

## CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

	REQUISITION NUMBER	DUE DATE	TIME DUE
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	
DESCRIPTION			
<b>MDOT PROJECT MANAGER:</b> Check all items to be included in RFP  WHITE = REQUIRED ** = OPTIONAL  Check the appropriate Tier in the box below		<b>CONSULTANT:</b> Provide only checked items below in proposal	
<input type="checkbox"/> <b>TIER I</b> (\$50,000 - \$150,000)	<input type="checkbox"/> <b>TIER II</b> (\$150,000-\$1,000,000)	<input type="checkbox"/> <b>TIER III</b> (>\$1,000,000)	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understanding of Service **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Organizational Chart
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team
Not required as part of Official RFP	Not required as part of Official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Location:</b> The percentage of work performed in Michigan will be used for all selections unless the project is for on-site p=inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	<input type="checkbox"/>	Presentation **
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)
3 pages (MDOT Forms not counted) ( <b>No Resumes</b> )	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP <b>not including key personnel resumes.</b> Resumes limited to 2 pages per key staff personnel.

**PROPOSAL AND BID SHEET EMAIL ADDRESS – [mdot-rfp-response@michigan.gov](mailto:mdot-rfp-response@michigan.gov)**

### GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least five (5) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal.

### MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

**5100D** – Request for Proposal Cover Sheet

**5100J** – Consultant Data and Signature Sheet (Required only for firms not currently prequalified with MDOT)

**(These forms are not included in the proposal maximum page count.)**

# REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest (Consultant/Vendor Selection Guidelines for Services Contracts” and “Guideline for Completing a Low Bid Sheet(S)\*, if a low bid is involved as part of the selection process. **Reference Guidelines are available on MDOT’s website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

**RFP SPECIFIC INFORMATION**

ENGINEERING SERVICES                       BUREAU OF TRANSPORTATION PLANNING                       OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS  
 NO                                               YES                                              DATED \_\_\_\_\_ THROUGH \_\_\_\_\_

<input type="checkbox"/> <b>Prequalified Services</b> – See the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> <b>Non-Prequalified Services</b> – If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT’s Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. <b>Form 5100J is required with Proposal for firms not currently prequalified with MDOT</b>
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**Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

**For all Qualifications Based Selections**, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

**For a cost plus fixed fee contract**, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor’s job-order accounting system.

**Qualification Based Selection / Low Bid** – Use Consultant/Vendor Selection Guidelines. See Bid Sheet instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted. The vendor that has met established qualification threshold and with the lowest bid will be selected.

**Best Value** – Use Consultant/Vendor Selection Guidelines, See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

**Low Bid** (no qualifications review required – no proposal required.) See Bid Sheet Instructions below for additional instructions.

**BID SHEET INSTRUCTIONS**

Bid Sheet(s) must be submitted in accordance with the “Guidelines for Completing a Low Bid Sheet(s)\* (available on MDOT’s website). Bid Sheet(s) are located at the end of the Scope of Services. Submit bid sheet(s) with the proposal, to the email address: [mdot-rfp-response@michigan.gov](mailto:mdot-rfp-response@michigan.gov). Failure to comply with this procedure may result in your bid being rejected from consideration.

**PARTNERSHIP CHARTER AGREEMENT**

MDOT and ACEC created a Partnership Charter Agreement which establishes guidelines to assist MDOT and Consultants in successful partnering. Both the Consultant and MDOT Project Manager are reminded to review the [ACEC-MDOT Partnership Charter Agreement](#) and are asked to follow all communications, issues resolution and other procedures and guidance’s contained therein.

**NOTIFICATION  
MANDATORY ELECTRONIC SUBMITTAL**

**Proposals submitted for this project must be submitted electronically.**

**The following are changes to the Proposal Submittal Requirements:**

- Eliminated the Following Requirements:
  - Safety Program
  - Communication Plan
  - Past Performance as *a separate section*
  - Separate section for DBE Statement of goals. Include information in Qualification of Team section
  
- Implemented the Following Changes:
  - All proposals require an Organization Chart
  - Resumes must be a maximum of two pages
  - Only Key (lead) staff resumes may be submitted
  - Tier III proposal reduced from 19 to 14 pages
  - Forms 5100D, 5100I, and 5100G combined – 5100D
  - Forms 5100B and 5100H combined – 5100B
  - RFP's will be posted on a weekly basis -- on Mondays

**The following are Requirements for Electronic Submittals:**

- Proposals must be prepared using the most current guidelines
- The proposal must be bookmarked to clearly identify the proposal sections (See Below)
- For any section not required per the RFP, the bookmark must be edited to include “N/A” after the bookmark title.  
**Example:** Understanding of Service – N/A
- Proposals must be assembled and saved as a single PDF file
- PDF file must be 5 megabytes or smaller
- PDF file must be submitted via e-mail to [MDOT-RFP-Response@michigan.gov](mailto:MDOT-RFP-Response@michigan.gov)
- MDOT's requisition number and company name must be included in the subject line of the e-mail. The PDF shall be named using the following format:
  - Requisition#XXX\_Company Name.PDF
- MDOT will not accept multiple submittals
- Proposals must be *received* by MDOT on or before the due date and time specified in each RFP

**If the submittals do not comply with the requirements, they may be determined unresponsive.**

The Consultant's will receive an e-mail reply/notification from MDOT when the proposal is received. Please retain a copy of this e-mail as proof that the proposal was received on time.  
**Consultants are responsible for ensuring the MDOT receives the proposal on time.**

**\*\*Contact Contract Services Division immediately at 517-373-4680 if you do not get an auto response\*\***

**Required Bookmarking Format:**

- I. Request for Proposal Cover Sheet Form 5100D
  - A. Consultant Data and Signature Sheet, Form 5100J (if applicable)
- II. Understanding of Service
  - A. Innovations
- III. Qualifications of Team
  - A. Structure of Project Team
    - 1. Role of Firms
    - 2. Role of Key Personnel
  - B. Organization Chart
  - C. Location
- IV. Quality Assurance / Quality Control Plan
- V. Resumes of Key Staff
- VI. Pricing Documents/Bid Sheet (if applicable)

**2/14/12**

**NOTIFICATION  
E-VERIFY REQUIREMENTS**

E-Verify is an Internet based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring, under Public Act 200 of 2012, Section 381, that as a condition of each contract or subcontract for construction, maintenance, or engineering services that the pre-qualified contractor or subcontractor agree to use the E-Verify system to verify that all persons hired during the contract term by the contractor or subcontractor are legally present and authorized to work in the United States.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: <http://www.dhs.gov/E-Verify>.

The documentation supporting the usage of the E-Verify system must be maintained by each consultant and be made available to MDOT upon request.

It is the responsibility of the prime consultant to include the E-Verify requirement documented in this NOTIFICATION in all tiers of subcontracts.

9/13/12

**SCOPE OF SERVICE  
For  
SPECIALTY SERVICE  
Michigan Department of Transportation**

**CONNECTED & AUTOMATED VEHICLE INDUSTRY COORDINATION  
FY2014-2016**

**I. PURPOSE**

To ensure that the Michigan Department of Transportation (MDOT) is contemporary with the industry's technology directions and developments which affect transportation and to maintain its place as a public leader in this area, the selected vendor will assist in the continuing development of strategic planning tools for Connected and Automated Vehicles (CAVs). The selected vendor will assist MDOT in developing Michigan Transportation Partnerships (MTPs). MTPs, which will cover personal as well as commercial and public transit movements, will include, but not be limited to the state's automotive Original Equipment Manufacturers (OEMs), automotive suppliers, CAV technology companies and wireless communications equipment and service providers. These partnerships will assist MDOT in all aspects of its operations and will assure a sustainable commitment among partners in a joint effort that provides value to both the state and the companies. As part of this process, the selected vendor will provide MDOT an established, nationally recognized forum to present its strategic direction, through programs and projects that demonstrate Michigan is the premier transportation state and is closely linked to its OEM community. The *Scope of Work*, contained herein, is in direct alignment with the goals and activities stated in the current MDOT *Intelligent Transportation System (ITS) Strategic and Business Plan* ([www.michigan.gov/mdot/0,1607,7-151-9621\\_11041\\_38217---.00.html](http://www.michigan.gov/mdot/0,1607,7-151-9621_11041_38217---.00.html)) as communicated to and approved by the ITS Steering Committee in the *ITS Business Plan*.

**Note:** *Connected and Automated Vehicles* will be the phrase used to encompass the various monikers used to define, previously and in the future, the vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) technologies of both connected and automated vehicles, including wireless communications that are used to improve safety, mobility and asset management. These monikers will include, but not be limited to: *Autonomous Vehicle, Connected Vehicle, Cooperative Transportation Systems, Driverless Vehicle, IntelliDrive, Intelligent Transportation Systems* and *Vehicle Infrastructure Integration*.

**II. BACKGROUND INFORMATION**

MDOT has chosen to focus its planning on operational strategic efforts in CAV for the purpose of improving safety and mobility while relieving congestion and improving transportation asset management. Most critical to finding new solutions to our transportation problem is the unique opportunity to bring MDOT, as the provider of the transportation system, together with the automobile and technology industries, whose products use that system. This will be accomplished through continuation of MDOT's CAV program, which will allow MDOT to discuss these very issues and attempt to better integrate or resolve common operational or design and integration issues MDOT may have.

**III. PRIME VENDOR'S QUALIFICATION/EXPERIENCE**

As a minimum, the Prime Vendor shall have the following:

- Experience with developing and coordinating CAV activities associated with cooperative agreements and partnerships between private and public agencies in the area of CAV as related to MDOT initiatives.
- Documented established long term relationships with public and private sectors that have vested interest in the research, development, testing, design, integration and deployment of CAV initiatives.
- Demonstrable understanding of automotive OEMs, automotive suppliers and technology companies.
- Experience in conducting and reporting findings of studies and surveys related to automotive OEMs , automotive suppliers, and technology companies.
- Experience and demonstrated abilities in understanding the social and economic impacts of CAV on a given community and the State of Michigan.
- Experience with CAV as it relates to the development of activities in current MDOT CAV related strategic and business plans.
- Experience and understanding of technology planning as it relates to current CAV related strategic and business plans.

#### **IV. SCOPE OF WORK**

General Vendor Requirement: Coordinate activities with other research and development initiatives in CAV that may play an important role in achieving MDOT's ITS/CAV mission but may not, at the time of this RFP release, be developed or fully implemented. This will include, but is not limited to, conferences, consortiums, partnerships, outreach initiatives, presentations, studies or surveys, initiatives driven by change in technology, private and public activities, national, regional and local activities and international initiatives that have the potential to add value to MDOT's ITS/CAV goals as determined by the Project Manager (PM).

#### **Category A – Update of Surveys & Plans:**

General Requirement: Update previous studies to ensure that MDOT is current with the requirements and strategic direction of the industry regarding ITS/CAV technology. These studies should reference any past or existing studies conducted in this area to avoid duplication of effort and determine relevancy between studies.

#### *A1) The Ethics of Government Use of Data Collected via Intelligent Transportation Systems:*

Using the 2012 document as a starting point, study and analyze the ethical and legal ramifications of State of Michigan use of data provided by constant coverage of vehicular movements. Once complete, this will also include an update of the 2013 summary document for Michigan legislators. The study will include, but not be limited to analysis of:

- Attribution/linkage of data to a specific vehicle or anonymous collection.
- Legal ability to require all vehicles to carry transponders.
- Subsidies for transponders for low income vehicle owners.
- Various levels of data provided by different types of transponder.
- Time of retention of raw and/or refined data?
- Agencies which could make use of the data.
- Agencies that could legally be allowed to use the data.
- Legal restrictions on use of the data?
- The impacts of the *Freedom of Information Act* on data availability.

- Use of route, time of travel, vehicular weight and other collected attributes for vehicular registration and/or taxation to support travel infrastructure.
- Compensation of constituency for carrying transponders which provide asset management attributes.
- Cultural evolution of the acceptance of decreased levels of privacy.

A2) *Ethical & Legal Issues Relating to Government Use of ITS Data*: Produce and submit outline of paper which presents the findings of deliverable C1 *Ethics of Government Use of Data Collected via Intelligent Transportation Systems* to the Transportation Research Board (TRB). If accepted, produce and submit required paper, support tables and presentation to TRB. If accepted, present the paper or provide support to Michigan Department of Transportation personnel in presentation of the paper.

A3) *Analysis of Management Procedures for Data Collected via ITS*: Using the 2013 document as a starting point, study and analyze how MDOT, through DTMB, can manage the levels of data required for management of transportation assets. The study will include, but not be limited to analysis of:

- Coordinating with Data Use Analysis and Processing (DUAP) Concept of Operations; what attributes should/can be collected to support MDOT asset management?
- Should the data be attributed to a specific vehicle or managed anonymously?
- How much data can MDOT expect to collect on a daily, or other periodic basis?
- For how long will it be necessary to archive the collected data?
- What level of backup procedures will be required?
- What level of security will be required to prevent data from being corrupted or stolen?
- Who should be allowed to use the data?
- What are the legal restrictions on use of the data?
- Identify opportunities for positioning ITS within MDOT for leading data collection information and usage of data across the department.
- Recommend opportunities for accelerating the influence and adoption of ITS data through existing teams like the Data Modernization Assurance & Governance (DMAG) team for reducing data duplication, data sharing, and accuracy of data.
- Analyze previously implemented DUAP applications, and those applications identified and defined, in terms of their impacts on data management procedures as implementation funding and data become available for each application.

A4) *Use of ITS Technology for Management of Freight and Transit Assets*: Using the 2012 document as a starting point, study and analyze what data thus collected could benefit asset management of infrastructure; routing, flows and levels of intercity/transit passengers and freight; and, potentially, values for freight. The study will include, but not be limited to analysis of:

- Levels of data to be expected.
- Legal ability to require all vehicles to carry transponders.
- Cost to agencies and carriers.
- Usefulness of attributes.
- Restrictions on agencies which could use data.
- Preventing public access to proprietary carrier data.

- Liability of government agencies and private carriers.
- Benefits that could be offered to participating agencies/carriers.
- Commodity flows and values.
- Assessing delay costs to agencies/carriers including the potential economic value of reduced border crossing time.
- Connectivity of intercity and transit bus services.
- Legislated restriction on use/dissemination of data.

A5) *Public Perceptions of Connected & Automated Vehicle Technology*: Using the 2012 document as a starting point, study public perceptions of CAV technology, with an eye toward understanding which elements of the technology are viewed positively and which have mixed or even negative associations. This study would likely occur in three phases:

- Conduct survey/focus groups of the public and literature review (report)
- Conduct interviews/focus group with the members of the public given the chance to use the technology (report)
- Develop recommended public communication plan that focuses positive perceptions.

A6) *Automated Vehicle Testing Technical Feasibility Study*: Using the 2013 document as a starting point, analyze the impacts of changes in Michigan legislation and the continued feasibility of continuing automated vehicle (AV) testing within the state. This will include but not be limited to:

- Michigan's competitiveness with other states that already have established a legislative framework for automated vehicles
- Establishing or maintaining leadership in new automotive technology

A7) *ITS/CAV Data Support of Asset Management*: Using the 2013 document as a starting point, perform a study which, at a minimum, identifies the:

- Direct links between the data which can be collected using CAV technology and that required to support effective pavement and bridge asset management as defined in current MDOT data schemas
- Data retention period for active and archived data and end of retention
- Potential for CAV data collection to supplement, verify or replace current methods of field pavement data collection
- Savings and benefits accrued by using ITS/CAV
- Analysis of how ITS/CAV could be the *lead* resource collection repository for feeding MDOT asset management systems
- Recommend opportunities for accelerating the influence and adoption of ITS/CAV usage for asset management through existing teams like the Enterprise Asset Management team

A8) *2016 ITS/CAV Investment Plan*: Using the 2013 document as a starting point, perform update of the MDOT *ITS/CAV Investment Plan* for successful investment in new ITS/CAV products, technologies, programs, projects, hardware, software, infrastructure and *infostructure*. Assist in coordination of the Michigan investment and attracting federal and international support by investigating other sources of funding, for example Homeland Security, United States Department of Transportation (USDOT), etc. and coordinating with the Michigan Economic Development Corporation, Michigan Department of Energy, Labor and Economic Growth

(DELEG), Department of Technology, Management and Budget (DTMB) and Michigan State Police (MSP) to seek grants for ITS/CAV testing and deployment.

A9) 2016 *ITS/CAV Strategic & Business Plan*: Using the 2013 document as a starting point, perform update of and ongoing maintenance to MDOT's *ITS Strategic and Business Plan*. This will require a clear understanding of the current plan and the requirements to coordinate all activities with the plan. This will also require making modifications to the plan that are in alignment with changes in products, technology, policies, procedures, techniques, processes, and partnerships that become inconsistent with the current plan through the duration of the contract resulting from this request for proposal.

- This may require changes to *measures of success* that evaluate the outcome and performance of activities in the plan.
- This will require continued feedback through data collection on all activities defined in the plan to determine the degree of success with which the activities have been achieved.

This will require changes to goals, activities, measures of success based on data results which will be coordinated and approved by the PM.

A10) At the discretion of the PM, perform annual updates of the *International Survey of Best Practices in ITS/CAV Transportation Technologies* that return to Michigan initiatives needed for continuing to be the premier transportation state in the nation. As necessary, hold forums with senior level industry executives, senior level government officials, and noted transportation experts discussing their vision for transportation excellence in areas key to MDOT's success.

A11) Prepare written progress reports that can be presented to the MDOT ITS Steering Committee and executive management.

Category A deliverables will include, but not be limited to the following:

- Studies, investigations, surveys, reports, letters and memorandums to document outcomes as described above.
- Presentations as needed and progress reports on the last business day of each month.

**Category B - Working Groups & Partnering/Coordinating Activities:**

General: Provide expertise that facilitates cooperative efforts between MDOT, other State of Michigan agencies, other federal/state/local agencies and private enterprises involved in all sectors of ITS and CAV.

B1) Assist MDOT in continuing the *CAV Working Group* meetings with automotive suppliers, telecommunications, consultants, local agencies and consumer electronic companies. This group will meet to share information, coordinate activities and monitor progress. As a result, the following will be required:

- Maintain a Michigan *CAV Working Group* to meet on a quarterly basis to share information, coordinate activities, and monitor progress on test beds, proof of concept, field operational tests, and Michigan deployment planning activities.
- Facilitate representation from the *CAV Working Group* in MTP meetings with OEMs and coordinate meetings to provide timely input and feedback to the OEM partnerships.
- Coordinate, monitor, and assist *Working Group* task assignments and progress.

- Work with members of the *Working Group* to assist in the selection of proof of concept tasks and coordinate these tasks with the Michigan test bed planning and deployment as determined by the project manager (PM).

## B2) Coordination of the annual *Management Briefing Seminar*.

Category B deliverables will include, but not be limited to the following:

- Developing a cooperative environment between key stakeholders at MDOT and OEMs, auto suppliers, CAV technology companies and other agencies by setting up meetings, facilitating, documenting meeting discussion and outcome, and initiating follow-up meetings.
- Coordinating activities and meetings with key decision makers with the OEMs, suppliers, telecommunications, consumer electronics companies and MDOT by setting up meetings, facilitating, documenting meeting discussion and outcome, and initiating follow-up meetings.
- Written plans and supporting documentation on knowledge and advice on where to invest funds in the areas of products and technologies for both the infrastructure and the infostructure.
- Written plans and supporting documentation on investment and attracting federal and international support by investigating alternate venues of funding.
- Fostering relationships and partnerships through setting up meetings, facilitating, documenting meeting discussion and outcome, and initiating follow-up meetings.
- Coordination of other efforts, research, development, and testing initiatives in the field of ITS/CAV through provision of written progress reports and/or minutes of meetings.
- Fostering cooperative agreement between OEMs/suppliers/CAV technology companies and MDOT and other agencies by setting up meetings, facilitating, documenting meeting discussion and outcome, and initiating follow-up meetings.
- Fostering relationships and partnerships by setting up meetings, facilitating, documenting meeting discussion and outcome, and initiating follow-up meetings.
- Identifying leadership opportunities for MDOT staff participation by documenting committee, responsibilities and individual assigned to leadership role.
- Providing knowledge and expertise which can be leveraged to support other ITS/CAV initiatives at MDOT through documentation of safety and mobility initiatives that have synergy with MDOT ITS/CAV activities and national initiatives, including products and services available and related technological advancements.
- Identification of ITS/CAV products and technologies to be used in Michigan programs by documentation of computer software, hardware, equipment and its use in MDOT's information technology architecture, including cross jurisdictional compatibility.
- Understanding of ITS/CAV related initiatives in other states by documentation of computer software, hardware, equipment and its use in MDOT's information technology architecture, including cross jurisdictional compatibility.
- Provide a repository of information.
- Make presentations as needed and progress reports on the last business day of each month.

## **Category C – New Studies & Plans:**

General: Provide the transportation perspective and expertise for a plan for partnering within the various departments of the State of Michigan to promote technology based innovations that assist MDOT in remaining the premier transportation state in the nation.

C1) *Connected vs. Automated Vehicles as Generators of Useful Data*: Connected vehicles will at some point communicate with roadside infrastructure and become de facto generators of data usable by federal, state and/or local agency traffic and/or asset management systems. Automated vehicles are by their nature self-contained and may not be required to make the same infrastructure connection. Identify the technologies that will overlap between automated and connected vehicle deployments. Identify additional data sources that will be available to road agencies with the deployment of automated vehicle systems. Identify data sources which might not be available due to the deployment of automated vehicle systems.

C2) *Impact of CAV Technology on Driver Skills*: As CAVs augment or perform more of the tasks normally required of human drivers it is possible that vehicle operators will become dependent on the technology. In the event that sensors and or the connected/automated responses fail mechanically or are faced with a situation beyond their programming, the operator would be required to resume control. Analyze the impacts technological dependence will have on the driving skills and ability of an operator to resume control of the vehicle.

C3) *Use of Data from Connected and Automated Vehicles for Travel Demand Modeling*: Data on vehicle occupancy, origin, destinations, trip purpose, departure and arrival times, travel times, speeds, emissions and route choice have been identified in literature as attributes that might be collected from CAVs. For travel demand modeling purposes, information on route choice, departure, arrival travel times and travel distances require a high rate of accuracy. Study the potential use and feasibility of utilizing CAV and infrastructure embedded sensor data for small/large travel demand model calibration/validation and analysis of traffic counts, classifications and weights. This should include but not be limited to questions regarding the accuracy of utilizing this data, cost of processing, storage, etc.

C4) *Track Progress of the Automated Vehicle Industry in Michigan*: Upon passage of Michigan AV legislation, prepare bimonthly update reports on progress in AV testing and deployment in the state. This tracking will be used to produce a mandated report on progress in AV testing and deployment due February 1, 2016.

C5) *Determine Validity of Applications for Automated Vehicle Licenses*: Upon passage of Michigan AV legislation, prepare bimonthly update reports on progress in MDOT's work with the Office of the Secretary of State (SOS) in approving license applications from automated vehicle technology *upfitters*. This will likely include development of criteria for application approval or review of MDOT and SOS established criteria.

Category C deliverables will include, but not be limited to the following:

- Studies, investigations, surveys, reports, letters and memorandums to document outcomes as described above.
- Presentations as needed and progress reports on the last business day of each month.

**Category D – Briefings, Position/Policy Papers, Presentations and Other Documentation:**

General: Produce the materials necessary to assure that MDOT's ITS/CAV efforts can be understood by whatever audience is necessary.

1) As needed, requested and approved by the PM, update existing research/policy papers and presentations.

2) As needed, requested and approved by the PM, produce new research/policy papers and presentations and other documentation.

3) Provide the transportation perspective and expertise for a plan for partnering within the various departments of the State of Michigan to promote technology based innovations that assist MDOT in remaining the premier transportation state in the nation.

4) Assist MDOT in establishing partnerships with lead ITS/CAV states to share progress and create opportunities for coordinated research and eventually cross-state deployment expansion. As a result, the following will be required:

- Correspond with other states expanding in their ITS/CAV development including extending invitations to other states and federal agencies to coordinate with Michigan's program.

5) Establish a supportive public education program with the goal of maintaining high visibility of Michigan activities through outreach and public awareness by maintaining connection with other interest groups and to inform the public of Michigan ITS/CAV progress. As a result, the following will be required:

- Prepare presentations and progress reports for ITS America, ITS Michigan, ITS World Congress, Transportation Research Board (TRB), American Association of State Highway and Transportation Officials (AASHTO), Society of Automotive Engineers, Telematics Detroit, Management Briefing Seminar and other conferences and national outreach events as determined by the PM.
- Assist MDOT staff to identify and transition into leadership roles on ITS America, TRB, AASHTO committees, etc.
- Coordinate an effort to establish working relationships with MDOT and the Michigan universities, AASHTO, Connected Vehicle Trade Association (CVTA), ITS America, (e.g., ITS Task Force and Advanced Telematics and Consumer Electronic forum, and ITS Michigan) for ongoing discussions with stakeholders.
- Document and publish lessons learned to improve the state-of-the-art and practice in ITS/CAV initiatives.
- Coordinate an effort for MDOT's participation in any annual ITS related international workshops and conferences, in addition to preparing presentations and progress reports.
- Develop and maintain a central repository of information on ITS/CAV activities in the state of Michigan.

Category D deliverables will include, but not be limited to the following:

- Presentations as needed and progress reports on the last business day of each month.

- Providing knowledge and expertise which can be leveraged to support other ITS/CAV initiatives at MDOT (documentation of safety and mobility initiatives that have synergy with MDOT ITS/CAV activities and national initiatives including products and services available and related technological advancements).

## **V. PROJECT AND PAYMENT SCHEDULE**

The contract will be on the basis of the lump sum of milestone projects on the schedule below in Category A, B and C. Additional money will be set aside for Category D deliverables to be paid on a time and materials basis. All payments will be made upon MDOT approval of the deliverables.

Estimated Completion	Deliverable	Payment
October 1, 2013	MDOT issues notice to proceed	\$0
October 8, 2013	MDOT holds kick-off meeting	\$0

### **Category A – Update of Surveys & Plans**

March, 2014	1) <i>Ethics of Govt. Use of Data Collected Via ITS</i>	\$?
May, 2014	2) <i>Ethics of Govt. Use of Data Collected Via ITS - Presentation</i>	\$?
September, 2014	10) International Survey of Best Practices in ITS/CAV	\$?
November, 2014	3) <i>Mgt. Procedures for Data Collected via ITS</i>	\$?
December, 2014	4) <i>ITS Technology for Mgt. of Freight &amp; Transit Assets</i>	\$?
March, 2015	5) <i>Public Perceptions of Connected Vehicle Tech.</i>	\$?
June, 2015	6) <i>Automated Vehicle Testing Tech. Feasibility</i>	\$?
August, 2015	7) <i>ITS/CAV Data Support of Asset Management</i>	\$?
September, 2015	10) International Survey of Best Practices in ITS/CAV	\$?
August, 2016	8) 2013 Update <i>ITS Investment Plan</i>	\$?
September, 2016	9) 2013 Update <i>ITS Strategic and Business Plan</i>	\$?
September, 2016	10) International Survey of Best Practices in ITS/CAV	\$?
Ongoing	11) Progress reports for MDOT ITS Steering Committee	\$0

### **Category B - Working Groups & Partnering/Coordinating Activities**

1) January, 2014	1) Coordinate <i>CAV Working Group</i>	\$?
1) April, 2014	1) Coordinate <i>CAV Working Group</i>	\$?
1) July, 2014	1) Coordinate <i>CAV Working Group</i>	\$?
2) August, 2014	2) Management Briefing Seminar	\$?
1) October, 2014	1) Coordinate <i>CAV Working Group</i>	\$?
1) January, 2015	1) Coordinate <i>CAV Working Group</i>	\$?
1) April, 2015	1) Coordinate <i>CAV Working Group</i>	\$?
1) July, 2015	1) Coordinate <i>CAV Working Group</i>	\$?
2) August, 2015	2) Management Briefing Seminar	\$?
1) January, 2016	1) Coordinate <i>CAV Working Group</i>	\$?
1) April, 2016	1) Coordinate <i>CAV Working Group</i>	\$?
1) July, 2016	1) Coordinate <i>CAV Working Group</i>	\$?
2) August, 2016	2) Management Briefing Seminar	\$?

**Category C – New Studies & Plans:**

July, 2014	1) <i>Conn. vs. Automated Veh. as Generators of Useful Data</i>	\$?
May, 2015	2) <i>Impact of CAV Technology on Driver Skills</i>	\$?
September, 2015	3) <i>Use of Data from CAV for Travel Demand Modeling</i>	\$?
January, 2016	4) Progress of Automated Vehicle Industry in Michigan	\$?
January, 2016	5) Validity of Applications for Automated Vehicle Licenses	\$?

**Category D – Briefings, White Papers & Presentations:**

Ongoing	1) Update Research/Policy Papers & Presentations	See VII-3
Ongoing	2) New Research/Policy Papers & Presentations	See VII-3
Ongoing	3) Partnering with State of Michigan departments	See VII-3
Ongoing	4) Partnering with other states	See VII-3
Ongoing	5) Public Education Program	See VII-3

**Note:** Completion dates are predicated upon the estimated date of contract award. Should the awarding of this contract take longer than our best estimate, specific completion dates will be renegotiated with the vendor.

**VI. PROGRESS REPORTS**

On the final business day of each month, the Vendor Project Manager will submit Progress Reports to the MDOT Project Manager. The Progress Report shall follow the guidelines in Attachment A.

**VII. PRIME VENDOR RESPONSIBILITIES**

1) Meet (in person or by conference call) with the MDOT PM at least once per month around the first of the month.

2) For Category A, B and C tasks, meet with the MDOT PM or MDOT ITS Statewide Program Manager prior to beginning any work to review project/tasks, data, data uses, strategic direction, and contact persons. The vendor shall review and clarify project/task issues, data needs and availability, sequence of events and team meetings that are essential to complete the project plan or task by the completion date. Attention shall be given to critical target dates, meetings, studies, etc., that may require a large lead time. During the kick-off meeting, the vendor shall provide the PM with a work plan that describes the understanding of the work to be completed, timelines, resources to be used, priority of tasks and deliverables, and briefly describe how the tasks and deliverables will be accomplished.

3) For Category D tasks meet with the MDOT PM or MDOT ITS Statewide Program Manager prior to beginning any work to review project/tasks, data, data uses, strategic direction, and contact persons. The vendor shall review and clarify project/task issues, data needs and availability, sequence of events and team meetings that are essential to complete the project plan or task by the completion date. The vendor will provide an estimate of hours/cost to provide the requested deliverable. Attention shall be given to critical target dates, meetings, studies, etc., that may require a large lead time. During the kick-off meeting, the vendor shall provide the PM with a work plan that describes the understanding of the work to be completed, timelines, resources to

be used, priority of tasks and deliverables, and briefly describe how the tasks and deliverables will be accomplished.

4) Allow the PM to review the work at any stage of development to assess progress (eg. proposed survey and studies review, etc.).

### **VIII. MDOT'S RESPONSIBILITIES**

1) The MDOT PM will provide general guidance to the vendor and resolve any questions the vendor may have during the course of this contract.

2) Conduct an introductory kick-off meeting with the vendor before work begins. The purpose of the meeting is to provide the vendor with a broad overview of MDOT's processes, procedures, organization chart and responsibilities, and to provide a clearer understanding of the current status of the ITS/CAV Program.

### **IX. PROPOSAL SELECTION CRITERIA AND TOTAL POSSIBLE POINTS**

1) Understanding of Service and Innovations: 25 Points.

Describe the understanding of the service, innovations, or other issues you intend to propose. This information is to be based on the scope of services. Include any work item(s) that you believe should be added to the scope of services, or any work item(s) that is in the current scope of services which you believe should be altered.

2) Qualifications of Team: 40 Points.

The scoring for qualifications of team scoring will be one score based on the following information:

- Structure of the Project Team (Personnel and Roles) – Describe the structure of the project team including the roles of all key personnel and subconsultant/vendors. For each sub-consultant/vendor, describe role in service and include what percent of the named role that the sub-consultant/vendor is expected to provide.
- Staff Service Experience – Provide resumes for each of the key staff of the prime and sub-consultant/vendors. The format is shown in Exhibit A of the Consultant/Vendor Selection Guidelines. The resume is limited to three (3) pages per key staff member.

3) Past Performance: 20 Points.

MDOT will review relevant performance evaluations for the past five (5) years for prime and sub-consultants/vendors that are being proposed. If the consultant/vendor has not previously worked for MDOT or has only had a few service opportunities that have been evaluated, this area can be used to provide other references for the Selection Team to contact. These would be in addition to those provided in the resumes in Section B and limited to work completed in the past five (5) years.

4) Location: 5 Points.

This section will be scored for all solicitations. The consultant selection criteria will include a consideration of what percentage of contracted work will be performed in Michigan. Consultant/vendor is required to provide the location of where the work will be performed. The

combination of location and percentage of work performed in Michigan should not exceed five points.

5) Price:

30 Points.

After scoring the proposal with the above criteria (1-4), the bid sheet (Attachment B) with the total bid price will be scored using the following calculation:  $\text{low bid/bid} * 30 \text{ points} = \text{score}$

**FY2014-2016 Connected & Automated Vehicle Industry Coordination**

It is required that this bid sheet be completed and submitted with the response to the Request for Proposal. All entries on this page must be handwritten in ink or computer generated. When price is a component of the selection process it will be considered along with several other selection criterion for determining overall score. Priced proposal costs will be required after selection, in accordance with the MDOT Priced Proposal Guidelines (Guidelines) (See page 2 of 2).  
 Note: MDOT reserves the right to reject any or all bids.

Est. Due Date	Milestone Deliverables	Price
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**Category A – Update of Surveys & Plans**

March, 2014	1) Ethics of Govt. Use of Data Collected Via ITS	
May, 2014	2) Ethics of Govt. Use of Data Coll. Via ITS - Presentation	
September, 2014	10) International Survey of Best Practices in ITS/CAV	
November, 2014	3) Mgt. Procedures for Data Collected via ITS	
December, 2014	4) ITS Technology for Mgt. of Freight & Transit Assets	
March, 2015	5) Public Perceptions of Connected Vehicle Tech.	
June, 2015	6) Automated Vehicle Testing Tech. Feasibility	
August, 2015	7) ITS/CAV Data Support of Asset Management	
September, 2015	10) International Survey of Best Practices in ITS/CAV	
August, 2016	8) 2013 Update ITS Investment Plan	
September, 2016	9) 2013 Update ITS Strategic and Business Plan	
September, 2016	10) International Survey of Best Practices in ITS/CAV	
Ongoing	11) Progress reports for MDOT ITS Steering Committee	\$0.00

**Category B - Working Groups & Partnering/Coordinating Activities**

1) January, 2014	1) Coordinate CAV Working Group
1) April, 2014	1) Coordinate CAV Working Group
1) July, 2014	1) Coordinate CAV Working Group
2) August, 2014	2) Management Briefing Seminar
1) October, 2014	1) Coordinate CAV Working Group
1) January, 2015	1) Coordinate CAV Working Group
1) April, 2015	1) Coordinate CAV Working Group
1) July, 2015	1) Coordinate CAV Working Group
2) August, 2015	2) Management Briefing Seminar
1) January, 2016	1) Coordinate CAV Working Group
1) April, 2016	1) Coordinate CAV Working Group
1) July, 2016	1) Coordinate CAV Working Group
2) August, 2016	2) Management Briefing Seminar

**Category C – New Studies & Plans:**

July, 2014	1) Conn. vs. Automated Veh. as Generators of Useful Data
May, 2015	2) Impact of CAV Technology on Driver Skills
September, 2015	3) Use of Data from CAV for Travel Demand Modeling
January, 2016	4) Progress of Automated Vehicle Industry in Michigan
January, 2016	5) Validity of Applications for Automated Vehicle Licenses

**Category D – Briefings, White Papers & Presentations:**

See Page 2

**Total Bid Price: \$0.00**

(All Milestones/Deliverables of Project)

**FY2014-2016 Connected & Automated Vehicle Industry Coordination**

**Category D – Briefings, White Papers & Presentations:**

- Ongoing 1) Update Research/Policy Papers & Presentations
- Ongoing 2) New Research/Policy Papers & Presentations
- Ongoing 3) Partnering with State of Michigan departments
- Ongoing 4) Partnering with other states
- Ongoing 5) Public Education Program

Bidder will provide a list of personnel to be used, their hourly compensation, overhead and other costs for comparison.

Consultant Name:  Consultant Authorized Legal Signer:  Consultant Address:   Date:	
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