

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

Research Administration Use Only

		REQUISITION NUMBER 1107	DUE DATE 2/25/2013	TIME DUE Noon EST
MDOT PROJECT MANAGER Richard Kathrens		JOB NUMBER (JN) tbd		CONTROL SECTION (CS) n/a
DESCRIPTION Wireless Data Collection and Retrieval of Bridge Inspection/Management Information				
Check all items to be included in RFP			Provide only checked items below in proposal	
Check the appropriate Tier in the box below				
<input type="checkbox"/> TIER I (\$25,000-\$99,999)	<input type="checkbox"/> TIER II (\$100,000-\$250,000)	<input checked="" type="checkbox"/> TIER III (>\$250,000)		
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Understanding of Service	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Past Performance	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Qualifications of Team	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Quality Assurance/Quality Control	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Location: The percentage of work performed in Michigan will be used for all selections unless the project is for on-site 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)	

The prime consultant can be a University or Consultant. The prime consultant/vendor is responsible for the successful completion of the service and is expected to perform at least 40 percent of the services, by dollar value. The basis of payment is Actual Costs as defined in standard MDOT contracts.

If your organization is interested in providing services, please indicate your interest by submitting a proposal following the **research guidelines** near the top of MDOT's Request for Proposals Web page at http://www.michigan.gov/mdot/0,1607,7-151-9625_32842--00.html.

RFP SPECIFIC INFORMATION

Problem Title: Wireless Data Collection and Retrieval of Bridge Inspection/Management Information

OR Number: OR14-021

This is Best Value Selection which means the budget amount submitted with the proposal is a component of the proposal score, not the determining factor of the selection.

PROPOSAL SUBMITTAL INFORMATION

PROPOSAL AND BID SHEET EMAIL ADDRESS –

mdot-rfp-response@michigan.gov with a CC to
mdot-research@michigan.gov

GENERAL INFORMATION

Any questions relative to the Research Problem Statement must be submitted by e-mail to:

mdot-research@michigan.gov. Questions must be received by 5 business days prior to the RFP due date at 5:00 p.m. EST. All questions and answers will be placed on the MDOT RFP Web site as soon as possible after receipt of the questions and at least three (3) days prior to the due date listed above. The names of organizations 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 AND RESEARCH FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION:

5100D- Request for Proposal Cover Sheet

Schedule of Research Activities Form- Appendix B

Deliverables Table- Appendix A

Initial Implementation Plan Form- Appendix C

5100J- Consultant Data and Presignature sheet is required for signatory on this proposal

Research Proposal Budget Form Worksheet Appendix D (Universities)

Or

Bid Sheet and Budget Exhibits required in [Priced Proposal Guidelines](#) (Consultants)

MANDATORY ELECTRONIC SUBMITTAL

Proposals submitted for this project must be submitted electronically.

The following are Requirements for Electronic Submittals:

- Proposals must be prepared using the most current Research guidelines found at the top of the page- [MDOT – Research Proposal 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.
- 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
- 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 Proposer 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.

Proposers 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
 - i. Role of Firms
 - ii. Role of Key Personnel
- IV. Location
- V. Quality Assurance / Quality Control Plan
- VI. Resumes of Key Staff
- VII. Pricing Documents/Bid Sheet (if applicable)

Michigan Department of Transportation

SCOPE OF SERVICE FOR RESEARCH SERVICES University or Consultant

TITLE: Wireless Data Collection and Retrieval of Bridge Inspection/Management Information
OR#: OR14-021

LOCATION: Statewide

WORK DESCRIPTION: Research on Wireless Data Collection and Retrieval of Bridge Inspection/Management Information

ANTICIPATED START DATE: 10/1/2013

ANTICIPATED COMPLETION DATE: 9/30/2015

MDOT RESEARCH PROJECT ADMINISTRATION MANAGER:

Michael Townley, P.E.
8885 Ricks Road
Lansing, Michigan 48917
E-MAIL: mdot-research@michigan.gov

GENERAL INFORMATION:

1. PROBLEM TO ADDRESS:

Bridge inventory and condition information is one of the most critical components in addressing safety issues and effective asset management. In 2011, FHWA released a significantly enhanced data driven process to verify compliance with the National Bridge Inspection Standards (NBIS) by checking the completeness and accuracy of bridge data. Bridge inspectors currently markup paper forms during the bridge inspections. These forms are then manually entered into the Michigan Bridge Inspection System (MBIS) in the office or vehicle using a computer with an internet connection. Bridge managers and inspectors do not have the ability to review inspection and inventory data at the bridge site or the ability to enter this data using a tablet.

2. RESEARCH OBJECTIVES:

Develop a web application that can be used for collection and review of bridge inspection data that can be used at the bridge site. This application will need to have the ability to integrate with MDOT's

current inspection process and web applications. This new application would allow the inspector to collect data using visual tools and 2D/3D models of the bridge elements. This application would also need the ability to display data collected using other inspection techniques (Infared Imaging, Remote Sensing, etc.)

3. URGENCY AND IMPLEMENTATION BENEFIT TO MDOT:

Based on the application that is created during the project it is anticipated that this system would be added to MDOT's existing Michigan Bridge Reporting System (MBRS) application as an additional component or module. Inspectors could use this new module to complete inspections and data collection using 2D/3D models to select bridge elements and highlight their condition. Bridge owners, managers, and inspectors could use this module to visually review existing conditions of structures.

MDOT will benefit significantly from the implementation of this project. Access to all bridge information (2D/3D Condition Models, Advanced Inspection Technologies, etc) would be available wirelessly. This information would be found by accessing through a common portal (i.e MBRS). The data collection process will be significantly enhanced and the quality of the inspections will help ensure compliance with the NBIS.

4. RISKS OR OBSTACLES TO RESEARCH:

- 1.) Currently MDOT does not have 3D Models of our structures to easily be used.
- 2.) The proposed system must make use of the existing MDOT bridge database structure.
- 3.) Data coming in different formats needs to be presented in a common platform.

5. DESIRED QUALIFICATIONS IN AN INVESTIGATOR(S):

The investigator's team should have experience with bridge inspection processes and the innovative technologies available to capture and store inspection data. There is no statistical qualification requirement for this proposal.

CONSULTANT RESPONSIBILITIES:

- 1.) Review and evaluate ongoing and recently completed research in this topic area.
- 2.) Review MDOT's process of collecting NBI and AASHTO Element inspection data.
- 3.) Develop a web application that can collect NBI and Element inspection data using visual methods and 2D drawings or 3D models of the bridge elements.

4.) Develop and test a wireless data collection and display system to meet MDOT's bridge inspection and management needs which can be integrated with MDOT's existing web applications and database structure. Determine alternatives that will work on multiple internet platforms. Failure of any of the above will be found in noncompliance with the contract.

DELIVERABLES:

Deliverables include:

- A web application that can be integrated into MDOT's current MBIS and MBRS
- Field demonstration of this application
- An application user's manual
- Full documentation of the application and programming code
- A final research report

MDOT RESPONSIBILITIES:

MDOT will provide access to MBIS/MBRS and information stored in bridge database.

COORDINATION PROCEDURES

Work will be completed in compliance with the Research Implementation Manual

CONSULTANT PAYMENT

All billings for services must be directed to the Department and follow the current Research Implementation Manual. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT project manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included

in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT project manager.

Compensation for services will be reimbursed on actual cost basis.

PROPOSAL INFORMATION AND SCORING

Formal proposals are required and shall include the information as outlined in these Guidelines. This section is the information required in the proposal that will be used to score the qualifications of each consultant's proposal. The section numbering correlates to the score sheet. Therefore, the consultant should format their proposals consistent with the outline provided.

1. UNDERSTANDING OF SERVICE: 40 POINTS

Describe understanding of the service intended to be proposed. This information is to be based on the scope of services.

Problem Statement and Background Summary- demonstrates good understanding of problem, looks objectively at problem, specifies problem limits and restricts scope appropriately, and cites relevant literature.

Research Plan- cites specific objectives clearly, technical approach responds to all written and implied requirements, difficult areas are identified and details to overcome are given, represents novel idea or technical approach, plan is feasible, and effort is consistent with scope of problem.

Products and Implementation- proposal clearly defines products to be delivered at completion, includes practical, realistic implementation plan.

MDOT Involvement- MDOT involvement is not excessive and is clearly defined and quantified.

2. QUALIFICATIONS OF TEAM: 30 POINTS –

Describe the structure of the project team including the roles of all key personnel and subcontractors. For each subcontractor describe role in service and include what percent of the task that the subcontractor is expected to provide. Provide résumés for each of the key staff of the prime and subcontractor.

Facilities- proposer has adequate access to equipment and/or laboratory required in study.

Staffing- personnel availability is clearly defined, shows a depth of qualified personnel, proposer has ability to manage a project of this size an sufficient resources to complete study, qualifications are directly related to the requirements of the project, plans for specific key personnel assignment included, and there is a reasonable balance between subcontractor and prime contractor.

Statistical Qualification- The required knowledge level for a research team in statistical analyses, if defined, will be in the RFP under the heading DESIRED QUALIFICATIONS IN AN INVESTIGATOR(S)

Proposals not documenting statistical training and experience levels required in the RFP may be classified as non-responsive.

3. RELEVANT PAST PERFORMANCE: 30 POINTS

The project manager will contact references and review relevant performance evaluations from the past 5 years.

Record of past accomplishment- proposer satisfactorily completed past projects, was cooperative and flexible, and ended past projects according to the original budget and time schedule.

4. QUALITY ASSURANCE/QUALITY CONTROL (QAQC) PLAN: 5 POINTS

The proposer provided an outline of a QA/QC process. The QA/QC Manager is experienced with MDOT standards and practices.

5. LOCATION: 5 POINTS

The percentage of work hours performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activity. The combination of location and percentage of work performed in Michigan should not exceed 5 points.

Percentage of Work To Be Done in Michigan Score	
95% to 100%	5
80% to 94%	4
50% to 79%	3
25% to 49%	2
10% to 24%	1
Less than 10%	0

6. PRICE: 40 POINTS

Cost score is based on the lowest cost proposed divided by the current proposer cost multiplied by 40. Lowest bid shall receive 40 points.

TOTAL POINTS: 150

Consultant Bid Sheet

All entries on this page must be handwritten in ink or computer generated. This page provides for costs by payment category. This is provided as an example. Priced proposal costs will be required after selection, in accordance with the MDOT Priced Proposal Guidelines ([Guidelines](#)).

Employee Name	Project Role	(%) Time Working on Project	Total Hours	Fully Loaded Hourly Rate	Total Cost
Eg. Mike Brown	Principal Consultant	10%	100	\$85	\$8500

TOTAL ESTIMATED LABOR: \$ _____

ESTIMATED SUBCONSULTANTS: \$ _____

ESTIMATED DIRECT EXPENSES: \$ _____
(Listed by item at estimated actual cost)

TOTAL BID PRICE: \$ _____

COST DERIVATION SHEET

This is a sample cost derivation sheet.

All entries on this page must be handwritten in ink or computer generated. This page provides for costs by payment category. This is provided as an example. Priced proposal costs will be required after selection, in accordance with the MDOT Priced Proposal Guidelines ([Guidelines](#)).

PROJECT DESCRIPTION:

Classification	Person Hours	Hourly Rate	Labor Cost
----------------	--------------	-------------	------------

TOTAL ESTIMATED LABOR: \$ _____

OVERHEAD: \$ _____
(Total Labor Cost x _____ %)

Facilities Capital Cost of Money: \$ _____

ESTIMATED SUBCONSULTANTS: \$ _____

ESTIMATED DIRECT EXPENSES: \$ _____
(Listed by item at estimated actual cost)

FIXED FEE: \$ _____
(Total Estimated Labor + Overhead) x XX%

TOTAL BID PRICE: \$ _____

(This bid price should be the same amount as the total bid price on page 1 of 2 of this document.)

Authorized Signature _____

Research Proposal Budget Form Worksheet

Project Title	
Research Organization	
Date	

									FY1	FY2	FY3	FY4	TOTAL	
SALARIES & WAGES -- MUST COMPLY WITH OMB CIRCULAR A-21														
Specify number of hours to be worked and hourly rate for each individual below: Examples of role of individual are Principal Investigator, Technician, Grad Student, etc. Annual wage increases must not exceed 2%														
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
(role of individual)														
Name of individual														
Enter FY	FY1 rate	FY1 hrs	FY2 rate	FY2 hrs	FY3 rate	FY3 hrs	FY4 rate	FY4 hrs						
rate & hrs									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total Salary & Wages									\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

FRINGE BENEFITS -- MUST COMPLY WITH OMB CIRCULAR A-21										
Indicate Employee, appropriate negotiated rate for each and description of who the rate applies to. (e.g. - Sam Smith, 25%, Summer Faculty. The rate is negotiated between the university and it's cognizant agency										
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Name										
(Rate Description)										
(% rate)	FY1	FY2	FY3	FY4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total Fringe Benefits					\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SUBCONTRACTOR -- MUST COMPLY WITH OMB CIRCULAR A-21										
A copy of the subcontractor's budget must be attached. An MDOT approved subcontract is required for subcontractor costs in excess of \$25,000 prior to payment of invoices that contain subcontractor work. List all subcontractors on a separate line.										
Subcontractor Name & Amt.										\$0.00
Subcontractor Name & Amt.										\$0.00
Sub-Total Subcontractor					\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TRAVEL -- MUST COMPLY WITH OMB CIRCULAR A-21										
Must be in accordance with IDS contract requirements.										
In-State Travel (Destinations within Michigan)										
Provide a separate table itemizing costs.										\$0.00
Out-of-State Travel (Prior approval required)										
Provide a separate table itemizing costs.										\$0.00
Sub-Total Travel					\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

SUPPLIES -- MUST COMPLY WITH OMB CIRCULAR A-21 (Few items not allowed are: computers, printers, monitors, fax machines, printer paper, toner cartridges, pens, pencils, legal pads, clips, rubber bands, post-it notes, books, notebooks, binders, folders, diskettes, postage stamps, chairs, office furniture, calendars, paper punches, business cards, staplers, waste cans, etc.)

Provide details if cost exceeds \$2,000. Individual line items in excess of \$1,000 require a detailed explanation regardless of total cost

(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
Sub-Total Supplies		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

CAPITAL EQUIPMENT -- MUST COMPLY WITH OMB CIRCULAR A-21 - Purchased specifically for this project

List items with a value in excess of \$500. Equipment in excess of \$5,000 requires prior approval.

(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
Sub-Total Equipment		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

OTHER EXPENSES -- MUST COMPLY WITH OMB CIRCULAR A-21 (Few items not allowed are: memberships in professional & scientific organizations, local telephone lines, cell phones, etc.) Any project expense which does not fall into another category. Provide detailed explanation of the expense and applicable breakdown of costs (e.g. graduate student tuition).

(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
(Description)						\$0.00
Sub-Total Other Expenses		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Total Sub-Totals		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
-------------------------	--	--------	--------	--------	--------	--------

INDIRECT COSTS -- MUST COMPLY WITH OMB CIRCULAR A-21

Indirect cost rates are negotiated between the university and it's cognizant agency. Indicate the type of negotiated indirect rate used and the percentage (e.g. On Campus Research, 52%)

(Type)		(%)								
		FY1	FY2	FY3	FY4					
Enter \$ Amt per FY						\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total Indirect Costs		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

TOTAL PROJECT COSTS		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UNIVERSITY MATCHING FUNDS						\$0.00
TOTAL MDOT PROJECT COSTS		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00