

**EXHIBIT A**  
**SERVICES TO BE PROVIDED BY THE STATE**

The STATE will furnish all available information necessary to perform the work in this contract. This would include, but not limited to, any studies conducted by TxDOT, the GCFRD, MPO's and the Regional Mobility Authorities.

The STATE shall provide coordination with local, regional, and state governmental agencies as required.

The STATE shall provide a technical steering committee to oversee work accomplished.

The STATE shall provide timely reviews and approvals of all required documentation including, but not limited to, working drawings, reports, drawings, and traffic modeling assumptions and forecasts.

## **EXHIBIT B**

### **SERVICES TO BE PROVIDED BY THE ENGINEER**

The purpose of the U.S. 290 Corridor Passenger Rail Study is to identify new and additional passenger rail service along the U.S. 290 corridor between Austin, Texas and Houston, Texas with a connect to Bryan/College Station, Texas as well as preliminary alignments and profiles for this rail service. The overall concept of the Study is envisioned to evaluate freight movements and operations along the corridor and identify opportunities to implement new or additional passenger service on existing and abandoned freight lines by determining the physical feasibility of improvements and preparing estimates costs.

The following is an outline of the tasks required for this U.S. 290 Corridor Passenger Rail Study.

#### **Overall Project Administration/ Oversight and Communication**

- A. Conduct one (1) "Smart Board" conference project initiation meeting with the Texas Department of Transportation (TxDOT), the Gulf Coast Freight Rail District (GCFRD), CapMetro and appropriate parties as determined by TxDOT to establish Task protocol (i.e., establish communication guidelines and points of contact) throughout the project.
- B. Conduct monthly progress meetings throughout the duration of the Work Authorization as warranted by the status of the project up to a maximum of two (2) meetings per month. At a minimum, TxDOT's Project Manager, the Engineer's Project Manager, the GCFRD, and CapMetro representatives will attend the progress meetings.
- C. Attend up to a maximum of six (6) "Smart Board" conference meetings as directed by the State with Stakeholder Groups, Technical Advisory Committees, and/or a Steering Committee to discuss project results, status, and potential feedback. The Engineer will provide the "Smart Board" conferencing room for the Austin attendees. Other attendees will provide their own conferencing areas. The Engineer will provide electronic handouts and other materials, as required, in advance of the meetings as well as minutes of each meeting.

#### **Task 1 – Identify Physical Characteristics of Existing Corridor**

- A. Meet and coordinate with the National Railroad Passenger Corporation (Amtrak), TxDOT, CapMetro, METRO, the Gulf Coast Freight Rail District (GCFRD), Union Pacific (UP) and other local agencies involved in passenger rail initiatives and identified by TxDOT regarding long-term plans for passenger rail along the U.S. 290 corridor.
- B. Obtain and review previous freight/passenger rail corridor studies conducted within the past 5 years and currently planned freight rail improvements that are applicable to the Study Area. At a minimum, contact will be made with the following agencies to obtain information on currently planned improvements: Amtrak, TxDOT, UP, CapMetro, Houston-Galveston Area Council (H-GAC), and the GCFRD. Incorporate applicable and credible information as part of this study, with appropriate notation given to the source document.
- C. Inventory the existing rail lines within the Study Corridor between Austin and Giddings. The inventory will include information such as rail line ownership and operating responsibility; number and location of tracks (mainline, siding, industry, etc.); degree of curvature; superelevation; profile grades; turnout and crossover locations and sizes; locations, lengths, and types of structures; highway/railroad grade crossings; FRA track classification; right-of-way fencing; and locations of facilities such as freight yards and passenger stations. The inventory will also include obtaining existing communications and signal system plans. The information for the inventory will be

obtained from the necessary agencies, as applicable. The inventory information will be provided in excel spreadsheet format.

- D. Using available aerial photography, confirm the existing track geometry and right-of-way boundaries within the project corridor between Austin and Hempstead. Develop a photo record of the study corridor for major grade crossings, bridges, and drainage structures.
- E. Develop GIS maps and schematic drawings containing the information in Tasks 1C and 1D.
- F. Determine existing freight train volumes and operations within the Study Corridor. This will include the number of trains, length of trains, and operating schedule of trains under existing conditions between the Austin Central Business District (CBD) and Giddings, between Hempstead and the Houston CBD, and to/from Bryan/College Station.
- G. Prepare and submit a draft summary report outlining the findings of Task 1.

## **Task 2 – Alternatives Analysis**

- A. Develop, at a maximum, three (3) horizontal alignment alternatives for new passenger rail track along or near the abandoned rail corridor between Giddings and Hempstead. The horizontal alignments may be based on LiDAR data collected as part of this task as well as existing aerial photography. The alignments will be provided in map exhibits.
- B. Analyze alternatives to bring passenger rail to Bryan/College Station, using the Giddings Subdivision or the Eureka/ Navasota line or develop, at a maximum, three (3) horizontal alignment alternatives for new passenger rail track. The alignments will be provided in map exhibits.
- C. Conduct an environmental fatal-flaw analysis to determine if any of the alternatives for the abandoned Giddings-to-Hempstead corridor and the corridor to Bryan/College Station may not be suitable for construction due to environmental constraints. Environmental constraints may consist of:
  - Identification of publicly owned land
  - Hazardous waste sites
  - Wetlands and water bodies
  - Threatened and endangered species
  - Historic structures
  - Archeological sites

Maps denoting any environmental constraints will be created for the Giddings-to-Hempstead corridor and the corridor to Bryan/College Station.

- D. Using the FEMA Flood Insurance Rate Maps, determine the location and the depths of the 100-year floodplain within the corridor limits to assure that the preliminary profiles will remain above the 100-year floodplain.
- E. Based on the environmental fatal-flaw analysis, create preliminary profiles for each of the remaining horizontal alignment alternatives to determine if any fatal flaws exist within the proposed profiles for the proposed train speeds. Profiles will be provided in schematic exhibits.
- F. Define right-of-way requirements, including width and constraint points, for the alternative alignments.
- G. Determine the preferred alternative alignment for the new passenger rail track between Giddings and Hempstead and for a route to Bryan/College Station.

H. Prepare and submit a draft summary report outlining the findings of Task 2.

### **Task 3 – Rail Operations Modeling**

- A. Determine the operational feasibility of introducing passenger rail within the existing freight rail network by utilizing Rail Traffic Controller (RTC) modeling, establishing the infrastructure improvements and/or railroad operating practice refinements required to accommodate new or additional passenger rail service. This analysis will include the following tasks:
- Incorporate the data obtained in Tasks 1C and 1E into a Base Case model in Rail Traffic Controller (RTC), which will include Austin to Giddings. The line between Hempstead and Houston will not be modeled in this study; although, operations along that segment of the corridor will be coordinated with the GCFRD study.
  - Include the preferred alternative from Giddings to Hempstead as part of the RTC modeling.
  - Include the preferred alternative to/from Bryan/College Station as part of the RTC modeling.
  - Model passenger and freight rail operations in the study corridor, using assumed preliminary station locations and train schedules for passenger rail operations and minimizing impacts to existing freight operations. The assumed headway requirements (i.e. service intervals) will be modeled for start-up and full build-out operations based on current and forecasted service levels. A ridership analysis will not be performed as part of this study. As a result, station locations and passenger rail schedules will be conceptual in nature and will not be studied in detail as part of this work authorization.
  - Identify constraints that may require rail line upgrades and improvements such as additional main line tracks, crossovers, set-out tracks, signalization, etc. to incorporate passenger rail operations along the existing and abandoned U.S. 290 freight rail corridor between Austin and Hempstead at a minimum of 90% on-time performance, while maintaining freight rail operations and service to the existing customer base along the existing route.
  - Identify the potential impacts of passenger rail implementation to existing and future freight operations.
- B. Prepare and submit a draft summary report outlining the findings of Task 3. The Task 3 summary report will include a Passenger Rail Operating Plan consisting of assumed passenger station sites, passenger train size and type, and passenger and freight train schedules.

### **Task 4 – Identify Physical Characteristics of Proposed Corridor**

- A. Based on the analysis in Tasks 1 through 3, develop a list of corridor requirements for passenger rail implementation. Requirements will include the following types of improvements:
- Recapitalization: repairs or replacement of existing life-expired assets (e.g. bridge replacements)
  - Trip time improvements: items solely intended to reduce trip times for corridor passenger train service such as curve realignments, concrete ties and welded rail installation, or a new signal system
  - Maximum frequencies for passenger service on the corridor with existing freight traffic.

- Capacity-related improvements will not be identified in this study. These would include items required to increase the capacity of the corridor for all users of the corridor (e.g., new passing tracks, additional main tracks, interlocking reconfigurations, etc.)
- B. Provide an order-of-magnitude cost for the right of way along the optimal passenger rail alignment within the Giddings to Hempstead Corridor. This right-of-way cost will not include individual parcel ownership information but will include backup calculations for the order-of-magnitude cost.
- C. Develop GIS maps and schematic design drawings of the optimal passenger rail alignment and identified improvements.
- D. Analyze order-of-magnitude capital cost estimates for the alternatives, improvements, and upgrades identified in Task 4A.
- E. Prepare and submit a draft summary report outlining the findings of Task 4.

**Deliverables:**

The product of this Work Authorization will be independent sections of a report describing the findings of the U.S. 290 Corridor Passenger Rail Study.

The Project Manager shall prepare a draft report for review and comment by TxDOT and shall address any comments for incorporation into the final report. Upon completion of the U.S. 290 Corridor Passenger Rail Study, the draft and final reports are anticipated to contain the following information:

***Executive Summary.*** This section will provide a stand-alone 20-page-maximum executive-level summary and will include the results of the U.S. 290 Corridor Passenger Rail Study, detailing the study's slate of infrastructure improvements, evaluations, cost estimates, and mobility impacts within the Region, including recommendations as to future activities that may need to be addressed.

***Section 1: Introduction.*** This section will include a description of the regional setting and a synopsis of previously generated reports related to the movement of freight rail within the Study Area. This section will also define the purpose and rationale of the Study.

***Section 2: Existing Conditions.*** This section will describe the existing corridor in terms of location, background and ownership, and existing infrastructure. This section will also discuss the current operations on the existing rail lines being analyzed.

***Section 3: Analytical Results.*** This section will provide a summary of the rail modeling for the base case scenario as well as adding passenger trains and identified improvements.

***Section 4: Corridor Investments - Determination of Alternatives for Rail System Improvements.*** This section will discuss recommended improvements to the existing infrastructure and will also include cost estimate summaries of identified improvements.

***Section 5: Methodologies.*** This section will provide a summary of how the work was done and will largely reference the *Railroad Corridor Transportation Plans* published by the FRA, which was used as a guide.

***Section 6: Program Summary and Conclusions.*** This section will summarize the study's conclusions, including a prioritized list of the potential improvements and estimated costs. This section will also discuss potential funding sources.

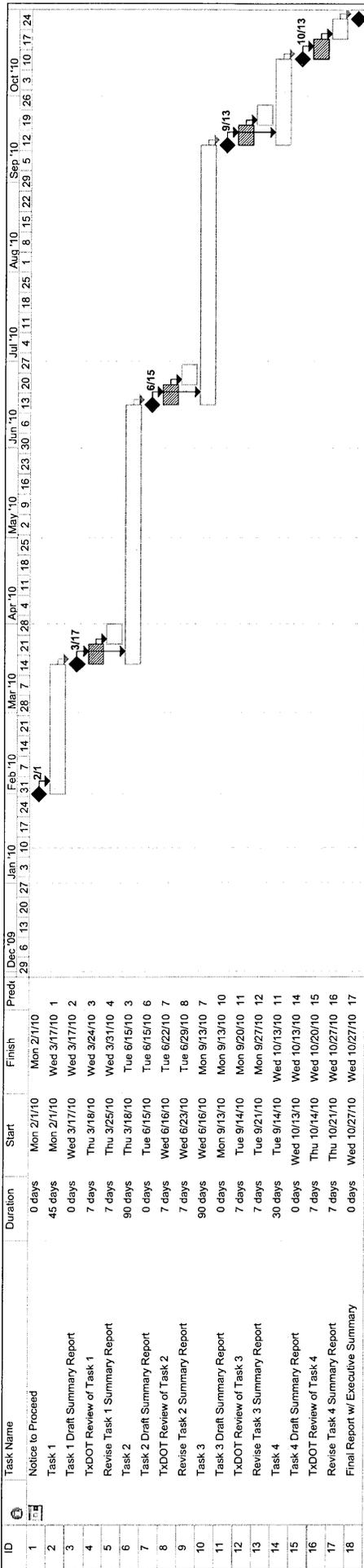
**Technical Appendices.** Technical appendices will include preliminary exhibits of the existing and proposed track configuration along the Study Corridor, and cost estimates of identified improvements.

## EXHIBIT C WORK SCHEDULE

The work to be performed under this Work Authorization shall be for the period ending October 31, 2010. The anticipated schedule for this study shall be as discussed below:

Following execution of this Work Authorization and/or receipt of Notice-to-Proceed,

- A draft of Task 1 shall be submitted within forty-five (45) calendar days from receipt of notice to proceed **and** upon fully obtaining available information from the State and the railroads. The State will provide all final comments/edits within five days upon receipt of the draft submission. A revised draft with comments/edits incorporated will be submitted within five days upon receipt of all final comments/edits from the State.
- A draft of Task 2 shall be completed and delivered to the State within ninety (90) calendar days from completion of Task 1. The State will provide all final comments/edits within five days upon receipt of the draft submission. A revised draft with comments/edits incorporated will be submitted within five days upon receipt of all final comments/edits from the State.
- A draft of Task 3 shall be completed and delivered to the State within ninety (90) calendar days from completion of Task 2. The State will provide all final comments/edits within five days upon receipt of the draft submission. A revised draft with comments/edits incorporated will be submitted within five days upon receipt of all final comments/edits from the State.
- A draft of Tasks 4 shall be completed and delivered to the State within thirty (30) calendar days from completion of Task 3. The State will provide all final comments/edits within five days upon receipt of the draft submission. The final report with comments/edits incorporated will be submitted within five days upon receipt of all final comments/edits from the State.



Project: WA4 Schedule  
Date: Wed 1/13/10

Task Split

Progress Milestone

Summary Project Summary

External Tasks External Milestone

Deadline