Purpose:

The Space Coast TPO requires the professional services of a Consultant(s) to develop an update to the 2015 Intelligent Transportation System (ITS) Master Plan for the Space Coast Transportation Planning Organization (TPO). Atkins Global (CONSULTANT) will assist the TPO with the Master Plan Update. The updated Plan will refresh the evaluation of the current systems in the Brevard County Area (referred to as County), re-evaluate future needs and formulate an implementation strategy for the future development and maintenance of the ITS. The Master Plan update shall incorporate various methodologies in conformance with the national, statewide, and regional architecture.

The final comprehensive report shall contain all essential technology information and recommendations and a system-wide implementation methodology. The updated plan will be in sufficient detail to format a sound basis for design, plans, specifications, and estimates to phase implementation of the projects. The updated report shall contain all necessary background research, technical analysis, and coordination with local and regional agencies.

The updated Plan must comply with federal regulations concerning the use of federal funds (and for all practical purposes, State of Florida funds as well). Specifically, ITS deployment is governed by 23 CFR Part 940.9 Section D of the Federal Highway Administration (FHWA) Final Rule (referred to herein as “FHWA Rule 940’) and a similar Federal Transit Authority (FTA) Policy covering transit ITS projects (the “FTA ITS Policy”).

Task 1 – Revisit and Update the ITS Vision, Goals and Objectives

The Consultant shall revisit and update the ITS Vision, Goals and Objectives for the project. As part of this task the Consultant shall work with the TPO staff to re-establish a Steering Committee for the project consisting of representatives from local municipalities, law enforcement, modal and transportation agencies. The Consultant shall meet with the Stakeholders on a periodic basis, shall familiarize them with basic concepts of Intelligent Transportation Systems (ITS), and shall solicit their guidance in the development of the updated ITS Vision, Goals and Objectives. The Goals and Objectives shall be based on the National ITS Architecture and shall also support the 2045 Long Range Transportation Plan goals.

Task 1 Deliverables
- Updated Vision, Goals and Objectives

Task 2 – Document Existing Conditions/ Infrastructure

The Consultant shall update the existing conditions of ITS related systems and networks currently deployed and planned in the County. Documentation shall include the quantity, condition, capability, and operability with ITS standards.
The Consultant shall document and/or evaluate relevant transportation systems. Work shall include: re-evaluation of the Advanced Traffic Management System (ATMS) and the equipment currently in use; reaffirming major traffic generators and identifying any new ones; updating park and ride facilities; updating of inter-modal facilities; and updating of evacuation routes. Documentation shall include updating the inventory using Geographic Information Systems (GIS).

The Consultant shall reconfirm communications systems and networks that are used by local municipalities and modal agencies. Systems may include traffic signal interconnections, wireless networks, radio systems, and other potential communications networks.

The Consultant shall also reconfirm the availability of fiber and conduit in the Florida Department of Transportation’s infrastructure running throughout the County. The Consultant shall update the qualitative assessment of the adequacy of these systems based on information received from persons responsible for operating and maintaining these systems.

The Consultant shall update the ways that transportation related information is disseminated by information service providers (ISPs) to travelers in the County. This documentation shall also identify the sources of information used by each of the ISPs.

The Consultant shall update the information flows associated with the identification and response to traffic incidents in the County. This shall include the nature of the information exchanged and the media that are used for the exchange of information among the following organizational units:

- Brevard 911/Communications Center
- Brevard County Sheriff’s Office
- Brevard County Fire Rescue
- Brevard County Emergency Medical Services
- Brevard County Public Works
- Brevard County Emergency Management Department
- Florida Highway Patrol
- Florida Department of Transportation
- Other municipalities and multi-modal agencies including Port Canaveral, Kennedy Space Center, Space Coast Area Transit and airports within Brevard County

The Consultant shall update where ITS is considered and included in recent transportation studies, such as in the TPO’s 2040 Long Range Transportation Plan and amendments, and other programmed construction projects that include ITS.

**Task 2 Deliverables**
- Draft and Final Existing Conditions Technical Memorandum
- Existing Conditions Maps with Arc GIS Shapefiles
- Existing Conditions Google Earth KML files
Task 3 – Identify Transportation ITS Needs
The Consultant shall re-evaluate deficiencies in the County’s transportation related systems through an assessment of the County’s transportation problems and needs. The Consultant shall take into consideration the TPO’s adopted Long Range Transportation Plan and municipal and agency plans when compiling these needs. Comments received from the Steering Committee, and through the assessment of information provided by the county and cities describing the existing conditions will also be considered. Findings shall be summarized in an easy to interpret format that lends to identification of relative priorities for each of the identified problems and needs.

The Consultant shall include review of current Traffic Management Center (TMC) planning progress, focusing on the County’s present and future needs. Update the information regarding central software and specific elements of a TMC, such as servers, video walls, encoders/decoders, workstations, racks, switches, etc. Strategic information such as capability of the TMC, detailed list of required equipment for a functional TMC, staffing needs, maintenance costs, and cost estimates will also be updated.

**Task 3 Deliverables**
- Draft and Final Needs Assessment Technical Memorandum

Task 4 – Identification of Applicable ITS Strategies
The Consultant shall review the updated transportation problems and needs identified in the preceding task as well as the 2015 ITS Master Plan. This review shall determine the nature and cause(s) of each problem or need and update if there are any candidate ITS improvements or strategies that can address or mitigate the problem or need. The Consultant shall also consider the potential for future technologies and how they may be utilized to meet needs. After candidate ITS improvement strategies have been identified, the candidates will be screened by the Consultant in consultation with TPO staff to establish an initial priority for each of the projects.

The Consultant shall document the findings of this task in a Technical Memorandum. A thorough discussion and review of all types of ITS tools shall be included with identification and justification for those specific tools which are most applicable to the function, operation and geographic needs of the County.

**Task 4 Deliverables**
- Draft and Final Applicable ITS Strategies Technical Memorandum
- Needs Maps with Arc GIS Shapefiles
- Needs Map Google Earth KML files

Task 5 Regional Architecture
The Regional Architecture helps define the elements of the ITS system and the standard information that is exchanged between these elements. The guidelines for developing a Regional Architecture are defined in the National ITS Architecture. The Consultant shall update the Regional Architecture to be followed in the implementation of improvements based on ITS Program progress since the 2015 ITS Master Plan development. The Consultant
shall work with TPO staff and the Steering Committee to determine the capabilities that are relevant to the County’s problems and needs, and to customize these capabilities to suit the County. The Consultant shall work with the local governments and agencies to develop an architecture that reflects their needs. The architecture shall be based on the National ITS Architecture, and shall complement FDOT’s Regional ITS Architecture (RITSA).

Task 5 Deliverables
- Draft and Final Regional Architecture Updates Technical Memorandum
- Transmit any needed RITSA updates to FDOT

Task 6 – Concept of Operations
The Consultant shall provide an update to the existing concept of operations that defines the roles and responsibilities for maintenance and operation of ITS and also includes the level of information sharing, status and control between agencies.

Task 6 Deliverables
- Updated Concept of Operations

Task 7 – Prioritized ITS Master Plan
The Consultant shall develop an updated and prioritized ITS Master Plan based on the work performed in the prior tasks and the 2015 version of the ITS Master Plan. This ITS Master Plan Update shall summarize the results of these tasks and shall provide a guide for the implementation of ITS elements over the short-term (0-5 years), medium term (6-10 years) and long term (11+ years).

The Consultant shall provide an updated Deployment Plan associated with this Master Plan that identifies a series of ITS projects that should be implemented by various modal agencies where applicable. This ITS Deployment Plan shall identify improvements associated with:

- Short Term Improvements
- Traffic Management Center
- Communications
- Geographic area with highest priority
- Medium Term Improvements
- Long Term Improvements

The Consultant shall provide an assessment for each project that includes the following information:

- Project Description
- If needed, level of Systems Engineering Management Plan (SEMP) required
- Benefits
- Assumptions
- Relationship of Projects to the System Architecture
The Consultant shall also provide an updated Implementation Plan in keeping with the requirements of the Code of Federal Regulations Title 23 (23 CFR). This Implementation Plan will incorporate the results of the work performed on this project and other information provided by the TPO.

**Task 7 Deliverables**
- Prioritized list of ITS projects for short, medium and long term
- Draft and Final Compiled ITS Master Plan in digital (PDF and editable format word, Indesign, etc.) and print formats (12 printed and bound final hard copies)
- Cost Estimate Spreadsheet(s)
- Draft SEMP template

**Project Meetings and Presentations:**

**Project Status Meetings:** Up to two (2) members of the CONSULTANT team will attend up to two (2) meetings with TPO staff to discuss project progress and receive input on tasks completed. The purpose of these meetings is to maintain clear communication between the TPO and the CONSULTANT team. The CONSULTANT will prepare a meeting agenda and prepare/distribute meeting notes following each of these meetings. Monthly coordination calls may also be conducted between the TPO and CONSULTANT project managers.

**Project Technical Steering Committee Meetings:** Up to four (4) project steering committees will be conducted with one being a kick-off meeting to discuss project progress and receive input on tasks. The purpose of these meetings is to maintain clear communication, receive direction and input on documentation, and provide guidance on project selection and prioritization. The CONSULTANT will prepare meeting agendas and prepare/distribute meeting notes following each of these meetings.

**Project Presentations:** It is anticipated that the CONSULTANT will make two presentation at the conclusion of the project to the following: 1. Presentation to the Technical and Citizens Advisory Committees of the TPO; and 2. Presentation to the TPO Governing Board. The CONSULTANT will be responsible for preparing the PowerPoint presentation but will coordinate with the TPO on what will be included in the presentation.

**Project Administration:**

**Quality Assurance/Quality Control:** The CONSULTANT team will designate appropriate senior staff to conduct Quality Assurance/Quality Control (QA/QC) reviews of work products.

**Project Schedule:** The CONSULTANT will prepare and submit within 30 days or receipt of Notice to Proceed, a detailed project schedule identifying major tasks, their durations, and tasks relationships. The CONSULTANT is responsible for keeping the schedule up to date. The beginning date of the services will be the date of authorization for this work order. Any
changes to the schedule necessitated by circumstances outside the CONSULTANT’s control will be coordinated with TPO staff. It is anticipated the project will be complete by Fall 2020 (12-18 month project schedule).

**Deliverable Coordination:** The CONSULTANT will prepare, package, and coordinate deliverables for Tasks 1-7 with the TPO.

**Invoices:** Invoices will be prepared in the format prescribed by the TPO. A detailed invoice including a narrative description of the work performed by the CONSULTANT during the period covered by the invoice for each item in the scope will be submitted. The final invoice will be labeled “Final” and is due 30 days after the final document is completed, all project close out procedures will be followed.

**Budget:** This work will be completed as a lump sum task order. A detailed summary budget table for Atkins Global is attached.

**Project Administration Deliverables**
- Project Schedule (initial and updates when necessary)
- Monthly Invoices and Progress Reports
- Project Administration
- Agenda and Meeting Minutes for each Technical Steering Committee meeting
- Up to 4 Technical Steering Committee meetings