the beginning of Preliminary Engineering. This will allow the environmental process to also account for the unique design and operational features. Preliminary engineering will need to account for individual geometric guideways, system, structural requirements and station designs for each qualified technology and supplier.

During the operation and maintenance of the Facilities, the costs of commodities can vary over time. Due to the lengths of Facilities, optimum supply agreements can be reached with providers.

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4.3.1.20 Delivery Methodology

Facilities to Self Perform:

1. SH 130, Segments 5 & 6
2. TTC-35, Dallas Southeast Connector
3. TTC-35, Dallas Northeast Connector
4. TTC-35, Georgetown to Temple
5. TTC-35, Temple to Dallas Southeast Connector

For these Facilities, the Team has identified the anticipated delivery method, and roles for the major entities involved.

- The Team plans to deliver this Facility as Design-Build-Finance-Operate-Maintain-Transfer.
- Cintra and Zachry will inject equity in a Special Purpose Vehicle (concession company) that will sign a facility agreement with TxDOT.
- There will be a long-term commitment with the 50-year concession agreement.
- The concession company assumes the design, construction and traffic revenue risks (among others).
- ROW acquisition is financed by the concession company.
- The Team will develop the Facility Implementation Plan, prepare preliminary and final design, provide the financing identified in the Conceptual Finance Plan, self-perform construction lead by a joint venture of Ferrovial Agroman and Zachry, operate and maintain the Facility through the Concessionaire.
- TxDOT will review, comment and approve the Facility Implementation Plan, provide design guidance, and task the TTC GEC and TTC-35 Section Engineers with supporting the Facility review. The Team will prepare ROW acquisition documents, finance and acquire the real property and transfer title to the State.

Competitive Procurement

1. TTC-35, San Antonio Southeast Loop
 - The Team plans to offer this facility as a Design-Build-Finance-Operate-Maintain-Transfer on a competitive basis. The Conceptual Financial Plan includes this facility, and the Team is interested in competing for this facility with others.
 - The Team will prepare facility development to the extent that it does not prevent Cintra/Ferrovial Agroman and Zachry from competing for the concession and construction.
 - TxDOT will review, comment and approve the facility implementation plan, provide design guidance, and task the TTC GEC and TTC-35 Section Engineers with supporting the facility review.
2. UP Railroad Relocation (MoPac)
 - The Team plans to deliver this Facility as Design-Bid-Build or Design-Build.
 - The Team could develop the Facility Implementation Plan and provide the trust financing identified in the Conceptual Finance Plan. The Team could prepare all required ROW documents, and provide real property appraisal services.
 - TxDOT will review, comment and approve the Facility Implementation Plan, provide design guidance, and task the TTC GEC and TTC-35 Section Engineers with supporting the Facility review. The Team will prepare ROW acquisition documents, finance and acquire the real property and transfer title to the State.
 - The user agreement with UP will identify the method of payment for use of the Facility.
 - The United States Department of Transportation and its Federal Railroad Administration and Federal Transit Administration may contribute funds for moving the through freight rail service from the existing Austin – San Antonio Corridor and implementing new commuter rail service.

4.3.1.21 Third Party Agreements

A. Freight Railroads - In addition to a master agreement defining the detailed understanding and mutual acceptance of the development concepts, a complex series of interdependent multi-discipline agreements will need to be negotiated with the Union Pacific Railroad to permit implementation of the rail plans. These agreements will be negotiated with a myriad of functional UP departments and will cover in great detail, as examples and not a complete listing, the following:

- Handling of ongoing marketing and new business development.
- Construction and use of new, upgraded and/or re-routed of existing facilities.
- Maintenance-of-way, signaling, equipment, and facilities.
- Transportation, operations and the use of joint facilities.

Team member Railroad Industries has structured and negotiated similar arrangements on behalf of public entities, rail districts and railroads. This experience ranges from line sales to major merger casework. Their extensive rail industry network is useful in implementation of complex strategies.

B. Utility Providers - Third party agreements will be required with providers of utility services throughout the TTC-35 Corridor. These will generally fall into four categories: temporary services, franchised service, special contract service, and easement agreements, specifically:

Temporary Services – During the construction of the TTC-35 Corridor, there will be the need for temporary utility services in support of the construction effort.

Franchised Utility Service – Electric, natural gas, water and wastewater utilities may be available to supply utilities required for operation of the TTC-35 Corridor and its supporting infrastructure throughout the length of the TTC-35 Corridor from local utilities at their standard rates and tariffs. Receiving this type of service will require no special arrangements or agreements.

Special Contract Service – In areas where utility service is needed but the location is not within an existing utility service area, (e.g. potable water needed in areas not within the normal service area of a water district), a special arrangement with a local provider may be required to provide service within the TTC-35 Corridor. Normally, this can be accomplished through Contributions In Aid of Construction with a nearby utility provider.

Some services, such as local and long distance telephone and Internet services, may be available under multiple possible arrangements such as special contract or through “normal” wireless connections.

Easement Agreements – Providers of bulk utility services, (See Section 4.3.1.17.E Utilities), will require easement (and possibly Right of Way) agreements to place facilities that they own and arrange financing for within the TTC-35 Corridor. Due to the long-term nature of these arrangements, it may be necessary to require Irrevocable Letters of Credit and/or Liability agreements with these entities.

C. Municipal and Regional Authorities - It is anticipated that the following types of agreements will be necessary with the cities, counties, and tolling authorities in the project areas.

- Corridor preservation agreements/arrangements with cities, counties, and regional planning entities.
- Right of way acquisition agreements with cities and counties.
- Traffic signal operation agreements with cities.
- Multiple-use agreements with cities and counties. These agreements would allow shared use of the right of way.
- Roadway network expansion agreements with cities, counties, and tolling authorities. These agreements are to ensure that the expansion of existing facilities and the development of new facilities do not negatively impact the TTC-35 Facilities.

D. Customers - The customers of the suggested near-term Facilities are mainly the automobile and truck users. As described in Section 4.3.1.16, these customers will be providing the revenue necessary to pay for

the Facility; therefore they must be afforded the utmost respect.

This begins with the implied agreement that they will not utilize the Facility without paying for its use. For those who “sign-up” for a toll transponder, there will be a very brief agreement enclosed with the transponder that is accepted by the use of the transponder.

E. Commercial Franchises - On the automobile and truck Facilities, there will be the opportunity for additional private sector operators to provide services for the TTC-35 users. These will include service centers, restaurants and hotels. Those operators, who choose to locate their establishment on TTC-35 ROW, will enter into an agreement with the State for use of the ROW, and an agreement with the Developer to operate on the TTC-35 corridor.

F. Land Owners and Developers - To avoid any conflicts of interest, the Team will keep distant from adjacent land owners and developers who choose to develop along the TTC-35 ROW.

4.3.1.22 Updating the Master Development Plan

Following the Initial Scope of work during 2005, and continuing for the life of the CDA, the Master Development Plan will be updated on a continual basis. Listed below are some of the triggers that will necessitate a review and update of the MDP.

A. Periodic Reviews - Periodic reviews of the MDP will occur every six months. The Team recommends that these scheduled reviews occur in May and in November. The May review will allow sufficient time prior to the State’s fiscal year beginning on September 1 for items to be included or removed from the budget. The November meeting will allow time prior to the beginning of the calendar year to make modifications that are contingent on the beginning of the year.

These periodic reviews will begin at the start of the month, and will include a three-day session within the Team members to review the entire MDP, looking for

items that have changed, are no longer valid, or will require additional research. Following the internal session, the proposed changes will be reviewed with TxDOT, the TTC GEC and TTC-35 Section Engineers. Those items approved for change will be modified and re-submitted for approval.

B. Changes in the Master Financial Plan - Significant changes to the Master Financial Plan will necessitate a review of the MDP for implications to the list of Facilities, or the schedule for their possible implementation. Significant changes to the MFP would include trends (positive or negative) in the bonding community, interest rate changes, and various entity rating changes.

C. Highway and Rail Demand - For Facility advancement purposes, the comprehensive traffic projections will be updated every three years. This is in addition to smaller Facility-specific traffic and revenue studies that may be performed more frequently. The comprehensive study will include updates to the Statewide Analysis Model (SAM), as well as verification of economic and demographic data. As other transportation initiatives are presented (e.g. high speed rail), these studies will be included in the review of TTC-35 demand.

D. Facility Procurement - As the CDA advances, there will be Facilities that are developed under the CDA. As these Facilities progress through the NTP stages, the MDP will be updated through the normal six-month periodic review. However, when a Facility reaches NTP3, the MDP will be updated to reflect the fact that the Facility has successfully reached Close of Finance. There may be some Facilities that are removed from the Project, and thus the scope of the CDA. When this happens, the MDP will be updated reflecting the revisions to the list of Facilities under the CDA.

E. Major Environmental, Planning, or Permitting Approvals - Each facility will be developed at different time periods. As each progress through the process, the MDP will be updated to reflect the various approvals. Major milestones will include a finding of no significant impact (FONSI) or record of decision (ROD) as dictated in NEPA, FHWA approval of the schematics, and the major permits such as Section 404 (Corps of Engineers) permit, Section 401 water quality certifica-

tion, Texas Pollutant Discharge Elimination System (TPDES) General Permits for Storm Water Discharges from Construction Sites, Section 9 (U.S. Coast Guard bridge) permits, and FAA Airway-Highway Clearance permit.

F. MPO Information and STIP Submissions - The MPOs and TxDOT's Transportation Planning and Programming (TPP) Division will play a vital role in the development of the Facilities. The approach of the Team is to maintain continuous involvement with each group to ensure that new additions and revisions to the planning documents do not impact facility development. The Team will monitor the development and modifications to the Metropolitan Transportation Plans (MTP), the Transportation Improvement Programs (TIP), and the STIP by attending the MPO meetings and discussing with MPO and TxDOT staff on a regular basis.

G. Major Changes in Detail of Facility Development Changes to the UTP - The Unified Transportation Program (UTP) is the internal TxDOT document that identifies the projects to be developed and constructed and their funding source during a ten-year period. Again, the Team will work closely with TxDOT's TPP Division and work within their update and development schedule and the approval process to incorporate major changes such as project limits, project implementation schedule, and funding sources, into the UTP.

H. Local Government Requirements and Needs; Regional or National Economy; Demographic Patterns and Trends - As indicated in the Highway and Rail Demand, the traffic projections will be updated every three years. Along with this traffic update, the demographic patterns and trends will also be analyzed to determine shifts in population, income, and goods movement.

As a stakeholder, the local communities will have continual access to the development of the Facilities. As suggestions and changes are brought forth, the Team will meet and discuss with the local officials, TxDOT, and others to determine the appropriate action.

I. Political Concerns or Shifting Agendas - The approach to handling political concerns or shifting agendas

is to educate the locally elected officials, state executive and legislative officials, and national executive and legislative officials on the Trans Texas Corridor. The Team will take a proactive approach in an attempt to head off any of the issues. However, as they arise, the Team will gather the concerns and offer alternatives and incorporate into the MDP.