EXHIBIT A

SCOPE OF SERVICES

I-75/SR-93/ALLIGATOR ALLEY MASTER PLAN
I-75/SR-93/ALLIGATOR ALLEY MASTER PLAN Study from District 4 Toll Plaza, Broward County to District 1 Toll Plaza, Collier County

FM No. 453414-1-22-01

Florida Department of Transportation, District Four
3400 West Commercial Boulevard
Fort Lauderdale, Florida

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SCOPE OF SERVICES
I-75/SR-93/Alligator Alley Master Plan
I-75/SR-93/ALLIGATOR ALLEY MASTER PLAN Study from District 4 Toll Plaza, Broward County to District 1 Toll Plaza, Collier County
FM No. 453414-1-22-01

This Exhibit forms an integral part of the agreement between the State of Florida Department of Transportation (hereinafter referred to as the **DEPARTMENT**) and the **CONSULTANT** relative to the transportation facility described below.

This Scope of Services specifies all services that may be required throughout the preparation of a new Master Plan for a portion of I-75/SR-93/Alligator Alley (hereinafter referred to as the **FACILITY**) which is a Strategic Intermodal System (SIS) highway facility. The geographic limits of the study are I-75/SR-93/Alligator Alley from the District 4 toll plaza to the District 1 toll plaza, approximately 77 miles. The study area also includes interchanges/intersections with the **FACILITY**.

1.0 Purpose

The **CONSULTANT** shall perform all engineering and planning services required to prepare an I-75/SR-93/Alligator Alley Master Plan (hereinafter referred to as the **PLAN**) for the SIS highway corridor segment from the District 4 toll plaza, Broward County, Florida, to the District 1 toll plaza, Collier County, Florida. The preparation of a Master Plan is an integral part of the continuing process for the development of the SIS and in reaching overall regional mobility goals. The **PLAN** is a document which identifies short term and long term capacity, operational, and safety improvements necessary to bring the controlled access facility to SIS standards and recommends actions to be taken by the **DEPARTMENT** and the relevant local governments to protect and enhance the **FACILITY** through a year 2050 planning horizon.

The **PLAN** will provide initial preliminary engineering and environmental analysis to evaluate transportation alternatives and recommend improvements to I-75/SR-93/Alligator Alley and the connecting roadway network in the study area. The **PLAN** shall be a compilation of recommendations to bring the **FACILITY** into compliance with the **DEPARTMENT**'s SIS Highway Component Standards and Criteria (Procedure Topic #: 525-030-260-c or the latest available version) to meet and preserve level of service within the **FACILITY** through the designated horizon year and to develop an integrated transportation system which is economically efficient, environmentally sound and safe in moving people and goods. In order to preserve the SIS highway corridor's primary function of serving regional commerce and long-distance trips, the **PLAN** will identify strategies and improvements to ensure that regional mobility continue to be facilitated along the **FACILITY** and may include the crossing/intersecting roadways in the study area.

The development of this **PLAN** must be viewed as a collaborative consensus building process. To this end, the Scope of Services contains a coordination effort involving the **DEPARTMENT**, the Metropolitan Planning Organizations (MPOs), and other relevant state, regional and local government agencies along the **FACILITY**. The **PLAN** shall be developed cooperatively with

state, regional, and local stakeholders to ensure proper coordination with affected parties as well as consistency with all known regional and local transportation plans and other related plans. The **PLAN** shall be developed in compliance with Florida's growth management laws, rules, and policies as well as existing or proposed strategies focused on transportation systems management and operations (TSM&O) for the purpose of improving regional transportation system efficiency, reliability, and options. In addition, the **PLAN** shall be developed consistent with the goals and objectives of the regional transportation plan to provide safe and efficient mobility over the foreseeable future for all users including single- and high- occupancy vehicles, public transportation, bicyclists, pedestrians, and the transport of freight and goods.

The **PLAN** shall support the development of livable communities by considering and identifying various types of corridor improvements that can work with and feed into the surrounding communities' long term land use and transportation plans and strategies. Design concepts such as restricted crossing U-Turn (RCUT), Median U-Turns (MUT), Displaced Left Turn Intersection (DLT), Modern Roundabouts, Diverging Diamond Interchange (DDI), etc., that may improve the mobility and safety of the study area for all transportation modes may be assessed as practically and economically possible for all listed roadways. The **PLAN** shall develop a preliminary staging plan to recommend the sequence how the ultimate facility should be constructed. The development of the **PLAN** shall be pursued to achieve early identification and resolution of potential problems as envisioned in the **DEPARTMENT**'s Efficient Transportation Decision Making (ETDM) process.

The Master Plan shall be developed to provide data and information to the Environmental Screening Tool (EST), the web-based communications tool supporting the ETDM process. The EST provides a ready source of data and information accessible by resource agencies and, with appropriate protocols, the general public. The **PLAN** shall be developed to provide electronic input to the EST to ensure resolution of resource and other issues in a manner to achieve routine implementation of the Program Screen included in the ETDM process.

2.0 **STUDY AREA**

Figure 1 illustrates the study area. Includes ramps from rest/recreation areas and interchanges that connect to/with the **FACILITY.**

Roadway needs and planned/proposed improvement alternatives for the interchanges (hereinafter referred to as **STUDY INTERCHANGES**) may be assessed, considered, and incorporated in the development and documentation process of this study.

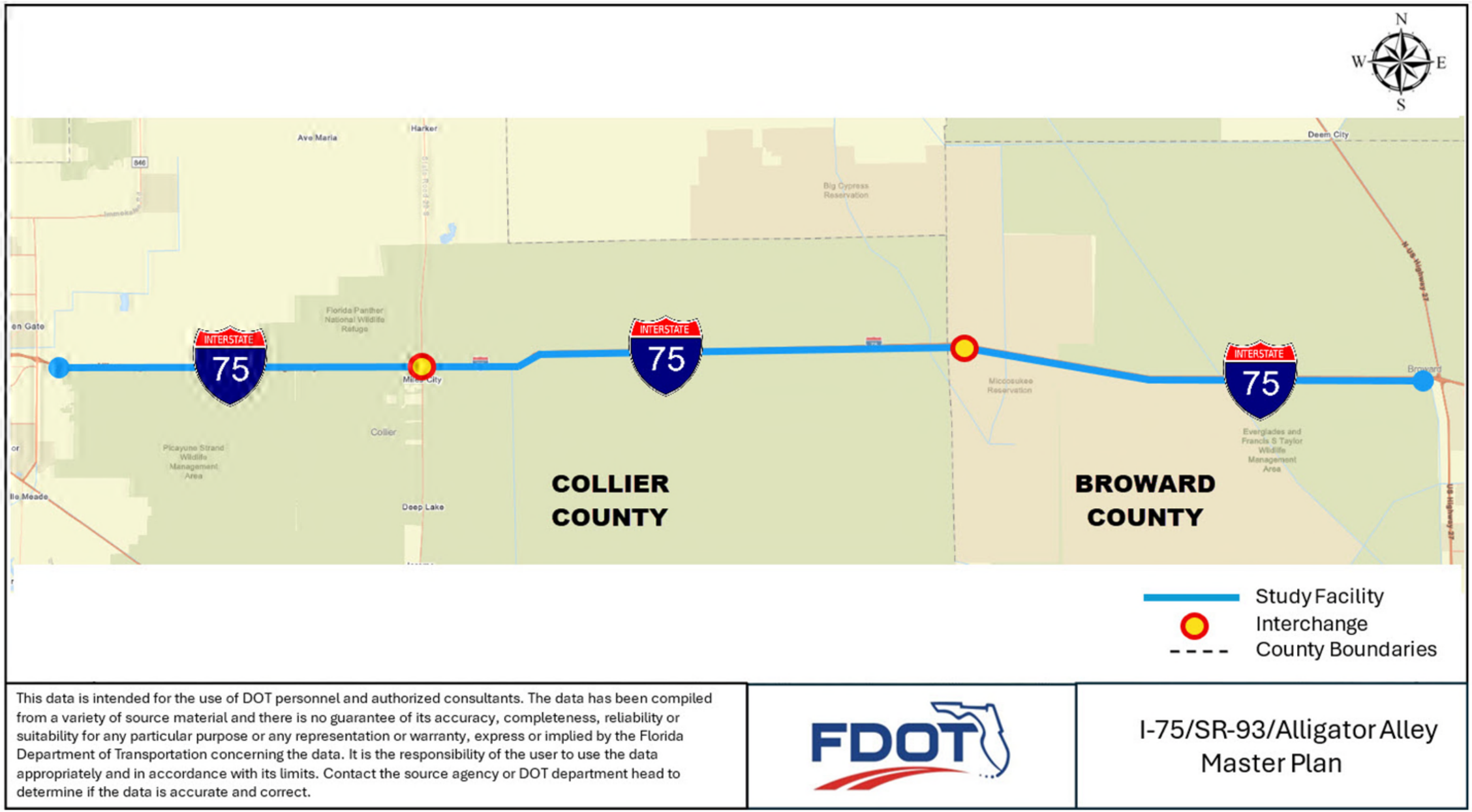


Figure 1. **STUDY AREA** Location Map

3.0 STUDY OBJECTIVES

The **PLAN** shall be developed to meet the following objectives:

A. Collaborative and Cooperative Regional Consensus – Define the challenges along the **FACILITY** and assist the **DEPARTMENT**, in coordination with the local governments, to investigate additional capacity, operational and access improvements both on and off the **FACILITY**, as well as options for other types of improvements including enhancements to interchanges and public transportation, that will work toward achieving and maintaining the adopted level of service and access classification along the **FACILITY** over the designated planning horizon. Provide opportunities for gathering and considering stakeholder input and sharing information with local stakeholders about the future of the **FACILITY**. Delineate a comprehensive corridor management plan that considers a variety of transportation related strategies, supported by FDOT and partners (including, but not limited to, access management, lane management, operational/ITS/ATMS management, and/or transit improvements) which will minimize operational degradation and define the timing and sequencing of improvements and funding needed to do so.

B. Scheduling – Define a schedule for implementation, staging of construction, long-range cost estimates of the various components included in the **PLAN**, and how financing of the components, if needed, shall be accomplished. The **PLAN** shall be developed consistent with other planning studies, environmental study documents and long-range transportation plans. The **PLAN** should provide sufficient information to develop a full Project Development scope of work, and provide sufficient information to support development of a preliminary financing plan.

C. Define and Analyze Conceptual Alternatives – Identify and analyze Conceptual Mobility Enhancement Alternatives that (1) include the need and the extent along with the time line and cost, based on system analysis that conform to all applicable **DEPARTMENT** policies, procedures, standards and guidelines; (2) consist of both construction-oriented and traffic management techniques; and (3) consider various strategies to meet the expected transportation demand in a safe and efficient manner and improve to the maximum extent practicable the operational performance of the **FACILITY**. Provide sufficient planning, preliminary engineering, and environmental information and analyses using appropriate analysis techniques, to serve as input into future **DEPARTMENT** production activities. Sufficient justification, conceptual alternatives analysis, Long Range Estimates (LRE) of costs, and environmental information must be provided to enable the **DEPARTMENT** to develop full Project Development and Environment (PD&E) Study scopes of work for future highway and public transportation projects, as found to be needed.

D. Presentation of Recommendations – Present recommendations on right-of-way protection and advanced acquisition priorities including limited access rights, controlled access rights, and right-of-way protection priorities to be initiated as appropriate by local governments to achieve any agreed upon improvement plans for the **FACILITY**.

4.0 **MASTER PLAN CONTENTS**

The **PLAN** process shall produce the following documents:

A. A Master Plan **Technical Document** including:
   1. Traffic Memorandum,
   2. Facility Enhancement Element,
   3. Facility Operations and Preservation Element, and an
   4. Environmental Element.

B. A **Master Plan Report** summarizing the study and its findings. The Master Plan Report shall also provide information to local governments regarding transportation corridor management. The **PLAN** shall be presented by segments within the **FACILITY** to maximize their usefulness in subsequent Project Development phases. The **PLAN** provides a documented vision for future roadway improvements to fulfill travel needs.

The **CONSULTANT** shall prepare the relevant Technical Document and the Master Plan Report as defined in this Agreement. The Master Plan Report shall present a summary of the Technical Document, along with full details of recommendations chosen for the study area. Data, analyses and recommendations shall be presented by roadway segments. The **CONSULTANT** shall develop the **PLAN** in consultation with all relevant MPOs, local municipal/county government agencies, the Regional Planning Council, and other public stakeholders and shall identify actions needed to enhance coordination and achieve consistency between land use, development plans and proposed transportation improvements within the study area. In developing the plan, the **CONSULTANT** shall consider and accommodate the goals, objectives, policies, and performance measures adopted by the **DEPARTMENT**, the MPOs and other relevant agencies as appropriate.

The Corridor Master Plan Report shall include a section regarding planning and engineering standards. The **CONSULTANT** shall use the latest approved versions of the SIS standards, along with other pertinent standards and criteria prescribed by the **DEPARTMENT** for analysis. **PLAN** details shall utilize typical cross-sections in the development and analysis of alternatives and for any right-of-way protection and advance acquisition activities. More information regarding each of the technical elements is detailed in the sections below.

4.1 Technical Document

The Technical Document shall contain the individual elements given in the following sections. Each element is a stand-alone document that can be prepared and submitted individually to the **DEPARTMENT** for review and approval.

4.1.1 Traffic Memorandum

The Traffic Memorandum shall document existing (2025), interim year and horizon year, i.e., 2050 travel demand volumes for highway and if present any public transportation modes. Analysis of existing (2025) and horizon year traffic operational conditions during the AM and PM peak hours is required for each section of the roadway segments and for the interchanges that are included in

the study area. Afterwards, the specific interim year(s) will be determined based on the projected travel demand and the respective Level of Services or other considerations for the **FACILITY**.

Methods for forecasting facility utilization and person and vehicle travel shall address the following modes and facilities as appropriate: single-occupant vehicles, car pools, local bus service use/demand, shuttle bus service use/demand, express bus service use/demand, managed lanes use/demand, and trucks. The travel demand forecasting efforts shall produce estimates of: Annual Average Daily Traffic (AADT), design peak hour volumes, intersection turning movement volumes, transit ridership, and planning level traffic and revenue forecasts for any capacity improvement concepts. The level of detail shall be sufficient to allow for quantifying the effects of demand management strategies such as TSM&O on forecasted travel, as well as calculating the capacity of the roadway, level of service (LOS), and other appropriate performance measures of all relevant highway segments and major signalized intersections. This element may also develop and document an Access Management Plan to identify appropriate spacing for future signalized and un-signalized driveways near interchanges. In addition, interchange configurations shall be analyzed to determine if minor or major operational or safety improvements will be needed. Innovative design concepts such as RCUT, MUT, DLT, DDI, etc., should be considered as necessary to improve and sustain mobility for all selected parallel and crossing/intersecting roadway sections in the study area.

4.1.2 Facility Enhancement Element

This element shall document the need and the type, extent and estimated cost of each **FACILITY** improvement investigated and recommended for each segment of the **FACILITY** to meet the SIS criteria and standards. Selection of a corridor improvement concept and interchange/intersection improvements shall be the goal. This element shall include a comparison of the existing **FACILITY** to appropriate SIS standards including level of service as well as geometric features. Priority shall be given to improving the existing **FACILITY** to the maximum extent feasible.

An analysis of physical improvement alternatives shall be included, to consist of utilization of alternative modes, Transportation System Management (TSM) techniques, as well as improvements to existing parallel or crossing/intersecting roadways. Cost comparisons will consider all related costs (preliminary design, right-of-way acquisition, construction costs, and maintenance and operating costs). The selection of a recommended alternative(s) for each section of the **FACILITY** shall include full consideration of all aspects of the analysis of Alternatives including benefits, costs, impacts, and local agency and public input.

The product of this element of the Plan shall be recommendations regarding major long term improvements for the **FACILITY** to meet SIS standards and criteria, including timing and staging of specific improvements. Priority for advance right-of-way acquisition and protection will be identified.

4.1.3 Facility Operations and Preservation Element

This element shall document the minor short term operational improvements and management strategies recommended to preserve and improve, where possible, the existing level of service until

the ultimate design concept can be implemented to bring the facility to SIS standards. This element shall contain an analysis of AM and PM peak hour traffic operations at key interchanges/intersections and sections of the **FACILITY** that have existing operational issues, and will provide recommendations to correct deficiencies and mitigate operating conditions. Transportation System Management (TSM) alternatives and Transportation Demand Management (TDM) strategies will be investigated to identify interim corridor preservation measures throughout the study period.

This element shall also define the necessary coordination with local government, operators and other public and private stakeholders to implement any Transportation System and Demand Management strategies. Information appropriate for a local government's development of a transportation corridor management plan or inclusion of the **PLAN** into its comprehensive plan, consistent with Ch. 163, F.S. and Ch. 337, F.S. shall be included. In particular, this element shall also include a review of techniques for land use and development monitoring, to give the **DEPARTMENT** early notification when development is proposed for the **FACILITY**. In addition, this element will identify ways to improve coordination between land use and transportation planners in order to achieve a greater understanding of constraints and opportunities for new development.

4.1.4 Environmental Element

This element shall document the environmental work performed by the **CONSULTANT** to determine the existing and project-related environmental conditions and constraints sufficiently to support the Efficient Transportation Decision Making (ETDM) Process and to identify major environmental issues for subsequent analysis in the Project Development phase. The element shall consider Federal Highway Administration (FHWA) and National Environmental Policy Act (NEPA) requirements. The Environmental Element shall produce sufficient information to support the ETDM Programming Screen leading to Class of Action Determination for all feasible Corridor Alternatives identified in the **PLAN**.

4.2 Master Plan Report

The Master Plan Report shall concisely summarize the four elements of the Technical Document and shall also present the recommended alternative(s) and **FACILITY** recommendations. All information shall be presented by **FACILITY** segment and shall serve to communicate project needs and recommendations in a manner to facilitate Corridor management, Project Development activities and other elements of project implementation. The Master Plan Report shall include a summary of all activities, analysis, and recommendations, and shall include figures summarizing the conclusions and recommendations from each of the elements of the technical document as well as an overview of local agency and public involvement and next steps for implementing the recommended improvements.

5.0 **SERVICES TO BE PERFORMED**

The **CONSULTANT** shall prepare the Technical Document and the Master Plan Report for the **DEPARTMENT** and shall provide all other services as set forth in this Exhibit. The **CONSULTANT** shall assist the **DEPARTMENT** with the necessary coordination with all governmental, public and business groups which would be significantly impacted or have an influence upon the study. This includes coordination with the District Strategic Intermodal System (SIS), Concept Development, Efficient Transportation Decision Making (ETDM) and Public Involvement Coordinators. The **CONSULTANT** shall make use of existing information, to the maximum extent feasible, throughout the study. The **FACILITY**, for purposes of this Master Plan Report, shall be divided into segments based on a recommendation by the **CONSULTANT** and approved by the **DEPARTMENT** in cooperation with the MPOs. The following tasks shall be performed by the **CONSULTANT**.

5.1 Project Management

Project management and control is a continuing task throughout the course of the project. The **CONSULTANT** shall work under the direction and guidance of the **DEPARTMENT**. The **CONSULTANT** shall staff the project and coordinate the work effort of sub-consultants to control the scope, schedule, and budget of the project. At the initiation of the project, a schedule of tasks, meetings, presentations, and milestones will be developed by the **CONSULTANT** and reviewed by the **DEPARTMENT**. The **CONSULTANT** shall provide documentation of meetings and of practices and procedures developed throughout the course of the study. The **CONSULTANT** shall record meeting notes. Technical memorandums will be distributed by the **CONSULTANT** in draft form, and reviewed and commented upon by the **DEPARTMENT**. At the conclusion of the study, technical memorandums will be combined and appropriately revised to act as input to the final report.

5.1.1 Project Management Meetings

The **CONSULTANT** shall provide management, administration and coordination of all work tasks and continuity of overall project management activities, including sub-consultants. Management activities will include internal coordination, bi-weekly coordination with the **DEPARTMENT** Project Manager, review of all work products and progress, and general project oversight. The **CONSULTANT** shall assist the **DEPARTMENT** in establishing regularly scheduled meetings with other agencies and stakeholders. The **CONSULTANT** shall meet with the **DEPARTMENT** as needed throughout the life of the project to resolve project issues. Regular project management meetings will be held between the **DEPARTMENT** and the **CONSULTANT**'s Project Manager and task managers to review scope, schedule, and budget and identify issues and corrective actions. The **CONSULTANT** shall prepare the agendas and other materials needed for the meetings and will produce minutes of the meeting including a listing of the issues and corrective actions identified during these meetings. A Project Management Meeting Minutes Summary document will be prepared at the conclusions of the study. It is expected that up to two meetings will be held monthly. These meetings will include progress and miscellaneous review and other coordination activities with the **DEPARTMENT**. Meetings in this task will not include technical meetings conducted within the **CONSULTANT** team.

5.1.2 Project Schedule

Within ten (10) days of the Notice-to-Proceed, the **CONSULTANT** shall provide a project activity/event schedule including calendar deadlines for all required submittals and meeting dates accompanied by an initial anticipated payout curve. For the purpose of scheduling, the **CONSULTANT** shall allow for a four (4) week review time for each submittal as appropriate. Said schedule and anticipated payout curve shall be prepared in a Primavera format or in another format approved by the **DEPARTMENT**. A "punch list" or itemized list of major activities and deliverables will be maintained by the **CONSULTANT**. All tools in this subtasks shall be updated monthly. The **CONSULTANT** shall anticipate using the Primavera scheduling software to report and track the study progress throughout the course of the contract.

Periodically, throughout the life of the contract, the project schedule and payout and fiscal progress curves shall be reviewed and, with the approval of the **DEPARTMENT**, adjusted as necessary to incorporate changes in the Scope of Services and progress to date. The approved schedule and schedule status report, along with progress and payout curves, shall be submitted with the monthly progress report.

5.1.3 Monthly Reporting/Invoices

Working with the **DEPARTMENT**, the **CONSULTANT** shall develop a standard set of reports to summarize current work status with the planned level of completion. The **CONSULTANT** shall generate a draft progress report for review with the **DEPARTMENT** and include payout curve information with respect to actual versus anticipated expenditures. Progress reports shall be delivered to the **DEPARTMENT** in a format as prescribed by the **DEPARTMENT** and no less than ten (10) days prior to submission of the corresponding invoice to the Consultant Invoice Transmittal System (CITS). Judgement on whether work of sufficient quality and quantity has been accomplished will be made by the **DEPARTMENT** Project Manager by comparing the reported percent complete against actual work accomplished. Likely elements to be included in the progress report include:

- Description of progress made during the report period by task
- Definition of work products delivered to the **DEPARTMENT**
- Milestones delivered in the prior forecast period and those anticipated in the upcoming forecast period
- Number and types of meetings attended

5.2 Coordination and Public Meetings

The **CONSULTANT** shall coordinate with study liaisons consisting of appropriate **DEPARTMENT** staff from various offices and the MPOs on the process, preparation and review efforts for the **PLAN**. The **CONSULTANT** shall prepare for and conduct the meetings listed in the following sections.

5.2.1 Notice to Proceed (NTP) Meeting

Prior to beginning work, the **CONSULTANT** shall meet with the **DEPARTMENT** Project Manager to collect relevant information, discuss contract coordination, and discuss the proposed schedule. The **DEPARTMENT** will make available all relevant information in its possession. This may include correspondence, study reports, maps, aerial photography, existing and projected future traffic volumes, planning information, existing right-of-way and utility information, and procedures, policies and directives. At or following the meeting, the **DEPARTMENT** Project Manager will provide the official notice-to-proceed letter authorizing the **CONSULTANT** to begin work.

5.2.2 Prepare for and Execute Public Involvement Activities

As a key part of the **PLAN**, the **CONSULTANT** shall assist the **DEPARTMENT** in preparing a public involvement component that will allow for public stakeholders along the **FACILITY** to identify issues, needs, and possible solutions early in the development of the **PLAN**. The public involvement component should help shape the recommendations for planned improvements as well as the strategies and activities that would be in compliance with all existing **DEPARTMENT** policies/procedures and have an influence on the long range plans of the local governments, the County, and the Metropolitan Planning Organization (MPO).

The goal is to establish early and continuous coordination that will foster and facilitate the involvement of public stakeholders in the study. The intent is to incorporate community concerns and aspirations by considering a variety of important community issues known to date, including:

- Social issues (safety, mobility, community facilities and services, community cohesion);
- Economic issues (business activity, property access, property values);
- Land use issues (growth rate, development patterns);
- Aesthetics issues (pleasing to the senses, livability);
- Relocation and displacement issues (financial considerations, social/psychological considerations); and
- Civil rights issues (equal access to decision-making and non-discrimination).

The public involvement component shall be submitted within three (3) weeks from the date of the NTP meeting. If during the course of this study, issues surface that were not originally anticipated, the **CONSULTANT** shall, at the request and approval of the **DEPARTMENT**, amend the public involvement component.

5.2.3 Public Involvement Activities

The **CONSULTANT** shall establish a Technical Review Committee acceptable to the **DEPARTMENT** that will be briefed regularly or on an as needed basis on Master Plan development progress and issues. The Committee should include representatives, at a minimum, from the following agencies:

- **DEPARTMENT**
- MPOs
- Miccosukee Tribe of Indians of Florida
- Seminole Tribe of Florida
- Counties
- Municipalities
- Public transit agencies

The **CONSULTANT** shall make technical and informational presentations to the relevant government agencies as needed. The **CONSULTANT** shall also make presentations at public meetings and workshops, and hold a public meeting to present the recommended alternative(s). The **CONSULTANT** shall both prepare and participate in the presentations, meetings, and workshops, contained in the public involvement component. Meeting schedules, calendars, presentation materials, and meeting summaries will be prepared by the **CONSULTANT** for review, input and approval by the **DEPARTMENT**. The **CONSULTANT** shall assist the **DEPARTMENT** to form an internal multidisciplinary team composed of staff and representatives of the responsible district offices to review and approve all relevant presentation material prior to meeting with the Technical Review Committee.

5.2.3.1 Prepare Early Coordination Package

The **CONSULTANT** shall prepare an Early Notification/Coordination package (in format yet to be determined) which will summarize the limits of the **FACILITY**, the scope, the public involvement component, and the project schedule, and request initial input. The package shall also contain the date of the introductory "kickoff" meeting to be held on a date and at a location and time coordinated with the **DEPARTMENT**. The **CONSULTANT** shall deliver this package to the **DEPARTMENT** for review along with the draft Public Involvement component within three weeks from the date of the Notice to Proceed (NTP) meeting. After the **DEPARTMENT**'s approval, the **CONSULTANT** shall e-mail or mail this package to the MPOs, appropriate Regional Planning Council, Water Management District(s), and other local, state, and Federal agencies for early notification/coordination and to request initial comments at the "kickoff" meeting.

5.2.3.2 Introductory or Kickoff Meeting

Introductory or kickoff meetings shall be held by the **CONSULTANT** with stakeholders to introduce the study team and inform stakeholders and officials of the study. The **CONSULTANT** shall prepare maps of the study area and provide the **DEPARTMENT** with a summary of all meetings. For the kickoff meetings the **CONSULTANT** shall provide these services:

- Notification – Notify officials, stakeholders and interested parties of the study by letter or email, news release, telephone, or other means approved by the **DEPARTMENT**.
- Prepare Presentation – Prepare a presentation(s) - script, graphics, and displays.
- Deliver Presentation – Deliver the presentation using knowledgeable staff members, including a question and answer session.
- Meeting Site Preparation – Work with the **DEPARTMENT** to secure suitable meeting

locations, and set up and take down the audiovisual equipment.

- Summarize the Meetings – Prepare and provide meeting summaries to the **DEPARTMENT** within five (5) working days of each meeting.

Additional contacts shall be maintained throughout the study process as designated in the Public Involvement Component.

5.2.3.3 Master Plan Study Presentations

The **CONSULTANT** shall prepare for and conduct three (3) technical meetings and presentations before the Technical Review Committee as described in the Public Involvement component. The **CONSULTANT** shall prepare for and conduct three (3) presentations before each MPO as described in the Public Involvement component, as well as three (3) presentations before each Technical Advisory Committee (TAC) of each county.

5.2.3.4 Formal Public Meetings

The **CONSULTANT** shall prepare for and conduct one (1) full-scale public meeting in each of the two counties. The purpose of the meetings is to present to the public the alternative(s).

(1) Advertisements A black-and-white display ad announcing the meetings shall be prepared and submitted to the **DEPARTMENT** for approval prior to publication. This ad shall be published in the two local area newspapers having the largest daily circulation one week prior to the meeting. Cost shall be borne by the **CONSULTANT**. The **CONSULTANT** shall, in accordance with **DEPARTMENT** procedure, prepare a mailing list and letter to property owners, local officials and other interested parties, select the meeting site, and arrange for a formal record and transcript of the proceedings.

(2) Prepare Presentation Prepare presentation and relevant material, including hands-out.

(3) Deliver Presentation Deliver the presentation using knowledgeable staff members, including a question-and-answer session.

(4) Summarize the Meeting Summarize all meeting comments, assist the **DEPARTMENT** in preparing answers or responses, and prepare all meeting documentation, including the presentation material.

(5) Media Coverage Maintain a file of media coverage, letters, and direct contact memos for conversations before, during and after the public meeting.

5.3 Data Collection

Immediately following the Notice to Proceed, the **CONSULTANT** shall begin preliminary assessments of the **FACILITY** and data collection activities.

The **CONSULTANT** shall make a preliminary assessment of the **FACILITY** and shall segment it according to the character of the surrounding environment, roadway and traffic characteristics and transportation development needs. The **FACILITY** may be studied in its entirety using one scope, may be divided into segments with different scopes applied to each segment, or may be divided otherwise to result in effective data collection processes. The intent is to tailor the data collection, analysis and public involvement activities to corridor characteristics and to organize and present the study by segment. The **CONSULTANT** shall develop a data collection and analysis plan for the **FACILITY**, including any segmentation, which the **DEPARTMENT** shall approve before collection of any data. Full utilization of existing data shall be made to the maximum extent possible.

Pertinent data shall be obtained which define the physical features, performance and travel characteristics of the **FACILITY**, as well as, all other relevant public transportation corridors, and other related transportation facilities and services. Data will be collected with regard to the extent of pedestrian and bicycle networks within the study area. All data collected for the **FACILITY** should be presented in logical segments to help identify needs and priorities, and to highlight **FACILITY** segments requiring a higher level of analysis. In addition, the **CONSULTANT** shall provide the **DEPARTMENT** Project Manager all of the information in digital format.

The relevant activities consist of assembling existing planning, engineering, social, economic, and environmental information and data within the study area. These activities should draw upon existing data to the maximum extent possible. Tasks should also focus on identifying safety and operational deficiencies, environmental issues, as well as, opportunities and constraints to the development of corridor transportation alternatives and make specific recommendations to improve safety and mobility along the **FACILITY** over the short term.

The **CONSULTANT** shall obtain pertinent data that defines the existing physical features of the I-75 Corridor, interchanges and related supporting transportation facilities and services. **DEPARTMENT** sources may include previous Planning and Conceptual Engineering Study (PACE) reports, Master Plans, Concept Development reports, PD&E studies, special studies, project files, old plans, right-of-way maps, straight-line diagrams (SLDs), the **DEPARTMENT**'s Work Program, and computer programs as available. Other sources may include field observations or plans, projects, or databases maintained by local, regional (e.g., MPOs), or other state agencies, transit authorities and/or operators, or the general public. The data identified in the following sections shall be obtained, verified and documented by the **CONSULTANT**.

5.3.1 Aerial Photography and Base Mapping

New or additional aerial photography is not anticipated for this project. The **CONSULTANT** shall obtain and utilize available aerial photography or raster images as a basis for plotting various data necessary for the development of Conceptual Design Alternatives (CDAs). Aerial photography may be used for development of initial existing conditions inventory and CDAs.

5.3.2 Existing Roadway Characteristics

The **CONSULTANT** shall obtain pertinent data that defines the physical features of all relevant roadway segments under study. **DEPARTMENT** sources include project files, old plans, right-of-way maps, bridge databases, straight-line diagrams, online traffic data websites, the Signal4 database, and drainage maps as available. Other sources include field observations, County traffic count data online, County traffic concurrency database, County traffic signal plans, and County crash data. A field review of the **FACILITY** shall be made to gain familiarity with current physical and operational conditions, and field notes shall be recorded and shared with the **DEPARTMENT**.

The following data for roadways and bridges shall be obtained by the **CONSULTANT** unless otherwise noted:

(1) Typical Sections – Retrieve description and extent of each cross-section element.

(2) Existing Right-of-Way – Obtain all available right-of-way information from the **DEPARTMENT** and/or from local government offices along the **FACILITY** and at the major signalized intersections, as well as drainage easement, etc. Right-of-way determination shall be made for interchanges, ramps, crossroads, drainage easements, retention areas, rest areas and other relevant roadway elements. Establish property lines based on available existing data. Identify right-of-way for parallel and crossing/intercepting transportation corridors. The **CONSULTANT** shall obtain right-of-way maps/GIS database as available from the **DEPARTMENT**.

(3) Lighting – Determine the type of lighting and location of key lighting infrastructure in the study area.

(4) Interchange/Ramp Design – Identify interchange types, collector/distributor roads, frontage roads, auxiliary lanes and other access including direct access ramps to proposed/potential park-and-ride lots, proposed/potential truck parking and other transit facilities.

(5) Intelligent Transportation Systems (ITS) – Review existing documents and plans pertaining to ITS in the **FACILITY** to determine operational needs and infrastructure requirements for the preferred alternative. The following documents and plans should be included as a minimum:

- ITS Corridor Plan for I-75, 2003
- Florida DOT District 4 ITS Strategic Business Plan, 2010
- FDOT System Engineering Management Plan, September 2006
- Final Florida District 4 & 6 Regional ITS Architecture, March 2010
- Florida DOT District 4 Transportation Systems Management and Operations (TSM&O)/Transit Strategic Plan (upcoming/underdevelopment)

(6) Utilities – Identify utility structures and installations that may hinder **FACILITY** expansion or redesign and other utilities, which may require consideration in enhancement of the transportation **FACILITY**. In coordination with the **DEPARTMENT**'s District Utilities Engineer, the **CONSULTANT** shall solicit utility information from the relevant utility providers in the study area and the **DEPARTMENT**'s ITS group.

(7) Merge and Diverge Areas – Identify the length and type of merging and diverging areas at both exits and entrances to interchanges, rest areas, weigh stations, and agricultural inspection stations.

(8) Posted Speeds – Obtain posted speeds on roadway segments throughout the study area from **DEPARTMENT**'s Roadway Characteristics Inventory (RCI) database or field survey as needed. Convey any discrepancy with the **DEPARTMENT**'s database that is derived in the process to the responsible District Offices.

(9) Pavement Conditions – Obtain pavement condition ratings from the **DEPARTMENT** or field survey.

(10) Drainage System Inventory – Identify existing drainage systems and discharge points.

(11) Alignment – Identify horizontal and vertical alignment data as necessary. Obtain and identify key sight distances. Obtain As-Built plans.

(12) Bicycle and Pedestrian Facilities – Identify walkways, overpasses, sidewalks, crosswalks, Americans with Disabilities Act (ADA) provisions, bike lands, paths, trails, and school routes/crossings.

(13) Traffic Signals – Obtain traffic signal locations, relevant timing plans and other information as necessary from the responsible local government agencies and field data collection to perform capacity analysis at intersections within the study area.

(14) Emergency Evacuation Routes – Identify any known emergency evacuation route design features that must be maintained in the study area.

(15) Intersection Design – Obtain from field data collection and/or existing plans, and document through notes, pictures and/or plans, all locations and lane geometry, grade separation, channelization, turning lanes, etc., of existing or planned signalized and un-signalized intersections with the study area.

(16) Access Locations – Identify intersecting streets and roadway ramps, critical driveways, access management classification from available plans/databases.

(17) Greenways – obtain existing or planned local and regional greenways.

(18) Railroad Crossings – Number of tracks; number of trains, speed, length; passenger, freight; type of warning devices. Any railroad abandonment or extension plans.

5.3.3 Bridges, Waterway, Interchange or Grade Separation Structures

The **CONSULTANT** shall collect the following information from the **DEPARTMENT** and make reference to bridge numbers:

(1) Typical Section – Lane, shoulder, and overall clear zone widths.

(2) Type Structure – concrete, steel, design loading, etc.

(3) Condition – Age and structural rating; obtain the latest evaluation from the **DEPARTMENT** and responsible local agencies.

(4) Horizontal and Vertical clearance – Determine the maximum and minimum clearance beneath crossing structures.

(5) Load Rating – safe live-load carrying capacity information.

(6) Span Arrangement – Determine the number and lengths of each span.

(7) Pier Location – Identify the location of piers in relation to the edge of the pavement.

(8) Channel Data (if over water) – Obtain alignment, width, depth and maintenance

program info.

Table 1 summarizes the information available for the bridges within the study area at the time this scope of services was developed.

Table 1. Bridge Data Table

Record	Structure No.	Carrying	Crossing	Year Built	Year Reconstructed	Deck Width (ft)	Length (ft)	Spans	Max Span (ft)
1	860446	I-75 NB	Drainage Canal	1988		42.7	120.1	3	40
2	860058	I-75 SB	Drainage Canal	1967	1989	42.7	120	3	40
3	860445	I-75 NB	Drainage Canal	1988		42.7	120.1	3	40
4	860057	I-75 SB	Drainage Canal	1967	1989	42.7	120.1	3	40
5	860444	I-75 NB	Drainage Canal	1988		42.7	180.1	6	29.9
6	860056	I-75 SB	Drainage Canal	1967	1989	43.6	180.1	6	29.9
7	860443	I-75 NB	Drainage Canal	1988		42.7	120.1	3	40
8	860055	I-7 SB	Drainage Canal	1967	1989	42.7	120.1	3	40
9	860442	I-75 NB	B25 Canal	1988		43	120.1	3	40
10	860054	I-75 SB	B25 Canal	1967	1989	43	120.1	3	40
11	860441	I-75 NB	B24 Canal	1988		43	149.9	5	29.9
12	860053	I-75 SB	B24 Canal	1967	1989	43	149.9	5	29.9
13	860440	I-75 NB	B23 Canal	1988		43	120	3	40
14	860052	I-75 SB	B23 Canal	1967	1989	43	120.1	3	40
15	860452	I-75 NB	C-123 Miami Canal	1988		43	323.2	7	85
16	860453	I-75 SB	C-123 Miami Canal	1989	1999	54.8	323.2	7	85
17	860621	I-75 Rest Area	C-123 Miami Canal	1999		46.6	344.8	3	129.9
18	860450	I-75 NB	Drainage Canal	1988		43	120.1	3	40
19	860451	I-75 SB	Drainage Canal	1989		43	120.1	3	40
20	860439	I-75 NB	L21 Canal	1988		43	120.1	3	40
21	860050	I-75 SB	L21 Canal	1967	1989	43	120.1	3	40
22	860448	I-75 NB	Drainage Canal	1988		43	120.1	3	40
23	860449	I-75 SB	Drainage Canal	1989		43	120.1	3	40
24	860438	I-75 NB	Nando's Canal	1988		43	150	5	30
25	860049	I-75 SB	Nando's Canal	1967	1990	43	150	5	29.9
26	860534	I-75	Drainage Canal	1988		0	23	2	11.2
27	860462	I-75 NB	L-28 Canal	1988		43	254.6	7	40
28	860463	I-75 SB	L-28 Canal	1990		43	254.6	7	40
29	860508	CR-833/ Snake Rd	I-75/Alligator Alley	1988		58.9	280	4	101
30	860472	I-75 NB	Wildlife Crossing	1988		43	47.9	1	47.9
31	860471	I-75 SB	Wildlife Crossing	1989		43	47.9	1	47.9

5.3.4 Transit Facilities and Services

The **CONSULTANT** shall collect information on the existing and planned transit facilities and services to include ridership and physical characteristics that affect capacity on the highway system. Data to be collected shall include all pertinent physical features that support the existing highway segments under consideration. For this scope of work, transit is defined as a multiple occupant (two or more persons) motor vehicle operated on a for-hire or shared-ride basis, including bus, rail, and shuttle buses. Other forms of transit may include car-pooling and van-pooling.

5.3.4.1 Transit Services

Obtain and collect ridership data for transit services that could potentially serve or relieve the congestion on the **FACILITY**. Bus stop inventories in the study area shall be collected.

5.3.4.2 Van-Pool/Car-Pool Activities

Van-pool and car-pool activities using the **FACILITY** shall be identified. Activities should include those of commuter assistance activities. Obtain available vehicle occupancy data for the **STUDY ROADWAYS**.

5.3.4.3 Park-and-Ride Facilities

Existing and planned park-and-ride facilities in the study area shall be identified. The **CONSULTANT** shall review the latest Transit Development Plans (TDPs) and MPO's Long Range Transportation Plan (LRTP) for any park-and-ride lot locations within the study area. The size and location of facilities shall be documented. The District's Office of Modal Development (OMD) shall be contacted for facilities, lot occupancies and other park-and-ride information that are available in the OMD Park-and-Ride Lot Inventory.

5.3.4.4 Truck Parking Facilities

Existing and planned truck parking facilities in the study area shall be identified. The **CONSULTANT** shall review the latest Transit Development Plans (TDPs) and MPO's Long Range Transportation Plan (LRTP) for any truck parking locations within the study area. The size and location of facilities shall be documented. The District's Office of Modal Development (OMD) shall be contacted for facilities, lot occupancies and other truck parking information available.

5.3.4.5 Connections and Access to Major Activity Centers

Existing connections and key access to airport, rail, intermodal centers, and port facilities from the **FACILITY**, including those that have already noted by the MPOs and other stakeholders, shall be identified and documented.

5.3.5 Traffic Count Data

Obtain available traffic count data and origin - destination (O-D) data from the **DEPARTMENT**, MPOs, local government agencies and other sources as available. Analyze locations and viability of each count and obtain additional counts as necessary to fill in critical omissions. The **CONSULTANT** shall obtain, review and summarize available historic traffic count data collected by the **DEPARTMENT** and/or local government agencies over the last ten years including AADTs, 24-hour approach counts, and classification counts on the **STUDY ROADWAYS**. The **CONSULTANT** shall obtain and review available intersection turning movement count (TMC) data collected by the **DEPARTMENT** and/or local government agencies within the last two years at the signalized intersections within select intersections.
The existing year baseline traffic data will be summarized on figures showing AADTs, AM and PM peak hour directional traffic volumes, AM and PM peak hour turning movement volumes at the signalized intersections, and daily truck volumes and percentages. All collected traffic data need to be submitted to the Traffic Data Coordinator in the Planning and Environmental Management Office (PLEMO) in a specific file format compatible with the latest version of **DEPARTMENT**'s Survey Processing Software (SPS) for subsequent processing.

5.3.6 Land Use

Collect the most recent available data regarding present as well as future land use, proposed developments, committed or approved unbuilt developments, current zoning, and observed growth trends. Data should be sufficient to show existing and projected residential, commercial, industrial, public, agricultural, and undeveloped areas within the study area. The **DEPARTMENT**'s Land Use Mapping System (LUMS) is an important source of information available from the **DEPARTMENT**'s Office of Policy Planning in Tallahassee. The **CONSULTANT** shall meet with local government staff to obtain updated and/or supplement information on proposed and expected development and redevelopment in the study area as needed and necessary.

5.3.7 Planned and Programmed Transportation Projects

The **CONSULTANT** shall identify and document significant transportation network projects programmed in the **DEPARTMENT**'s first five-year and second five-year work program, SIS Cost Feasible Plan, SIS 2050 Needs Plan, and the MPO's Cost Feasible LRTP, which influence or may be influenced by the **PLAN**. The **CONSULTANT** shall also review current transportation plans for highway, transit and non-motorized modes, as available and appropriate. The **CONSULTANT** shall prepare a list and a brief abstract of programs, plans and studies that could have an effect on safety, mobility and quality of life along the **FACILITY** and **STUDY ROADWAYS**. These plans may include, but are not limited to, the following reports:

- MPO 2045 LRTPs
- MPO latest Transportation Improvement Programs (TIPs)
- MPO Congestion Management System Plan/Mobility Management System Plan
- MPO Bicycle Master Plan
- MPO freight and passenger transportation initiatives
- MPO Major Investment Study(s) (MIS)
- Transit Development Plans
- Regional Freight Plans

- County/municipal Comprehensive Plans (particularly land use, traffic and transit elements)
- Development of Regional Impact (DRI) reports
- Interchange Access Request Reports
- Master Plans on limited access facilities - completed or underway
- Transportation authority plans and plans developed by intermodal facility operators
- Florida Greenways and Trails System (FGTS) Plan
- Florida Transportation Plan (FTP)
- Previous I-75 corridor studies and plans (e.g., FM's 231518-1, 233185-1)

5.3.8 Crash Data

Obtain available crash data (including bicycle and pedestrian crash data, and fatal, injury, and property damage only crashes) for all roadways located within the study area from **DEPARTMENT**'s databases and local sources for comparative analysis as required. Obtain data for the latest five years.

Qualified **CONSULTANT** personnel shall conduct traffic operational field reviews of each interchange and selected intersections during both peak periods on an average weekday (Tuesday, Wednesday, or Thursday of a non-holiday week) to document observed operational and/or safety issues, and note approximate maximum queue lengths and traffic signal's cycle failures for all critical movements at selected intersections. In coordination with the **DEPARTMENT**'s Safety Engineer and other responsible district staff, the **CONSULTANT** shall solicit additional information on proposed/planned improvements from the District's Safety Program.

5.3.9 Environmental Features

Identify and retrieve relevant environmental data from the past studies (e.g., FM's 231518-1, 233185-1) as well as other available sources and means for the study area that may be potentially affected or created by the proposed action and the improvement alternatives under consideration. It shall provide concise descriptions of the existing Environmental features, components, and resources that will be affected by the proposed action and alternatives through a GIS desktop survey. It shall highlight any potential effects introduced through implementation of any proposed action and alternative. The needed environmental features may include, but are not limited to, the components listed in the subsequent sections.

5.3.9.1 Special Activity Sites

Through contact with local officials and available data, identify potentially sensitive sites in the Corridor such as:

- Medical facilities
- Educational facilities - public and private
- Religious institutions
- Cemeteries - public and private
- Publicly owned lands - parks, recreation areas, wildlife refuges

- Historic districts and sites
- Known archaeological sites
- Fire stations, libraries, civic facilities, and government buildings, commercial activity centers

The **CONSULTANT** may need to request the **DEPARTMENT**'s staff archaeologist and historic site specialist to render an opinion regarding known historical and/or archaeological sites within the study area.

5.3.9.2 Hydrological and Natural Features

Majority of the required data are available through online databases, existing study reports (e.g., FM's 231518-1, 233185-1), or other resources and agencies.

(1) Limits of major Wetlands – Determine limits of major wetlands within or adjacent to the study area to allow preliminary identification of impact.

(2) Outstanding Florida Waters – Determine the location and extent of any Outstanding Florida Waters within the study area.

(3) Base Floodplains – Identify all base (100-year frequency) floodplains using Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), Flood Hazard Boundaries Maps (FHBM), Water Management District topographic maps, **DEPARTMENT** drainage maps, quadrangle maps, etc.

(4) Floodways – Identify all floodways using floodway maps or information from FEMA.

(5) Drainage – Review storm water management or master drainage plans prepared by local authorities. Identify problem areas.

(6) Critical Habitat – Identify "critical habitat" by literature search. Coordinate with U.S. Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, and National Marine Fisheries Service. If potential Threatened or Endangered species involvement is identified, a presence/absence field survey shall be prepared by the **CONSULTANT** for the **DEPARTMENT**, and the area mapped on appropriate base maps.

(7) Farmlands – Identify any existing and potential farmlands within or adjacent to the study area that may require a Farmlands Evaluation from the Natural Resources Conservation Service to determine prime, unique, statewide or local importance.

(8) Soils – Obtain existing information to depict generally the composition of soils along the study area using county soil survey maps and other information from the Soil Conservation Service as needed to evaluate conceptual designs.

5.3.9.3 Noise Impacts

In accordance with Part 2, Chapter 17 of the **DEPARTMENT**'s PD&E Manual, the **CONSULTANT** shall identify all noise sensitive receptors in the vicinity of the **FACILITY** which could experience a potential noise impact from proposed improvement projects.

5.3.9.4 Hazardous Material and Potential Contamination Sites

From available information, the **CONSULTANT** shall identify in the study area: any known hazardous material generators by industry or commercial type within 200 feet of the right-of-way limits, known contaminated sites within 500 feet, and solid waste sites within 1000 feet where proposed improvements are recommended. Any subsurface contamination testing that may be required will be performed and supported through other contracts available at the District.

5.3.9.5 Environmental Permits

Obtain information about potential permits that would be required for:

- Any activity which is expected to be a source of air, ground, or surface water pollution, including the discharge of untreated rainfall moving over and through the ground; for dredging or filling in, on, or over waters of the State or the United States, including wetlands;
- Activities occurring in navigable waters within the study area; and
- Activities where listed species and/or their habitats may be impacted.

Summarize any information obtained as appropriate from the U.S. Coast Guard, U.S. Army Corps of Engineers, Florida Department of Environmental Protection, Water Management District, local environmental agencies, Florida Fish and Wildlife Conservation Commission, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Environmental Protection Agency regarding potential future permit coordination that would be necessary for proposed improvements.

5.3.9.6 Potential Relocation Impact Areas

From available information, the **CONSULTANT** shall identify in the study area and its vicinity any minority neighborhoods; business, residential and/or non-profit organization potential relocation areas; and other factors that could cause relocation impacts.

5.4 Prepare Technical Document –Traffic Memorandum

The **CONSULTANT** shall prepare the Traffic Memorandum for inclusion in the Technical Document. This element includes documentation of the existing baseline traffic count data, existing and future network and roadway number of lanes, and development of design traffic volumes in sufficient detail for the analysis of level of service (LOS) and other performance measures adopted by the **DEPARTMENT**, MPOs and local municipal/county agencies throughout the corridor and study area roadways.

5.4.1 Traffic Projections

The **CONSULTANT** shall develop daily demand traffic in schematic form for the current year, interim years and planning horizon year. The latest released version of the Southeast Florida Regional Planning Model (SERPM) should be used for travel demand forecasting, as well as analysis of historical traffic trends and future population and employment growth in the study area.

A single unconstrained demand growth rate will be developed for the **FACILITY** and selected roadways and intersections. A range of growth rates and/or traffic volume forecasts are not included within this task. To develop the unconstrained demand growth rate, the **CONSULTANT** shall develop a SERPM model run for the No Build 2050 network (I-75 is 4 lanes). Based on analysis of historical traffic trends and future population and employment growth **CONSULTANT** shall develop up to three (3) additional SERPM model runs that will address impacts to the **FACILITY** and align with analysis of proposed alternatives.

The **CONSULTANT** shall use the validated FSUTMS model to forecast the study area's existing and future year travel demand volumes on existing facilities and proposed alternatives. The **CONSULTANT** should check all key inputs and update if needed. The **CONSULTANT** shall gather K, D, and T factors from the Florida Traffic Online website for each study roadway.

The **CONSULTANT** shall work with the MPOs to assure future projects are addressed as appropriate in the model for the study area forecasting and confirm the latest Traffic Analysis Zone data and other data are used. This contact with the MPO shall ensure that this **PLAN** shall utilize consistent data and assumptions to generate results compatible with other ongoing studies in the area.

The **CONSULTANT** shall summarize and document the key model assumptions including number of lanes, Micro Analysis Zone/Traffic Analysis Zone (MAZ/TAZ) data, external station assumptions, signalized intersection inputs, transit ridership, and capacities. The details of the proposed travel demand forecasting methodology should be documented in a methodology letter of understanding, and reviewed and approved by the **DEPARTMENT** before the **CONSULTANT** completes the interim year and 2050 travel demand forecast for the study area.

A travel demand forecast for truck freight shall be performed based on commodity flow using the Florida Freight Supply-Chain Intermodal Model (FreightSIM) or other commodity flow data available from the **DEPARTMENT**'s Transportation Statistics Office in Tallahassee. The results of this analysis shall be compared with the truck freight forecasts based on vehicle classification data and with the current and future freight data.

The travel demand interim year and 2050 traffic forecast shall be summarized on figures showing AADTs, AM and PM peak hour directional traffic volumes, AM and PM peak hour turning movement volumes at major signalized intersections, and daily truck volumes and percentages. Proper justification and documentation will need to be provided for each factor used. The **CONSULTANT** shall obtain **DEPARTMENT**'s approval of design traffic factors prior to analysis. The Traffic Memorandum shall document the traffic forecasting process. The existing 2050 traffic/LOS projections shall be utilized and referenced to assure consistency.

The **CONSULTANT** shall review existing and future land uses within and surrounding the study area. New, approved and/or pending land developments (including DRIs) will be researched and identified and the associated travel pattern and traffic volume impacts must be considered in developing the traffic forecasts. This is expected to include coordination and input from the County, municipalities, and MPOs. In addition, the **CONSULTANT** shall closely coordinate traffic forecasting and analysis efforts with the District and utilize all appropriate special traffic

studies conducted in the study area by the District.

5.4.2 Traffic Analyses

The purpose of the I-75 Master Plan dictates that a thorough analysis of existing and expected conditions be conducted prior to alternative's analysis to identify intersections which need improvement. Planned or programmed short-term improvements must also be considered in this analysis. The **CONSULTANT** shall examine the **STUDY ROADWAYS**, including programmed improvements, to identify both existing and future long- term needs and opportunities that should be addressed. The high level screening analysis of this data may identify roadway sections that do not require improvements and therefore no Conceptual Design Alternatives (CDAs) may need to be developed. All data and analysis will be reported by segment. The **CONSULTANT** shall perform analysis necessary to establish anticipated needs for the study area and to support the development and evaluation of CDAs unless the analysis is specified to be performed by the **DEPARTMENT** or others.

The **CONSULTANT** shall analyze both existing and future travel and operational conditions anticipated in the study area; including interchanges and intersections, identify causes and duration of congestion and summarize all operational deficiencies for use in developing the Facility Enhancement and the Facility Preservation and Operations Elements of the Plan. Prior to the analysis, the **CONSULTANT** shall review the results of each MPO's congestion management process. Using the SERPM, the CONSULTANT should review the various types of vehicles that are using or will be using the **FACILITY** such as single occupancy passenger vehicles, carpools, local bus service, shuttle bus service, express bus service, and trucks. The **CONSULTANT** shall also identify and may analyze the trip characteristics of special generators if needed.

5.4.2.1 Existing Field Operations Reviews

All field reviews of the interchanges and select intersections shall be conducted by qualified **CONSULTANT** personnel during the analysis peak hours. Additional field reviews may be necessary to observe and document traffic conditions unique to the study area and will be compensated under Optional Services. The purpose of these field reviews shall be to understand and appropriately document the existing traffic operation conditions and deficiencies along selected roadways and intersections revealed under the existing traffic demand and roadway conditions.

The **CONSULTANT** shall review and record traffic conditions such as queue build-up, roadside characteristics, lane utilization (over or under-utilization), bus activity, pedestrian activity, bicycle activity, signal operations, turn restrictions, right turns on red, turn bay lengths, school zone/speed zone, parking activity, physical conditions, and other relevant characteristics. In addition to providing an understanding of the existing traffic operations on selected roadways and intersections, these field reviews shall also provide a basis for validation of the existing traffic analysis results using software tools.

The Traffic Memorandum shall include the dates and time periods of existing field operations

reviews. A narrative along with supporting figures and tables shall be included in the Traffic Memorandum to sufficiently describe the relevant existing traffic conditions/deficiencies and roadway characteristics for selected roadways and intersections.

5.4.2.2 Analysis Parameters

The **CONSULTANT** shall develop, document and utilize analysis parameters including the following key parameters for the existing and future traffic analysis:

- The peak hour(s) for the various sections of selected roadways and intersections shall be established early on, based on historical AADTs and TMCs.
- Analysis shall be for existing year (2025), interim (to be determined) and horizon (2050) years.
- Level of service (LOS) analysis shall be based on the latest Highway Capacity Manual procedures or other acceptable analysis methodology as established in a Methodology Letter of Understanding (MLOU).
- Software analysis tools anticipated to be used for the traffic analysis will be the most recent version of LOSPLAN, HCS, Synchro/SimTraffic, or PTV Vissim/Vistro at the time of Notice to Proceed (NTP) as established in a MLOU.

5.4.2.3 Traffic Operational Analysis

The **CONSULTANT** shall perform the existing and future year conditions traffic operational analysis of selected roadways and intersections. The **CONSULTANT** shall review the existing conditions analysis to verify if the results reasonably represent the field conditions, and shall clearly articulate the relevant findings and observations in the Traffic Memorandum. Adjustments to input values to achieve a reasonable representation of the field conditions will be documented as well. Depending on the parameter that is adjusted, corresponding adjustment will be carried over into the future conditions analysis.

The **CONSULTANT** shall evaluate the selected roadways and intersections to determine the extent of improvements necessary to improve corridor mobility, achieve acceptable levels of service and accommodate future development to the maximum extent practicable. This evaluation shall include a determination of operating conditions based on average travel speeds and level of service, utilizing methodology of the *Highway Capacity Manual*, the **DEPARTMENT**'s *Quality Level of Service Handbook*, the **DEPARTMENT**'s Access Management standards and policies, and performance measures specified by the **DEPARTMENT** below.

The **CONSULTANT** shall summarize the following performance measures and/or measures of effectiveness (MOE's) in the Traffic Memorandum for the existing year AM and PM peak hours, as well as for the interim year and Year 2050 for both the No Build Alternative and Build Alternatives:

- Signalized intersections – LOS, delay, v/c, queue lengths
- Arterials – LOS, v/c, travel time, travel time reliability
- Freeway – LOS, v/c, density, travel time, travel time statistics (for existing conditions

only; for future conditions if micro-simulation models are used.)

The level of detail required for reported MOE's should be commensurate with the scope of work; alternatives and modifications being considered; capabilities of the analysis tools; level of detail needed to evaluate and compare alternatives and other factors. Additional measures adopted by the **DEPARTMENT** and county/municipal agencies for monitoring the performance of selected roadways and intersections should be compiled as needed. Electronic copies of all input and output files of the existing and future year analysis shall be provided to the **DEPARTMENT**. The **CONSULTANT** shall provide a discussion of all input factors, e.g., PHF, truck percentages, etc., used in the analysis.

5.4.3 Traffic Memorandum

The **CONSULTANT** shall prepare a Traffic Memorandum for the Technical Document to record the methodology and results of the traffic projection task. The Traffic Memorandum shall be reviewed and approved by the **DEPARTMENT** prior to its use in the subsequent analysis. The **CONSULTANT** shall prepare an outline of the Traffic Memorandum document and submit to the District for approval. The Traffic Memorandum document shall include an Executive Summary and a Comparative Evaluation of Alternatives. The MOE comparison and evaluation will be in sufficient detail to differentiate between the No-Build and various Build alternatives from a traffic analysis standpoint to be able to support the prioritization of alternatives. The **CONSULTANT** shall document the methodology, data, analysis, and evaluation relative to each of the tasks in the Traffic Memorandum document. A hard copy and an electronic PDF version of the draft and final Traffic Memorandum shall be submitted to the FDOT for review, comment and acceptance.

5.5 Prepare Technical Document – Facility Enhancement Element

The **CONSULTANT** shall prepare the Facility Enhancement Element for inclusion into the Technical Document. This Element addresses improvement of existing facilities and transportation services within the study area and shall consist of the following analyses:

5.5.1 Evaluation of Existing Roadways

The **CONSULTANT** shall consider geometric standards such as design speeds, curvature, cross-section, driveway and intersection spacing, median openings, signal spacing, and similar requirements as appropriate. In addition, the **CONSULTANT** shall analyze the crash data to identify hazardous conditions and high crash locations along the **FACILITY** and the selected roadways and intersections. These evaluations shall be performed for the existing year as well as for the interim year and Year 2050.

5.5.2 Develop Alternatives

The **CONSULTANT** shall establish comprehensive and feasible transportation alternatives from both engineering and environmental standpoints, to improve safety and mobility, to the maximum extent practicable, along the **FACILITY** as well as selected roadways and intersections. The **CONSULTANT** shall prepare conceptual design plans for these alternatives including horizontal

and vertical alignments; typical sections, grade separation structures, bridges, interchanges, drainage structures, signalization, right-of-way costs and construction costs. The **CONSULTANT** shall develop concept plans for selected roadways and intersections to improve existing intersections; bicycle and pedestrian connections to adjacent neighborhoods and business centers, rail crossings, and bus transit lines and stations that provide direct or indirect benefits to the **FACILITY**. The **CONSULTANT** shall identify feasible locations for retention basins as required; major lighting and sign structures; and any other design or other features or characteristics as may be pertinent to the analysis of the alternatives.

Examples of corridor capacity improvement concepts include adding lanes to sections of the **FACILITY** and/or to the other roadways in the study area, implementing a truck bypass or bypasses, implementing managed lanes on the **FACILITY**, grade separating additional major signalized intersections along the **STUDY ROADWAYS**, modifying existing intersections, enhancing bus service/transit along the corridor, implementing TSM&O and/or transportation demand management strategies, etc. The **CONSULTANT** shall evaluate and become familiar with existing and future travel patterns throughout the study area. Land uses, traffic volumes, directional traffic flow, field observations, trip types, or FSUTMS "select link analysis" can be evaluated to gain an understanding of the local travel patterns and trip types.

A variety of considerations and perspectives that should be included in the alternative analysis and evaluated either individually or in combination in this project at a minimum are described in the following sections.

5.5.2.1 Non-Auto Mode Usage

The **CONSULTANT** shall evaluate the use of non-auto travel modes for intermodal linkages. Analysis shall include linkages between major activity centers and transportation systems. The **CONSULTANT** shall evaluate improvements that will increase use of non-auto modes and improve intermodal transfers on the **FACILITY** and selected roadways and intersections. This includes bus and feeder systems, high occupancy vehicles (feeder buses), commuter rail, other rail services, rideshare activities, park-and-ride facilities, bicycle and pedestrian access to transit facilities, and intermodal terminals. These options should be carefully evaluated in accordance with existing modal programs in the County, as well state and federal programs.

5.5.2.2 Transportation Demand Management

The **CONSULTANT** shall evaluate the benefits of transportation demand management (TDM) strategies and consider both area-wide and corridor-based travel demand reduction strategies (including Commute Trip Reduction Programs) and their potential impact upon the **FACILITY**.

5.5.2.3 Access Management

The **CONSULTANT** shall evaluate the impact of accessibility improvements, including frontage and rear service/access roads, on overall travel demand within the study area. The **CONSULTANT** shall identify changes to access conditions to improve or enhance safety and operational efficiency, in a manner consistent with Ch. 14-97, F.A.C. (State Highway System

Access Management Classification System and Standards) by reducing, consolidating, modifying or improving the number of connections, median openings and similar improvements. The **CONSULTANT** shall develop and assess the benefits of new innovative design concepts such as RCUT, MUT, DLT, DDI, etc., as necessary to improve and sustain safety and mobility of the interchange influence areas.

5.5.2.4 Roadway Improvements

The **CONSULTANT** shall evaluate the addition of regular lanes, exclusive through lanes, or collector distributor lanes, as appropriate. The **CONSULTANT** shall also evaluate capacity and level of service needs, the possibility of widening the **FACILITY and interchange influence areas.** The **CONSULTANT** shall consider use of exclusive lanes for trucks and/or transit vehicles. For example, transit preferential treatments such as queue jump lanes and bus-only lanes have the potential to improve transit travel times and reliability in a mixed-traffic environment, which in turn reduce waiting time of passengers, unnecessary fleet size, and increase ridership. The **CONSULTANT** shall evaluate the potential use and quantify the benefits of these types of lanes on roadways. In addition, the **CONSULTANT** shall analyze the need for and benefits of new grade separated intersections to improve level of service, safety and mobility as needed and applicable.

5.5.2.5 Managed Lanes

Analyze the implementation of managed lanes along I-75 and evaluate potential egress/ingress access points from/to general use lanes in relation to the existing and proposed interchanges. Following FDOT Managed Lanes Policy (Topic No.: 000-525-045-c).

5.5.2.6 Traffic Signal Modifications

The **CONSULTANT** shall consider traffic signal modifications and management techniques to include removal of existing signals when changed conditions show it is in the public interest, phasing modifications for changes in traffic flow, flashing operations at certain times, signal re-timing and similar improvements for selected intersections.

5.5.2.7 TSM&O Strategies and New Technologies

The **CONSULTANT** shall consider the impact of emergency evacuation plans, as appropriate, for the **FACILITY** and selected roadways and intersections. In addition, the **CONSULTANT** shall consider and evaluate modifications to existing intersections, such as addition of turn lanes, lane assignment changes, cross access between parcels, and signal coordination. In addition, The **CONSULTANT** shall assess the technology applications, such as Intelligent Transportation Systems (ITS), Integrated Corridor Management (ICM), autonomous and connected vehicles, etc., to identify traffic management alternatives, provide real-time driver information, and support the operation of commercial vehicles or vehicle control systems, for the **FACILITY** and selected roadways and intersections as technology develops and as appropriate. The **CONSULTANT** shall work with MPOs, municipalities, counties and the District to coordinate any recommendation for implementation of future Dynamic Message Signs, other planned ITS network improvements and

TSM&O strategies for the study area. TSM&O example strategies may include, but are not limited to:

- Traffic incident management; areas to be explored may include, but are not limited to:
  - Plan to manage incidents within the corridor
  - Long term maintenance of traffic needs
  - Responsible party to implement, activate, manage, and mitigate incidents
- Traveler information services
- Traffic signal coordination
- Transit priority/integration
- Freight management
- Work zone management; areas to be explored may include, but are not limited to:
  - Temporary ITS in work zones and on the impacted surrounding network for enhanced mobility
  - Work zone maintenance of traffic (short and long term)
  - Plan to management incidents within the work zone
  - Responsible party to implement, activate, manage, and mitigate incidents
- Special event management
- Road weather management
- Active transportation and demand management
- Queue detection on off ramps

5.5.3 Typical Cross Sections

The **CONSULTANT** shall utilize the results of the preceding analyses to develop typical cross-sections as needed for the various segments of the **FACILITY** as necessary; with recommended roadway improvements. The typical section(s) shall be chosen from those approved by the **DEPARTMENT**, conform to SIS requirements as applicable and accommodate known development in the study area by the target design year. Multiple typical sections may be developed to meet specific project requirements. Particular attention will be given to surrounding development, construction or policy constrained elements of the existing roadways, drainage and other physical requirements, and potential environmental impacts.

5.5.4 Alternatives Analysis and Staging Plan

For each Alternative, the **CONSULTANT** shall develop long term conceptual layouts regarding the **FACILITY** and selected roadways and intersections. The **CONSULTANT** shall draw each Alternative on aerial photography using Computer Aided Drafting and Design (CADD) software in sufficient detail for evaluation of costs and associated impacts. These preliminary concept plans shall include number of lanes, existing and proposed right-of-way lines, typical cross-section, as well as modifications to existing or proposed intersections, interchanges and median treatments. The illustrations shall be sufficient to permit communication of Alternatives and recommendations at a public meeting. The **CONSULTANT** shall develop evaluation criteria sufficient to allow evaluation of each Alternative in terms of safety and operational benefits, capacity, level of service, general constructability, estimated construction and right-of-way costs, environmental impact, additional life cycle costs including operating and maintenance costs, etc. The activities to be

performed by the **CONSULTANTs** include, but are not limited, the following items:

(1) Construction Cost – Generalized construction cost estimates.
(2) Right-of-Way – The **CONSULTANT** shall review data to identify areas that may require right-of-way. The **CONSULTANT** shall obtain planning level right-of-way cost estimates utilizing generalized unit cost methodology from the District Right-of-Way Office.
(3) Benefit-Cost analysis – Life cycle benefits and costs shall be determined and a discount rate approved by the **DEPARTMENT** shall be used.
(4) Environmental Impacts – The **CONSULTANT** shall identify and document potential environmental impacts. The **CONSULTANT** shall meet with the **DEPARTMENT**'s District Environmental Administrator, District Project Development Engineer and other responsible **DEPARTMENT** staff to present, discuss and determine anticipated environmental impacts of each recommended conceptual design alternative.
(5) Maintenance of Traffic – The **CONSULTANT** shall identify the cost estimates for maintenance of traffic or utility relocations.

A set of candidate improvement alternatives shall be recommended by the **CONSULTANT**. A staging plan for the adoption of alternatives shall be developed and serve as major input to subsequent analyses.

5.5.5 Funding Information

The **CONSULTANT** shall coordinate with the **DEPARTMENT** to document any identified funding for PD&E Studies, design projects, construction, operation and maintenance of the recommended alternative. Coordination with the Florida's Turnpike Office for planning level assessment of express lane concept(s) should be carried out.

5.6 Prepare Technical Document – Facility Operations and Preservation Element

The **CONSULTANT** shall prepare a Facility Operations and Preservation Element for the set of candidate improvement alternatives approved by all relevant public stakeholders for inclusion in the Technical Document. The **CONSULTANT** shall identify and develop a staging plan for the implementation of small-scale capacity and efficiency improvements that will help to preserve the operational integrity of the **FACILITY** and selected roadways and intersections prior to the construction of major capacity improvements and to guide local government corridor protection initiatives. The **CONSULTANT** shall use the SIS and other standards as appropriate for interim improvements.

5.6.1 Recommended Interim Improvements

The **CONSULTANT** shall prepare a program of interim physical or operational improvements to preserve the level of service on the selected intersections and roadways until major capacity improvements can be made. Transportation System Management (TSM) improvements and other traffic management improvements may be included, as appropriate.

The **CONSULTANT** shall prepare a staging plan with recommendations for the implementation of small-scale capacity and efficiency improvements. An evaluation of improvement strategies shall be made wherein various elements or types of improvements will be combined for the best program to preserve level of service on the **STUDY ROADWAYS** and SIS function of the **FACILITY** throughout the design period. If multiple concepts are recommended, a set of evaluation criteria that are approved by the **DEPARTMENT** shall be used to obtain a value matrix for the selection of the best improvement strategy. A recommended plan shall be developed and presented in written and graphical form as well as on aerial photography as appropriate to show the types of improvements, their timing, and all other matters concerning their implementation for the **DEPARTMENT**'s review and approval.

The **CONSULTANT** shall develop a Corridor Management Plan for selected roadways that may include the following strategies:

(1) Median Improvements – Consider reducing median openings
(2) Driveways – Consider reductions, consolidations or restrictions of frontage road systems
(3) Roadway Connection Reductions – Consider closing side street entrances in accordance with **DEPARTMENT**'s access management standards
(4) Traffic Signals – Consider removal, addition, timing, modifications
(5) Other Bottleneck Removal Strategies
(6) Intersection Configurations – Add turn lanes, extend storage lengths, and improve channelization, operations and safety
(7) Enhance Non-motorized Transportation – Improved connectivity to adjacent neighborhoods and business centers for pedestrians and bicycles
(8) Land Use Strategies
(9) Commuting Trip Reduction Program (Transportation Demand Management)
(10) Other Traffic Engineering And Management Measures

5.6.2 Local Government Coordination

To assist in implementing the **PLAN** recommendations at the local level, the **CONSULTANT** shall coordinate with the local government(s) and develop recommendations to address any inconsistencies between comprehensive plan elements and the SIS mobility goals.

The **CONSULTANT** shall review local development plans and regulations that may conflict with SIS Standards and transportation corridor management initiatives to ensure compliance with Ch. 163, F.S. and Ch. 337, F.S. The **CONSULTANT** shall also attempt to discuss and resolve the differences, including land development regulations, subdivision standards, site development review and approval standards or procedures and any similar development approval and construction procedures that may affect implementation of the **PLAN** recommendations in the study area, with the local agencies. Transit system plans and procedures shall also be reviewed and coordinated with responsible transit agencies as may affect development of the **PLAN** recommendations for the study area. For comprehensive plan or local jurisdiction regulations that do not address the SIS or corridor management issues, the **CONSULTANT** shall recommend further coordination steps.

5.7 Prepare Technical Document – Environmental Element

The **CONSULTANT** shall prepare the Environmental Element to identify and summarize major environmental issues and constraints along the **FACILITY** in sufficient detail to support ETDM initial requirements as well as to determine the factors that will not need to be evaluated in the subsequent phase of Project Development. The Environmental Element will provide necessary and relevant information for each of the segments comprising the **FACILITY** to evaluate and rank the project conceptual alternatives based on their potential impact upon the surrounding environment. The Environmental Element shall consist of the components described in the following sections.

5.7.1 Social Impact

Analyze existing and future land use, community cohesion and relocation impact potential to the extent necessary to identify major problems. Evaluate potential impact to ethnic groups or neighborhoods, and summarize potential controversies, if any.

5.7.2 Cultural Impact

Identify and summarize (as appropriate) the potential impact upon Section 4(f) lands, archaeological/historic sites, and recreation areas.

5.7.3 Natural Environment Impact

Identify and summarize any potential impact upon wetlands, critical waters and wildlife and habitat (endangered species). Provide classification and evaluation of wetlands sufficient to outline potential permitting difficulties and probable mitigation requirements.

5.7.4 Physical Impact

Identify and summarize any potential noise and air quality impacts. From available information, the **CONSULTANT** shall identify and summarize, in the study area and its vicinity: any known hazardous material generators by industry or commercial type within 200 feet of the right-of-way limits, known contaminated sites within 500 feet, and solid waste sites within 1000 feet where proposed improvements are recommended. Any subsurface contamination testing that may be required will be performed and supported through other contracts available at the District.

5.7.5 Documentation of Meetings and Agency Comments

This section shall contain a compilation of major comments, critical meetings and agency findings that have a bearing upon ETDM Programming Screen to be completed in a later phase.

5.8 Prepare Master Plan Report

The **CONSULTANT** shall prepare a Master Plan Report summarizing all analyses and findings, Alternatives considered, the set of recommended Alternatives and other details of improvements for the **FACILITY** and selected roadways. The document shall serve as a summary of the Technical Document. It shall be prepared by segment as utilized throughout the study, and shall be oriented to achieving an understanding of recommendations by timing, funding and responsibility. The Master Plan Report shall clearly distinguish between **DEPARTMENT** and local agency responsibilities.

5.8.1 Executive Summary of Technical Document

The **CONSULTANT** shall prepare this section of the Master Plan Report to concisely summarize all sections of the Technical Document. This section shall also reference the Technical Document appropriately. The intent is not to repeat the level of detail in the Technical Document, but rather to summarize important data findings, analyses, Alternatives considered, and specific recommendations. Appropriate reference to the Technical Document shall be made.

5.8.2 Summary of Recommendations

The **CONSULTANT** shall prepare this section to fully summarize and present interim and final recommendations for the **FACILITY** by roadway segment, the time frame(s), responsibility, and anticipated costs and funding. The recommendations shall be clearly presented, so that ready reference to implementation detail may be made. Coordination of segment recommendations among adjacent segments shall also be specified. Any different jurisdictional responsibility shall also be covered.

The **CONSULTANT** shall pay particular attention to interim recommendations designed to preserve the **FACILITY** until final recommendations may be implemented. In a similar manner, recommendations that are to proceed to project implementation in the near future should be highlighted. The **CONSULTANT** shall make full utilization of illustrations and mapping to communicate the type and timing of specific recommendations.

5.8.3 Suggested Changes to Local Regulations or Plans

The **CONSULTANT** shall summarize the coordination with local agencies and any changes planned or completed to local regulations to facilitate transportation system management.

5.8.4 Needs Summary Table

The **CONSULTANT** shall prepare a Needs Summary Table containing the recommended alternative(s) that can be added to the SIS Unfunded Needs Plan. The table shall include the segment where the work would be done, beginning and ending milepoints (using logical termini), the improvement type, and costs for all applicable phases (Project Development, Design, Right-of-Way, and Construction), with the year of the cost estimates clearly specified. This table shall be submitted to the SIS Section in the District Office. A sample table is shown below. Life cycle costs associated with recommended TSM&O strategies should be appropriately estimated and documented.

Alternative	Facility	From	To	Roadway ID	Begin Milepost	End Milepost	Improvement Type	Co Support	sts in 1000 PD&E	's Year 20	0 Dolla ROW	rs CST
1	SR-528	SR-436	SR-417	750020000	10.200	14.900	Add 2 lanes for 6 lanes	$ 8,000	$ 500	$1,500	$9,654	$24,134
2	SR-528	Goldenrod Road	SR-417	750020000	10.215		New Interchange	$ 7,500		$ 500	$ -	$41,550

6.0 **QUALITY ASSURANCE PROGRAM**

The **CONSULTANT** shall designate a Project Manager, who serves as the principal person of contact for the entire contract. The **CONSULTANT** Project Manager will coordinate with the **DEPARTMENT** Project Manager to complete the work in good quality and by specified completion dates.

6.1 Quality Reviews

The **CONSULTANT** shall conduct quality reviews to ensure all tasks are performed in compliance with the requirements cited in the Scope of Services. Quality reviews shall be conducted to evaluate the adequacy of materials, documentation, processes, procedures, training, guidance and staffing included in the execution of this Agreement.

6.2 Quality Assurance Plan

Within 30 days after receiving award of the contract, the **CONSULTANT** shall furnish a Quality Assurance (QA) Plan to the **DEPARTMENT** for review and approval. The QA Plan shall detail the procedures, evaluation criteria and instruction to the **CONSULTANT** team to assure conformance with this Agreement.

The QA Plan shall include, but not be limited to, the following areas:

(1) Organization – The authority, autonomy and responsibilities of the **CONSULTANT**'s QA organization shall be detailed as well as the names and qualifications of personnel in the quality control organization.

(2) Quality Reviews – The **CONSULTANT** shall detail methods used to monitor and assure compliance of his organization with the contract requirements for services and products.

(3) Quality Records – The types of records that will be generated and maintained by the **CONSULTANT** during the execution of his QA program shall be outlined.

(4) Control of Subcontractors and Vendors – The methods used by the **CONSULTANT** to control the quality of subcontractors and vendors shall be detailed.

(5) (QA) Certification – An officer of the **CONSULTANT** shall sign and seal a certification that will accompany each submittal stating that the plans, reports, etc., have been prepared and checked in accordance with **DEPARTMENT** specifications.

(6) Quality Records – The **CONSULTANT** shall maintain adequate records of the quality assurance actions performed by his organization, (including subcontractors and vendors), in providing services and products under this Agreement.

7.0 **SUBMITTALS**

The **CONSULTANT** shall furnish copies of documents containing sufficient detail regarding the project. The **CONSULTANT** shall ensure that all products be prepared on PCs using **DEPARTMENT** approved software applications and provided to the **DEPARTMENT** in Microsoft Word, Adobe Portable Document Format (PDF) or any other original electronic format. Any programming source codes, form designs, raw source database and other ancillary files shall be transferred to the **DEPARTMENT** in addition to the executable applications at the closure of the Project or when specified by the **DEPARTMENT** Project Manager.

7.1 Documents and Number of Copies

The **CONSULTANT** shall prepare and submit the following documents in final version to the **DEPARTMENT**:

- Draft Public Involvement Plan Component
- Draft Traffic Memorandum
- Draft Facility Enhancement Element
- Draft Facility Operations & Preservation Element
- Draft Environmental Element
- Draft Master Plan Report
- Backup Documentation
- All relevant HCM, Synchro, CADD and other program files

One hardcopy of each to be provided to the **DEPARTMENT** Project Manager.

7.2 Delivery of Project Materials

Upon completion of the study, the **CONSULTANT** shall deliver to the **DEPARTMENT**, organized by segment where applicable, all project files, maps, sketches, worksheets, and other materials used or gathered during the study process. All documents and maps shall be provided in digital format compatible with **DEPARTMENT** software.

8.0 STUDY REQUIREMENTS AND PROVISIONS FOR WORK

8.1 Government Regulations

The **PLAN** shall be developed in accordance with the following regulations, guidelines and reports utilizing the editions current at the time of contract execution, or as the **DEPARTMENT** may direct:

- 23 Code of Federal Recommendations Part 450, Statewide Planning; Metropolitan Planning
- 23 Code of Federal Recommendations Part 771, ″Environmental Impact and Related Procedures″
- 23 Code of Federal Recommendations Part 772, ″Noise Abatement Criteria″
- 40 Code of Federal Recommendations, particularly Parts 51 and 93
- 16 United States Code 1531 – 1544, Endangered Species Act of 1973
- 42 United States Code 1653 (f), popularly known as Section 4(f) of the Department of Transportation Act of 1966, P.L., Part 89-670
- 42 United States Code 4332(2)(c), popularly known as Section 102(2)(c) of the National Environmental Policy Act of 1969
- The National Historic Preservation Act of 1966 (PL 89-665) and Executive Order No. 11593 (“Protection and Enhancement of the Cultural Environment”) as implemented in “Procedures for the Protection of Historic and Cultural Properties,” 36 CFR Part 800
- Executive Order No. 11990, ″Protection of Wetlands,″ May, 1977
- Executive Order No. 11988, ″Floodplain Management,″ May, 1977
- Ch. 163, F.S. ″Intergovernmental Program″
- Ch. 338.001, F.S. ″Florida Intrastate Highway System and Toll Facility″
- Other Florida Statutes as appropriate, in particular Chapter 337, F.S., ″Contracting; Acquisition, Disposal, and Use of Property″
- Rule Chapter 14-66, F.A.C., ″Relocation Assistance Regulations″
- Rule Chapter 14-96, F.A.C., State Highway System Connection Permits Administrative Process
- Rule Chapter 14-97, F.A.C., State Highway System Access Management Classifications System and Standards
- Florida Department of Transportation Policy No. 000-525-015; Approval of New or Modified Access to Limited Access Highways on the State Highway System (SHS)
- Florida Department of Transportation, Managed Lanes Policy (Topic No. 000- 525-045)
- Florida Department of Transportation, Community Impact Assessment (Topic No. 000-650-015)
- Florida Department of Transportation, Major Urban Corridor Studies (Topic No. 000-725-020)
- Florida Department of Transportation, District Review of Conformity Determinations (Topic No. 525-010-014)
- Florida Department of Transportation, Tolling for New and Existing Facilities on the State Highway System (SHS) (Topic No. 525-030-020)
- Florida Department of Transportation, Project Traffic Forecasting Procedure (Topic No.

525-030-120)
- Florida Department of Transportation Strategic Intermodal System (SIS) Highway Component Standards and Criteria (Topic No. 525-030-260)
- Florida Department of Transportation Plans Preparation Manual, Volumes I & II (Topic Nos. 625-000-007 & 625-000-008)
- Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Florida ″Green Book″ Topic No. 625-000-015)
- Florida Department of Transportation, Design Standards (Topic No. 625-010-003)
- Florida Department of Transportation Project Development and Environmental Manual, Parts 1 and II, as appropriate (Topic No. 650-000-001)
- Florida Department of Transportation Efficient Transportation Decision Making (ETDM) Planning and Programming Manual (Topic No. 650-000-002)
- Florida Department of Transportation, Manual on Uniform Traffic Studies (Topic No. 750-020-007)
- Florida Department of Transportation MPO Manual
- Florida Department of Transportation Interchange Handbook
- Florida Department of Transportation, 2023 Quality/Level of Service Handbook
- Florida Department of Transportation, Cultural Resources Management Handbook
- Florida Department of Transportation, 2021 Traffic Analysis Handbook
- Florida Department of Transportation, 2022 Interchange Access Request Users Guide
- Transportation Research Board, 7th Edition, Highway Capacity Manual 2022

8.2 Key Personnel

The **CONSULTANT**'s work shall be performed and directed by the key personnel identified by the **CONSULTANT** during the proposal stage of this project. Deviations, if any, shall be subject to approval by the **DEPARTMENT** Project Manager. These key personnel, including **CONSULTANT** Project Manager, shall possess excellent verbal and written communication skills, capable of translating complex technical analysis findings to common language and capable of presenting results in a concise manner that can be intuitively understood by elected officials and general public.

8.3 Correspondence

Copies of correspondence between the **CONSULTANT** and any outside party pertaining specifically to work performed under this Scope of Services shall be provided to the **DEPARTMENT**'s Project Manager for the **DEPARTMENT**'s records within 5 days of the receipt or mailing of said correspondence.

8.4 Subcontracting Services

Sub-**CONSULTANT**s must be qualified by the **DEPARTMENT** to perform all work assigned to them. Additional sub-**CONSULTANT**s with specialized areas of expertise may be required by the **DEPARTMENT** or requested by the **CONSULTANT** to complete specific Task Work Order assignments. The need for additional sub-**CONSULTANT**s to perform required work should be

mutually agreed by the **DEPARTMENT** and the **CONSULTANT** prior to adding them to this contract. Sub-**CONSULTANT**s not on this contract shall not perform any work of this contract nor be paid by this contract.

8.5 Method of Compensation

Payments will be due and payable monthly or as appropriate in accordance with work approved and accepted by the **DEPARTMENT**.

8.6 Duration of Contract Time

The Services described herein shall commence upon written notice to the **CONSULTANT** by the **DEPARTMENT**. All services shall be completed within **24** months from notice to proceed. Services shall be considered satisfactorily completed when approval of all Master Plan documentation is received by the **CONSULTANT**.

8.7 Responsibilities of the **DEPARTMENT**

The **DEPARTMENT** will provide a Project Manager who shall be responsible for:

- Day-to-day management of this contract.
- Coordination with the **CONSULTANT** pertaining to the development and execution of all tasks to be covered under this contract.
- Defining the specific tasks to be performed and schedule for completion of such work.
- Agreeing on the **CONSULTANT** staffing and availability.
- Processing of **CONSULTANT** invoices for payment.

The **DEPARTMENT** shall furnish, without charge, the following services and data to the **CONSULTANT** for the performance of the requested services:

- All criteria and full information as to the **DEPARTMENT**'s requirements for the **CONSULTANT**'s services including objectives, constraints, budgetary limitations, and time restraints.
- All **DEPARTMENT** Policies, Procedures, Standards, and other information applicable to the services.
- All specifications, schedules, reports, and other information prepared by or for the **DEPARTMENT** by others which are available to the **DEPARTMENT** and which the **DEPARTMENT** considers pertinent to the **CONSULTANT**'s responsibilities described herein.
- Available traffic and planning data.

8.8 Responsibilities of the **CONSULTANT**

A. The **CONSULTANT** shall designate a Project Manager, who serves as the principal person of contact for the entire contract. The **CONSULTANT** Project Manager will coordinate with the

DEPARTMENT Project Manager regarding scope of work issues and staffing efforts, as well as to assemble **CONSULTANT** staff to complete the work in good quality and by specified completion dates. The **CONSULTANT** Project Manager shall communicate with the **DEPARTMENT** Project Manager on a regular basis and shall provide monthly progress reports for invoice approvals.

B. The **CONSULTANT** shall provide and maintain a list of staff of the following job classification categories at a minimum for this contract:

- Project Manager
- Senior Specialist/Senior Modeler
- Senior Planner
- Planner
- Specialist/Modeler
- Senior Transportation Engineer
- Transportation Engineer
- Engineering Intern
- Technician
- Secretary/Clerical
- GIS Specialist

For all categories, salary rates will be negotiated prior to beginning the contract. Any category not listed above but later determined to be required must be amended to the Contract prior to beginning work associated with the new category.

C. The **CONSULTANT** shall perform all analyses, develop recommendations, and document all by specific time as defined by the schedule provided by the **CONSULTANT**. All documents created for this project shall be ready for potential internet posting.

D. The **CONSULTANT** shall perform all tasks in accordance with all the **DEPARTMENT** Guidelines and Standards, Rules, applicable Florida Statutes and other Federal and State laws and policies.

8.9 Computing Requirements

The **CONSULTANT** may be required to use the following software:

- Latest version available of the Highway Capacity Software (HCS)
- CORSIM
- Synchro
- ARTPLAN, FREEPLAN, HIGHPLAN, BLOS, PLOS, TLOS, and all other FDOT Level of Service programs
- FSUTMS, TRANPLAN, CUBE/Voyager on Windows operating systems
- OpenRoads Designer
- MicroStation

- Esri GIS
- Adobe Acrobat/PDF creator and reader
- AutoCAD
- Excel
- PowerPoint
- PTV's Vissim and Vistro

The **DEPARTMENT** is not responsible for providing proprietary software packages to the **CONSULTANT**. Should the **CONSULTANT** desire to use any other **DEPARTMENT** programs, permission must be granted in accordance with this agreement. Computations or graphics based on computer programs other than the **DEPARTMENT**'s must conform to the formats approved by the **DEPARTMENT**.

9.0 **OPTIONAL SERVICES**

A. Some minor field survey work, including but not limited to, boundary/right of way surveys, elevation surveys at overpasses, environmental reconnaissance, etc., may be required to fill in certain critical details necessary to complete the project that are not provided or available from existing data.

B. Additional traffic data may be collected along the intersecting roadways as required for modeling or operational analysis purposes. This may include Average Daily Traffic (ADT), turning movement count data, speeds, travel times, lane utilization information, vehicle classification counts, and others as necessary. A maximum budget will be established as part of this scope of services for these types of additional data collection, and the specific types and locations will be determined during the initial phases of this project.

C. Conduct origin-destination (O-D) surveys to obtain accurate travel characteristics information for model and Longitudinal Employer-Household Dynamics (LEHD) validation purposes and for use in developing appropriate corridor mobility concepts, managed lane concepts, network enhancements, and other recommendations. The survey results could also be used to help determine future mode split potential.

D. Bicycle/pedestrian counts at locations where deemed appropriate.

E. Conduct an ETDM Planning Screen when projects identified in the **PLAN** are proposed for inclusion in the SIS or MPO Cost Feasible Plan. Prepare project description, purpose and need and Preliminary Environmental Discussion (PED) to support either the planning screen or the programming screen for each of the preferred project alternatives.

F. At the **DEPARTMENT**'s option, the **CONSULTANT** may be requested to conduct additional meetings with local stakeholders or groups of interest as needed, or to conduct Value Engineering or risk management workshops and prepare comprehensive feasibility/needs analyses for proposed improvement alternatives.

G. Prepare the initial documentation and analysis to support the justification for changes in Interstate System access to facilitate ensuing phases.

H. At the **DEPARTMENT**'s option, the **CONSULTANT** may be requested to assess new alignment alternatives for segments of existing controlled access facilities that cannot be improved to meet SIS standards, the **CONSULTANT** shall consider capacity improvements to other parallel roadways. These types of alternatives may include new construction on new alignments. This work is based on the need for new corridor development to relieve or alleviate congestion on the **FACILITY** and meet future corridor travel demands.

   (1) Existing Roadways – Analyze ability of existing roadways, as improved, to meet 2050 travel demands and needs.
   (2) Regional Traffic Estimates – Utilize results of traffic volume estimates from the regional model as appropriate for travel demand estimates.
   (3) Multiple Screen Line Analysis – Utilize a multiple screen line analysis to compare total

FACILITY capacity to available or planned capacity and service volumes. This analysis compares existing and improved capacity to existing and future traffic volumes at multiple locations along the **FACILITY**.

(4) Other Capacity Improvements – Consider capacity improvements identified as needs or programmed by others within the **FACILITY**; contribution of transit, high-occupancy vehicles and similar modes.

When segments of existing controlled access facilities cannot be improved to SIS Standards and a new facility or new alignment is needed, the **CONSULTANT** shall propose the centerline location, typical sections, intersection types and locations and other features needed to define the right-of-way requirements for a new facility.

I. Additional roadways may be included in the analysis identified below and will be selected and determined during the initial phases of this project:

Alternatives Public Meetings

The **CONSULTANT** shall prepare for and conduct one (1) full-scale Alternatives Public Meeting in each county to present the alternatives and design concepts under evaluation and obtain public comments on these alternatives. The **CONSULTANT** shall provide and deliver a professionally produced multimedia presentation at each meeting. The **CONSULTANT** shall record, organize and document all comments received and prepare them, along with the presentation materials, for delivery to the **DEPARTMENT**.

Additional Public Meetings

In addition to the Alternatives Public Meetings, the **CONSULTANT** shall attend up to five (5) additional public meetings with major community organizations and business groups during the development of various alternatives upon receiving the request from the relevant public stakeholders. These meetings do not need to be advertised; however, informal announcement of the meetings shall be made through the hosting groups. The **CONSULTANT** shall conduct the meetings and prepare all necessary displays, maps, script, logistical support, etc. Facilities may be provided by hosting groups but the **CONSULTANT** shall organize backup facilities for unexpected needs and circumstances.

Unscheduled Meetings and Presentations

The **CONSULTANT** and staff shall be available with no more than a three (3) workday notice to attend up to 12 meetings at the request of the **DEPARTMENT**.

Traffic Count Data

Six (6) hour turning movement counts with pedestrian and truck counts and 24-hour bi-directional approach and departure counts shall be conducted at up to 20 locations. Additional traffic data may be collected from roadways located within the study area as required for modeling or operational analysis purposes. This may include origin-destination (O-D) data, speeds, travel times, lane utilization information, vehicle

classification counts, queue and clearance times, and others as necessary. A maximum budget will be established as part of this scope of services for these types of additional data collection, and the specific types and locations will be determined during the initial phases of this project.

Develop Alternatives

The **CONSULTANT** shall determine the capability of local governments to successfully implement transportation improvements or other strategies within the study area. The objective of this task is to obtain local government and/or development order commitments to implement these improvements or other strategies whenever possible throughout the project. The findings from this coordination should be documented in a Comments and Coordination section in the Facility Enhancement Element technical memorandum, if applicable. Such coordination with the local governments is an Optional Service.

Access Management

The **CONSULTANT** shall evaluate the impact of accessibility improvements, including frontage and rear service/access roads, on overall travel demand for selected roadways. The **CONSULTANT** shall identify changes to access conditions to improve or enhance safety and operational efficiency, in a manner consistent with Ch. 14-97, F.A.C. (State Highway System Access Management Classification System and Standards) by reducing, consolidating, modifying or improving the number of connections, median openings and similar improvements. The **CONSULTANT** shall develop and assess the benefits of new innovative design concepts such as RCUT, MUT, DLT, DDI, etc., as necessary to improve and sustain safety and mobility of the selected roadways.

Roadway Improvements

The **CONSULTANT** shall evaluate the addition of regular lanes, exclusive through lanes, or collector distributor lanes, as appropriate. The **CONSULTANT** shall also evaluate capacity and level of service needs, the possibility of widening the selected roadways and intersections**.** The **CONSULTANT** shall consider use of exclusive lanes for trucks and/or transit vehicles. For example, transit preferential treatments such as queue jump lanes and bus-only lanes have the potential to improve transit travel times and reliability in a mixed-traffic environment, which in turn reduce waiting time of passengers, unnecessary fleet size, and increase ridership. The **CONSULTANT** shall evaluate the potential use and quantify the benefits of these types of lanes on roadways. In addition, the **CONSULTANT** shall analyze the need for and benefits of new grade separated intersections to improve level of service, safety and mobility as needed and applicable.

Managed Lanes

Analyze the implementation of Managed lanes along I-75 and evaluate potential egress/ingress access points from/to general use lanes in relation to the existing and proposed interchanges. This evaluation should be conducted primarily by applying Dynamic Traffic Assignment (DTA) and a methodology approved by the

DEPARTMENT. The resulting traffic projections will be used for Micro-simulation analysis in VISSIM for geometric constraint analysis for up to 12 segments/scenarios, which should be proposed by the **CONSULTANT** and be concurred by the **DEPARTMENT**.

Traffic Signal Modifications

The **CONSULTANT** shall consider traffic signal modifications and management techniques to include removal of existing signals when changed conditions show it is in the public interest, phasing modifications for changes in traffic flow, flashing operations at certain times, signal re- timing and similar improvements for selected intersections.

TSM&O Strategies and New Technologies

The **CONSULTANT** shall consider the impact of emergency evacuation plans, as appropriate, for the other **STUDY ROADWAYS**. In addition, the **CONSULTANT** shall consider and evaluate modifications to existing intersections, such as addition of turn lanes, lane assignment changes, cross access between parcels, and signal coordination. In addition, The **CONSULTANT** shall assess the technology applications, such as Intelligent Transportation Systems (ITS), Integrated Corridor Management (ICM), autonomous and connected vehicles, etc., to identify traffic management alternatives, provide real-time driver information, and support the operation of commercial vehicles or vehicle control systems, for other **STUDY ROADWAYS** as technology develops and as appropriate. The **CONSULTANT** shall work with MPOs, municipalities, counties and the District to coordinate any recommendation for implementation of future Dynamic Message Signs, other planned ITS network improvements and TSM&O strategies for the study area. TSM&O example strategies may include, but are not limited to:

- Traffic incident management; areas to be explored may include, but are not limited to:
  - Plan to manage incidents within the corridor
  - Long term maintenance of traffic needs
  - Responsible party to implement, activate, manage, and mitigate incidents
- Traveler information services
- Traffic signal coordination
- Transit priority/integration
- Freight management
- Work zone management; areas to be explored may include, but are not limited to:
  - Temporary ITS in work zones and on the impacted surrounding network for enhanced mobility
  - Work zone maintenance of traffic (short and long term)
  - Plan to management incidents within the work zone
  - Responsible party to implement, activate, manage, and mitigate incidents
- Special event management
- Road weather management
- Active transportation and demand management
- Ramp Signals

- Queue detection on off ramps

Typical Cross Sections

The **CONSULTANT** shall utilize the results of the preceding analyses to develop typical cross- sections as needed for the various segments of other intersecting roadways as necessary; with recommended roadway improvements. The typical section(s) shall be chosen from those approved by the **DEPARTMENT**, conform to SIS requirements as applicable and accommodate known development in the study area by the target design year. Multiple typical sections may be developed to meet specific project requirements. Particular attention will be given to surrounding development, construction or policy constrained elements of the existing roadways, drainage and other physical requirements, and potential environmental impacts.

Alternatives Analysis and Staging Plan

For each Alternative, the **CONSULTANT** shall develop long term conceptual layouts regarding the **STUDY ROADWAYS**. The **CONSULTANT** shall draw each Alternative on aerial photography using Computer Aided Drafting and Design (CADD) software in sufficient detail for evaluation of costs and associated impacts. These preliminary concept plans shall include number of lanes, existing and proposed right-of-way lines, typical cross-section, as well as modifications to existing or proposed intersections, interchanges and median treatments. The illustrations shall be sufficient to permit communication of Alternatives and recommendations at a public meeting.

The **CONSULTANT** shall develop evaluation criteria sufficient to allow evaluation of each Alternative in terms of safety and operational benefits, capacity, level of service, general constructability, estimated construction and right-of-way costs, environmental impact, additional life cycle costs including operating and maintenance costs, etc. The activities to be performed by the **CONSULTANTs** include, but are not limited, the following items:

(1) Construction Cost – Generalized construction cost estimates.
(2) Right-of-Way – The **CONSULTANT** shall review data to identify areas that may require right-of-way. The **CONSULTANT** shall obtain planning level right-of-way cost estimates utilizing generalized unit cost methodology from the District Right-of- Way Office.
(3) Benefit-Cost analysis – Life cycle benefits and costs shall be determined and a discount rate approved by the **DEPARTMENT** shall be used.
(4) Environmental Impacts – The **CONSULTANT** shall identify and document potential environmental impacts. The **CONSULTANT** shall meet with the **DEPARTMENT**'s District Environmental Administrator, District Project Development Engineer and other responsible **DEPARTMENT** staff to present, discuss and determine anticipated environmental impacts of each recommended conceptual design alternative.
(5) Maintenance of Traffic – The **CONSULTANT** shall identify the cost estimates for

maintenance of traffic or utility relocations.

A set of candidate improvement alternatives shall be recommended by the **CONSULTANT**. A staging plan for the adoption of alternatives shall be developed and serve as major input to subsequent analyses.

Prepare Technical Document – Environmental Element

The **CONSULTANT** shall prepare the Environmental Element to identify and summarize major environmental issues and constraints along the selected roadways in sufficient detail to support ETDM initial requirements as well as to determine the factors that will not need to be evaluated in the subsequent phase of Project Development. The Environmental Element will provide necessary and relevant information for each of the segments comprising the selected roadways to evaluate and rank the project conceptual alternatives based on their potential impact upon the surrounding environment. The Environmental Element shall consist of the components described in the following sections.

- Social Impact

  Analyze existing and future land use, community cohesion and relocation impact potential to the extent necessary to identify major problems. Evaluate potential impact to ethnic groups or neighborhoods, and summarize potential controversies, if any.

- Cultural Impact

  Identify and summarize (as appropriate) the potential impact upon Section 4(f) lands, archaeological/historic sites, and recreation areas.

- Natural Environment Impact

  Identify and summarize any potential impact upon wetlands, critical waters and wildlife and habitat (endangered species). Provide classification and evaluation of wetlands sufficient to outline potential permitting difficulties and probable mitigation requirements.

- Physical Impact

  Identify and summarize any potential noise and air quality impacts. From available information, the CONSULTANT shall identify and summarize, in the study area and its vicinity: any known hazardous material generators by industry or commercial type within 200 feet of the right-of-way limits, known contaminated sites within 500 feet, and solid waste sites within 1000 feet where proposed improvements are recommended. Any subsurface contamination testing that may be required will be performed and supported through other contracts available at the District.
- Documentation of Meetings and Agency Comments

This section shall contain a compilation of major comments, critical meetings and agency findings that have a bearing upon ETDM Programming Screen to be completed in a later phase.

Recommended Interim Improvements

The **CONSULTANT** shall prepare a program of interim physical or operational improvements to preserve the level of service on the selected intersections and roadways until major capacity improvements can be made. Transportation System Management (TSM) improvements and other traffic management improvements may be included, as appropriate.

The **CONSULTANT** shall prepare a staging plan with recommendations for the implementation of small-scale capacity and efficiency improvements. An evaluation of improvement strategies shall be made wherein various elements or types of improvements will be combined for the best program to preserve level of service on the other **STUDY ROADWAYS** throughout the design period. If multiple concepts are recommended, a set of evaluation criteria that are approved by the **DEPARTMENT** shall be used to obtain a value matrix for the selection of the best improvement strategy. A recommended plan shall be developed and presented in written and graphical form as well as on aerial photography as appropriate to show the types of improvements, their timing, and all other matters concerning their implementation for the **DEPARTMENT**'s review and approval.

The **CONSULTANT** shall develop a Corridor Management Plan for intersecting roadways that may include the following strategies:

(1) Median Improvements – Consider reducing median openings
(2) Driveways – Consider reductions, consolidations or restrictions of frontage road systems
(3) Roadway Connection Reductions – Consider closing side street entrances in accordance with **DEPARTMENT**'s access management standards
(4) Traffic Signals – Consider removal, addition, timing, modifications
(5) Other Bottleneck Removal Strategies
(6) Intersection Configurations – Add turn lanes, extend storage lengths, and improve channelization, operations and safety
(7) Enhance Non-motorized Transportation – Improved connectivity to adjacent neighborhoods and business centers for pedestrians and bicycles
(8) Land Use Strategies
(9) Commuting Trip Reduction Program (Transportation Demand Management)
(10) Other Traffic Engineering And Management Measures