REQUEST FOR PROPOSALS

ALTERNATIVE ANALYSIS, PRELIMINARY ENGINEERING, AND NEPA DOCUMENTATION FOR HIGH-SPEED TRANSPORTATION SERVICE BETWEEN DALLAS AND FORT WORTH, TEXAS

October 18, 2019
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INTRODUCTION
The North Central Texas Council of Governments (NCTCOG), in coordination with the Federal Railroad Administration (FRA) and Federal Transit Administration (FTA), is requesting written proposals from consulting firms to produce the alternative analysis, preliminary engineering, and environmental studies for the high-speed passenger service between downtown Dallas, Texas and downtown Fort Worth, Texas; a distance of approximately 31 miles. The proposed study area is bounded by IH 35E, IH 35W, SH 183, and US 287/Spur 303/Loop 12 and traverses Dallas and Tarrant counties and the cities of Dallas, Irving, Grand Prairie, Arlington, and Fort Worth.

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NCTCOG is a voluntary association of, by, and for local governments, and was established to assist local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development. NCTCOG’s purpose is to strengthen both the individual and collective power of local governments and to help them recognize regional opportunities, eliminate unnecessary duplication, and make joint decisions.

Since 1974, the North Central Texas Council of Governments has served as the Metropolitan Planning Organization (MPO) for transportation in the Dallas-Fort Worth (DFW) Metropolitan Area. NCTCOG’s Transportation Department is responsible for regional transportation planning for all modes of transportation. The Department provides technical support and staff assistance
to the Regional Transportation Council (RTC) and its technical committees, which compose the MPO policy-making structure. In addition, the Department provides technical assistance to the local governments of North Central Texas in planning, programming, coordinating, and implementing transportation decisions.

**PURPOSE AND NEED**

The purpose of the project is to modernize and enhance mobility between Dallas and Fort Worth by evaluating high-speed transportation alternatives. At a minimum, conventional, higher speed, and high-speed passenger rail; magnetic levitation; and next generation magnetic levitation (e.g., hyperloop) will be considered. The goal is to identify a viable alternative that enhances the regional transportation system and connects Dallas-Fort Worth to other proposed high-performance passenger systems in the state.

**PROJECT BACKGROUND**

High-speed passenger rail service within North Central Texas is not intended to be a stand-alone service; rather, service within the region is an integral component of a larger statewide and potential national network. High-speed rail between Dallas and Fort Worth has been a part of the NCTCOG metropolitan transportation plan since the approval of *Mobility 2025: The Metropolitan Transportation Plan for North Central Texas*, March 2011. Subsequently, high-speed rail has been included in *Mobility 2035, Mobility 2040*, and the current plan, *Mobility 2045* ([https://www.nctcog.org/trans/plan/mtp/2045](https://www.nctcog.org/trans/plan/mtp/2045)).

Within the North Central Texas region, both at-grade and grade-separated high-speed passenger service are recommended from Fort Worth to Dallas. The recommended grade-separated high-speed service in this corridor includes stations in downtown Fort Worth, Arlington, and downtown Dallas. The region supports the development of one seat/one ticket high-speed passenger rail connectivity between Fort Worth, Arlington, Dallas, Houston and South Texas through the Dallas station. However, should regulatory, environmental, financial, or other challenges prohibit the timely development of a one seat/one ticket connection through the Dallas station, the region will support and coordinate with high-speed passenger rail system implementers to develop a cross-platform transfer solution for all rail passengers that is as close to a one seat/one ticket connection as possible.

Additionally, Mobility 2045 recognizes other high-speed modes of travel, such as magnetic levitation and hyperloop, are being explored with public and private funding. Potential routes include one from Dallas to Laredo through Fort Worth, which was identified in a private, internationally competitive assessment of potential routes.

Other efforts related to this study include:

- **Fort Worth/Waco/Temple-Killeen/Austin/San Antonio/Laredo High-Speed Transportation Study (2019)** – This effort is building on the Record of Decision and Tier 1 Texas-Oklahoma Passenger Rail Service (TOPRS) Final Environmental Impact Statement (FEIS). The Tier 1 document focused on service and operations and broadly addressed corridor issues and
alternatives and did not consider emerging modes or technologies. The purpose of the Fort Worth/Waco/Temple-Killeen/Austin/San Antonio/Laredo High-Speed Transportation Study is to review previously studied alignments, evaluate technology options (e.g., conventional high-speed rail, next generation magnetic levitation), and identify potential station locations and prepare a set of alternative recommendations to be evaluated in future National Environmental Policy Act (NEPA) document(s). This study should be completed in early 2020.

- **Dallas-Fort Worth Core Express Alternatives Analysis (June 2017)** – Funding for the Dallas-Fort Worth Core Express Service (DFWCES) environmental study came from the April 2011 US High-Speed Intercity Passenger Rail program grant. TxDOT and FRA initiated the process of evaluating the possibility for a high-speed or express passenger rail line between Fort Worth and Dallas by publishing a Notice of Intent to prepare an Environmental impact Statement (EIS). The FRA concluded the project in 2017 with the production of an alternatives analysis report (https://www.txdot.gov/inside-txdot/projects/studies/statewide/dfw-core-express.html).

- **NCTCOG Supplemental Alignment Alternative Analysis for Dallas-Fort Worth High-Speed Rail Core Express Service (October 2017)** – This supplemental analysis reexamined several of the alignment alternatives and developed additional alignment alternatives to determine if there are other reasonable alignments that should be reconsidered as part of the DFWCES Draft EIS (DEIS). This analysis complemented the NCTCOG high-speed rail station location studies for the Fort Worth, Arlington, and Dallas stations. https://www.nctcog.org/nctcg/media/Transportation/DocsMaps/Plan/Transit/2017-Oct-DFW-HSR-AA.pdf

- **Arlington High-Speed Rail Station Area Planning Study (September 2017)** – This study was initiated to provide NCTCOG with potential station locations for inclusion and analysis in the DFWCES DEIS and to assist the Arlington in creating a second urban center. https://www.nctcog.org/nctcg/media/Transportation/DocsMaps/Plan/Transit/ArlingtonHSR.pdf

- **Fort Worth High-Speed Rail Station Area Planning Study (2017)** – In advance of the EIS for the high-speed passenger service between Dallas and Fort Worth, a study of potential station locations was completed in September 2017. The report recommended the station be located at the existing Intermodal Transportation Center area in downtown Fort Worth. https://www.nctcog.org/nctcg/media/Transportation/DocsMaps/Plan/Transit/FWHSR.pdf

- **Dallas High-Speed Rail Station Area Planning Study (September 2017)** - The proposed Dallas high-speed rail station creates an opportunity to develop a centralized transportation hub that brings all modes of transportation to one location. This study evaluated the potential fatal flaws associated with transportation connectivity and economic development of an intermodal transportation facility.
• Request for Information (2016) - NCTCOG issued a Request for Information for potential delivery and finance structure for the Dallas-Fort Worth Core Express Service project. https://www.nctcog.org/nctcg/media/Transportation/DocsMaps/Plan/Transit/HSR-RFI-12-08-2016.pdf

• Dallas to Houston Draft Environmental Impact Statement (December 2017) – Texas Central Partners have completed a Draft Environmental Impact Statement (https://www.fra.dot.gov/eLib/Details/L19234). An effort led by the private sector is analyzing the corridor for environmental impacts, alignment options, station locations, and funding options. This DEIS considers, describes, and summarizes the environmental impacts of the Dallas to Houston high-speed rail project proposed by Texas Central Railroad. This 240-mile project would implement a high-speed passenger rail system using a bullet train system to achieve an approximate 90-minute travel time between Dallas and Houston, with achievable speeds exceeding 200 miles per hour and in a fully sealed rail corridor.

PROJECT SUPPORT
The project will be conducted under the guidance and supervision of a Project Review Committee. The responsibilities of the Project Review Committee will be to serve as the principal technical review committee for this project. NCTCOG shall serve as project manager to implement a mutually agreed upon scope of work, monitor the progress of consultant activities; and serve as a liaison between the consultant and other partners. The selected consultant will enter into a contract with NCTCOG for the agreed upon scope and budget. NCTCOG shall also serve as the contract manager and procurement administrator for the project.

SCOPE OF WORK
The draft scope of work program for the project is included as Attachment A to this document. The project scope of work includes two phases and five major tasks. In general, Phase 1 will develop and evaluate technologies and alignments to meet the purpose and need of the project. Phase 2 will develop and evaluate reasonable alternatives and document these efforts following the NEPA process.

The work to be performed by the Consultant will consist of providing project management; support for public and agency engagement; technical support for the analysis of potential alternatives, operations/service planning, preliminary engineering design/studies, cost estimating; preparation of environmental studies/documents; and financial planning. Proposers are encouraged to exercise creativity in responding to the project needs. Modifications to the tasks and task sequencing which will improve the effectiveness of the project effort, while containing costs, are encouraged. The following figure shows the general flow of work and milestones proposed in the scope of work.
Proposed Scope of Work Flowchart

Scope of Work Task

**Color Key**

- Task 2
- Task 3
- Task 4
- Task 5

1. **Level 1 screening**
2. **Level 2 screening**
3. **Level 3 screening**
4. **Technology forum**

Phase 1

- Phase 1 Schedule: 12 months

Phase 2

- Phase 2 Schedule: 24 months

Notes:
1. Level 1 screening based on ability to meet draft purpose & need & established design criteria
2. Level 2 screening based on fatal flaw analyses for criteria such as proximity to sensitive social, biological, or cultural areas; constructability; travel time
3. Five percent design includes horizontal & vertical (critical) alignments; identification of station & support facility locations; preliminary travel demand; identification of major drainage & utilities; costs; & other needed improvements
4. Level 3 screening based on criteria such as costs; travel demand; potential impacts to sensitive social, biological, or cultural areas; constructability
PROJECT SCHEDULE
Proposers shall develop a schedule of tasks with completion deadlines and methodologies for the project. NCTCOG will select all the identified tasks or a subset of the tasks to be completed. This scope of services is based on a 36-month schedule from Notice to Proceed to final environmental approval. It is assumed that Phase 1 will be completed in 12 months and Phase 2 will be completed in 24 months. Phase 2 should adhere to Presidential Executive Order 13807, “…the goal of completing all Federal environmental reviews and authorization decisions for major infrastructure projects within two years.” NCTCOG and the selected firm will jointly determine a schedule for progress meetings in accordance with the final schedule for the scope of work. A draft schedule is included as Attachment B.

NCTCOG anticipates the release of the Notice to Proceed for this project on April 30, 2020.

CONSULTANT SELECTION CRITERIA
The Consultant Selection Committee (CSC) will review all proposals and select a consultant it considers qualified to undertake the project. The following criteria will be used to evaluate the proposals:

1. Project Knowledge and Understanding 20 percent
2. Project Approach 45 percent
3. Qualifications of Project Manager, Staff, and Firms 30 percent
4. Schedule 5 percent

If the CSC determines that interviews will be required before a final decision can be made, the interviews will take place at the NCTCOG offices in Arlington, Texas, the week of February 3, 2020. Proposers should be willing and able to attend these interviews, if necessary. Consultants who are invited to an interview will be notified by the close of business on January 24, 2020, that an interview has been scheduled. Costs for developing the proposal and costs attributed to interviews (and subsequent negotiations) are at the proposer’s own expense and will not be reimbursed by NCTCOG.

CONTRACT AWARD
Following final negotiations of the work plan and costs satisfactory to NCTCOG, the consultant will be asked to execute a contract with NCTCOG. If applicable, a Notice to Proceed will be issued upon execution of the contract. NCTCOG reserves the right to reject any and all proposals, to contract for any or all portions of the project with the selected consultant, or to hire multiple firms.

The successful responder(s) to this Request for Proposals is expected to provide qualified personnel to accomplish each portion of the work in this study. NCTCOG will maintain the right to request the removal of any personnel found, in its opinion, during the course of work on this project, to be unqualified to perform the work.
The Sample Contract, provided in this transmittal, contains federal requirements which must be included with all proposals submitted. Appendices C through I of the Sample Contract contain compliance requirements and certification forms which must accompany the proposal. **Failure to comply with these requirements may result in finding the Proposal non-responsive.**

The Texas Legislature has adopted House Bill 1295. In short, the law states that a governmental entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties (Form 1295) to our agency at the time of a signed contract. As part of contract development, the Consultant will be asked to complete the disclosure of interested parties electronically and submit through the Texas Ethics Commission website. NCTCOG will provide a specific contract number associated with the award for inclusion in the submittal. Once submitted, the Consultant will be requested to return an e-mail confirmation of submittal to NCTCOG. For more information about the process, please visit the following website for Frequently Asked Questions: [www.ethics.state.tx.us/whatsnew/FAQ_Form1295.html](http://www.ethics.state.tx.us/whatsnew/FAQ_Form1295.html).

**DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION**

The Disadvantaged Business Enterprise participation must meet the **31.3 percentage goal** identified for this type of procurement. Proposers should also include an Affirmative Action Plan is included in the proposal. Failure on the part of the majority contractor to meet this goal or show meaningful good faith efforts may be grounds for finding the proposal nonresponsive.

**QUESTIONS AND ANSWERS**

All questions regarding the RFP shall be directed in writing by e-mail to TransRFPs@nctcog.org by the close of business on Monday, October 28, 2019. **A pre-proposal conference will be conducted, at the NCTCOG offices, at 616 Six Flags Drive, Centerpoint Two, in Arlington, Texas on Friday, November 1, 2019, at 1:30 pm.** Interested proposers may participate in the pre-proposal conference via WebEx using the following link: [https://nctcog.webex.com/nctcog/j.php?MTID=m904a6f3edeb52930f1f26b03c6ef4a0e2](https://nctcog.webex.com/nctcog/j.php?MTID=m904a6f3edeb52930f1f26b03c6ef4a0e2)

Meeting Number: 808 575 632

To participate in the audio portion of the pre-proposal conference, please dial 1-800-250-3900 and enter Participant Pin# 442318.

Attendance is not mandatory at the pre-proposal conference but is strongly encouraged to benefit potential proposers from the discussion and answers provided to questions. Questions submitted in advance of the pre-proposal conference will be answered at the pre-proposal conference. All questions and responses will be posted on the NCTCOG website at [http://www.nctcog.org/trans/admin/rfp](http://www.nctcog.org/trans/admin/rfp) by the close of business on Wednesday, November 6, 2019. The questions and answers at the pre-proposal conference will be in English; translation services will not be provided for potential proposers. NCTCOG reserves the right to respond to inquiries as it deems necessary.
OVERALL PROCUREMENT SCHEDULE
This RFP shall be used to accept, review, and score proposals based on the following schedule with the intent of awarding a cost-reimbursement contract. The following represents the schedule of procurement activities leading to contract award:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Request for Proposals</td>
<td>October 18, 2019</td>
</tr>
<tr>
<td>Last Day to Submit Questions</td>
<td>October 28, 2019</td>
</tr>
<tr>
<td>Pre-Proposal Conference</td>
<td>November 1, 2019</td>
</tr>
<tr>
<td>NCTCOG Q&amp;A Posted to Website</td>
<td>November 6, 2019</td>
</tr>
<tr>
<td>Proposals Due &amp; Proposal Public Opening</td>
<td>December 13, 2019</td>
</tr>
<tr>
<td>Consultant Selection Committee</td>
<td>week of January 20, 2020</td>
</tr>
<tr>
<td>Interviews (if needed)</td>
<td>week of February 3, 2020</td>
</tr>
<tr>
<td>NCTCOG Committee Approval</td>
<td>April 23, 2020</td>
</tr>
<tr>
<td>Execute Contracts</td>
<td>April 30, 2020</td>
</tr>
<tr>
<td>Notice to Proceed</td>
<td>April 30, 2020</td>
</tr>
</tbody>
</table>
ATTACHMENT A
DRAFT SCOPE OF SERVICES
The project scope of work includes two phases and five major tasks. In general, Phase 1 will develop and evaluate technologies and alignments to meet the purpose and need of the project. Phase 2 will refine and evaluate the reasonable alternatives recommended in Phase 1 and document these efforts following the NEPA process. The following figure shows the general flow of work and milestones proposed in the scope of work.

**Notes**
1. Level 1 screening based on ability to meet draft purpose & need & established design criteria
2. Level 2 screening based on fatal flaw analyses for criteria such as proximity to sensitive social, biological, or cultural areas; constructability; travel time
3. Five percent design includes horizontal & vertical (critical) alignments; identification of station & support facility locations; preliminary travel demand; identification of major drainage & utilities; costs; & other needed improvements
4. Level 3 screening based on criteria such as costs; travel demand; potential impacts to sensitive social, biological, or cultural areas; constructability
This scope of services is based on a 36-month schedule from Notice to Proceed to final environmental approval. It is assumed that Phase 1 will be completed in 12 months and Phase 2 will be completed in 24 months. Phase 2 should adhere to Executive Order 13807, “…the goal of completing all Federal environmental reviews and authorization decisions for major infrastructure projects within two years.”

The work to be performed by the Consultant will consist of providing project management; support for public and agency engagement; technical support for the analysis of potential alternatives; preliminary engineering design/studies; operations/service planning; cost estimating; preparation of environmental studies/documents; and financial planning. At a minimum, conventional, higher speed, and high-speed passenger rail; magnetic levitation; and next generation magnetic levitation should be considered.

**Task 1 – Project Management**
The Consultant will provide project management services throughout Phase 1 and Phase 2.

1.1 Detailed Work Plan and Schedule
NCTCOG has prepared a draft detailed work plan and schedule for the project. The detailed work plan and schedule describes the activities, steps, and responsibilities necessary to complete this study within the contract timeframe, and identifies roles, responsibilities, and component deliverables for review by all stakeholders. During Phase 1, NCTCOG will be responsible for revising the detailed work plan, as needed. During Phase 2, the work plan be reviewed by the Consultant on a monthly basis and revised, as needed.

Based on the draft schedule developed by NCTCOG, the Consultant will revise the project schedule based on the final scope of services. During both Phase 1 and Phase 2, the Consultant will review the schedule on a monthly basis and revised, as needed.

1.2 Kick-Off and Coordination Meetings
The Consultant will conduct one project kick-off meeting with the FRA, FTA, and NCTCOG to review the project scope, schedule, deliverables, and project objectives. Throughout the study, the Consultant will schedule and conduct monthly coordination meetings via webinar/phone with FRA, FTA, and NCTCOG to track progress (up to 40 meetings). The Consultant will submit a meeting summary with action items within ten working days after each meeting.

1.3 Invoicing
The Consultant will submit monthly billing and progress reports (estimated at 40) in the required format. Progress reports should include work accomplished and status for each project task; estimated percentage of work completed; budget spent; work activities anticipated for following month; and existing or anticipated problems that may affect the budget, schedule, or work products of the study.

1.4 Release of Study Materials
Data and deliverables for this study will be shared through e-mail or electronic file transfer as needed. No member of the Consultant team shall release study materials or deliverables to any agency, organization, or person without prior written consent of the NCTCOG Project Manager.
1.5 Project Files/Administrative Record
The Consultant and subconsultants will maintain current and accurate project files during the project. On a quarterly basis, the Consultant will review project documents and assess which documents should be included in the administrative record for the project. NCTCOG will be responsible for housing and maintaining the administrative record.

1.6 Standards
The Consultant will perform all work in accordance with the FRA and FTA latest practices, criteria, specifications, policies, and procedures. All design, mapping, exhibits, studies, and attachments will be developed in English units. Within 30 working days of completion of the project, all project-related electronic files (e.g., Microsoft Office, GIS, Microstation - Geopak computer graphic files, Illustrator) must be furnished to NCTCOG in an electronic format acceptable to NCTCOG.

1.7 Quality Assurance and Quality Control
The Consultant will direct and monitor subconsultants activities and provide ongoing quality assurance and quality control (QA/QC) to ensure completeness of all deliverables and compliance with FRA, FTA, and NCTCOG procedures. For each deliverable, the Consultant will perform QA/QC reviews of all designs, reports, and studies prepared under this scope of work. Upon request by the NCTCOG Project Manager, the Consultant will provide documentation that the QA/QC reviews were performed by qualified staff.

Electronic Deliverables:
- Detailed schedule, revised as needed
- Project kick-off meeting summary
- Monthly coordination meeting summaries
- Monthly invoices and progress reports
- QA/QC documentation, if requested

Hardcopy Deliverables:
- Agendas, handouts, and other materials for project kick-off meeting

PHASE 1 – PRE-NEPA PRELIMINARY ALTERNATIVES DEVELOPMENT
In accordance with the One Federal Decision Executive Order and Memorandum of Understanding, the project will identify a reasonable range of alternatives in Phase 1 to be carried forward for detailed NEPA analysis in Phase 2.

Task 2 Preliminary Purpose and Need and Agency and Public Engagement
This task supports stakeholder coordination and public meetings during Phase 1. All activities must be carried out in compliance with Executive Order 13166 and Executive Order 12898. Additional public and agency engagement activities related to NEPA documentation are included in Task 5.

2.1 Draft Preliminary Purpose and Need
The Consultant will support NCTCOG, FRA, and FTA in developing a draft preliminary purpose and need for the project. The preliminary draft purpose and need will address the operational requirements for the project to serve as a foundation for assessing, under Task 3, various route, technology, and design options that are reflected in potential alternatives. The draft preliminary
purpose and need will be presented during public meetings (Task 2.3) and may be revised as necessary to address public and agency comments.

### 2.2 Agency and Public Engagement Plan

The Consultant will review and provide input on the Agency and Public Engagement Plan developed by NCTCOG. The Agency and Public Engagement Plan will identify how public engagement activities will be linked to key milestones in both Phase 1 and Phase 2 of the study. The Consultant will help identify civic and business groups, relevant interest groups, and private service providers/shippers. Prior to beginning Task 5, the Consultant will review this plan and revise as necessary.

NCTCOG will develop and maintain a website for the project. The Consultant will support NCTCOG by providing information and documents (in pdf format) to be posted on the project website.

### 2.3 Public and Agency Coordination Meetings

The Consultant will support NCTCOG in holding public and agency meetings by engaging stakeholders and the public in the discussion of visions and ideas for high speed passenger service; developing handouts, exhibits, and presentation materials; making technical presentations, if requested; and preparing meeting summaries. NCTCOG will conduct all meetings. Attendance of members of the Consultant team (including subconsultants) must be coordinated with the NCTCOG Project Manager prior to meetings. The following table outlines the roles and responsibilities between NCTCOG and the Consultant associated with meetings.

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Role</th>
<th>Meeting Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Coordination</strong></td>
<td>NCTCOG: Lead, Room Reservations: Lead, Notices: Lead, Advertising: na, Presentations: na, Translations: Support, Meeting Summary: Lead</td>
<td>Support</td>
</tr>
</tbody>
</table>

*na = not applicable*
• Resource Agency Coordination - The Consultant will support FRA, FTA, and NCTCOG in coordination efforts with state and federal resource agencies. The purpose of these targeted discussions will be to solicit input and comments on alternatives and their potential effects. The Consultant will submit a meeting summary with action items within ten working days after each meeting. It is estimated that 24 agency coordination meetings will be held.

• Local Coordination - The Consultant will assist FRA, FTA, and NCTCOG in conducting meetings with city and county staff, local transportation officials, elected officials, utility companies, and railroads. The purpose of these targeted discussions will be to solicit input and comments on alternatives and their potential effects. The Consultant will document and respond to issues discussed at these meetings. The Consultant will submit a meeting summary with action items within ten working days after each meeting. It is estimated that 30 local coordination meetings will be held.

• Technical Work Group - The Consultant will assist FRA, FTA, and NCTCOG in conducting technical work group meetings with city and county staff and local transportation officials. The purpose of these meetings is to help provide technical reviews of work products. The Consultant will document and respond to issues discussed at these meetings. It is estimated that six technical work group meetings will be held at key decision points during Phase 1. The Consultant will submit a meeting summary with action items within ten working days after each meeting.

• Technology Forum - A technology forum/workshop will be held to showcase the various technologies under consideration. Industry and technology experts in high-speed passenger service will be invited to provide information to help educate the community on the various types of technology.

• Public Meetings Series #1 - The first series of meetings will be held at the initiation of Task 3.1 (Evaluation/Screening Criteria) to support the development of alternatives. The meetings will show previous alignments and technologies considered and allow for input on the preliminary purpose and need, additional alternatives to be considered, and the proposed screening criteria. Each series of public meetings will include a meeting in the western, central, and eastern portion of the study limits. During each series, the same information will be presented at each meeting. The Consultant will arrange a meeting (in-person or WebEx) with FRA, FTA, and NCTCOG to review all exhibits and other materials to be displayed at least ten working days prior to public meetings.

• Public Meetings Series #2 - The second series of meetings will be held near the completion of Level 1 and 2 screening (Tasks 3.6.1 and 3.6.2). The purpose of the meetings will be to show the alternatives considered, Level 1 and Level 2 screening results, and recommendations for alternatives to be developed further in Task 3.4.2. Each series of public meetings will include a meeting in the western, central, and eastern portion of the study limits. During each series, the same information will be presented at each meeting. The Consultant will arrange a meeting (in-person or WebEx) with FRA, FTA, and NCTCOG to review all exhibits and other materials to be displayed at least ten working days prior to public meetings.

• Public Meetings Series #3 - The third series of meetings will be held near the completion of the Level 3 screening (Task 3.6.3). The purpose of the meetings will be to show the alternative considered, Level 3 screening results, and recommendations for alternatives to be developed further in Task 4 and evaluated during the NEPA process (Task 5). Each series of public meetings will include a meeting in the western, central, and eastern portion of the study limits. During each series, the same information will be presented at each meeting. The Consultant will arrange a meeting (in-person or WebEx) with FRA, FTA, and
NCTCOG to review all exhibits and other materials to be displayed at least ten working days prior to public meetings.

Following the established comment periods for the technology forum and each series of public meetings, the Consultant will be responsible for preparing responses to comments and technical memorandum documenting each series of meetings. The technical memorandums will document advertising, attendees, presentation materials, comments received, and responses to comments. The Consultant will submit the technical memorandum within 25 working days after the last public meeting in the series. Additionally, the Consultant will create a database for cataloguing public and agency comments.

**Electronic Deliverables:**
- Handouts and exhibits for resource agency, local coordination, and technical work group meetings
- Meeting summaries for resource agency, local coordination, and technical work group meetings
- Exhibits for three series of public meetings
- Technical memorandum summarizing the technology forum
- Technical memorandum summarizing each series of public meetings
- Comment database

**Hardcopy Deliverables:**
- Handouts and exhibits for resource agency and local coordination meetings
- Handouts and exhibits for public meetings

**Task 3 Preliminary Alternatives Analysis**
Task 3 will develop and screen alternatives; alternatives will vary by technology and corridor/route. In general, the Consultant will review previous alignment alternatives and technology options and associated design criterion. At a minimum, conventional, higher speed, and high-speed passenger rail; magnetic levitation; and next generation magnetic levitation should be considered. Based on public and agency input, additional alignment alternatives and technology options will be developed. The Consultant will assess the feasibility and order of magnitude costs (e.g., construction, operating, maintenance) of technology and alignment options through three levels of screening. Through this process, the alternatives would be narrowed down to a preliminary set of reasonable alternatives for consideration in the NEPA phase of the study.

Prior to the initiation of work under this task, the Consultant will prepare a technical memorandum describing the methodologies to be employed to complete the work. This technical memorandum must receive NCTCOG/FRA/FTA concurrence prior to work beginning.

The Consultant will notify NCTCOG Project Manager of its schedule, at least ten working days in advance, for all field activities.

**3.1 Evaluation/Screening Criteria**
The Consultant will support FRA, FTA, and NCTCOG in developing criterion that will be used to assess and evaluate alternatives and technologies and support the preliminary purpose and need for the project. The criterion should be established to identify fatal flaws, significant
impacts, and construction challenges. To the extent possible, the criteria should use quantifiable factors and measures that would help differentiate preliminary alternatives and assess potential impacts to sensitive environs (social, economic, and natural). Criteria for determining reasonableness of options should include:

- Metrics (quantitative and qualitative)
- Method of evaluating options against metrics (i.e., measurement methods)
- Standards for determining reasonableness based on evaluation against the metrics

It is assumed that three levels of screening criteria will be developed to evaluate and assess routes and technologies.

- Level 1: screening based on ability to meet the draft need and purpose and established design criteria
- Level 2: screening based on fatal flaw factors such as proximity to sensitive social, biological, and/or cultural areas; constructability; and travel time
- Level 3: screening based on factors such as costs; travel demand; potential impacts to sensitive social, biological, or cultural areas; and constructability

### 3.2 Previous Studies and Design Criteria

The Consultant will review previous high-speed service alternative analysis reports and studies [e.g., Dallas to Houston High-Speed Rail, Texas-Oklahoma Passenger Rail Study (TOPRS), Texas Department of Transportation (TxDOT) Dallas-Fort Worth Core Express Service (DFWCES) Alternative Analysis, NCTCOG alignment and high-speed station studies]. This effort will be documented in a technical memorandum.

The Consultant will review potential technology options and associated design criterion. The Consultant will document design criteria based on the accepted industry standards and guidelines. At a minimum, the design criteria should include the following design elements: design speed, horizontal curvature and clearances, vertical grades and clearances, right-of-way requirements, and required operating equipment. Based on the design criteria, the Consultant will develop conceptual typical sections. This effort will be documented in a technical memorandum.

### 3.3 Data Collection

NCTCOG has initiated data collection for the project. NCTCOG will provide the Consultant the following information in GIS and/or electronic copy format.

- Aerial photogrammetry and planimetric mapping
- Available built and natural environmental data from NCTCOG and resource agencies
- Existing and adopted land use maps and plans, as available
- Local comprehensive and thoroughfare plans
- Local transit plans

The Consultant will collect other data as necessary to develop and screen alternatives. At a minimum, data will include the following information.

- Design data from record drawings of existing and proposed transportation facilities, as needed
• Previously prepared drainage studies, as needed
• Federal Emergency Management Agency (FEMA) flood boundary maps and flood insurance studies and models, as needed
• Public and private utility information, as needed
• Plat research for adjacent properties as available, as needed

The Consultant will prepare constraint mapping to help identify challenges, opportunities, and/or potential impacts within the project corridor, including impacts to the nature, cultural, and human environment. Examples are historic and archeological resources, community resources, residential areas, floodplains, parks, and geologic features. The data collection effort (e.g., data requests, sources, data received, date of data) will be documented in a technical memorandum. This data will be used during Phase 1 to help identify sensitive areas to be avoided and help identify potential impacts to social, economic, and natural environs.

3.4 Preliminary Routes/Alternatives Development
The preliminary alternative development task will integrate and build upon previous work completed for the TxDOT DFWCES, TOPRS, NCTCOG high-speed station studies (in Fort Worth, Arlington, Dallas), and NCTCOG alignment high-speed rail studies. This effort will incorporate environmental and infrastructure data to support the identification of a reasonable range of preliminary alternatives suitable for NEPA analysis in Tasks 4 and 5. The Consultant will document the route development process in a technical memorandum including all efforts to avoid and/or minimize impacts to sensitive social, economic, and natural environs. The following graphic summarizes the level of route alternative development assumed to be needed during Phase 1.

### Task 3.4.1 Development of Route/Technology Options for
Level 1 & 2 Screening
- Identify feasible horizontal alignments by technology
- Identify critical vertical alignment constraints
- Identify exceptions to established design criteria
- Identify environmental fatal flaws
- Identify utility fatal flaws
- Develop order of magnitude cost per mile for construction

### Task 3.4.1 Develop Conceptual (5% level) Options for Level 3 Screening
- Refine horizontal alignment
- Identify potential station & maintenance facility locations
- Develop critical vertical profiles
- Identify critical drainage elements & major utility conflicts
- Identify other transportation infrastructure needs to support the alternative
- Develop total project cost per mile (e.g., engineering, right-of-way, construction, vehicles)

3.4.1 Development of Route/Technology Options
Based on technology requirements and previous studies, the Consultant will develop new routes and revise previously considered routes. Additional route/technology options may be developed based on public and agency comment. This task should also define the no build alternative. The Consultant will help identify preliminary routes to minimize potential adverse impacts, major utility conflicts, structural impediments, or exceptions to established design criteria. This effort
will include the development of a general horizontal alignment, typical section for each route/technology option, travel time, and order of magnitude construction costs per mile.

### 3.4.2 Develop Conceptual (5 percent level) Options
For those options found to be reasonable through Level 1 and 2 Screening (Tasks 3.6.1 and 3.6.2), the Consultant will refine the horizontal alignments and develop vertical alignments in critical areas. This task will also identify the potential locations for stations and maintenance facilities as well as identify major utility conflicts, structural impediments, exceptions to established design criteria, and other transportation infrastructure needed to support the option and its operations. The Consultant will assess the constructability and order of magnitude costs (e.g., engineering, right-of-way, construction, vehicles) as well as order of magnitude costs for operating and maintenance for each alternative option.

### 3.5 Travel Demand Forecasting Support
This Consultant will support NCTCOG in the development of travel demand forecasting and service planning/operating assumptions based on a methodology approved by FRA, FTA, and NCTCOG. This will include the evaluation of the frequency of service, number of stops/stations, and travel times based on the route and technology.

### 3.6 Screening/Evaluation
Based on the screening criteria established in Task 3.1, the Consultant will support FRA, FTA, and NCTCOG in evaluating the preliminary alternatives/options developed in Task 3.4.

#### 3.6.1 Level 1 Screening
The Consultant will support NCTCOG in assessing, at a high level, potential routes through the project area, considering the parameters specified in the preliminary statement of the purpose and need, and identify which route and/or technology options have the ability to meet established design criteria.

#### 3.6.2 Level 2 Screening
For those options found to be reasonable under Task 3.6.1, the Consultant will support NCTCOG in screening the remaining alternatives/options based on fatal flaw analyses of factors such as proximity to sensitive social, biological, and/or cultural areas (based on constraints mapping from Task 3.3); constructability; and travel time.

#### 3.6.3 Level 3 Screening
For those options developed in Tasks 3.4.2 [Develop Conceptual (5 percent level) Options] and the constraints mapping (Task 3.3), the Consultant will support NCTCOG in screening the remaining options based on factors such as costs; travel demand; potential impacts to sensitive social, biological, or cultural areas; and constructability.

### 3.7 Recommendations and Final Report
Based on the efforts in Tasks 2 and 3, FRA, FTA, and NCTCOG and the Consultant will make recommendations as to which preliminary options/alternatives (including technology) should be carried forward and evaluated in the NEPA document. The Consultant will support NCTCOG in documenting the recommendations and information supporting the conclusions in a final report. Task 3 will culminate with a Preliminary Alternatives Analysis Report that will document the screening process used to recommend the preliminary range of reasonable alternatives to be used in Phase 2. NCTCOG will be responsible for preparing the final report.
Electronic Deliverables:
- Technical memorandum describing the Task 3 methodologies
- Technical memorandum on previous studies
- Technical memorandum on data collection
- Constraint mapping
- Technical memorandum on screening process and evaluation criteria table
- Technical memorandum documenting established design criteria
- Technical memorandum on the development of alternatives/options
- Preliminary option/alternative drawings and typical sections

Hardcopy Deliverables:
- Constraint mapping
- Preliminary option/alternative drawings

PHASE 2 – ENGINEERING DESIGN AND NEPA

It is assumed that Phase 1 will provide enough information to define the scope of the project and to determine the NEPA lead agency and Class of Action for the project. However, if needed, Task 4.1 Conceptual Engineering Design (15 percent design) may need to be complete prior to that decision.

Task 4 Conceptual/Preliminary Engineering and Operations Planning

Task 4 encompasses service/operation planning and engineering analysis for the alternatives recommended in the Preliminary Range of Reasonable Alternatives Report (Task 3.7). For the purposes of this scope, the federal lead agency for the project will be determined after the completion of Phase 1. The following graphic summarizes the level of route alternative development assumed to be needed during Task 4.

4.1 Conceptual Engineering for NEPA (Reasonable Alternatives)
- Develop horizontal & vertical alignments
- Identify modifications & effects to other transportation facilities
- Define right-of-way requirements
- Define station locations & layout
- Define ancillary facilities
- Check drainage
- Define potential maintenance yard(s) & layout
- Develop capital costs (e.g., construction, right-of-way, vehicles)
- Define operations & operating cost
- Define maintenance costs

4.2 Preliminary Engineering (Preferred Alternative)
- Refine horizontal & vertical alignments
- Refine right-of-way requirements
- Refine station designs/layouts
- Refine ancillary facilities
- Conduct preliminary drainage analysis
- Develop preliminary bridge layouts
- Refine maintenance yard(s) layouts
- Refine capital costs (e.g., construction, right-of-way, vehicles)
- Refine operations & operating cost
- Refine maintenance costs
Prior to the initiation of work under this task, the Consultant will prepare a technical memorandum describing the methodologies to be employed to complete the work. This technical memorandum must receive NCTCOG/FRA/FTA concurrence prior to work beginning.

The Consultant will notify NCTCOG Project Manager of its schedule, at least ten working days in advance, for all field activities.

4.1 Conceptual Engineering Design (15 percent design)

The Consultant will complete a 15 percent level of conceptual engineering design for each reasonable alternative recommended in Task 3. These design efforts will support the preparation of the environmental document (Task 5). Conceptual engineering and capital programming will include analysis of equipment, infrastructure improvements, facilities, and other investments required for each discrete phase of corridor service implementation. This task will also include the development of travel demand forecasts and operational assumptions. This task may include surveying at critical locations. Information developed in this task will be summarized in a conceptual engineering summary report.

4.1.1 Engineering/Design

For each alternative, the Consultant will develop the horizontal layout (design scale of 1 inch = 200 feet) and vertical profile for the (scale of 1 inch = 20 feet). The design will also include designs proposed by others, alterations needed to roadways and/or other rail lines, proposed structures (e.g., proposed retaining walls, bridges, major drainage), station locations, maintenance facilities, and supporting technology components (e.g., traction powered substations, vacuum buildings). Additionally, the design should include, as appropriate, track configuration, turnout sizes and types, proposed signal locations, distance between signals, limits of signalization, and proposed speeds.

The Consultant will develop proposed typical sections and include cross slope, border width, clear/safety zone widths, and right-of-way limits. Retaining wall locations should also be reflected on the typical sections.

The general constructability of the design will be assessed including consideration of potential construction phasing. As part of the conceptual design, the Consultant will conduct a review of previous drainage studies to determine and evaluate the drainage system needed.

4.1.2 Travel Demand Forecasts

The Consultant will support NCTCOG in developing travel demand forecasts for each alternative, including origin-destination trip tables suitable as input for other elements of the planning and environmental assessment process, pricing assumptions (including a rationale for pricing strategy), and travel time-related assumptions (including frequency, reliability, and schedule data for the service alternatives).

4.1.3 Operations Modeling

The Consultant will perform assessment of the operations of each alternative to a level sufficient to identify key characteristics, challenges, or impacts to existing and future passenger rail service. The assessment will include:

- An analysis that includes description of the infrastructure improvements including stations, parking facilities, land acquisition, rail operations/maintenance/equipment/storage facilities, any new facilities or upgrades required for intercity passenger rail operational control.
• A preliminary operating plan for each alternative, including operation simulations, equipment options, and crew scheduling analyses, which in turn reflect such variables as travel demand and rolling stock configuration.
• An assessment of likely direct and indirect impacts on existing and potential future operations of freight trains, commuter trains, and other passenger trains.
• Potential phased implementation plans for the alternatives that can result in service improvements that have independent utility and reflect constructability considerations.

4.1.4 Station and Access Analysis
The Consultant will prepare a station and access analysis to address the location of the stations to be served by the proposed infrastructure, how these stations will accommodate the trains (or pods) and passengers associated with the proposed infrastructure, how passengers will access the stations, and how the stations will be integrated with connections to other modes of transportation.

4.1.5 Right-of-Way and Relocation Plan
The Consultant will obtain information on existing right-of-way, easements, and property information from as-built plans, right-of-way maps, and tax records. The Consultant will prepare a base map depicting this information.

a. Right-of-Entry
The Consultant will seek right-of-entry from public or private landowners to perform engineering and environmental field services/investigations for this project. Right-of-entry permission will be in writing and require a signature of the landowner. The Consultant will develop letters or other materials for seeking right-of-entry. Letters or other materials seeking right of entry will not be distributed without prior approval of NCTCOG. Letters or other materials seeking right of entry will contain explicit reference to the kinds of activities for which right-of-entry is requested and an indication of the impacts (if any) that will result from performance of environmental services. The Consultant will maintain a record of right-of-entry permissions and denials.

b. Right-of-Way Needs and Relocation Plan
The Consultant will determine the right-of-way requirements (e.g., number of parcels, acreage) based on the proposed alignment, station and maintenance facilities, typical sections, design cross sections, terrain, construction easement requirements, drainage, clear zone, maintenance, and potential environmental mitigation requirements. The Consultant will quantify the number and type of parcels and structures impacted.

Based on utility information gathered in Task 3.3, the Consultant will identify potential conflicts with major utilities and attempt to minimize the potential adverse utility impacts. The Consultant will assess and quantify the number and types of utilities that require relocation. The Consultant will create a base map depicting the utility locations.

4.1.6 Construction Schedule
The Consultant will prepare a construction sequence description and implementation schedule for each alternative. As a minimum, the schedule must include final design, right-of-way acquisition, utility relocation, construction, and equipment testing. The implementation schedule will incorporate an appropriate allowance for schedule risk, whether through inclusion of schedule contingency or through another method approved by FRA/FTA.
4.1.7 Capital Cost Estimation
The Consultant will prepare a preliminary capital cost estimate consistent with the design and specifications. The preliminary cost estimate will be presented in a format approved by FRA and FTA and will encompass forecasted costs that would be incurred by a third party or parties to implement the alternative following completion of preliminary engineering (e.g., final design, permitting, mitigation, right-of-way, construction). The preliminary cost estimate will incorporate an appropriate allowance for cost risk and uncertainty associated with the alternative commensurate with its stage of development through inclusion of a cost contingency.

4.1.8 Operating and Maintenance Cost Estimation
The Consultant will prepare general estimates of operating, maintenance, and capital renewal costs for a 40-year period.

4.2 Preliminary Engineering (30 percent design)
The Consultant will prepare 30 percent preliminary engineering and supporting documentation for the preferred alternative identified in the final NEPA document for FRA/FTA review and approval to support the future development of the project. Preliminary engineering will consist of the preparation/revision of all design and project delivery documentation necessary (including basis of design report with track changes, if needed, and project design criteria) to demonstrate the effectiveness, feasibility and readiness of the preferred alternative for future development. This task will revise/refine the design studies prepared in Task 4.1 such as cost estimates, operating and maintenance costs, operations modeling, and travel demand forecasts for the preferred alternative.

4.2.1 Engineering/Design
The Consultant will prepare 30 percent preliminary engineering drawings for the preferred alternative. This will include refining the horizontal and vertical alignments, typical sections, alterations needed to roadways and/or other rail lines, proposed retaining walls, major drainage elements, bridge layouts, station locations, maintenance facilities, and supporting technology components (e.g., traction powered substations, vacuum buildings). The design should include, as appropriate, track configuration, turnout sizes and types, proposed signal locations, distance between signals, limits of signalization, and proposed speeds.

The Consultant will conduct a preliminary drainage analysis. The drainage study must identify the impacts to abutting properties and the 100-year floodplain due to proposed guideway, provide overall drainage area map, sub-drainage area map, proposed storm water detention facilities, and provide a report identifying the results of the drainage study.

4.2.2 Travel Demand Forecasts
The Consultant will support NCTCOG in revising travel demand forecasts for the preferred alternative, including origin-destination trip tables suitable as input for other elements of the planning and environmental assessment process, pricing assumptions (including a rationale for pricing strategy), and travel time-related assumptions (including frequency, reliability, and schedule data for the service).

4.2.3 Operations Modeling
For the preferred alternative, the Consultant will revise perform assessment of the operations completed in Task 4.1.3, as needed.
4.2.4 Station and Access Analysis
The Consultant will revise the station and access analysis performed in Task 4.1.4 to address any revisions to the design.

4.2.5 Right-of-Way and Relocation Plan
The Consultant will revise the right-of-way requirements (e.g., number of parcels, acreage), including permanent and temporary easements, based on any design refinements for the preferred alternative, station and maintenance facilities, maintenance, and environmental mitigation requirements. The Consultant will revise the number and type of parcels and structures impacted. Additionally, the Consultant will revise the quantity and types of utilities that require relocation and revise the base map depicting the utility locations, as needed.

4.2.6 Construction Schedule
The Consultant will revise, if needed, the construction sequence description and implementation schedule for preferred alternative.

4.2.7 Capital Cost Estimation
The Consultant will refine the preliminary capital cost estimate prepared in Task 4.1.7 to reflect design revisions. The preliminary cost estimate will be presented in a format approved by FRA/FRA and will encompass forecasted costs that would be incurred by a third party or parties to implement the project following completion of preliminary engineering (e.g., final design, permitting, mitigation, right-of-way, construction). The preliminary cost estimate will incorporate an appropriate allowance for cost risk and uncertainty associated with the project commensurate with its stage of development through inclusion of a cost contingency.

4.2.8 Operating and Maintenance Cost Estimation
The Consultant will prepare general estimates of operating, maintenance, and capital renewal costs for a 40-year period.

4.3 Financial Plan
The Consultant will prepare specific financial planning documentation demonstrating how the implementation of the project could be financed and delivered. The project may be developed as a public, private, or public-private partnership development project, and the financial planning documentation must evaluate multiple finance scenarios based on that assumption. A draft financial plan will be developed for the reasonable alternative recommended in Task 3 and costs developed in Task 4.1. Once a preferred alternative is recommended, the financial plan will be revised based on information and costs from Task 4.2. The requirements for the financial planning documentation are:

- A cost-loaded schedule depicting the cash outflow forecast for the project by calendar year, in both base year and "year of expenditure" (i.e., inflation adjusted "nominal") dollars.
- A description of the inflation assumptions used to arrive at the year of expenditure values.
- A description of the degree to which funding for the construction of the project has been committed and a description of the risks associated with the availability of the other sources of funding.
- A description of other financing risks associated with constructing the project, including cost risks represented in the cost estimate and schedule risks represented in the schedule.
- A plan for financing any cost overruns, including addressing the availability of the sources of funding that may be used to finance overruns.
4.4 Project Implementation Plan
The Consultant will prepare project management documentation for the implementation of the project. A draft Project Implementation Plan will be developed for the reasonable alternative recommended in Task 3 and information developed in Task 4.1. Once a preferred alternative is recommended, the Project Implementation Plan will be revised based on information from Task 4.2. To the extent possible, the plan should identify the stakeholders likely to be involved in the project implementation and describe their respective roles, responsibilities, capabilities, capacities, and mechanisms through which these parties will interact with one another.

Electronic Deliverables:
- Technical memorandum describing the Task 4 methodologies
- Conceptual design drawings and supporting engineering summary report
- Preliminary engineering drawings and supporting engineering summary report
- Draft and final operation/service planning report
- Drainage report
- Right-of-way mapping
- Right-of-entry letters and mapping
- Utility mapping
- Relocation plan
- Technical memorandums documenting construction sequencing and schedule
- Technical memorandums documenting assumptions and cost estimates
- Draft and final financial plan
- Draft and final project implementation plan

Hardcopy Deliverables:
- Conceptual design drawings
- Right-of-way mapping

Task 5 NEPA Documentation
For the purposes of this scope, the NEPA lead agency and Class of Action for the project will be determined after the completion of Phase 1. Prior to the initiation of work under this task, the Consultant will prepare a technical memorandum describing the methodologies to be employed to complete the work. This technical memorandum must receive NCTCOG/FRA/FTA concurrence prior to work beginning.

The Consultant will complete a NEPA document for the project. The Consultant will prepare all materials related to the NEPA document, including complete the necessary studies and documentation in accordance with the environmental procedures. The Consultant will evaluate the alternatives, with the use of qualified environmental professionals with experience in performing NEPA studies for FRA/FTA, for its potential for effects, including conducting a review of existing literature, contacting relevant agencies, and performing field reconnaissance.

Deliverables will contain all data acquired during the environmental process. All deliverables will be written to be understood by the public and must be in accordance with documentation standards, current guidelines, policies and procedures. Deliverables will consist of technical reports of environmental studies/services performed in addition to documentation of a NEPA
document. Technical reports and documentation must be produced before the draft NEPA document is prepared to identify issues early in the process.

The Consultant will notify NCTCOG Project Manager of its schedule, at least ten working days in advance, for all field activities.

5.1 Class of Action Determination
The Consultant will assist FRA, FTA, and NCTCOG during the Class of Action determination for the lead agency determined after the completion of Phase 1. The Class of Action will most likely be an Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

5.2 Notice of Intent
If the NEPA Class of Action requires an EIS, then the Consultant will prepare a Notice of Intent (NOI) for publication in the Texas Register and the Federal Register.

5.3 Scoping
The Consultant will identify potential participating and cooperating agencies and key contacts within agencies. Prior to issuing the Notice of Intent (Task 5.2) the Consultant will review the Agency and Public Engagement Plan prepared in Task 2.2 and revise as necessary.

Five scoping meetings will be held. These include three public meetings in the western, central, and eastern portion of the study limits; one federal and state agency scoping meeting, and any necessary follow-up meetings; and one regional and local agency scoping meeting, and any necessary follow-up meetings. The purpose of the scoping meetings is to review the draft need and purpose, present the preliminary range of reasonable alternatives identified under Task 3, identify any additional alternatives, help determine key issues and needed studies, identify potential effects of the proposed project, and refine the agency and public engagement plan. The Consultant will support these meetings by preparing sign-in sheets, handouts, presentations, displays, and meeting summaries. Following the comment period, the Consultant will prepare a technical memorandum documenting the scoping process and comments received. The Consultant will submit the technical memorandum within 25 working days after the last scoping meeting. The Consultant will continue to maintain the database for cataloguing public and agency comments.

Based on the scoping meetings and coordination with cooperating agencies, the Consultant will develop an outline for the appropriate NEPA decision (EA or EIS). Additionally, the Consultant will develop technical methodologies for all areas of study to ensure agreement on the level of effort and analysis.

5.4 Data Collection
The Consultant will review the data collected in Task 3.3 and update and augment this information as needed.

5.5 Field Studies and Analyses
Based on the technical methodologies established in Task 5.3 the Consultant will conduct field studies, as needed, and analyses to document the existing conditions and assess the effects of the project build and no build alternatives. All analyses will be documented in technical memorandums. These studies will follow the lead agencies NEPA regulations, which may include FRA and FTA NEPA Regulations (23 CFR Parts 771) such as:
• Community impacts
• Transportation impacts
• Historic resources
• Archeological resources
• Air quality
• Noise and vibration
• Water quality
• Floodplains
• Natural ecological systems and protected species
• Waters of the US
• Farmland
• Regulated materials
• Section 4(f) evaluation
• Section 6(f) evaluation
• Indirect and cumulative impacts analysis
• Utilities and energy

All technical reports/memorandums and documentation must be prepared with sufficient detail and clarity to support environmental determination(s). Environmental technical reports and documentation must include appropriate NEPA or federal regulatory language in addition to the purpose and methodology used in delivering the service. All deliverables must comply with all applicable state and federal environmental laws, regulations and procedures. All technical reports/memorandums and forms must include sufficient information to determine the significance of impacts. All deliverables must meet regulatory requirements for legal sufficiency.

5.6 Draft NEPA Document
The Consultant will prepare either a Draft EA or a Draft EIS (DEIS) to include, but is not limited to, the following: definition of the project and existing conditions, identification of the purpose and need, identification and analysis of project build alternatives and a no build alternative, description of public and agency engagement activities, and an analysis of existing conditions in comparison to the impacts of the proposed action and alternatives.

The Consultant will follow either FRA NEPA Regulations or FTA NEPA Regulations and direction in the preparation of either the EA or EIS, including submission of administrative draft environmental documents for the NEPA lead agency for review and comment. Once approved for circulation, the Consultant will produce both hardcopies and electronic versions of the document for the NEPA lead agency to circulate and facilitate public and agency review and comment in accordance with the NEPA.

5.7 Public Hearings
The Consultant will assist NCTCOG and the NEPA lead agency in preparing hearing materials (sign-in sheets, handouts, exhibits, and presentation materials) for a series of three public hearings; the same information will be presented at each hearing. As part of the exhibits, the Consultant will develop renderings of critical area/sections to help the public visualize the project. The Consultant will arrange a meeting with NCTCOG and the NEPA lead agency to review all exhibits and other materials to be used at least 20 working days prior to public meetings.
The Consultant will prepare the adjacent property owner lists to be used to notify property owners of the hearings. The Consultant will prepare property owner notification letters. Upon approval of the letter by the NCTCOG Project Manager, the Consultant will mail the letters (via regular mail) to property owners.

The Consultant will be responsible for placing hard copies of the Draft EA or DEIS at agreed-upon locations (e.g., public libraries, city halls) to facilitate public review.

The Consultant will hire a court reporter to document the comments at the public meetings. The Consultant will compile public comments received and responses to comments during public meetings. The Consultant will prepare a documentation of the public hearings.

5.8 Final NEPA Document
Based on comments received during the Draft EA or DEIS circulation period, the Consultant will prepare an administrative draft of a final NEPA document. If a DEIS was prepared, a combined Final EIS (FEIS)/Record of Decision (ROD) will be prepared. The documents will also reflect any changes in design and/or regulations that have occurred since the publication of the draft NEPA document. The Consultant will respond to comments on the Draft EA or DEIS and identify all necessary mitigation measures, agreements, and permits required for the project.

5.9 Finding of No Significant Impact or ROD
The Consultant will prepare a Finding of No Significant Impact (for an EA) or a ROD (for an EIS) documenting the proposed action and any appropriate mitigation plans.

Electronic Deliverables:
- Technical memorandum describing the Task 5 methodologies
- Class of Action Determination
- Notice of Intent (necessary if an EIS is required)
- Agency and Public Involvement Plan, if revised from Task 2
- Handouts and presentation materials for scoping meetings
- Summary of scoping meetings
- EA or EIS outline
- Draft and final technical reports/memorandums for all subjects of analyses
- Review copies of Administrative Draft EA or DEIS
- Approved Draft EA or DEIS
- Handouts and presentation materials for public hearings
- 3D renderings
- Public Hearing summary
- Review copies of Administrative Final EA or combined FEIS/ROD
- Approved Final EA or combined FEIS/ROD
- Finding of No Significant Impact, if an EA is prepared
- Comment database

Hardcopy Deliverables:
- Handouts for scoping meetings
- Exhibits for scoping meetings
- Handouts for public hearings
- Exhibits for public hearings
• 3D renderings
• Review copies of Administrative Draft EA or DEIS
• Approved Draft EA or DEIS (50 hard copies and 50 CD/DVDs)
• Review copies of Administrative Final EA or FEIS
• Approved Final EA or FEIS (50 hard copies and 50 CD/DVDs)
• Finding of No Significant Impact or Record of Decision
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**Timeline:**
- Q1: Jan-Mar 2019
- Q2: Apr-Jun 2019
- Q3: Jul-Sep 2019
- Q4: Oct-Dec 2019
- 2020
- 2021
- 2022
- 2023

**Keys:**
- **Green Bar:** Activity Complete
- **Blue Bar:** Activity In Progress
- **Red Bar:** Activity Paused
- **Blue Dots:** Activity Ongoing
- **Deadlines:**
  - **Red:** Task deadlines
  - **Blue:** Activity deadlines

**Dates:**
- Mon 8/23/21
- Fri 12/6/19
- Fri 3/20/20
- Mon 9/28/20