

## Chapter 3. Program Development & Administration

This chapter describes the process for developing MDOT's SPR, Part II, Program research. Title 23, U.S. Code Section 505(b)(1) requires at least 25 percent of the Statewide Planning and Research (SPR) apportionment (or its equivalent from other authorized sources) be restricted to research activities. A 20 percent state match is required.

SPR, Part II, money is federally regulated to conduct true research striving for implementable results. This money can be used for research development and technology transfer activities necessary in connection with the design, construction, management, and maintenance of highways, public transportation, and intermodal transportation systems. Other uses include studies, research, and training on the engineering standards and construction materials for transportation systems described above. This fund can also pay for the evaluation and accreditation of inspection and testing, as well as the regulation and taxation of their use. Most SPR, Part II, projects have a two year duration and average \$100,000 for the two years. This money can not be used for any project that would qualify for the funding sources announced annually in MDOT's integrated call for projects.

This chapter also describes administration of the program by the Office of Research and Best Practices. Management of specific projects is described in Chapter 4.

### 3.1 Program development

#### 3.1.1 Biennial program

SPR, Part II, Program research is administered as a series of biennial (two-year) programs. Each biennial program starts with even-numbered fiscal years. For example, a biennial program begins at the start of Fiscal Year (FY) 2010 (October 1, 2009) and runs through the end of FY 2011 (September 30, 2011).

#### 3.1.2 Project development steps: timeline

Project development and approval is a multi-step process, with the first step occurring more than a year before the biennial research program begins. A project development timeline (Figure 3.1) outlines the steps of the process, including major tasks, due dates, and the assigned party for each task. The process is divided into three phases: call-for-problem statements, ranking/selection and program approval. Stakeholders outside of MDOT participate in the first of the three phases.

Advisory boards and other bodies outside of MDOT not named in the process below may address their comments and input directly to MDOT's Research Executive Committee for its consideration.

The timeline illustrates the biennial program in FY 2010 and 2011. Other biennial programs, such as the subsequent program in FY 2012 and 2013, follow the same timeline pattern.

**Figure 3.1—MDOT Biennial Project Development Timeline**  
 Illustrated for 2-year program running in FY 2010 and 2011

Task	Due	Assigned to	FY 2009			FY 2010			FY 2011								
			J	A	S	O	N	D	J	A	S	O	N	D	J	A	S
(Year 2 of previous Biennial Program)	Oct. 1, 2008–Sept. 30, 2009																
1. Decide strategic priorities for call for problem statements	Aug. 15	REC															
2. Notify stakeholders of Research Summit	Sept. 1	Engr. ORBP															
3. Stakeholder Research Summit to discuss research needs	Oct. 31	Engr. ORBP															
4. Distribute Summit minutes to attendees, RACs, REC	Nov. 15	Engr. ORBP															
5. Call to PMs for problem statements	Dec. 1	Engr. ORBP															
6. Submit problem statements to Engineer of ORBP	Jan.-Feb.	PMs															
7. Compile problem statements and deliver to RACs	Feb.	Engr. ORBP															
8. Rank problem statements and send to Engr. of ORBP	March 30	RACs															
9. Announce RFP for Pls	April 1	Engr. ORBP															
10. Compile tentative biennial program	June	Engr. ORBP															
11. Formulate biennial program	July 1	Engr. ORBP															
12. Meet to review/approve biennial program	July-Aug.	REC															
13. Submit biennial program to FHWA	Aug.	Engr. ORBP															
14. FHWA approval	Sept.	FHWA															
15. Year 1 of Biennial Program	Oct. 1, 2009–Sept. 30, 2010																
16. Announce RFP for Pls	April 1	Engr. ORBP															
17. Formulate second year of biennial program	July 1	Engr. ORBP, RACs															
18. Meet to review/approve second year of biennial program	July-Aug.	REC															
19. Submit second year of biennial program to FHWA	Aug.	Engr. ORBP															
20. FHWA approval	Sept.	FHWA															
21. Year 2 of Biennial Program	Oct. 1, 2010–Sept. 30, 2011																

### 3.1.3 Project development steps: additional details (illustrated for FY 2010-2011 biennium)

#### *Formulate research needs*

- Step 1 REC decides strategic priorities for MDOT and communicates this to the Engineer of ORBP.  
Target date: August 25, 2008.
- Step 2 The Engineer of ORBP notifies stakeholders of a Research Summit to discuss Michigan's research needs.  
Due date: September 1, 2008
- Stakeholders include members of ORBP, RAC, FHWA, project managers, TSCs, region representatives, university representatives and other agency representatives.
- Step 3 Stakeholders discuss research needs during the research summit.  
Due date: October 1, 2008.
- ORBP convenes the research summit.
  - Stakeholders review recently completed research, current research and technical investigations, problem areas/research needs, input from Regions and input from Transportation Service Centers.
  - MDOT's major research focus areas are:
    - bridges and structures
    - design and geotechnical
    - real estate services
    - urban corridors
    - security
    - system planning and strategic measures
    - safety and systems operations and mobility
    - pavements, construction, materials and maintenance
    - intelligent traffic systems
    - freight and logistics
    - passenger transportation
    - rail
    - aeronautics
    - maritime
    - strategic planning programs/programming
    - geological services and transportation data
    - bike and pedestrian
    - environment
- Step 4 Engineer of ORBP distributes minutes of the Research Summit to stakeholders, RACs and the REC.  
Due date: November 15, 2008.

***Call, ranking and selection***

- Step 5 Engineer of ORBP issues a call to MDOT's Project Managers for research problems  
Due date: December 1, 2008
- Step 6 PMs or others within MDOT submit problem statements to ORBP.  
Due date: February 15, 2009
- Complete and submit MDOT form 5303, see [Appendix C5](#).
  - For Pooled Fund Studies, also complete and submit form 5302, see [Appendix B1](#).
  - Problem statements should include estimated cost limits.
  - If PMs consult with or receive assistance in problem statement formation from stakeholders outside of MDOT, such as university or private consultants, they are to be reminded that problem statements may be distributed publicly and should not contain proprietary information.
- Step 7 Engineer of ORBP compiles problem statements into four lists (by RAC area) and submits them to the four RACs  
Due date: February 28, 2009
- Step 8 The RACs prioritize problem statements, calling on MDOT or external experts as needed. RACs send ranked problem statements to Engineer of ORBP, along with their selection criteria.  
Due date: March 30, 2009
- MDOT experts rank the problem statements in their areas of interest and expertise. ORBP will provide standard minimum criteria for project ranking and selection. RACs may expand on these criteria to meet their needs.
  - MDOT experts include members of ORBP staff, RAC members, presumed project managers, region representatives and Transportation Service Center representatives.
  - Ranking consists of identifying the problem statement as having a high, medium or low research priority.
  - At least five experts must rank each problem statement.
- Step 9 Some tentative projects will be open to a qualifications-based selection process using a request for proposals process. RFPs will be advertised, noting that funds are pending ORBP, REC and FHWA approval of the research program. This will be described in detail in section 4.1.1.3 of this manual through future updates. A timeline for the process is shown in Figure 4.3.  
Due date: April 1, 2009
- Step 10 The Engineer of ORBP compiles the tentative biennial program.  
Due date: July 1, 2009
- The Engineer of ORBP reviews the prioritized project lists and other supporting information. A tentative project listing is sent to FHWA for information only.

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- Step 11 The Engineer of ORBP formulates biennial program  
Due date: July 1, 2009
- The program includes first-year projects with funding requests, and second year programs without funding requests.

### *Program approval*

- Step 12 Research Executive Committee meets to review/approve biennial program.  
Target date: July-August 2009
- Step 13 The Engineer of ORBP submits the biennial program to FHWA.  
Due date: August 30, 2009
- Step 14 FHWA approves the first year of the biennial program.  
(October 1, 2009 – September 30, 2010)  
Due date: September 30, 2009
- The Engineer of ORBP sends the approved SPR Part II program to all stakeholders.
- Step 15 ORBP advertises RFPs for those projects starting in the second year of the biennium that will be awarded using a selection process yet to be determined  
Due date: April 1, 2010
- Step 16 The Engineer of ORBP and RACs formulate the second year of biennial program.  
Due date: July 1, 2010
- The program includes second-year programs with funding requests.
- Step 17 REC meets to review/approve second year of biennial program.  
Target date: July-August 2010
- Step 18 The Engineer of ORBP submits second year of biennial program to FHWA.  
Due date: August 30, 2010
- Step 19 FHWA approves the second year of the biennial program  
(October 1, 2010 – September 30, 2011)  
Due date: September 30, 2010
- The Engineer of ORBP sends the approved SPR Part II program to all stakeholders.

### **3.1.4 Pooled Fund Studies**

Pooled Fund studies are an important part of the SPR, Part II, Program.

Pooled Fund studies are led by a state or FHWA, with other states, private companies, foundations or universities participating. Each participating state obligates its own funds, which can be 100% SPR funds, and enters into its own agreement with FHWA.

Applications for MDOT to participate in a new or existing Pooled Fund studies can be submitted at anytime using MDOT form number 5302, see [Appendix B1](#). Pooled Fund study requests must first receive bureau approval prior to being submitted to ORBP, see [Appendix B2](#). We will determine eligibility and availability of SPR, Part II, funds. If funding is available and approved by the ORBP Engineer, the study will be added to the SPR, Part II, program template for review and approval by the REC. If approved by the REC, ORBP will post MDOT's expressed interest to be a contributing partner in that study to the TPF Web site and the template is forwarded to FHWA. Once FHWA approves the template, we notify the interested parties that the study has been funded. An annual report is required at the end of each fiscal year for all Pooled Fund studies that MDOT participated in during the prior year, see [Appendix B3](#). We continue to update the TPF Web site with the names and phone numbers of the technical contacts, the agency contact person, and MDOT's funding commitment levels.

### **3.1.5 Program alteration and expedited project development**

Unforeseen events or changes in MDOT's strategic priorities may require changes to the agreed-upon SPR, Part II, Program. Requests from upper management to initiate immediate research to address critical issues are accommodated in a timely manner with an expedited approval process at the REC level.

## **3.2 Program administration**

### **3.2.1 Program initiation**

#### **3.2.1.1 Project job numbers**

The job numbers for approved projects are created using MDOT's computerized Map Project Information System (MPINS). Project title, scope of work, cost and other basic information is input to this system by the Research Analyst of ORBP. The Office of Statewide Planning and Programming in the Planning Bureau assigns the job numbers.

#### **3.2.1.2 Obligation of funds**

Funds are obligated for SPR, Part II, Program projects with MDOT's computerized Map Financial Obligation System (MFOS), following these steps:

- The Research Analyst of ORBP prepares the request for funds and submits the request to the Financial Operations Division (FOD).
- FOD staff reviews the request, obligates the funding
- FOD staff forwards the request with the federal project number and the federal item number to FHWA for its financial approval

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The process should take approximately 7–10 days and should be completed as near as possible to the start of the fiscal year. For all new projects, work authorization must be received from the Contract Services Division before any work for the project may begin. The work authorization process is detailed in Chapter 4.

### 3.2.2 Program oversight

#### 3.2.2.1 Revisions

The Engineer of ORBP must approve all changes in scope, cost and time during the execution of the project, with requests submitted using ORBP forms. The project Research Manager reviews requests before forwarding them for approval.

#### 3.2.2.2 Monitoring

The Engineer of ORBP monitors the cost of the overall program using fiscal controls set by the federal-aid annual work program.

#### 3.2.2.3 ORBP monthly meetings

ORBP administrative staff and other identified and invited MDOT personnel meet monthly to review issues related to work, costs and schedules for the program as a whole as well as individual projects. The objective of these meetings is to ensure the program and individual projects are completed on time and within budget.

### 3.2.3 Annual reporting

#### 3.2.3.1 Annual status reports to FHWA

ORBP prepares annual reports on the progress of the SPR Part II program for FHWA. These reports include:

- a review and status of major program activities, program milestones and anticipated future progress
- financial status reports

#### 3.2.3.2 ORBP annual report

ORBP issues an annual report with one-page summaries of each research projects completed during the previous fiscal year. Summaries include:

- brief project description
- research findings of research
- cost
- project manager
- implementation efforts for research results

The annual report also contains a list of pooled fund studies in which MDOT is currently participating, a list of all the technical investigations that the Construction and Technology Division is conducting, and a list of total research contract dollars (SPR funds) received by each MDOT-contracted university.

### **3.2.3.3 Centers of Excellence annual report**

Each Center of Excellence annually summarizes its work in the following areas:

- problem statement formation
- teaching and technology transfer efforts to assist MDOT
- implementation of the research findings
- presentation of research papers at the annual Transportation Research Board (TRB) conference

ORB compiles this information in a Centers of Excellence annual report.

### **3.2.3.4 Transportation Research Board annual Field Visit report**

ORB's state TRB representative facilitates a biannual visit from TRB staff. TRB issues an annual report on its field visits early each year on state DOTs RD&T programs and integrated transportation systems. The report reflects both accomplishments and national transportation issues and challenges. This report is a TRB-sponsored activity.

### **3.2.4 Peer exchange**

SPR federal regulations require peer exchanges to help DOTs improve the quality and effectiveness of research management.

- A peer exchange is held at MDOT every three to five years. The Engineer of ORBP organizes ORBP's peer exchange by selecting the team and conducting the meeting in accordance with the federal regulations.
- The peer exchange team may consist of representatives of other state DOTs, FHWA, universities, TRB, other agencies and the private sector.