U.S. Department of Transportation

Federal Highway Administration

Office of Operations

Performance Work Statement

for

Technical Support Services

DTFH61-16-D-00048	Atkins North America, Inc.
DTFH61-16-D-00049	Battelle Memorial Institute
DTFH61-16-D-00050	Booz-Allen Hamilton, Inc.
DTFH61-16-D-00051	Cambridge Systematics, Inc.
DTFH61-16-D-00052	ICF Incorporated, LLC
DTFH61-16-D-00053	Leidos, Inc.

TOPR No. HRDO101700000005PR /
"Opportunities to Improve Decision Support Subsystems for the Next Generation Traffic Management Systems and TMCs"

1.0 Overview

This is a non-personal services task order to provide support services in developing a technical guidance document to assist public agencies by enhancing the capabilities and performance of the decision support subsystems of their traffic management systems and traffic management centers (TMCs). The Government will not exercise any supervision or control over the contract or task order service providers performing the services herein. Such service providers shall be accountable solely to the Contractor who, in turn is responsible to the Government as defined in this Statement of Work (SOW). The Contractor shall perform to the standards herein.

1.1 Background

New and emerging sources of data generated from travelers using mobile devices, vehicles, infrastructure, and other sources will provide agencies with opportunities to consider making changes with how they manage traffic and their transportation systems. This increase in data that is expected to be generated from these sources will offer agencies with traffic management systems the challenge of potentially needing to enhance or develop the capabilities that may be necessary to collect, compile, save, use, and share this data. Legacy traffic management systems are designed around the collection of data from spot-sensors with limited data management, Information Technology (IT) hardware, and software capabilities.

There is limited information available on the data-related management capabilities, decision support subsystems, and how they are being used to meet the needs of traffic management systems or other agency business functions. Public agencies typically are conservative with making investments or upgrades (e.g., every 10 years) to the capabilities, software, database and data management practices, IT hardware, or software of their traffic management systems. Agencies typically do not have sufficient resources in their annual operating budget to update or improve the capabilities of their traffic management systems. This infrequent system update cycle is often due to system managers having to compete for, obtain approval and receive funding for these improvements through their agencies capital improvement program.

Agencies have limited resources and experience to draw from to benchmark the performance, capabilities, and determine what enhancements may be appropriate in the planning of enhancements to their systems services, functions, or capabilities. Resources do not exist to assist agencies in the planning for possible enhancements or assessing the implications changes in the design may have on its decision support subsystem and performance. Guidance is needed to assist agencies in the benchmarking, performance evaluation, planning, and design, of the design support subsystem and its components (e.g., architecture, data management, data bases, computing platform, central system software, and subcomponent interfaces).

These resources will assist agencies determining when and what may be incremental investments appropriate (e.g., minimal risk, limited cost) to enhance the capabilities and performance of their decision support system or when it may be appropriate to make substantial upgrades or improvements. The availability of continually evolving tools and technologies that could be used to aggregate, store, and analyze (e.g., online traffic analysis, predicting future conditions) new forms of traveler-related data and how decisions may be made by legacy traffic management systems present new challenges to agencies as they decide what path to pursue in the planning and design of future upgrades. As the capabilities of the decision support subsystems of these legacy systems are improved, agencies will have the ability to benefit from integrating connected

vehicles, mobile devices and other data sources into the day-to-day operation of these systems. Systems can be designed to analyze data and make decisions at different speeds and intervals through the use of a variety of tools, techniques, and with different levels of speed as a part of the decision support subsystem's online or off-line capabilities.

1.2 Objective

The objective of this task order is to develop a technical guidance document to assist public agencies to enhance the capabilities and performance of the real-time decision support subsystems of their traffic management systems and TMCs. This task order will develop guidance to position agencies transitioning legacy traffic management systems to developing the real-time decision support subsystems needed to meet their agencies evolving needs and demands. This guidance will also assist agencies to ensure their decision support subsystems will have the capacity to use the connected vehicle and traveler related data these systems will collect in the future.

The capabilities and performance of the Decision Support Subsystem (DSS) are critical to ensuring TMCs can meet the evolving expectation needs of public agencies and stakeholders who share information and coordinate their operations. Enhancing the DSS capabilities of these systems will allow them to collect, process, make decisions (e.g., implement actions, make predictions), and share information with other corporate management functions or with stakeholders, service providers, other public agency TMCs or management systems within a metropolitan area, region or state. This task order will synthesis current practices with planning and designing DSSs for TMCs, develop a framework to allow agencies to benchmark the capabilities and performance of their TMCs, and identify how innovative big data practices and technologies (e.g., high capacity computing, software and coding capabilities, use of data (e.g., processing, archiving and retrieval), and design techniques could be used to enhance the decision support capabilities and performance of these systems.

This task order will develop guidance to position agencies to transition legacy traffic management systems to develop the decision support subsystems needed to meet their agencies evolving needs and demands. This guidance will also assist agencies with preparing a concept of operation (e.g., scenarios, use cases), requirements and identifying issues to enable the decision support subsystem to make the decisions necessary to use connected vehicle and traveler data from mobile devices to enhance the performance of travelers and the management of travel. The ability for legacy traffic management systems to generate, use, coordinate with service providers and other systems managing travel within transportation corridors, and enhance the agencies decision making, situational awareness and sharing of information with other stakeholders, systems or agencies.

The guidance will also discuss the significance of developing concepts of operation and use cases for integrating advanced analytic techniques, online decision making, innovative technologies (e.g., High Performance Computing (HPC), data storage, data bases) and methods (e.g., software programming, distributed decision making) into the design of the decision support systems of the next generation traffic management systems. This project and the guidance to be developed will build off of the ITS project developing guidance on integrating big data techniques into transportation system management, ICM Program DSS workshop results, and TMC PFS products.

The stakeholders who will participate in the review of the documents to be developed will include but are not be limited to the TMC Pooled Fund Study Members, TRB Freeway Operations Committee members and friends, AASHTO TSM&O Subcommittee, CV PFS Members, and National Operations Center of Excellence participants.

1.3 Detailed Requirement

The Contractor shall provide all personnel, equipment, supplies, facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to perform the following tasks:

- Task 1: Project Management

- Task 2: Scan and Synthesis of Research and Practice

- Task 3: Traffic Management Systems and TMCs Decision Support Subsytems - Functions, Requirements & Components – White Paper

- Task 4: Developing and Improving Decision Support Subsystems for the Next Generation Traffic Management Systems and TMCs – Guidance Document

- Task 5: Outreach Material

Task 1: Project Management

The Contractor shall provide project management support and coordination to the Federal Highway Administration.

The Contractor shall attend a project kick-off meeting in the Washington, DC area within six weeks of the Task Order award. The Contractor shall deliver and present a draft work plan at the kick-off meeting to identify the overall sequence, schedule, interactions, and priority of the tasks. After discussions at the kick-off meeting, and review by the Task Order Contracting Officer's Representative (TOCOR), the Contractor shall refine the proposed work plan and deliver the revised plan to the TOCOR within two weeks upon receipt of comments.

The Contractor shall provide monthly status reports to the TOCOR. These reports shall cover the work progress of all tasks under this Task Order. The reports shall be in format as directed by the TOCOR and include the following items:

- Summary of the progress of each task with:
  - Status of each deliverable—including the outline, draft (or interim), and final versions
  - Major accomplishments
  - Near-term milestones
  - Variances from the current work plan, including planned corrective actions
  - Risks and risk mitigation activities
- Estimated percent complete of each task
- Funds spent and funds remaining by task

The Contractor shall also participate in bi-weekly teleconference calls to keep USDOT up to date on progress, to discuss project-related issues, and to refine project approaches and goals.

Note: The Work Plan shall be consistent with the task order and all exhibits. The Work Plan shall not be construed to override or change the requirement or exhibits of this task order. The controlling document for the requirement shall be the task order, its exhibits, and any modifications issued.

Task 1. Deliverables

- *Work Plan Briefing at the Kick-Off Meeting*
- *Draft Work Plan*
- *Final Work Plan*
- *Monthly Status Reports including risk log*

Task 2: **Scan and Synthesis of Practice**

The Contractor shall conduct a scan to identify innovative industry practices with planning, developing, implementing, operating, maintaining, and evaluating the real-time decision support subsystems for traffic management systems and TMCs. This scan will build upon the synthesis conducted and published for the Mobile Devices D2X Hub Project titled "Coordination of Mobile Devices: Technology and Standards Scan" (Report No. FHWA-JPO-15-220, June 15, 2015); FY2015 ITS Project synthesis of practice titled "Integrating Big Data Into Operational Practice"; FY2016 FHWA Project "Integrated Corridor Management Business Rules and Decision Support"; ICM Project Documents (e.g.; State of the Practice on Decision Support Systems for ICM, Real-Time Multi-Modal Decision Support Systems in Transportation Operations - Concept of Operations, Final Draft); Real-Time, Multi-modal Decision Support Systems in Transportation Operations: Functional, System and Data Requirements - Draft; FY2015 ITS Project "Integrating Big Data Into Operational Practice"; FY2016 FHWA Project "Integrated Corridor Management Business Rules and Decision Support"; and FY2017 FHWA Project "Next Generation Traffic Management System and TMC Decision Support Subsystems"; and the ITS V2I Program's Draft Multi-modal Transportation Operations Management Technical Memorandum: Defining a Vision for Future Operations Management.

The scan will include but not be limited to addressing the range of decision support subsystems used by traffic management systems and TMCs, identify the typical components, enabling technologies, operational considerations, platforms (e.g., architecture), design requirements and issues (e.g., software, integration) which may influence the performance and capabilities of each component or the entire subsystem. This scan will also identify and incorporate recommended practices from other industries which agencies should consider throughout the life-cycle of a decision support subsystem for a real-time management system. This report will also need to reflect innovative practices with how decision support subsystems could be integrated into the planning, design, development, implementation, testing, operation, maintenance, monitoring, and evaluation of the decision support subsystem and associated system and/or TMC.

This report shall be published and comply with FHWA's requirements for publications. The Contractor shall provide a briefing on the draft report via webinar with FHWA to facilitate a resolution of review comments and required revisions. The TOCOR will formally accept the final report prior to the Contractor beginning working on Task 3.

~~The Contractor shall conduct a scan to identify innovative industry practices with sharing data between connected vehicles, devices, and traffic management systems. This scan will build off of the synthesis conducted and report published by the Mobile Devices D2X Hub Project titled "Coordination of Mobile Devices: Technology and Standards Scan" (Report No. FHWA-JPO-15-220, June 15, 2015). This report shall be published and comply with FHWA's requirements for publications. The Contractor shall provide a briefing on the draft report via webinar with FHWA to review and discuss review comments and next steps.~~

~~The scan shall include a focus on the information needs and possible messages to support the decisions travelers may need to make while using a connected mobile device as they complete specific trips within the public-right-of-way. The scan shall include assessing the current and evolving technical capabilities of telecommunication methods, software and methods to process data, and capabilities of mobile devices, ITS Devices, and traffic management systems to support the sharing of data between these devices. This scan shall also assess what additional data or requirements (e.g., security credentials) may be appropriate to be included in the personal safety message (PSM) and personal mobility message (PMM) developed in the Mobile Devices D2X Hub Project or other possible messages to support the sharing of data.~~

~~The report prepared in this task shall build on, but not be limited to, documents generated by the other following projects:~~

- ~~D2X Hub~~
- ~~V2I Hub;~~
- ~~Transit Bus Stop Bus Stop Pedestrian Warning System; and~~
- ~~ITS Connected Vehicle Pilot Projects.~~

Task 2 Deliverables

- *Initial and revised draft of outlines of the scan report*
- *Draft and Final Scan Report*

Task 3: Traffic Management Systems and TMCs Decision Support Subsytems - Functions, Requirements & Components

The Contractor shall develop a white paper identifying innovative industry practices with planning, developing, implementing, operating, maintaining, and evaluating the real-time decision support subsystems for traffic management systems and TMCs. The purpose of this white paper is to support the project team identifying and selecting the range of issues, organization, and framework around which the information captured in the Synthesis Report prepared in Task 2. This white paper will not be published, rather it will be used by the FHWA project team and TOCOR to reach a consensus with how to organize the information in the Synthesis Report into an outline to support the approaches and processes agencies are expected to follow in the planning, developing, implementing, operating, maintaining, and

evaluating the real-time decision support subsystems for traffic management systems and TMCs. The Contractor shall provide a briefing on the initial and draft white papers via webinar to support the FHWA project team reviewing and reaching a consensus on the final white paper. The TOCOR will formally accept the final white paper prior to the Contractor beginning working on Task 4.

~~The Contractor shall develop a white paper identifying innovative industry practices with planning, developing, implementing, operating, maintaining, and evaluating the real-time decision support subsystems for traffic management systems and TMCs. This scan shall build off of the synthesis conducted and report published by the FY2015 ITS Project "Integrating Big Data Into Operational Practice", FY2016 FHWA Project "Integrated Corridor Management Business Rules and Decision Support", and the ICM Projects (e.g.; State of the Practice on Decision Support Systems for ICM, Real-Time Multi-Modal Decision Support Systems in Transportation Operations - Concept of Operations, Final Draft; Real-Time, Multi-modal Decision Support Systems in Transportation Operations: Functional, System and Data Requirements - Draft); FY2015 ITS Project "Integrating Big Data Into Operational Practice", FY2016 FHWA Project "Integrated Corridor Management Business Rules and Decision Support" and FY2017 FHWA Project "Next Generation Traffic Management System and TMC Decision Support Subsystems", and the ITS V2I Program's Draft Multi-modal Transportation Operations Management Technical Memorandum: Defining a Vision for Future Operations Management.. This report shall be published and comply with FHWA's requirements for publications. The Contractor shall provide a briefing on the draft report via webinar with FHWA to review and discuss review comments and next steps.~~

Task 3. Deliverables

- ***Briefings on Initial and Draft White Papers***
- *Initial Draft of White Paper*
- *Draft White Paper*
- *Final White Paper*

Task 4: Developing and Improving Decision Support Subsystems for the Next Generation Traffic Management Systems and TMCs – Guidance Document

~~The Contractor shall develop a technical guidance document to support public agencies planning for, developing and Improving Decision Support Subsystems for the Next Generation Traffic Management Systems and TMCs.~~ ***The Contractor shall develop a technical guidance document to support public agencies with the planning, developing and improving decision support subsystems for the next generation of traffic management systems and TMCs.*** The Contractor shall develop a technical guidance document to assist public agencies with integrating the DSS of these systems into the development of a concept of operation, use cases and requirements to support the sharing and using of data generated by connected devices, traffic, and transit management systems. The capabilities and performance of the DSS are critical to ensuring TMCs meet the evolving needs of public agencies and stakeholders who share information and coordinate their operations.

Enhancing the DSS capabilities of these systems will allow them to collect, process, make decisions (e.g., implement actions, make predictions), and share information with other corporate

management functions or with stakeholders, service providers, other TMCs or management systems within a metropolitan area, region or state. This guide shall include the current practices with planning and designing DSSs for TMCs, develop a framework to allow agencies to benchmark the capabilities and performance of their DSSs, and identify how innovative big data practices and technologies (e.g., high capacity computing, software and coding capabilities), use of data (e.g., processing, archiving and retrieval), and design techniques could be used to enhance the DSS capabilities and performance.

This guidance will also position agencies to transition from legacy decision support subsystems or develop new subsystems into existing or new traffic management systems and TMCs to meet the evolving needs of their agencies and other systems which rely on or could use information these systems may share. This guidance shall also assist agencies to ensure their decision support subsystems have the capability to use the connected vehicle and traveler related data these systems will collect in the future. This guidance will address assessing the current capabilities for legacy or new traffic management systems to collect, process, save, use, and share data to coordinate with service providers and other systems managing travel within transportation corridors to enhance the agencies decision making, situational awareness and sharing of information with other stakeholders, systems or agencies.

~~The Contractor shall develop guidance to position agencies to transition legacy traffic management systems to develop the decision support subsystems needed to meet their agencies evolving needs and demands. This guidance shall also assist agencies to ensure their decision support subsystem will have the ability to use the connected vehicle and traveler related data these systems will have the ability to collect in the future. The ability for legacy traffic management systems to generate, use, coordinate with service providers and other systems managing travel within transportation corridors, and enhance the agencies decision making, situational awareness and sharing of information with other stakeholders, systems or agencies.~~

This document shall include a process and issues for agencies to consider with assessing the capabilities of their current system or to identify improvements which may be needed to support the real-time decision support subsystem of these systems. This document shall also include a framework to allow agencies to identify inputs into this process by tracing from the strategic vision, goals or objectives, concept of operations and scenarios, or functions that may exist within a state, regional, corridor, program, or agency strategic plan. These inputs will be important to support agencies identifying the priorities and issues to consider in the process of developing a concept of operation and selecting possible scenarios, use cases, functions, requirements, or messages that may be need to design the decision support subsystem.

~~This document shall be developed in a manner consistent with the guidance and resources the ITS Program and FHWA have developed for the National ITS Architecture, ITS standards, the System Engineering Process, and other related resources. The technical focus and detail expected to be included in this document shall be similar to the "Ramp Management and Control Handbook" (Report No. FHWA-HOP-06-001) which is available at: https://ops.fhwa.dot.gov/publications/ramp_mgmt_handbook/manual/manual.~~

~~The document to be developed by the Contractor shall include as many as 15 different chapters. Individual chapters shall be developed for at least four different scenarios and use cases that will be selected in support of identifying the requirements and messages to be sent or received from connected mobile devices travelers may be using in support of completing trips within the public right-of-way. These different scenarios and use cases shall be framed in the document produced in Task 3. Examples of the type of scenarios and use cases that may be considered could include a pedestrian using a mobile device walking and using different transit vehicles to reach the desired destination, a traveler using a mobile device using a bicycle, a traveler with special needs, or several travelers using a mobile device with similar but different destinations. Each of these chapters shall address all of the messages that would be required to complete the trip and the requirements associated with when they would need information prior to making the decisions they would be making during the trip.~~

The document to be developed by the Contractor shall include as many as 20 different chapters. This document shall be developed in a manner consistent with the guidance and resources the ITS Program and FHWA have developed for the National ITS Architecture, ITS standards, the System Engineering Process, and other related resources. The technical focus and detail expected to be included in this document shall be similar to the "Ramp Management and Control Handbook" (Report No. FHWA-HOP-06-001) which is available at: https://ops.fhwa.dot.gov/publications/ramp_mgmt_handbook/manual/manual.

The development of this document will receive substantial review and consideration by different industry stakeholders. FHWA will facilitate the outreach and engagement with these different groups throughout the development of this guidance and the other products developed in this task order. The Contractor shall be required to participate in webinars or presentations that may take place specific for this project or at industry workshops, conferences, or meetings. The Contractor shall participate in meetings to discuss review comments provided on the draft and final annotated outlines along with initial and final draft chapters of the document.

Task 4 Deliverables

- *Initial, draft and final outlines and annotated outlines*
- *Initial, draft, and revised final draft of each chapter and the document*

Task 5: Outreach Material

This task shall include the development and update of the outreach material products. The Contractor shall submit for review and approval a project fact sheet, presentation on the project, presentation on the subject matter, and questions and answers. USDOT will be responsible for the approval and printing or distributing any of these products developed in this Task Order.

The Contractor shall develop, submit for review and approval to the TOCOR, and update as needed throughout the project the following list of outreach material:

-*Project fact sheet.* The purpose of the project fact sheet is to identify the project's purpose, objectives, products to be developed, key issues to be addressed, products to be produced, and their potential benefit or value to the intended audience. The initial version of the fact sheet is to focus on the project and the products to be produced in this task order. Prior to completing the

task order, the Contractor shall submit a final fact sheet which summarizes the results of material captured in the final report. The final version of this fact sheet shall conform to the FHWA publication guidelines and requirements specified in this task order. A fact sheet considered to be acceptable example of what the Contractor will develop for this task is the "Using Portable Traffic Monitoring Devices (PTMDs) in Work Zones" Fact Sheet (#18, Summer 2013) which is available at: http://ops.fhwa.dot.gov/wz/practices/factsheets/factsheet18.htm.

The Contractor shall submit an initial draft two-page project fact sheet after the kick-off meeting. The Contractor shall submit a revised draft incorporating the comments received from the TOCOR. The Contractor shall update the fact sheet as appropriate at key milestones during the project as directed by the TOCOR.

-*Project presentation.* This presentation shall provide an overview of the project (e.g., issues/challenges in current practice, challenges with integrating mobile devices into day-to-day operations, what opportunities may exist with connected vehicles and travelers, purpose and objectives of project, products to be developed, key issues to be addressed, and potential benefit or value to the intended audience, etc.) and other topics included on the project's fact sheet. The presentation shall include speaker notes.

The Contractor shall submit a draft copy of the presentation after the kick-off meeting. The Contractor shall submit a revised draft and final presentation incorporating the comments received during and after the kick-off meeting. The Contractor shall update this presentation as appropriate at key milestones during the project, including after the completion of different tasks in the project to incorporate the updated information. The final presentation shall include an overview of the key deliverables, key findings, lessons learned, and recommended practices. FHWA will be responsible for the publication and distribution of these products or posting on FHWA's web site.

-*Questions and Answers:*

The purpose of the questions and answers to be developed by the Contractor is to provide the general background information on the products produced by this project along and the challenges and opportunities with integrating date from connected devices travelers may use into the management and operation of transit vehicles and traffic management systems. The questions and answers shall include 30 key issues on this project and the importance and issues to consider with integrating connected travelers and their mobile devices with the management and operation of transit vehicles. The intended audience for these questions and answers are a non-technical audience (e.g., public, media).

The level of effort for this subtask is considered to be very minor based on the expectation the text for many of the questions and answers can be developed using the material prepared for the project and fact sheets. Examples of acceptable deliverables the Contractor can use in developing this product include the Washington DOT HOV System Program on HOV Lanes (http://www.wsdot.wa.gov/hov/) and Value Pricing Facts and Frequently Asked Questions (http://www.hhh.umn.edu/centers/slp/projects/conpric/index.htm).

The Contractor shall submit a list of the proposed questions after the draft report for the project is submitted. The Contractor shall submit a revised list of the questions after comments are received from the TOCOR. The Contractor shall submit the final list of questions and draft answers to the TOCOR. The Contractor shall submit the final list of questions and answers after comments are received from the TOCOR.

The Contractor may be required to perform minor editorial revisions to the final product submitted to ensure the questions and answers comply with required FHWA publication requirements. FHWA will be responsible for the publication, distribution or posting of this product on FHWA's web site.

Task 5 Deliverables:

- Project Fact Sheet (Draft)
- Project Fact Sheet (Final)
- Project Fact Sheet (Draft and Final at End of Project)
- Project Presentation (Draft)
- Project Presentation (Final)
- Project Presentation (Draft and Final at End of Project)
- Questions and Answers (Draft)
- Questions and Answers (Final)
- Questions and Answers (Draft and Final at End of Project)

2.0 Period of Performance

The period of performance shall be a base period of 30 months.

3.0 General

N/A

3.1 Hours of Operation

N/A

3.2 Place of Performance

The work to be performed under this task order shall be performed at the Contractor's facility, except when the Contractor's presence is needed at a meeting with stakeholders (e.g., SDOs) as directed or in Washington (e.g., USDOT Headquarters, FHWA Office of Research, Development and Technology).

3.3 Physical Security

N/A

3.4 Special Qualifications

While no specific professional certifications are required for this work; this task requires the following knowledge, skills and experience related to:

1. Knowledge and experience working with Intelligent Transportation Systems (ITS)
2. Knowledge and experience working with Transportation System Management and Operations
3. Knowledge of ITS Architecture and Standards
4. Knowledge and experience working with techniques to share data between connected vehicles, devices (e.g., smart phones, ITS devices, road weather), traffic management systems, and transit vehicles
5. Knowledge and experience working with different telecommunication medium (e.g., cellular, DSRC, wifi, Bluetooth)
6. Knowledge and experience working with software for traffic or transit management
7. Knowledge of policy and institutional issues relating to ITS projects
8. Technical Writing

3.5 Periodic Progress Meetings

The Contractor agrees to attend progress meetings, which may be held via phone and webinar. The Contracting Officer or Contracting Officer's Representative (COR), and other Government personnel, as appropriate, may meet periodically with the Contractor to review the Contractor's performance. At these meetings, the COR will apprise the Contractor of how the government views the Contractor's performance and the Contractor will apprise the Government of problems, if any, being experienced. Appropriate action shall be taken to resolve outstanding issues. These meetings shall be at no additional cost to the Government.

3.6 Identification of Contractor Employees

All Contractor personnel attending meetings and working in other situations where their Contractor status is not obvious to third parties are required to identify themselves as such to avoid creating an impression in the minds of members of the public that they are Government officials. They must also ensure that all documents or reports produced by Contractors are suitably marked as Contractor products or their participation is appropriately disclosed.

3.7 Contractor Travel

The Contractor shall be required to travel throughout CONUS during the performance of this task order to attend meetings, conferences, or workshops to Washington, DC. The Contractor may be required to travel to other locations in support of this task order. All travel requires Government approval/authorization and notification to the TOCOR.

3.8 Materials

This category includes travel, reproduction, and shipping expenses associated with training activities and visits to Contractor facilities.

3.9 Organizational Conflict of Interest

Contractor and subcontract personnel performing work under this award may receive, have access to, or participate in the development of proprietary or source selection information (e.g., cost or pricing information, budget information or analyses, specifications or work statements, etc.), or perform evaluation services which may create a current or subsequent Organizational Conflict of Interests (OCI) as defined in FAR Subpart 9.5. The Contractor shall notify the CO immediately whenever he/she becomes aware that such access or participation may result in any

actual or potential OCI, and may merit the submittal of a plan to the CO to avoid or mitigate any such OCI. This mitigation plan would be determined to be acceptable solely at the discretion of the CO, and in the event the CO unilaterally determines that any such OCI cannot be satisfactorily avoided or mitigated, the Contracting Officer may effect other remedies as he or she deems necessary, including prohibiting the Contractor from participation in subsequent contracted requirements which may be affected by the OCI.

3.10 Phase-In/Phase-Out Period
N/A

3.11 Data Rights
The Government has unlimited rights to all documents/material produced under this task order. All documents and materials, to include the source code of any software produced under this contract, shall be Government owned and the property of the Government with all rights and privileges of ownership/copyright belonging exclusively to the Government. These documents and materials may not be used or sold by the Contractor without written permission from the CO. All materials supplied to the Government shall be the sole property of the Government and may not be used for any other purpose. This right does not abrogate any other Government rights.

The Contractor agrees that the resulting final products and technical deliverable documentation submitted to the USDOT under this contract can be posted online for public access and/or shared by USDOT with other interested parties. USDOT anticipates the final technical deliverable documentation cited herein may be posted on a USDOT website or other appropriate website. Note: All documents posted on the USDOT/FHWA website must be Section 508 compliant.

4.0 Government Furnished Equipment and Services

4.1 Services
N/A

4.2 Facilities
N/A

4.3 Materials
N/A

5.0 Applicable Publications (Current Editions)
N/A

5.1 Applicable Clauses

52.217-8 Option to Extend Services
The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6

months. The Contracting Officer may exercise the option by written notice to the Contractor within the task order period.

52.217-9 Option to Extend the Term of the Contract
(a) The Government may extend the term of this contract by written notice to the Contractor any time prior to contract expiration, provided that the Government gives the Contractor a preliminary written notice of its intent to extend any time before the contract expires. The preliminary notice does not commit the Government to an extension.
(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.
(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed **30** months.

6.0 Exhibit List

6.1 Exhibit 1
Performance Requirements Summary

6.2 Exhibit 2
Deliverables Schedule

6.3 Exhibit 3
Schedule of Services (to be included at award)

TECHNICAL EXHIBIT 1

PERFORMANCE REQUIREMENTS SUMMARY

The Contractor service requirements are summarized into performance objectives that relate directly to mission essential items. The performance threshold briefly describes the minimum acceptable levels of service required for each requirement, which are critical to mission success.

Performance Objective	***Performance Standard***	**Performance Threshold**	**Method of Surveillance**
Task 2 – Scan and Synthesis of Research and Practice – White Paper			
PRS # 1 The Contractor shall provide a Final Technical Report	The Contractor provided a Final Technical Report addressing the appropriate content in accordance with Section 1.3 of the task order and incorporating appropriate changes/ comments suggested by FHWA.	Zero technical errors and no more than three grammatical errors.	100%, FHWA will verify that appropriate content was included and comments addressed upon receipt
Task 3: Priority Use Cases, Traveler Information Requirements and Messages – White Paper			
PRS # 2 The Contractor shall provide a Final Technical Report	The Contractor provided a Final Technical Report addressing the appropriate content in accordance with Section 1.3 of the task order and incorporating appropriate changes/ comments suggested.	Zero technical errors and no more than three grammatical errors.	100%, FHWA will verify that appropriate content was included and comments addressed upon receipt
Task 4: Concepts of Operation, Scenarios and Use Cases - Guidance Document			
PRS # 3 The Contractor shall provide a Final Technical Report	The Contractor provided a Final Technical Report addressing the appropriate content in accordance with Section 1.3 of the task order and incorporating appropriate changes/ comments suggested by FHWA	Zero technical errors and no more than three grammatical errors.	100%, FHWA will verify that the appropriate content was included and comments addressed upon receipt
Task 5: Outreach Material			

PRS # 10 The Contractor shall provide a Final version of the Outreach Material (Fact Sheet, Presentation, Questions and Answers)	The Contractor provided a Draft and Final versions of the Outreach Material addressing the appropriate content in accordance with Section 1.3 of the task order and incorporating appropriate changes/ comments suggested by FHWA	Zero technical errors and no more than three grammatical errors.	100%, FHWA will verify appropriate content was addressed upon receipt and during briefing

TECHNICAL EXHIBIT 2

DELIVERABLES SCHEDULE

This technical exhibit lists any reports or documentation that is required as a deliverable to include the frequency, number of copies, medium/format, and who/where it is to be submitted. A deliverable is anything that can be physically delivered but may include non-physical things such as meeting minutes. Unless otherwise specified, all deliverables are to be submitted to the TOCOR and COR.

Unless stated elsewhere in this task order, the COR will have 14 calendar days to review draft deliverables and make comments. The Contractor shall have 14 calendar days to make corrections and return the corrected draft deliverable to the Government. This is considered "turn" 1, turn 1 a primary turn by default is 14 calendar days per side, subsequent secondary "turns" will be limited to 7 calendar days per side. If accepted, the Contractor will have 14 calendar days to prepare the draft final for review (PDF version of the actual document).

FHWA will start the internal review for clearance process, consisting of review by the Office of Operations' (HOP) Marketing and Outreach Coordinator (Coordinator), Information Specialist, Office of Chief Counsel, and Office of Public Affairs. Please note this process can take up to 4 months of review time.

For further clarification, a draft is the stage where the COR/TOCOR reviews the deliverable. The final draft deliverable is the stage where the HOP Coordinator, Information Specialist, Office of the Chief Counsel, and Public Affairs reviews the deliverable. The final draft deliverable stage cane take up to the 4 months of review time. The deliverable isn't considered final until Public Affairs accepts the deliverable. The COR will notify the Contractor and accept the deliverable.

Deliverable	Print Ready And/or 508	Frequency *(From task order award or as specified)*	# of Copies	Medium/ Format	Submit To
Task 1 – Project Management					
Work Plan Briefing	Print No 508 No	4 weeks	1	Microsoft Office (Word, Power Point)	COR TOCOR
PRS # 1 Draft Work Plan	Print No 508 No	6 weeks	1	Microsoft Office (Word)	COR TOCOR
PRS # 2 Final Work Plan	Print No 508 No	1 week after Government comments	1	Microsoft Office (Word)	COR TOCOR
PRS # 3 Monthly Status Reports	Print No 508 No	Monthly - Throughout	1	Microsoft Office (Word)	COR TOCOR
Task 2 – Scan and Synthesis of Research and Practice – White Paper					

Deliverable	Print Ready And/or 508	Frequency *(From task order award or as specified)*	# of Copies	Medium/ Format	Submit To
PRS # 4 Draft and Final Outline of Technical Report	Print No 508 No	3 and 4 months after award	1	Microsoft Office (Word)	TOCOR
PRS # 5 Draft and Final Technical Report	Print Yes (final) 508 Yes (final)	7 and 9 months after award (assumes USDOT comments received within 3 weeks)	n/a	Microsoft Office (Word) GPO Print Package 508 HTML	TOCOR
Task 3: Decision Support Subsystems – Components, Functions, Requirements, and Design Considerations – White Paper					
PRS # 6 Draft and Final Outline of Technical Report	Print No 508 No	6 and 7 months after award	1	Microsoft Office (Word)	TOCOR
PRS # 7 Initial, Draft and Final Technical Report	Print Yes (final) 508 Yes (final)	9, 11 and 13 months after award (assumes USDOT comments delivered within 3 weeks)	n/a	Microsoft Office (Word) GPO Print Package 508 HTML	TOCOR
Task 4: Decision Support Subsystems for the Next Generation Traffic Management Systems and TMCs - Guidance Document					
PRS # 8 Draft and Final Outline of Technical Report	Print No 508 No	11 and 13 months after award (assumes USDOT comments delivered within 3 weeks)	1	Microsoft Office (Word)	TOCOR
PRS # 9 Initial, Draft and Final Technical Report	Print Yes (final) 508 Yes (final)	18, 22 and 26 months after award (assumes USDOT comments received within 4 weeks)	1	Microsoft Office (Word) GPO Print Package 508 HTML	TOCOR
Task 5: Outreach Material					
PRS # 10	Print No	3 and 5 months		Microsoft	TOCOR

Deliverable	Print Ready And/or 508	Frequency *(From task order award or as specified)*	# of Copies	Medium/ Format	Submit To
Initial and Draft Outreach Material	508 No	after award		Office (Word)	
PRS # 11 Final Outreach Material	Print Yes 508 Yes	28 months after award (assumes USDOT comments received w/in 3 weeks)		Microsoft Office (Word) GPO Print Package 508 HTML	TOCOR