

High Speed Passenger Rail Service Tulsa-Oklahoma City

Service Development Plan Update

Scope of Services

A preliminary Service Development Plan (SDP) was completed in November 2009 addressing the entire Oklahoma portion of the South Central High Speed Rail Corridor. This proposed scope of services provides an update and expansion of the preliminary SDP as required to support the EIS for passenger rail service between Tulsa and Oklahoma City. This SDP is specifically directed towards the Tulsa-Oklahoma City service and will meet all requirements of FRA.

1. Project Management/Administration

This task includes project management activities including communication, coordination, and documentation. The Project Manager will coordinate the activities of the various tasks, and ensure that the project schedule and budget are met. The Project Manager will also coordinate the development of the SDP with preparation of the EIS. Project administration activities, including administration of the contract, and the preparation and submission of invoices and progress reports, are included in this task.

2. Corridor Program Rationale & Purpose and Need

High-speed passenger rail service would provide a critical new transportation alternative for travelers and commerce between Oklahoma's two major economic centers, Tulsa and Oklahoma City. Both metropolitan areas are expected to grow significantly in the future as is the entire region defined by the South Central Rail Corridor. This growth will result in increasing demands on the passenger transportation infrastructure.

The institution of high-speed rail (HSR) service between Tulsa and Oklahoma City, and ultimately to Dallas/Ft. Worth to the south with intercity service to Kansas City to the north, has been a major regional objective for the several decades. Oklahoma DOT has advanced several studies over the past ten years to quantify the potential benefits and impacts of new passenger rail service connecting Tulsa and Oklahoma City and to consider possible corridor alignments and other southern major metropolitan areas.

In this task, the rationale for the Tulsa-Oklahoma City HSR corridor, and its purpose and need will be detailed and quantified. This will include documentation of the projected economic growth in the region and the increase in travel demand in the corridor, and the impact that this growth will have on existing transportation services, as well as consider existing and future environmental, livability and sustainability issues. Task activities include:

- Review prior studies and document expected economic growth in the Tulsa-Oklahoma City-DFW corridor and the geographic area influenced by the corridor
- Determine future travel demand between Tulsa and Oklahoma City
- Evaluate impacts of increased travel on energy consumption, environment, existing transportation capacity mobility
- Define purpose and need

3. Service Plan

The SDP will document the train service that will be provided in the Corridor. A time table will be presented that describes train frequencies and station stop schedules for both weekdays and weekends. Station locations will be identified, and their footprints and features will be described for the purpose of the EIS. Intermodal connectivity will also be evaluated to determine parking needs, roadway access, and any new or expanded public transit services.

The service plan will be based on an operating plan that will be designed using two railroad models. A train performance calculator will be employed to determine the parameters of the operation, which will provide information for calculating operating costs as well as to determine achievable train speeds. In evaluating train operations, ODOT proposes to examine both diesel and electric technologies as well as several alternative train consist configurations.

The SDP will also use a model, Rail Traffic Controller, to simulate the operation of the service and define the service plan. Stringline diagrams describing the operations and required train meets will be developed from the RTC. The RTC will also provide information to develop equipment and crew schedules.

Because of the interrelationship between service and ridership, the development of the service and operating plans will be an iterative process. The SDP will examine several service scenarios including connections with other services, evaluating their impact on demand (estimated in the ridership analysis) and operating costs. Additionally, the SDP will include analysis of additional future service required to accommodate projected ridership growth by defined phases over a twenty-year horizon.

Task activities include:

- Develop equipment alternatives: type of locomotive, consists
- Define infrastructure at the preliminary design level
- Identify train control systems
- For each alternative, determine train speeds and other performance metrics using a Train Performance Calculator
- Select equipment alternative(s)
- Analyze various operating/service alternatives using Rail Traffic Controller
- Develop stringline diagrams
- Develop train schedules

- Design equipment schedules
- Design crew schedules

4. Ridership Estimates

The underlying assumptions and ridership projections developed as part of preparing of the preliminary SDP will be reviewed and evaluated as to relevance given the revised service operating plan. The ridership estimates will be revised as required to reflect the changes in the service operating plan that would affect frequencies and trip times. Several price points and fare structures will be evaluated to maximize fare box revenues. Ridership will be projected for a twenty-year period. Special attention will be given to the growing interconnectivity between the Dallas-Ft. Worth and Tulsa-Oklahoma regions. ODOT will document all assumptions used in the ridership analysis.

Task activities will include:

- Define fare structure and determine price points for Tulsa-Oklahoma City corridor and connecting services giving consideration to motor vehicle operating costs, value of travel time, tolls, cost recovery assumptions, other factors
- Identify economic attractors that would influence rail travel
- Select ridership modeling approach
- Develop ridership projections using model
- Calculate revenues

5. Operating and Capital Costs

The SDP will detail the project capital costs associated with construction of the HSR corridor and its implementation, including the cost for infrastructure, equipment, facilities, and environmental mitigation. A costing methodology will be employed and the projected costs compared with other similar systems.

Pro forma annual recurring costs for track maintenance, equipment maintenance, train operations, station operations, customer service management, communications and signaling, security and aspects of the operation will be developed based on the operating plan. The costs will reflect any phasing of the operations to accommodate increases in demand and required asset replacement over a twenty-year horizon. All assumptions underlying the cost analysis will be documented.

Task activities include:

- Estimate capital expenditures
- Estimate operating expense
- Estimate overhead expenses

6. Financial Plan

The SDP will include a financial plan based on the proposed operations and projected ridership. A financial model will be developed to produce financial statements documenting the financial results from operations as well as future capital requirements. The plan will identify existing and targeted funding sources for operations and maintenance, and to fund future investment needs. Contingent sources and guarantees will also be identified. Producing the financial plan will include the following tasks:

- Develop a financial model
- Model proposed operations and ridership
- Develop pro forma financial statements: annual income, cash flow, and capital expenditure statements
- Perform risk analysis
- Identify funding sources

7. Benefits Assessment

The SDP will include estimates of public benefits. They will comprise: economic impacts such as job creation and enhanced, development, energy savings, environmental improvements, congestion mitigation, reduced travel costs, reduced public expenditures on highway infrastructure, enhanced public safety, improved livability, among others. Benefits and will be segregated between user and non-user, and will be either monetized, quantified, or presented qualitatively as appropriate. Existing models will be adapted to application to the Tulsa-Oklahoma City Corridor or new models developed.

8. Program Implementation

The SDP will include a program schedule for development of the Tulsa-Oklahoma City passenger service. It will also include a proposed program management plan that will include: management organization structure, comprise a budget, project management procedures, procurement and contract management practices, design and construction management, real estate acquisition plan, health and safety plan, communications management plan, and quality control plan.