

**City of Killeen, TX**  
**Thoroughfare Plan Update**  
**Scope of Service**

This scope of services provides the City of Killeen with the transportation planning tools and resources that support the development of a state of the practice Thoroughfare Plan. The project approach is designed to define a Thoroughfare Plan that is an innovative part of an overall transportation system that operates within a community vision for mobility, economic vitality and quality of life. The resulting Thoroughfare Plan is intended to help guide development and implementation of a balanced, multi-modal transportation infrastructure that can best serve the needs of the community as the City continues to develop and grow. The content of the Thoroughfare Plan shall include:

1. Introduction
2. Thoroughfare Plan Goals
3. Existing Baseline Traffic Conditions
4. Analysis of Future Growth / Development Scenarios
5. Transportation Modeling and Deficiencies Analysis
6. Thoroughfare Planning Issues
7. Thoroughfare Plan Recommendations
8. Roadway Functional Classifications
9. Thoroughfare Plan Design Standards and Typical Cross-sections

**Task 1 – Project Initiation**

This phase of the project is designed to quickly establish the organization and lines of communication for the project, set priorities for product delivery, identify and acquire needed data resources, and lay the groundwork to support the quantitative analysis of the transportation system. The Consultant shall:

**1.1 Develop Project organization and structure**

- Establish clear and appropriate lines of communication
- Hold a kickoff meeting with the project participants identified by the City

**1.2 Review Existing Data**

- Assemble available data on existing land uses
- Obtain available traffic counts and other data on system conditions
- Compile existing data on transportation system attributes

**1.3 Review and incorporate useful input from previous transportation planning efforts in the City of Killeen. These may include:**

- Transportation Element of Comprehensive Plan
- Available Land Use Plans or Development Proposals
- Input from Previous Public Participation Processes
- Other current plans and resources

**1.4 Data Forecasts**

- Review, evaluate and revise previous land use forecasts
- Review, evaluate and revise previous economic forecasts
- Develop input data (employment, population, households) etc; in format required to

support quantitative analysis

### **1.5 Thoroughfare Plan Goals and Objectives**

- Meet with City staff and policy makers to identify a set of candidate goals and objectives for the Thoroughfare Plan
- Set up a workshop or set of workshops with selected stakeholders and the general public to:
  - Further define and prioritize the goals and objectives, and
  - Develop a set of performance measures for determining to what extent proposed transportation alternatives help satisfy the goals and objectives

#### **Deliverables of Task 1**

- Project Management Plan for development of the City of Killeen Thoroughfare Plan
- Data and data forecasts in a format suitable for input into a quantitative analysis process
- Prioritized goals and objectives for the Thoroughfare Plan
- A set of performance measures for testing transportation scenarios

### **Task 2 - Travel Demand Analysis**

This phase of the program is designed to inform the planning process by providing a quantitative description of the performance of the current and proposed transportation system that can be used by decision makers to develop and achieve goals and objectives for the City of Killeen. The analysis refines and applies the MPO travel demand model to forecast traffic demand and to identify anticipated transportation system deficiencies. The Consultant shall carry out the following activities:

#### **2.1 Refine the detail of the MPO travel demand model**

- Using the land use data and forecasts from Phase 1, develop minor refinements to the MPO TAZ structure.
- Using the transportation system attributes developed in Phase 1, refine and recode a highway network for use in the travel demand analysis
- Validate the refined model for the study area using available count data, the revised zonal structure, and transportation network, and base year model parameters (e.g. trip length frequency curves by trip purpose, k-factors, input speeds and capacities, etc.).

#### **2.2 Travel Demand Forecast**

- Create future year highway networks based on committed transportation improvements
- Perform future year traffic forecasts for the City of Killeen based on the current plans and proposals

#### **2.3 Highway Capacity Deficiency Analysis**

- Using the traffic forecasts, identify anticipated capacity deficiencies in the transportation system given current plans and proposals
- Prepare Maps and Exhibits depicting deficiencies using standard measures (e.g. V/C ratio)

## **Deliverables of Task 2**

- A memorandum that describes the transportation system capacity deficiency analysis (with supporting maps and data tables) based on current transportation plans and commitments
- GIS Layers containing the transportation system network attributes obtained from the analysis

## **Task 3 Thoroughfare Plan Development**

This phase of the effort is designed to apply the findings of the quantitative analysis to develop proposed projects for inclusion in a Thoroughfare Plan (TSP). The TSP consists of several elements:

- 1) Thoroughfare Map / Plan
- 2) Set of typical design cross sections by functional class
- 3) Program of proposed projects for inclusion in the City of Killeen Capital Improvement Program

To accomplish the development of the Thoroughfare Plan, the Consultant shall carry out the following activities:

### **3.1 Develop Program of Projects**

- Work with City staff and policy makers to develop a preliminary list of roadway improvements to address deficiencies identified in Task 2
- Code a future year highway network
- Select, with City staff, a set of performance measures from the travel demand model attributes to use in evaluating project effectiveness
- Apply the refined MPO travel demand model to produce a future year traffic forecast depicting the impacts of the selected projects on roadway capacity deficiencies

### **3.2 Thoroughfare Plan**

- Based on the results of the analysis in task 3.1, select a final program of projects for inclusion in the Thoroughfare Plan
- Identify the future functional class for each existing, improved, or added roadway to be included in the Thoroughfare Plan
- Prepare a geographic information system (GIS) based Thoroughfare Plan database containing both graphic and non-graphic data attributes of each roadway in the Thoroughfare Plan
- Prepare Thoroughfare Plan presentation quality maps and exhibits depicting the preferred multi-modal transportation system

### **3.3 Design Standards and Roadway Design Cross Sections**

- Work with the City staff and policy makers to establish an agreed upon set of design standards that consider how to apply current state of the practice concepts such as:
  - Context appropriate design that considers the impact of the transportation system on adjacent land uses
  - Access management concepts that consider the impact of adjacent land uses on the transportation system
  - Complete streets concepts that address the transportation needs of different

modes and traveler markets.

- Illustrate a set of typical roadway design cross sections and intersection layouts that depict each type of facility's use, dimensional, and design standards.
- The typical sections for each functional classification are expected to include number of lanes, lane variations at intersections, median treatments, sidewalks, bikeways, transit amenities and total ROW.

### **Deliverables of Task 3**

- A realistic and achievable Thoroughfare Plan including a typology of transportation facilities by class and function
- Sample roadway design cross sections that illustrate standards for corridor and roadway design
- Thoroughfare Plan GIS layers with maps, graphics and attribute data
- Thoroughfare Plan presentation maps and exhibits

### **Task 4 Plan Adoption**

This task is designed to provide support to the City of Killeen in communicating the draft plan to policy makers and stakeholders as the City undertakes approval and adoption of the Thoroughfare Plan. The Consultant shall carry out the following activities to support plan adoption:

#### **3.4 Presentations and workshops for City of Killeen officials**

- Provide one (1) informational presentation and conduct one (1) workshop for policy makers, community leaders and other stakeholders to assist in review and adoption of the Thoroughfare Plan.

### **Deliverables of Task 4**

- A presentation describing the content of the Thoroughfare Plan, the proposed roadway alignments and cross-sections and the community basis for plan concepts and outcomes.
- A workshop with policy makers and stakeholders to help support informed decisions regarding plan adoption.

### **Optional Task based on workshop presentation**

#### **Task 5 Sample Traffic Operation Simulation**

This Task would provide the City of Killeen with a sample traffic operations simulation to assist policy makers and decision makers in visualizing the plan outcomes and benefits. The Consultant shall:

##### **5.1 Identify Sample Location**

- Work with City staff to identify an example location and transportation improvement scenario based on the Thoroughfare Plan typical cross sections and intersection layouts.

##### **5.2 Turning Movement Counts**

- Perform Turning Movement Counts selected locations to assist with calibration of the simulation

### **5.3 Prepare a sample operational analysis**

- Using the location and scenario defined in task 5.1, the consultant shall prepare a sample operational simulation for the selected typical section or innovative intersection layout proposed in the plan for the sample location.

#### **Deliverables of Task 5**

- A sample simulation and associated video depiction for use in visualizing plan outcomes