

EXHIBIT “A”

SCOPE OF SERVICES

FOR

**DISTRICT WIDE TRANSPORTATION SYSTEM MANAGEMENT
AND OPERATIONS (TSMO):
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)
AND
ADVANCED TRAFFIC MANAGEMENT SYSTEMS (ATMS)
CONSULTANT**

DISTRICT THREE TRAFFIC OPERATIONS

**FPID NUMBER:
220898-9-32-01**

**DISTRICT THREE TRAFFIC OPERATIONS
DISTRICT WIDE TSMO: INTELLIGENT TRANSPORTATION SYSTEMS (ITS)
and
ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS)
CONSULTANT**

Financial Project IDs: 220898-9-32-01

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EXHIBIT “A”

FINAL SCOPE OF SERVICES

DISTRICT THREE TRAFFIC OPERATIONS DISTRICT WIDE TSMO: INTELLIGENT TRANSPORTATION SYSTEMS (ITS) and ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) CONSULTANT

Financial Project ID: 220898-9-32-01

1.0 PURPOSE

The Florida Department of Transportation (hereinafter called the Department) seeks Consultant services to provide a diversified range of services, including technical and administrative tasks for the Intelligent Transportation System (ITS) and Advanced Traffic Management System (ATMS) programs in District Three. Services are anticipated in all areas of ITS and ATMS, including, but not limited to: study, planning, architecture, design, integration, diagnostics, troubleshooting, management, review, evaluation, inspection, engineering, as well as participation in the District’s Traffic Incident Management (TIM) Team activities and CAV (Connected Automated Vehicle) program.

The Department shall request consultant services on an as-needed basis through task work orders issued by the Project Manager. There is no guarantee that any or all of the services described in this scope will be assigned during the term of this agreement. Further, the Consultant is providing these services on a nonexclusive basis. The Department, at its option, may elect to have any of the services set forth herein performed by other consultants or Department staff.

The Consultant shall provide qualified technical and professional personnel to perform all tasks and assignments to prevailing Department standards and procedures, as well as the duties and responsibilities assigned under the terms of this agreement and individual task work orders. The Consultant shall minimize, to the maximum extent possible, the District Traffic Operations Office’s need to apply its own resources to tasks assigned to the Consultant.

The Consultant may be requested to provide either full or part time personnel such as engineering interns, or general support staff, to be available to work with the District Traffic Operations Office. Such personnel provided by the Consultant, depending on their duties and responsibilities may be subject to Florida Department of Law Enforcement background checks. However, it should be noted that at the time of this advertisement, no personnel or services discussed in this paragraph are necessarily anticipated for any location.

2.0 OBJECTIVES

The Consultant is to provide the Department with professional services for conducting assigned work related to the ITS/ATMS programs for District Three. The analysis, conceptual recommendations and

other task products produced by the Consultant will provide valuable input into the development, implementation, as well as the continued operations and maintenance of ITS/ATMS projects in the region.

The Consultant shall demonstrate good project management practices while working on this project. These include communication with the Department and others as necessary, management of time and resources, and documentation of work efforts. The Consultant shall set up and maintain a contract file in accordance with Department procedures throughout the length of the contract. It shall be the Consultant's responsibility to utilize engineering judgment, best practices, and Department principles during the execution of the work commissioned under this contract.

The Department will provide contract administration, management services, and technical reviews of all work associated with Task Work Orders, as assigned. The Department will provide job-specific information and/or functions as outlined in this contract.

The Consultant is to provide multilevel priority on-site response to ATMS/traffic signal phasing, timing, coordination, and malfunction issues highlighted by concerned citizens, public officials, and law enforcement personnel. Onsite investigation and verification of these third-party observations shall result in analysis of hardware components as contributing factor to reported deficiencies, provision of coordination and assistance to traffic signal maintaining agency in troubleshooting, determination and implementation of incremental timing modifications, as well as continued monitoring and follow up with fine-tuning measures.

3.0 SERVICES

The Department shall authorize Task Work Orders for the services to be performed under this agreement. No work shall begin until a Task Work Order has been executed in writing by the Department. The issuance of these Task Work Orders will be dependent on the authorization and availability of funds and the Consultant's satisfactory performance of previously assigned tasks.

The list of potential tasks appearing below provides a brief overview of the services required. However, there may be other services required of the Consultant to complete task assignments. In those situations, the Consultant shall demonstrate to the Department's satisfaction its qualifications to perform the specified services. Each service listed may be modified as the individual tasks are assigned. The Consultant may be required to provide any one or more of the following engineering services or elements described herein, as required by the Department, and as applicable for a particular assignment, including but not limited to:

3.1 ITS/ATMS/CAV Planning, Research and Study Support Services

- A. Provide Systems Engineering support in accordance with FHWA Rule 940 as needed. Supplement District Three Planning activities to maintain a current Statewide ITS Architecture (SITSA) and Regional ITS Architecture (RITSA) for District Three, and coordinate with the local agencies in keeping their area or project ITS Architectures (PITSA) in conformance and compatibility with the SITSA and RITSA. Assist in addressing barriers, such as institutional issues and agreements, procedures, and policy changes.
- B. Conduct research to be used as input for other tasks. Research may include, but not be limited

to the following services:

- Conduct research of new or emerging ITS/ATMS technologies;
- Conduct research of deployed state-of-the-art ITS/ATMS;
- Review existing ITS/ATMS deployments of the Department and local government agencies;
- Review future ITS/ATMS deployments of the Department and local government agencies;
- Attend technical workshops, conferences, etc., on ITS/ATMS related topics;
- Conduct interviews with Department, local government agencies and MPO personnel to determine ITS/ATMS needs in rural and urban areas;
- Conduct research on multi-modal ITS/ATMS integration and coordination; and
- Conduct research of Advanced Public Transportation Systems (APTS).

C. Prepare cost effectiveness analyses for ITS/ATMS elements, which may include, but not be limited to the following services:

- Prepare benefit/cost studies on existing and proposed ITS/ATMS deployments;
- Prepare life-cycle cost analyses of existing or proposed ITS/ATMS deployments;
- Conduct an ITS/ATMS needs analysis on a corridor-wide basis;
- Provide value engineering analysis for proposed ITS/ATMS deployments;
- Prepare comparative engineering cost estimates; and
- Provide special engineering services, including special studies and economic advisory/analytical services.

D. Prepare ITS/ATMS/CAV conceptual deployment studies to guide the development and continued operation and maintenance of projects, which may include, but not be limited to the following services:

- Prepare “white papers” to address issues regarding ITS architectures, standards development and integration of ITS, etc.;
- Develop and maintain a list of key stakeholders (public and private) within the District;
- Provide assistance in obtaining stakeholder input through surveys, meetings and other means;
- Coordinate with MPOs and local government agencies as directed regarding projects and interrelated ITS/ATMS work;
- Provide ITS Architecture assistance to local government agencies and transportation agencies;
- Develop APTS and system integration strategies; and
- Develop ITS/ATMS Conceptual Designs for projects.
- Develop Long Term Operation and Maintenance Strategic Plans

E. Provide signalization warrant/justification reports, traffic counts with turning movements and pedestrian activity, and other traffic studies as required by the Department.

F. Assist, review and/or conduct a study on the effective use of Probe Vehicles for travel times for the District Three area.

- G. Assist, review and/or conduct a study on ITS/ATMS Performance Measures developed by the State Traffic Engineering and Operations Office for monitoring and reporting the effectiveness of ITS/ATMS deployments within District Three. Assist in the development and documentation of ITS/ATMS Performance Measures.
- H. Provide assistance with developing and maintaining an ITS/ATMS Strategic Plan for the District.

3.2 ITS/ATMS Project Management Support Services

- A. Provide miscellaneous assistance and support to individuals responsible for performing project management services.
- B. Coordinate the various ITS/ATMS deployment projects within the Department's Work Program and Cost Feasible Plan to provide scheduling and funding continuity.
- C. Assist in the preparation of draft Memorandum(s) of Understanding (MOUs), Joint Participation Agreements (JPAs), and Interlocal Agreements for ITS/ATMS Projects that require agreements with or between other agencies.
- D. Attend meetings, provide documentation, and develop and draft presentation materials for the following meetings, which include but are not limited to: TPO and subcommittee meetings, City Councils or Board of County Commissioners meetings, as well as all types of meetings associated with ITS/ATMS, including but not limited to, SunGuide Software Users Group, Change Management Board and ITS Working Group meetings.
- E. Serve as an expert witness in legal proceedings related to ITS/ATMS projects if required by the Department.
- F. Review plans and provide comments, attend meetings, and provide project management assistance for ITS/ATMS projects in District Three.
- G. Development of proper sequencing, staging, cost estimating, scheduling, and coordination of the various projects related to the ITS/ATMS effort in District Three including completing documents for updating the Work Program. All services shall be coordinated with the statewide ITS/ATMS effort in other Districts as well as the State Traffic Engineering and Operations Office as required.
- H. Provide coordination and assistance with the State Traffic Engineering and Operations Office and others on all matters pertaining to ITS/ATMS.
- I. Develop Scopes of Service for ITS/ATMS projects within the District.
- J. Advise and consult with the Department and provide expert advice on ITS/ATMS related issues.

- K. Prepare agendas, meeting minutes, and action item lists for ITS/ATMS project meetings.
- L. Prepare press releases, presentation materials, articles, advertisements, flyers, and handouts for matters relevant to ITS/ATMS deployments or programs in the District.
- M. Provide Project Management Services both conventional and system manager services.

3.3 ITS/ATMS/CAV Design Support Services

- A. Provide all necessary engineering and drafting services required for revising and updating previously prepared ITS/ATMS Design/Build RFP Documents, construction plans and specifications to conform to current FDOT and American Association of State Highway Transportation Officials (AASHTO) Standards and Specifications and the desires of the Department as communicated to the Consultant.
- B. Assist with or prepare new and complete Design/Build RFP Documents and preliminary construction plans and estimates, as well as associated design and procurement documentation.
- C. Design and prepare plans for any ITS/ATMS project, including any survey or geotechnical work that may be required. Prepare Special Provisions required for the construction of ITS/ATMS projects. Prepare a complete specifications package for ITS/ATMS projects, including applicable Technical Special Provisions and/or Modified Special Provisions for all items and areas of work. This includes coordination of review and approval at the District level and/or by the FDOT Central Office. Prepare Technical Special Provisions for equipment within ITS/ATMS projects and/or roadway projects being designed that modify or extend the limits of existing ITS/ATMS infrastructure through new construction projects.
- D. Review and consolidate comments on plans, specifications, Special Provisions, Technical Special Provisions, and other task products or deliverables developed and submitted by others.
- E. Review and consolidate comments on plans, specifications, Special Provisions, Technical Special Provisions, and other task products or deliverables developed by others related to lightning and surge suppression systems for ITS/ATMS devices. Investigative field reviews of sites to evaluate and document surge suppression failures may also be required as part of this task.
- F. Perform field reviews for projects as assigned to investigate problem areas and provide recommendation for corrective treatments.
- G. Design or develop concepts for ITS/ATMS devices and/or infrastructure that are included as part of roadway projects.
- H. Research and provide Right of Way (ROW) information that may be incorporated into the base plan preparation for ITS/ATMS projects.

- I. Provide engineering assistance for projects utilizing the System Engineering Process in accordance with Federal Highway Administration policy, including but not limited to developing System Engineering Management Plans for ITS/ATMS projects.
- J. Prepare permit application(s) as required for submittal to other agencies by the Department including forms and sketches. Provide assistance, reviews, comments, or other work as necessary to coordinate permitting for ITS/ATMS projects.
- K. Provide assistance, reviews, and comments of software documents being developed for the “SunGuide Software”, especially as they apply to District Three’s Regional Transportation Management Centers (RTMC) and local agencies’ Traffic Management Centers (TMC).
- L. Provide assistance with ITS/ATMS projects. Services may include, but are not limited to:
 - Plans Update;
 - Engineering Assistance;
 - Review of Shop Drawings, Submittal Data and RFIs;
 - Review of Test Procedures;
 - Review of Field and Central Testing;
 - Documenting Acceptance Testing Results and Configuration of all Devices, Equipment, and Hardware Installed by Contractors;
 - Review of As-Builts and Final Construction Documentation.
- M. Evaluate Manual of Uniform Traffic Control Devices (MUTCD) and Americans with Disabilities Act (ADA) conformance at signalized intersections and provide documentation of all necessary and recommended MUTCD and ADA improvements.
- N. The Consultant shall assist the Department in ITS and ATMS deployment as-built data collection, associated analysis, inventory management and associated documentation. Subtasks may include the investigation and acquisition of data in the field by physical or electronic means, or from preliminary plans, as-built drawings, and markups provided by the Department, consultants, contractors, or local agency personnel. Such data shall be analyzed, collated, categorized and organized according to the task at hand. Documentation shall consist of depicting and populating such data in plan sheets, diagrams, tables, spreadsheets, or databases as determined necessary and required by the Department.

3.4 ITS/ATMS Integration, Operations and Maintenance Support Services

- A. Develop, review, and assist others responsible for the administration of procurement documents, operations and maintenance agreements, memorandums of understanding, joint participation agreements.
- B. Provide data collection, signalization timing analysis and the development of signal timings for coordinated systems, including implementing and fine tuning the traffic patterns in the field. This may also require the development and implementation of Department approved pedestrian timings and vehicular clearance intervals.

- C. Serve as a primary or secondary point of contact for traffic signal phasing, timing, coordination, and malfunction issues highlighted by concerned citizens, public officials, and law enforcement personnel. Provide onsite follow-up in order to investigate and verify these third-party observations, and to identify or eliminate hardware components as contributing factor to deficiencies.
- D. Maintain the ability to provide a multilevel priority response to signalization issues as assigned by the Department. Priority response levels shall include an emergency (6 to 8 hour; 7-day per week) on-site response to critical traffic signalization issues, a priority (next business day; Mon-Fri) response to urgent traffic signalization issues, a standard (2-3 business days; Mon-Fri) response to routine traffic signalization issues, and a non-priority (2-3 weeks) response to general investigative traffic signalization issues.
- E. Perform on-site field investigations, determine necessary timing modifications, and accomplish timing implementation and fine-tuning efforts. Temporary, permanent, or incremental timing modifications performed by a traffic signal technician in the field shall be reviewed and authorized by a registered professional engineer.
- F. Act as liaison to the Department's Construction Office, maintaining agencies, contractors, etc., regarding proper installation of traffic control devices per Department requirements, plans and specifications.
- G. Provide customized ITS/ATMS training to Department staff, contractors, consultants, and maintaining agency representatives in certain circumstances when a special operating budget allocation for this specific purpose is established by the Department.
- H. Coordinate any services performed under this contract as appropriate with local public works officials, as well as consultants and contractors conducting work on the State Highway System.
- I. Perform traffic signal inspections and document findings for new and updated traffic signal deployments in District Three.
- J. Complete Quality Assurance Reviews on existing traffic control devices such as traffic signals, flashing beacons, or school zone beacons, etc.
- K. Investigate and report traffic signal equipment malfunctions to maintaining agencies and assist them in troubleshooting and restoring the traffic signal equipment to proper operation.
- L. Provide technical support and advice to traffic signal maintaining agencies on issues involving the installation, operation and maintenance of traffic signals throughout the District.
- M. Develop Operation Plans for the various RTMCs and/or TMCs in the District. Assist in establishing and refining the operational procedures for incorporation by appropriate managers into the associated day-to-day activities of the centers.

- N. Develop Concept of Operations (CONOPS) Plans for ITS/ATMS Projects within the District. Assist in establishing maintenance procedures for the various ITS/ATMS RTMCs and/or TMCs deployed within the District.
- O. Provide assistance with the management and operation of the Advanced Traveler Information System (ATIS) for District Three including, but not limited to, the 511 telephone service, and the websites for the various RTMCs and/or TMCs in the District.
- P. Develop procurement documents to procure contract services, equipment, or materials for operating and maintaining the ITS/ATMS systems deployed by the District and to maintain the supporting communications networks necessary to control these deployed systems.
- Q. Provide assistance with installation, configuration, system integration, inspection, maintenance, repair, troubleshooting and/or replacement of devices and equipment (hardware and software) utilized in any of the District's ITS/ATMS deployments. This work will include, but not be limited to, integration and configuration of computers, servers, software, Ethernet devices, various communication devices; as well as dynamic message signs (DMS), closed-circuit television (CCTV) cameras, detectors, highway advisory radio (HAR), road weather information systems (RWIS), and traffic signal controllers and among others, etc.
- R. Provide assistance and support to Department and local agency personnel responsible for the procurement of new or replacement electronic equipment, repair parts, or associated materials connected with Integration, Operations, and Maintenance Support Services. It should be emphasized that any new or replacement electronic equipment, repair parts, or associated materials connected with Integration, Operations, and Maintenance Support Services shall not be procured through this agreement, but by other means employed by the Department or its third party maintaining agencies and/or contractors.
- S. Provide miscellaneous assistance to others responsible for the management of contracts to support RTMCs and/or TMCs in the district.

3.5 ITS/ATMS Communication and Network Support Services

- A. Develop or review ITS/ATMS project requirements and hardware configuration analyses, including system architecture, interfaces, communications, equipment, devices, and computers to assure consistency and compatibility with existing and proposed equipment within the various RTMCs and/or TMCs in the District, with SunGuide compatibility requirements, and with the Statewide ITS/ATMS Specifications.
- B. Review and/or develop acceptance testing procedures, and perform and/or observe testing of all types of ITS/ATMS devices throughout all phases of ITS/ATMS projects or the applicable phases of roadway construction projects.
- C. Conduct system diagnostic and testing of ITS/ATMS devices and communications equipment and document the results.

- D. Assist in managing the Department's ITS/ATMS infrastructure and IP addresses using the FDOT Fiber Management Software developed by Byers, and coordinate with other agencies within District Three on their usage of the transportation related fiber optic systems. The Consultant shall input and maintain these records within the database system.

3.6 Incident Management Support Services

- A. Provide engineering/operations assistance for the Traffic Incident Management (TIM) Program both at the district and statewide level by reviewing documents, attending meetings, and assisting in the facilitation of TIM Teams in District Three. This work may include, but is not limited to:
- Maintaining TIM Team stakeholder contact database;
 - Facilitating Critical Traffic Incident Management Reviews following major incidents;
 - Developing meeting agendas and arranging meeting locations;
 - Providing notices for each meeting via email;
 - Developing a periodic electronic newsletter for TIM Teams;
 - Developing and preparing program material;
 - Facilitating TIM meetings, including confirming availability of computer equipment, audio/visual presentation equipment, and internet access during meetings;
 - Documenting the meetings with written minutes; and
 - Researching and supporting TIM Team activities between meetings.
- B. Assist, review and/or conduct a study on effective Detour Routes for use when freeways are closed and traffic is diverted. This may also include coordinating and meeting with local stakeholder agencies and the development of traffic signal detour timing plans.
- C. Develop concept, design, procurement documents, as well as an operating and maintenance plan for static or dynamic arterial trailblazer signs to be utilized for alternative routes in the event of major roadway closures.
- D. Develop bid documents to procure contract services for operating the Road Ranger Service Patrols (RRSP), the Rapid Incident Scene Clearance (RISC) Program, and/or Severe Incident Response Vehicle (SIRV) Team Program within the District.

4.0 **PROJECT REQUIREMENTS**

4.1 Plans Development

All plans will be developed utilizing Computer Aided Drafting and Design (CADD) systems. The Department makes available software to help assure quality and conformance with policies and procedures regarding CADD. It is the responsibility of the Consultant to meet the requirements in the Department's CADD Production Criteria Handbook. The Consultant will submit final documents and files as described therein.

All plans shall be in accordance with the current Department memorandums, Department's Plans Preparation Manual, Department's Quality Control Manual, current FDOT Roadway and Traffic Design Standards, Department's Facilities Design Manual, Department's Standard Specifications as modified, all Federal, State and County applicable building codes or approved procedures and any special design criteria from District Three. Plans shall be accurate, legible, and complete in design, furnished in reproducible form and shall be complete and suitable for bidding and construction purposes.

The Consultant shall be aware that as a project is developed, certain modifications and/or improvements to the task products may be required. The Consultant is to incorporate these refinements into the design and will consider this effort to be an anticipated and integral part of the work.

4.2 Specification Package

When required, the Consultant shall prepare and provide a complete specifications package, including applicable technical special provisions, for all items and areas of work.

The specifications package, and component parts thereof, will be prepared in accordance with the Specifications Package Preparation Procedure (Topic Number 630-010-005-i), the Specifications Handbook (Handbook for Preparation of Specifications Packages – January 1, 2023) and the Specification Development Procedure (Topic Number 630-010-001-h). The final specifications package shall be signed, dated and sealed in compliance with Chapter 471 F.S. (Engineering) or Chapter 481 F.S. (Architecture, Interior Design And Landscape Architecture), as appropriate. The work will be performed utilizing the latest specifications workbook issued by the Department and applicable to the scheduled construction contract letting for the specific project.

The Standard Specifications, Special Provisions or Supplemental Specifications may not be modified unless absolutely necessary to control project specific requirements. Any Modified Special Provisions to these standards shall be coordinated with the District Specifications Engineer and the Central ITS Office, and approved by the State Specifications Engineer, prior to inclusion in the final project specifications package.

4.3 Liaison Office

The Department and the Consultant will designate a Liaison Office and a Project Manager who shall be the representative of their respective organizations throughout the length of the contract. While it is expected the Consultant shall seek and receive advice from various state, regional and local agencies, the final direction on all matters of this project remain with the Department's Project Manager.

4.4 Key Personnel

The Consultant's work shall be performed and directed by the 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.

4.5 Progress Reporting

The Consultant shall meet with the Department as required and shall provide written progress and schedule status reports that describe the work performed on each Task Assignment. Progress and schedule status reports shall be delivered to the Department concurrently with the monthly invoice. The Project Manager will make judgment on whether work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished.

4.6 Correspondence

Copies of all written correspondence between the Consultant and any party pertaining specifically to this contract shall be provided to the Department for their records within one (1) week of the receipt or mailing of said correspondence.

4.7 Professional Endorsement

The Consultant shall have a Registered Professional Engineer in the State of Florida sign and seal all reports, documents, and plans as required by Department standards.

5.0 SUBCONTRACTING

Should the Consultant require the services of a specialist for any specialty work; the Consultant is authorized to subcontract upon written approval from the Department. Firms selected for subcontracts must be approved by the Department prior to the Consultant authorizing any such work. Written approval shall be in the format of a Contract Amendment, issued by the Professional Services Office. The Consultant shall be fully responsible for the satisfactory performance of all subcontracted work.

6.0 DEPARTMENT RESPONSIBILITIES

The Department will furnish any or all of the following items as appropriate, for performance of the required services:

- A. Review of Consultant's work effort.
- B. All previously completed field surveys, as required.
- C. All available roadway plans, bridge plans, right-of-way maps, studies and other available information pertinent to the project.
- D. All available traffic information.
- E. Right-of-way maps and legal descriptions that are not part of the Consultant's work effort, when required.
- F. Utility and railroad contacts and agreements.

- G. Pavement design where necessary.
- H. Coordination and processing of all permit applications.
- I. The Department will provide the necessary workbook and electronic files for proper completion of the specifications package.
- J. Provide all criteria and full information as to the Department's requirements for Consultant services including objectives, constraints, budgetary limitations and time constraints.