



## **GENERAL INFORMATION**

Any questions relative to the Research Problem Statement must be submitted by e-mail to: [mdot-research@michigan.gov](mailto:mdot-research@michigan.gov). Questions must be received by **April 22, 2011 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 ORBP FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION:**

- 5100D – Request for Proposal Cover Sheet
- 5100G – Certification of Key Personnel
- 5100I – Conflict of Interest Statement
- ORBP Research Proposal Budget Form Worksheet
- ORBP Schedule of Research Activities Form
- ORBP Deliverables Table
- ORBP Implementation Project Recommendation Form

**OFFICE OF RESEARCH & BEST PRACTICES  
MDOT RESEARCH PROGRAM  
2010 PROBLEM STATEMENT**

**PROBLEM TITLE**

Best Practices for Emergency Rerouting

ORBP NO.  
OR10-026

STRATEGIC PRIORITY NO.  
7

CRITICAL ISSUE CODE  
2 & 9

MDOT PROJECT CATEGORY  
Delivery & Operations:  
System Planning and Strategic  
Measures

**PROBLEM TO ADDRESS**

BRIEFLY DESCRIBE THE PROBLEM TO BE ADDRESSED AND WHY IT IS AN ISSUE FOR MDOT

The study will help MDOT reduce congestion, improve safety, reduce pollution, and reduce user costs. Traffic congestion is costly to society: About one-quarter of the total congestion in the national system is caused by traffic incidents.

Many emergencies and incidents require closing lanes or roadways, or rerouting traffic. This creates numerous challenges for maintaining mobility and safety. MDOT will use the results to develop/implement emergency rerouting plans by giving the motorist clear and concise directions. This will increase mobility and safety of motorists and first responders during emergency situations.

**RESEARCH OBJECTIVES AND TASKS**

LIST THE RESEARCH OBJECTIVE(S) TO BE ACCOMPLISHED

1. Review literature listed in the literature search along with any other studies that may be published. Focus should include current best practices in other states with success implementing emergency rerouting schemes for congestion mitigation.
2. Develop strategies to mitigate the impacts of a traffic incident to traffic flow.
3. Develop a best practice manual for emergency routing.
- 4.

LIST THE MAJOR TASKS TO ACCOMPLISH THE RESEARCH OBJECTIVES:

ESTIMATED PERSON HOURS

- |                                                                                                                                         |     |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1. Review literature listed in the literature search along with any other studies that may be published related to emergency rerouting. | 150 |
| 2. Survey other states' emergency rerouting practices.                                                                                  | 250 |
| 3. Develop strategies to mitigate the impacts of a traffic incident to traffic flow. Include recommendation optimal sign layout.        | 300 |
| 4. Determining a method to evaluate the effectiveness.                                                                                  | 50  |
| 5. Create a manual for best practices in emergency rerouting.                                                                           | 550 |

**ESTIMATED COST AND TIMELINE**

ESTIMATE THE COST OF THIS RESEARCH STUDY (Please provide a cost range [min. and max.] associated with the person hours by task above)  
Tier II (\$100,000 - \$250,000)

PROVIDE A PROPOSED TIMELINE FOR THE PROJECT (At minimum, the expected duration of the project)  
10/1/2011 to 9/30/2012

REQUIRED COMPLETION DATE (At minimum, the date by which results are needed to be applicable)  
9/30/2012

**BUDGET INFORMATION**

(For each FY, list suggested minimum and maximum budgets as targets. Indirect Cost Rate is for ORBP use only.)

TOTAL BUDGET (BY FY)	FY1	FY2	FY3	FY4	INDIRECT COST RATE

**DELIVERABLES**

WHAT DELIVERABLES SHOULD BE RECEIVED AT THE END OF THIS PROJECT? (e.g., usable technical product, design method, techniques, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tools, etc.)  
Manual of best practices for emergency rerouting. (hard and electronic copies)

MDOT INVOLVEMENT (What will MDOT provide for this project and when)

MDOT will provide oversight and guidance to the entity picked to complete the project.

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**URGENCY, PAYOFF POTENTIAL AND IMPLEMENTATION**

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HOW URGENT IS THIS RESEARCH? IS IT IMPORTANT THAT IT BE DONE SOON? IF SO, WHY?

Funding has been allocated to emergency detouring signing each fiscal year. The sooner best practices are developed, the sooner they can be implemented and increase mobility and safety during emergency situations.

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DESCRIBE HOW THE PROPOSED RESULTS OF THIS PROJECT CAN BE IMPLEMENTED AT MDOT

All Emergency Routing Sign Jobs will have to follow the new manual.

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DESCRIBE HOW MDOT WILL BENEFIT FROM THE IMPLEMENTATION OF THIS PROJECT AND WHO THE BENEFICIARIES WILL BE. INCLUDE A DISCUSSION OF HOW MDOT DIVISIONS, OTHER THAN THAT OF THE PROBLEM SUBMITTER, WILL BENEFIT AND HOW.

MDOT does not have a standard method of signing for emergency detours. Each region has a preferred method on how to sign for emergency detours, which may lead to confusion by the motorist using the detour route. Using the techniques in the manual, project managers can develop easy-to-follow emergency routes that will give motorists clear and concise directions. Currently, all 7 regions are working on emergency routes for the major freeways.

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**POTENTIAL OBSTACLES**

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WHAT RISKS OR OBSTACLES MAY MAKE CARRYING OUT THIS PROJECT DIFFICULT? WHAT STRATEGIES WILL YOU USE TO OVERCOME THEM?

Signing must be compliant with the Michigan Manual of Uniform Traffic Control (MMUTCD) or get approval to experiment from FHWA. With the approval to experiment, an evaluation plan must be submitted. Determining a method to evaluate the effectiveness may be difficult.

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**POSSIBLE INVESTIGATOR(S)**

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DESIRED QUALIFICATIONS IN AN INVESTIGATOR

Knowledgeable in the areas of Traffic Incident and Emergency Events, Michigan Manual of Uniform Traffic Control (MMUTCD), and the new Federal Manual of Uniform Traffic Control (MUTCD). Previous experience developing emergency/incident/alternate routes is needed for this project.

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