EXHIBIT A
SCOPE OF SERVICES
DISTRICT SIX DISTRICTWIDE CONGESTION MANAGEMENT AND TSM&O PLANNING CONSULTANT

This Exhibit forms an integral part of the Agreement which provides for services by the CONSULTANT in connection with the Districtwide Congestion Management and TSM&O planning contract.

BACKGROUND
The FDOT Transportation Systems Management and Operations (TSM&O) Strategic Plan, developed by FDOT’s State Traffic Engineering and Operations Office, TSM&O Division in August 2017, establishes a framework for goal setting, TSM&O strategy identification and implementation, with identification of key resources, challenges and opportunities, and other information.

The planning and programming of specific TSM&O strategies, whether on individual facilities or at the system level, is a FDOT District function and must be carefully planned and woven into the existing and planned infrastructure at the local and regional level, based on context and relevance, and the existing infrastructure on the ground. FDOT District Six has a mature limited access highway system with advanced operational technologies and facilities, not least of which is the first express lanes improvement in the State, on I-95 between downtown Miami and counties to the north in District Four.

The expansion of the District’s TSM&O system and planning efforts to the arterial system is a necessary next step to optimize system operations. The TSM&O Master Plan envisioned by this scope will take advantage of advanced technologies for system improvements and for operations and performance measurement. It will tie carefully crafted goals and objectives to identified improvements and their performance measurement to achieve an effective performance-based planning and programming framework.

A. OBJECTIVE

The purpose of this task work order planning study is to provide services to further the DEPARTMENT’S Congestion Management and Transportation System Management and Operations (TSM&O) master planning efforts and implementation of corridor oriented projects in District Six.

It shall be the CONSULTANT’S responsibility to utilize professional project management and quality assurance/quality control practices and demonstrate the very best judgment, practices and principles during the prosecution of the work commissioned under this contract. These include, but are not limited to, communication with the
DEPARTMENT and others as necessary, management of time and resources, and documentation.

The CONSULTANT shall set up and maintain throughout the performance of each task a contract file in accordance with DEPARTMENT procedures. The CONSULTANT shall also develop an electronic filing system for the contract that is mutually accessible between FDOT and the CONSULTANT. The DEPARTMENT will provide contract administration, management services, and technical reviews of all work associated with the development and execution of each task. The DEPARTMENT will provide job specific information and functions as outlined in this contract.

B. TASK FOR WHICH CONSULTANT SERVICES MAY BE REQUIRED

The CONSULTANT will be required to perform professional transportation engineering and planning analyses, to develop specific products and recommendations, and to assist the District 6 Planning Office and Intermodal Systems Development staff in the performance of some or all of the tasks as identified in this Scope of Services.

The main activities and tasks to be performed by the CONSULTANT will include:

**Task 1 – Project Management**
- Includes general contract management activities, coordination, and quality control/quality assurance.
- The Consultant Project Manager will have a monthly progress meeting with the FDOT Task Manager.

**Deliverables:** Draft and Final project and meeting schedule

**Task 2 – Develop Goals, Objectives, and Measures (GOMs)**
- Coordinate with FDOT staff and planning and operations partners to determine relevant goals and objectives.
- Research best practices to inform available data sources, tools, and solution strategies that may influence goals, objectives and measures.
- Weight goals by facility type, functional classification, or some other category such as mobility or safety performance for improvement prioritization.

**Deliverables:** Draft and Final Goals, Objectives, and Measures in tech memo format, to be incorporated as a chapter in Master Plan deliverable.

**Task 3 – Data Collection and Analysis**

- Review FDOT Routes of Significance (RoS) criteria and identified RoS in the District, as outlined in the FDOT Real-Time System Management Information Program, Phase II – Routes of Significance. Potential addition of facilities to the District RoS will be considered, based on the existing criteria and TSM&O needs identified in Task 5.

- Prepare an inventory of existing and planned TSM&O related equipment on the arterial SHS system.

- Compile and synthesize existing ITS and other operations plans within the District, including municipal, County, and Regional plans. Closely assess already adopted and programmed District Six plans and projects as well as Miami-Dade TPO programs and plans.

- Research and assess available tools and data sources for performance measurement, including RITIS, HERE, NPMRDS, Sunguide, Signal-4 Analytics, and others.

- Prepare demonstration of the data source(s) ability to measure outcomes by identifying a recent TSM&O improvement and charting available data before and after the improvement. If available, numerous improvement types will be summarized in before and after contexts to illustrate both the effectiveness of the different improvements and the effectiveness of the data to measure their performance.

**Deliverables:** Draft and Final data summary prepared in tech memo format with maps and tabular representations of data, to be incorporated as a chapter in Master Plan deliverable.

**Task 4 – Automated, Connected, Electric, and Shared (ACES) Vehicle Technologies**

- Prepare a white paper on the status of ACES technologies for passenger and freight movement and the infrastructure needs for implementation of ACES districtwide or on specific facilities.

- Opportunities to achieve economies of scale or multi-purpose ITS improvements that support the ultimate deployment of ACES will be identified and recommended, as will strategies to retrofit existing ITS infrastructure with more comprehensive and advanced technologies.

**Deliverables:** Draft and Final ACES White Paper

**Task 5 – TSM&O Strategy Matrix**
• Develop a matrix of TSM&O strategies organized by cost or complexity and type. The latter will be defined by the problem being addressed, whether it is mobility, reliability, safety, or some other issue category. (For example, express lanes on limited access facilities versus access management improvements on minor arterials represent two strategies that potentially address very different issues, namely mobility and safety, respectively.)

• The status of ongoing program development, including Freeway Management, Incident Management, and Operation and Management, Arterial Management, and others will be considered in the matrix, as will strategies identified in the TPO’s long range transportation plan, the counties’ capital improvement and operations plans and other local plans already in place.

**Deliverables:** Draft and Final Strategy Matrix, to be incorporated into Master Plan deliverable.

**Task 6 – TSM&O Needs Assessment**

• Review data collected in prior tasks to assess the system for other needs not identified in FDOT or local/regional plans. Additional locations that would benefit from TSM&O improvements will be identified as well as the infrastructure, materials, and equipment needed to support them.

• Review District TSM&O maps and Action Plan for potential incorporation into the needs assessment. The improvements recommended in the Action Plan will be reviewed critically and recommendations will be made for possible inclusion in the TSM&O Master Plan.

• Additional needs identified in this task will be matched with appropriate strategies for further analysis in the subsequent project development process. Where possible, multimodal considerations will be explored, including freight, public transit, and non-motorized, for consistency with District priorities and ongoing efforts.

• Explore opportunities to incorporate TSM&O strategies into existing projects in the Work Program to take advantage of potential economies of scale.

• GOMs identified in Task 2 will be used to prioritize TSM&O needs. Individual project status in existing plans, including state, regional and local plans/programs will be considered in the prioritization process. Other considerations will include inter-operability within existing infrastructure, extent to which issues may be resolved by the improvements, and others to be determined. The matrix developed in Task 4 will be used to inform the prioritization process.
Deliverables: Draft and Final Project Needs Summary in tech memo format with maps and tabular representations of data, to be incorporated as a chapter in Master Plan deliverable.

Task 7 – Implementation

- Review Statewide TSM&O Strategic Plan and incorporate Action Items outlined in the statewide plan into the District TSM&O Master Plan for consideration and implementation.
- Planning level cost estimates will be prepared for design, right of way, construction, and operation and maintenance of identified improvements.
- Funding sources will be researched and reviewed. Specific sources will be matched with specific strategies or improvements as appropriate by eligibility for federal, state, and local revenue sources. Public Private Partnership (P3) opportunities will be explored, including recent successes like the I-595 reversible express lanes to determine their relevance or viability for strategies or specific improvements.
- Relate TSM&O projects to Work Program item group identifiers and Roadway Characteristics Inventory features as a demonstration of this process for future District practice.

Deliverables: Draft and Final Master Plan document and data/project files in database and GIS format. Draft and Final Project Implementation summary in tech memo format with tabular representations of project costs and potential revenue sources, to be incorporated as a chapter in Master Plan deliverable.

Task 8 – Design Plan Reviews

- The CONSULTANT may be required to review FDOT and local government studies and/or plans against the DEPARTMENT’S design standards per the current Florida Design Manual. The CONSULTANT shall assist the Planning Office in District Six, to review: resurfacing scoping reports, safety reports, PD&E studies, design plans for resurfacing/reconstruction/capacity projects.

Deliverables: Recommended appropriate Congestion Management and TSM&O improvements in Electronic Review Comments system.

Task 9 – Meetings

- Meetings will be conducted with FDOT District Six staff and other project stakeholders, as identified by the District for coordination and review purposes.
Deliverables: Draft and Final meeting agendas, presentations and summaries, to be incorporated as an appendix in Master Plan deliverable.

A DEPARTMENT Project Manager will manage the CONSULTANT work. The DEPARTMENT Project Manager will provide definition of the work for each task to be performed by the CONSULTANT, as described in this Scope of Services, through the preparation of a Task Work Order for each task. For each work order, the CONSULTANT Project Manager and the DEPARTMENT Project Manager will discuss the requirements of each task as well as negotiate the staff-hours. The CONSULTANT may assist in preparing the Task Work Order. After negotiations, the DEPARTMENT will issue the Task Work Order that shall include product requirements, schedules, staffing requirements, documentation requirements, and total allowable task costs. This will be issued to the CONSULTANT'S Project Manager in writing, along with a Notice to Proceed in the form of a Letter of Authorization for the Task Work Order, prior to any work on the Task Work Order being initiated.

C. SCHEDULE

The CONSULTANT agrees to begin work after issuance of a Notice To Proceed by the DEPARTMENT and upon receipt of Task Work Orders. The Contract will last for twenty-four (24) months after the date of the Notice To Proceed or as amended by a time extension.

D. METHOD OF COMPENSATION

Payment shall be made in accordance with Exhibit B of this contract.

E. KEY PERSONNEL

The CONSULTANT'S work shall be performed and directed by key personnel identified in the proposal presentations by the CONSULTANT. Any changes in the indicated personnel shall be subject to review and approval by the DEPARTMENT.

F. SUBCONTRACTING SERVICES

Services assigned to sub-consultants must be approved in advance by the DEPARTMENT in accordance with this Agreement. The sub-consultant must be qualified by the DEPARTMENT to perform all work assigned to them. Additional sub-consultants 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 the sub-consultant to be hired and the work assignments to be performed shall be requested by the DEPARTMENT or the CONSULTANT in writing and agreed
to by the DEPARTMENT and CONSULTANT Project Managers prior to any work being performed by the sub-consultant.

G. MEETINGS

The CONSULTANT must be available for unscheduled meetings. The CONSULTANT shall be available with no more than one (1) weekday notice to attend meetings at the request of the DEPARTMENT. Such meetings and presentations may be held at any hour between 8:00 am and 12:00 midnight on any weekday.

H. RESPONSIBILITIES OF THE DEPARTMENT

1. The DEPARTMENT will provide a Project Manager who shall be responsible for: the day-to-day management of this contract, all coordination with the CONSULTANT pertaining to the development and execution of all Task Work Orders of this contract, defining the specific work to be performed and schedule for completion of such work, approving the CONSULTANT staffing and availability (including substitutions from the available staffing list provided), and the processing of CONSULTANT invoices for payment. The DEPARTMENT will also provide assistant Project Managers when required, to provide support to the Project Manager for various tasks.

2. The DEPARTMENT shall provide, prior to the initiation of any work on any of the tasks defined in this exhibit, a specific Task Work Order for the task defining the work to be accomplished and the total reimbursement due the CONSULTANT.

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

   a) All criteria and full information as to the DEPARTMENT'S requirements for the CONSULTANT'S services including objectives, constraints, budgetary limitations, and time restraints.

   b) All DEPARTMENT policies, procedures, standards, and other information applicable to the services.

   c) 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.

   d) Available traffic and planning data necessary for the CONSULTANT to perform each task.

I. RESPONSIBILITIES OF THE CONSULTANT

1. The CONSULTANT shall provide an overall Project Manager, located within Miami- Dade and Broward counties, who will be the primary point of contact for the
CONSULTANT for the scope, schedule, man-power coordination, negotiation of task man-hours and completion of all Task Work Orders. The CONSULTANT may also assist the DEPARTMENT Project Manager in preparing Task Work Orders. The Project Manager shall meet with the DEPARTMENT'S Project Manager on a regular basis and shall provide monthly progress reports by Task Work Order. These progress reports shall be the basis for evaluation and processing of invoices for payment.

2. The CONSULTANT shall provide and maintain a list of staff of the following classifications that would be available to be assigned to specific Task Work Orders:

   a) Project Manager
   b) Professional Engineer
   c) Senior Transportation Engineer/Planner
   d) Transportation Engineer/Planner
   e) Engineer Technician
   f) Transportation Land Use Planner
   g) GIS,CADD/Graphics Technician
   h) Clerical

Any classifications not listed above must be documented in individual Task Work Orders by the CONSULTANT and approved by the DEPARTMENT'S Project Manager. For all classifications, rates will be negotiated prior to beginning the contract.

3. The CONSULTANT shall provide sufficient staff, either the specific staff person requested or acceptable staff at defined levels of expertise as agreed to by the DEPARTMENT'S Project Manager, in a timely manner to complete all assigned work within the Task Work Order schedule. If, at any time, the DEPARTMENT'S Project Manager determines that the number or expertise of particular staff assigned to a specific task is inadequate, the Project Manager shall coordinate with the CONSULTANT Project Manager to remedy the situation so as to ensure the timely completion of the work.

4. The CONSULTANT shall provide staff to work in the office of the DEPARTMENT'S Project Manager, District Office or other location as may be defined in any Task Work Orders.

5. The CONSULTANT shall perform all analyses, develop recommendations, and document all work within the required time schedule as defined in the Task Work Orders.

6. The CONSULTANT will perform all tasks in accordance with all FDOT Guidelines and Standards, rules of the DEPARTMENT of Community Affairs, applicable Florida statutes and any other State laws and policies.

J. COMPUTER SERVICES
1. The CONSULTANT may be required to use the latest available versions of the following software:

a) Highway Capacity Software (HCS),
b) CORSIM
c) SYNCHRO
d) VISSIM
e) ART_PLAN, ART_TAB and all other FDOT Level of Service spreadsheets
f) Southeast Florida Regional Planning Model (SERPM), Cube Voyager, and the Network Information System (NIS), Southeast Regional Planning Model
g) MOBILE and EMIS emissions models
h) Any other software as indicated in a Task Work Order.

The DEPARTMENT will not be responsible for providing proprietary software packages to the CONSULTANT.

2. Should the CONSULTANT desire to use any DEPARTMENT programs permission must be granted in accordance with this agreement.

3. The CONSULTANT will be responsible for providing electronic copies (PDF) of all work products (reports, spreadsheets, datasets, drawings, graphics, etc.) to the DEPARTMENT in a format compatible with the DEPARTMENT'S computer systems.

4. Computations based on computer programs other than the DEPARTMENT'S must conform to all DEPARTMENT accuracy and format requirements.