

Interstate 40/ Interstate 81 Corridor Feasibility Study

GENERAL WORK ITEMS:

This document describes the Scope of Work for consultant services to be performed in the assessment of deficiencies along Interstates 40/81. The Tennessee Department of Transportation has recently completed a statewide Long Range Transportation Plan that identified common goals for the State of Tennessee regarding transportation planning. The Long Range Transportation Plan is the first in Tennessee to consider all modes of transportation and how they can best work together as the needs of the state change. This study is a continuation of the long range planning process for the Department of Transportation. The intent of this study is to identify multi-modal solutions for identified deficiencies along Interstates 40/81.

1. Systems Inventory and Data Collection

Task objective: Initiate study work through the gathering of existing information available through the Tennessee Department of Transportation, the Metropolitan Planning Organizations and the Rural Planning Organizations along the study corridor. Data is available through the following resources:

- TDOT's Statewide Model
- Evaluation of Roadway Efficiency System (EVE)
- TDOT's Long Range Transportation Plan
- MPO's Long Range Transportation Plan
- RPO's Long Range Transportation Plan (where available)
- TDOT's Advance Planning Reports
- TDOT's Interchange Justification/Modification Studies
- TRIMS
- TDOT's Statewide Rail Plan
- An Evaluation of the Tennessee Rail Plan's Treatment of a Trans-Tennessee Rail Routing (University of Tennessee, July 22, 2005)

Work to be performed: Review available information for the purpose of establishing a working knowledge of the study corridor.

Deliverables: Summary memorandum with matrix of issues/deficiencies for the study corridor.

2. Assessment of Deficiencies associated with:

- a. Capacity/Congestion
- b. Operations
- c. Safety
- d. Freight movement/diversion
- e. Economic access

Task objective: The objective of this task is to develop a corridor wide needs assessment that identifies deficiencies within the study corridor based upon the items listed above. Study corridor is defined as the limited access right of way of the interstate mainline and existing interchanges.

Work to be performed:

Evaluate the existing capacity of the interstate and determine its ability to meet current (2005), 2010 and 2030 planning horizons travel demands; Evaluate the No Action Alternative.

Identify congested corridor segments and determine LOS/travel delays and mode mix; determine 24 hour performance versus peak hour performance levels using LOS/travel delay;

- Look at the existing interstate facility and determine locations where the geometric design does not meet current design standards and assess the impact geometric deficiencies have on the operations of the system;
- Determine locations along study corridor with a high incident rate and determine cause;
- Identify locations/segments of the interstate where freight movement impacts the operations/safety of the system (percent of trucks, volume of trucks and delay), include terrain issues, incident response time and overnight storage issues;
- Determine the modal mix within the planning areas (including Growth Boundary areas) of each of the metropolitan areas along the study corridor by type and use (rider ship); define the limits and effectiveness/deficiencies of existing HOV lanes; locate existing park and ride facilities adjacent to or within a five mile radius of existing interchanges, their current rider ship and their inter-modal connectivity;
- Assess the feasibility of freight/passenger diversion to rail along the study corridor; include a revisit of the **existing rail plan** and
- Determine the need for additional interstate access based upon future economic demands using current Long Range Transportation Plans from the MPO's and stakeholder interviews with RPO's.

Deliverables: Technical Memorandum documenting findings with maps of deficiencies (20 copies draft and 50 copies final) and a matrix of deficiencies in 5 year increments

3. Development and refinement of Feasible Multi-modal solutions that address:

- a. Capacity
- b. Operations
- c. Safety
- d. Freight movement/diversion
- e. Economic access
- f. Commuter patterns

Task objective: The purpose of this task is to develop multi-modal solutions that address the capacity, operation, safety, including movement of freight, commuter patterns and economic access along the study corridor. Initial step is to identify an array of solutions that could be implemented that would address the identified deficiencies. Solutions would include but not be limited to traditional capacity solutions. Alternatives should also include solutions that include Intelligent Transportation System, HOV lanes or High Occupancy Toll (HOT) lanes, expansion of park and ride lots with inter-modal connectivity. This study will need to address the feasibility of freight diversion along the corridor as a potential solution to the movement of goods and services along the study corridor. This study will need to address the feasibility of providing intercity connectivity through the use of rail or improved bus services.

Work to be performed: This will be a phased process with the initial development of solutions that address the deficiencies identified in Task 2. Performance criteria subject to TDOT review and approval will be developed as a part of this task and applied to the identified solutions. The effectiveness of the initial array of solutions will be evaluated and recommendations will be made. At this point, the array of solutions will be carried forward based upon the Public Involvement Plans recommendations for the purpose of obtaining stakeholder input. This task will also include the development of a framework to evaluate interstate projects/programs for the purpose of establishing priorities.

Following the public involvement phase, alternatives will be further refined based upon new information or direction resulting from public or agency input. Modifications will be made, performance criteria applied and a second round of recommendations (Phase 2) will be made. Phase 2 recommendations will be subject to an environmental review based upon current available literature. This is a “Red Flag” review level effort for the purpose of determining the environmental feasibility of the Phase 2 solutions.

During the course of this study, data gaps may be identified or additional planning tools needed to be developed to facilitate the evaluation process. Recommendations are to be made and strategies developed to complete the data gaps or expand existing planning tools.

Deliverables: Technical Memorandum, a separate Executive Summary and maps (20 draft copies and 50 final copies).

4. Prioritize Projects

Task objective: The final array of solutions will be organized and presented in a matrix form and will include constructible segments, cost to implement and recommend priorities. Cost will include preliminary engineering, design, right of way, construction and annual maintenance cost per construction segment for each multi-modal solution.

Work to be performed: Prioritize the identified multi-modal solutions based upon the Project Evaluation System Report, dated December 2005, a product of the TDOT’s Long Range Transportation Plan. This report documents an analytical methodology to aid programming efforts and prioritization of multi-modal investments. The project prioritization and evaluation system as outlined in the December 2005 report will be used initially to prioritize projects. Refinement of projects will be completed following input from the Public Involvement Program. The matrix will include a timeline for implementation and constructible project segments.

Deliverables: Technical Memorandum with matrix of projects. (20 draft copies and 50 final copies)

5. Public Involvement

Task objective: Public involvement will be a part of this study effort. Input from stakeholders will be solicited and will be used to better understand identified deficiencies within their respective jurisdictions. Stakeholders input will be used to guide the development of multi-modal solutions for the study corridor.

Work to be performed: A Public Involvement Plan will be developed as a part of this study. It will outline items to be accomplished, identify stakeholders, frequency of meetings with the stakeholders and contain methods to report back to the stakeholders regarding the findings of the study. It is anticipated that stakeholder's involvement at a minimum should be integrated at major milestones of the study (Inventory, Assessment and Prioritization). The Plan will identify opportunities and tools to be used to convey the recommendations of the study to the general public. Recommendations should be made in the plan regarding the magnitude and frequency of general public meetings.

Deliverables: Public Involvement Plan (5 draft copies and 15 final copies)

6. Project Management

Task objective: This task relates to managing and guiding the progress of work on behalf of TDOT. Activities include scheduling, document control, progress reporting, sub consultant administration, cost tracking and reporting, quality control and cost estimating.

Work to be Performed: The following items are to be included in this task assignment:
Development of a Project Work Plan – prepare and maintain a project work plan that identifies key staff members and their responsibilities, prepare and update as needed a project organizational and staffing plan; prepare a final work breakdown structure and assigned budget cost for each work group and task; prepare estimated quarterly budget requirements for duration of work; prepare and submit monthly progress reports covering work performed and cost.

Development and updating of a project schedule – Prepare, maintain and publish a project schedule in Gantt or similar format illustrating linked tasks, critical path items, milestones and dates for all task assignments;

Develop a Quality Control Plan - Establish an internal quality control process that will produce work of acceptable quality for all task assignments. QC will include review, and monitoring of work performed on each task, and provide a list identifying deliverables that will be subject to review prior to submittal to TDOT. QC reviewers are to be external to the study team with senior level expertise.

Monthly meetings with TDOT management staff – Monthly meetings are to be scheduled and conducted with TDOT management staff. The purpose of the meeting is to demonstrate study progress, identify study issues and develop an action plan to resolve issues. Meeting minutes will be prepared and circulated for approval. Each meeting will be conducted by the PM with a pre-approved agenda for the meeting.

Deliverables: Work Plan, Project Schedule and quality control plan.