

Research Proposal Development  
and Submission Process

for the

Mississippi Department of  
Transportation Annual Research  
Work Program

Federal FY 2013

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## **General Information**

The purpose of a research proposal is to present a research study to the Mississippi Department of Transportation (MDOT) for funding consideration. Should the proposal be accepted for funding, then portions of it become part of a study contract between the Department and the Consultant.

The MDOT research work program does not operate on a grant basis. It is an applied research program committed to providing implementable solutions to problems facing MDOT.

The Consultant may obtain ideas for developing a research proposal by networking with MDOT personnel and reviewing the results of the MDOT Research Needs Workshop. For Federal FY 2013 use the following link to access these results:

<http://www.gomdot.com/Divisions/Highways/Resources/Research/pdf/Research%20Needs%20Results%20Updated%202010.pdf>

Prior to developing a research proposal, the Consultant should become familiar with the entire research proposal development and submission process included in this document. This will enable the Consultant to determine whether he/she can meet the MDOT submission and execution requirements included herein.

It is the responsibility of the Consultant to provide a proposal that is relatively free of grammar and spelling errors. A proposal can be eliminated for funding consideration if, at the discretion of the MDOT proposal reviewers, it includes a significant number of such errors. These errors are considered indicative of future negative issues with written project deliverables.

A submitted proposal becomes the property of MDOT.

### **Request for Research Proposals**

MDOT sends out electronic request for proposals (RFPs). It is the responsibility of the Consultant to possess capability for receipt of such request via this mode of transmittal. The research proposal is developed by the Consultant and then electronically submitted to MDOT in the format shown in Appendix A, "Mississippi DOT Research Proposal Format."

### **MDOT Research Study Champion**

The Consultant is responsible for identifying one or more MDOT individuals who will be an advocate, or research study Champion, for the proposed study. Each identified MDOT Champion name and contact information will be included in the research proposal as shown

in Appendix A. section 8, "MDOT Research Champion(s) of Proposed Research."

A proposed study will not be considered for funding unless at least one individual is identified as a Champion. Appendix E, "Responsibilities of Technical Advisory Committee (TAC) Members," elaborates TAC member tasks to enhance the probability that MDOT-funded research studies result in implementable products and/or services to the Department. Consultants are encouraged to discuss these TAC member tasks with their identified Champion(s) prior to developing a research proposal to help ensure the potential Champions' subsequent written agreement to perform such tasks.

### **Research Study Tasks**

The Consultant develops a plan to conduct the proposed research. This plan is outlined using study tasks and subtasks as discussed in Appendix A. section 3, "Research Plan." These research study tasks/subtasks should be developed via collaboration with MDOT Champions. After proposals are received by the MDOT Research Division, they are sent out to the identified Champions as well as others within the Department considered subject matter experts within the proposed research field of knowledge. These individuals critically review the study tasks/subtasks and provide feedback to the Research Division indicating whether the proposed study addresses Department needs.

A Research Proposal Review Form is provided to each identified individual for each study to facilitate their evaluation of the proposal(s). These individuals complete the review forms and submit them back to the Research Division. The Research Division evaluates the reviewer responses to make funding recommendations to the MDOT Research Advisory Committee (RAC). If study tasks/subtasks are initially developed with Champion input, the responses on the proposal review form should favorably reflect the initial collaboration. This should enhance the probability of funding for the given study; however, this does not guarantee funding of the study.

### **Technical Advisory Committee**

Subject to available funds proposed research receiving favorable relative reviews are generally considered for funding recommendation. A Technical Advisory Committee (TAC) is formed for each recommended study with committee members including those individuals who have indicated a willingness to do so in accordance with the guidelines provided in Appendix E, "Responsibilities of

Technical Advisory Committee (TAC) Members.” A TAC chairperson is selected by the TAC members via simple majority vote.

The TAC includes one individual from the MDOT Research Division to function as an Assistant Project Manager to the State Research Engineer. This individual provides study contract development and administrative support, and represents the interests of the Division where implementation of study results may potentially impact Division responsibilities. This person may also provide technical input if they are a subject matter expert in the field of study being addressed by the research.

### **TAC Meetings**

At the first TAC meeting, the TAC members must review and approve, or recommend changes to, the research plan tasks and subtasks, Project Schedule, and funding allocation per task and subtask. If any changes are recommended, the Consultant revises the proposal accordingly and then sends it back to the TAC members for review and approval of same. These three aspects of the proposal must be finalized before beginning development of a contract for the study.

Subsequent TAC meetings may be held as needed throughout the conduct of the study.

For all TAC meetings the Consultant will develop a draft of meeting minutes. Emphasis of these minutes will be discussion of potential changes to the content of, or funding for, the study tasks/subtasks, and the Project Schedule. A draft of these minutes will be distributed to the TAC members for review and comment within one week of the given meeting. The TAC members will provide any feedback regarding the draft to the Consultant within one week of receipt of same. The Consultant will address any TAC member concerns and then distribute a final version of the meeting minutes.

Discussion of alternate points of view will be included in the minutes if consensus is not achieved during the meeting regarding issues relative to the conduct of the study. Unresolved issues will be settled via TAC member vote by simple majority. In the case of a tie the TAC chairperson vote prevails as the decision. The final meeting minutes must reflect any decisions on the part of the TAC regarding changes to the conduct of any task/subtask or funding reallocation.

### **Changes in Work Tasks/Subtasks or Funding**

Subject to TAC approval changes are allowed to the content and ordering of the tasks/subtasks, or reallocation of funds to same, at any point prior to or after award of the study contract. However, if the study is already included in an approved Research Work Program, the

total amount of the study after reallocation of funds cannot exceed the total amount provided in the Research Work Program. In this case, should the TAC and Consultant identify work requiring funds in an amount exceeding that already approved, then a follow up or second research study effort should be considered for funding at a later date. Note that any revisions to a given task/subtask time interval, or allocated funds, will require corresponding update of the project progress schedule and the planned project progress and planned gross expenditures graphs (Appendix B).

### **Quarterly Progress Reports**

The Consultant is responsible for submitting quarterly progress reports (QPRs) in accordance with the schedule required by the MDOT Research Division. Late submission of these reports will be documented and used in the final evaluation of the Consultant upon completion of the study. Refer to Appendix C, "Quarterly Progress Reports," for the QPR format, submission schedule and other pertinent information required to complete a QPR.

### **Invoices**

Invoices submitted to the Department must be formatted in accordance with the traditional accounting line items (salaries, overhead, etc.) as required in the research contract. Supporting documentation must also be submitted for interpretation of the invoiced amount in terms of the research tasks and subtasks. Refer to Appendix D, "Supporting Documentation with Submission of Invoices."

The last invoice will be submitted at the same time the final version of the final report is submitted to MDOT. This invoice will be marked "Final Invoice" at the top of the page so that MDOT's Consultant Services Unit will know that the contract is done and that it needs to then go through the final audit process.

## Appendix A. Mississippi DOT Research Proposal Format

A research proposal will include the following ten sections:

1. **Research Project Title** – Make the title as short and concise as possible.
2. **Problem Statement** – The research proposal should address a current or future potential issue in Mississippi where research may be employed to provide recommendations to address the issue. This statement should answer questions such as:
  - What is the nature of the problem requiring research?
  - How does the problem impact MDOT transportation facilities or services?
  - How can this proposed research provide answers for the problem?
  - What are possible positive impacts to MDOT transportation facilities or services as a result of implementing recommendations from this study?

Include discussion of any known past or current, state, national or international level, research efforts that are similar to the one proposed. If any exist, describe how this study differs in scope or potential application.

3. **Research Plan** – The Research Plan should be designed to produce implementable study deliverables that address the problem(s) discussed in section 2. "Problem Statement." Format this plan as numbered tasks/subtasks. The following provides details to be considered, and as applicable, addressed in the research plan.

### MDOT Support for Study

The Consultant will advise if the proposed research requires MDOT provision of data, materials sampling and testing, traffic control, or some other service to facilitate conduct of the study. This will be accomplished by including separate tasks/subtasks in the research plan clearly defining these services. Do not combine work required by MDOT and the Consultant in the same task/subtask.

The Consultant will identify individuals within MDOT Division(s) or District(s) who agree to provide the required MDOT support services, or aid in provision of these services. The name and contact information of these individuals will be included in the research proposal under section 8, "MDOT Research Champion(s) of Proposed Research."

## **Define Who Does What**

All tasks/subtasks included in a research plan will clearly state the responsible party for the given task/subtask. Where MDOT services are required, include the responsible MDOT Division(s) or District(s). For example, the Consultant may be required to analyze pavement distress data provided by the MDOT Research Division. In this example, one task in the research plan states that the MDOT Research Division will provide the pavement distress data to the Consultant, and a separate task states that the Consultant will analyze the data.

As a second example the research study requires coordination of Consultant testing in conjunction with contractor construction operations. In this hypothetical study the Consultant intends to test cementitious stabilized material (CSM) at the time of placement by the contractor and at time intervals subsequent to its placement. The Research Plan needs to include one task/subtask that addresses the Consultant testing activities, and another task/subtask that addresses the requirements of, and responsible party for, coordinating the testing activities of the Consultant with the contractor.

## **Identify MDOT Personnel Providing Services**

The Consultant will identify individuals within MDOT Division(s) or District(s) who agree to provide the required MDOT support services, or aid in provision of these services. The name and contact information of these individuals will be included in the research proposal under section 8, "MDOT Research Champion(s) of Proposed Research."

When research proposals are reviewed by the Department for funding consideration, each individual identified in section 8 is sent a proposal review form. This review form includes a question asking the reviewer if they agree to provide the required MDOT service. Each MDOT service required by the Consultant to complete the research effort must have an MDOT individual agreeing to provide that service prior to development of a research contract. In addition, the Division Head or District Engineer of that individual must also agree to allow his/her employee the time and resources to complete the task.

## **Incorporate MDOT Involvement in Project Schedule**

Tasks/subtasks for which MDOT is responsible are not reflected in the funding for the study; however, they are reflected in the Project Schedule that tracks overall study progress. This enables MDOT

personnel to plan for providing the required services at the appropriate time to the Consultant to maintain the progression of the study and allow submission of project deliverables per the Project Schedule.

### **Percentage of Total Consultant Research Effort by Task**

For each task/subtask performed by the Consultant, assign the percentage of total Consultant research effort to complete the study. In the first example included in the section "Define Who Does What" the pavement distress data provided by MDOT is not considered part of the Consultant research effort; however, the Consultant will analyze the data. If the analysis requires 15 percent of the total effort on the part of the Consultant to complete the study, then 15 percent is assigned as the percentage of total Consultant research effort for this task/subtask.

### **Consultant Travel and Purchase of Equipment**

Proposed Consultant travel for presentation of study findings, or purchase of equipment by the Consultant to conduct the study, will be included as separate tasks/subtasks of the research plan.

Consultant travel must be approved in writing by the MDOT State Research Engineer prior to the scheduled travel. The Consultant will submit a letter of request with a format including a location for signature and dating by the State Research Engineer. Appendix G. "Sample Letter Requesting Approval to Use Study Funds to Present Research Results" illustrates the required detailed breakdown of anticipated travel expenses.

### **Quarterly Progress Reports**

Include a separate task for Consultant submission of quarterly progress reports (QPRs). Refer to Appendix B. "Project Schedule" and Appendix C. "Quarterly Progress Reports" for additional details related to displaying this task in the Project Schedule per the QPR submission schedule.

### **Interim and Final Reports**

Include a separate task for Consultant submission of the draft and final versions of each interim and the final study reports. An example of an interim report would be a construction report providing details of the construction of field test sections. One task would be included in the research plan to represent both the submission of the draft and the final version of this construction report. Refer to Appendix B, "Project Schedule" section "Submission of Interim and Final Reports" for the time sequence

requirements allowing for review, comment and revisions of these documents.

Both of these types of reports must include a Technical Report Documentation Page located immediately following the front cover of the report. The MDOT Research Division TAC member will complete the MDOT-specific entries for this page and then provide it to the Consultant. The Consultant will complete this page by entering appropriate Consultant and study specific information.

The Consultant will provide 15 bound copies of the final version of any interim or final report, along with two electronic versions of same – one .doc (or .docx) and one .pdf file per the progress schedule shown in the Gantt chart. A stapled report is not considered a bound report and will not be accepted as a project deliverable.

### **Research Plan Becomes Part of Research Contract**

The Research Plan constitutes the scope of work for the research contract, memorandum of understanding, or other contractual vehicle employed to control the conduct of the study. *The intent is that the Research Plan will simply be copied and pasted into the applicable contract document once all parties involved agree to the content of and responsibility for same.*

**4. Funding** – The total cost of the research should be accounted for in the research proposal in two different formats with each format represented in a separate table. These formats are discussed in the following subsections 1 and 2.

1. Provide a table which lists the funding requirements for each Federal Fiscal Year (FY) included throughout the duration of the study as well as the total cost of the study. The Federal FY begins the 1<sup>st</sup> of October and extends through September 30<sup>th</sup> of the following calendar year.

When estimating the funding requirement for the first Federal FY within which the study is proposed for funding, do not assume that the study will start on October 1. This is because work cannot begin for, and charges cannot be made to, a study until a notice to proceed (NTP) is issued by MDOT. An NTP is issued after all contract documents have been developed and received the required signatures. For the purpose of estimating the required funding for the first Federal FY, assume the NTP will be issued February 1 of that Federal FY. Note that February 1 is not put in the Gantt chart (refer to section 5, Duration) as the study

start date. February 1 is only used for the purpose of estimating study cost for the first Federal FY in the study budget.

2. Provide a second table that divides the total study cost based on Consultant performed tasks/subtasks outlined within the research plan. All Consultant costs associated with the conduct of a research study should be appropriated to a research study task or subtask. For example, if the study requires the purchase of equipment by the Consultant, then the purchase of that equipment is considered as a separate task/subtask. Consultant travel funded by research study funds to present research findings are considered as a separate task/subtask. While it is understood that exact travel or equipment costs cannot always be anticipated at the time of submission of the research proposal, an estimate of such costs must be included in the proposal.

**Do not** submit any tables in the research proposal document of proposed study costs formatted in accordance with traditional accounting line items such as salaries, overhead, profit, etc.

**Do** submit a separate document from the research proposal that includes a table accounting for proposed study costs in terms of traditional accounting line items. The format for this table will be in accordance with the requirements of an anticipated contract for the study. This table will be included in the research contract documents.

Figure A1, "Template to Appropriate Study Costs for Contract Governing State Entity Conducted Research," provides the type cost breakdown to be used by Universities performing research under a master contract. Figure A2, "Template to Appropriate Study Costs for Contract Governing Non-State Entity Conducted Research," provides the type cost breakdown to be used by private firms performing research for the Department.

If these templates are not provided with the annual call for MDOT research proposals, Consultants are encouraged to acquire from MDOT the most current version of the applicable template and use it to develop the table. Questions related to the inputs for these templates should be directed to the MDOT Consultant Services Unit at (601) 359-7037.

**The total amount shown in all three of these tables will be same - to the penny.**

5. **Duration** – Develop a project schedule via a Gantt chart that illustrates how long it will take to perform this research. Appendix B includes the format and other details to be considered for developing

this schedule. The project schedule will be included in the research contract documents.

<b>Institution:</b>	<b>(State Entity Name)</b>		
<b>Project Period:</b>	<b>(Duration of Project)</b>		
<b>Budger Year:</b>	<b>(Year 1, 2, 3, etc.)</b>		
	<b>Number of Hours</b>	<b>Hourly Rate of Pay</b>	<b>Total</b>
<b>Faculty Name</b>	_____	_____	_____
<b>Staff Name/Title</b>	_____	_____	_____
<b>Faculty/Staff Labor</b>			_____ <b>*Total of Faculty/Staff Labor</b>
<b>Faculty/Staff Fringe Benefits</b>	RATE		_____ <b>*Total of Faculty/Staff Fringe Benefits</b> (Faculty/Staff Fringe Rate * Faculty/Staff Labor)
<b>Graduate Student Research Assistant</b>	_____	_____	_____
<b>Graduate Labor</b>			_____ <b>* Total of Graduate Labor</b>
<b>Graduate Fringe Benefits</b>	RATE		_____ <b>*Total of Graduate Fringe Benefits</b> (Graduate Fringe Rate * Graduate Labor)
<b>Undergraduate Student Research Assistant</b>	_____	_____	_____
<b>Undergraduate Labor</b>			_____ <b>*Total for Undergraduate Labor</b>
<b>Raw Labor Total</b>			_____ <b>*Raw Labor Total</b> (Faculty/Staff Labor + Faculty/Staff Fringe Benefits + Graduate Labor + Graduate Fringe Benefits + Undergraduate Labor)
<b>Direct Costs:</b>	<b>No. of Units</b>	<b>Cost per Unit</b>	
mileage	_____	_____	_____ <b>*Mileage, lodging, and meals must be shown as separate amounts regardless of their total values. Supplies, equipment, etc. must be show individually if the total value of an item exceeds \$500.</b>
lodging	_____	_____	_____
meals	_____	_____	_____
tuition	_____	_____	_____
supplies	_____	_____	_____
<b>Direct Costs Total</b>			_____ <b>*Total of all Direct Costs</b>
<b>Subconsultant Costs</b>			
Firm #1	_____	_____	_____
<b>Subconsultant Costs Total</b>			_____ <b>*Total of all Subconsultant amounts</b>
<b>Subtotal</b>			_____ <b>*Subtotal</b> (Raw Labor Total + Direct Costs Total + Subconsultant Cost Total)
<b>Indirect Costs Total</b>	RATE		_____ <b>*Indirect Costs Total (Indirect Cost Rate times Subtotal, excluding any amounts for tuition, equipment, and any other nonallowable costs)</b> [Indirect Cost Rate * (Subtotal - Nonallowable Costs)]
<b>Project Total</b>			_____ <b>*Project Total</b> (Subtotal + Indirect Costs Total)

Figure A1 - Template to Appropriate Study Costs for Contract Governing State Entity Conducted Research

(Non-State Entity Name)

Labor Classification	Number of Hours	Hourly Rate of Pay	Total
Raw Labor	_____	_____	_____ *Total of All Raw Labor Wages
Overhead	<input type="text" value="RATE"/>	_____	_____ *Total Overhead Amount (does not include FCCM amounts) (Overhead Rate * Raw Labor)
Total Labor	_____	_____	<input type="text"/> *Total Labor Cost (Raw Labor + Overhead)
Fixed Fee/Profit	<input style="width: 50px;" type="text" value="%"/>	_____	<input type="text"/> *Total Fixed Fee/Profit Amount (does not include FCCM amounts) (Fixed Fee/Profit Percentage * Total Labor)
FCCM	<input type="text" value="RATE"/>	_____	<input type="text"/> *FCCM Amount (FCCM Rate * Raw Labor)
<b>Direct Costs:</b>	No. of Units	Cost per Unit	
mileage	_____	_____	_____ *Mileage, lodging, and meals must be shown as separate amounts regardless of their total values. Supplies, equipment, etc. must be show individually if the total value of an item exceeds \$500.
lodging	_____	_____	_____
meals	_____	_____	_____
supplies	_____	_____	_____
Total Direct Costs			<input type="text"/> *Total of all Direct Costs
<b>Subconsultant Costs</b>			
Firm #1	_____	_____	_____
Firm #2	_____	_____	_____
Total Subconsultant Costs			<input type="text"/> *Total of all Subconsultant amounts
<b>Project Total</b>			<input type="text"/> *Project Total (Total Labor + Fixed Fee + FCCM + Total Direct Costs + Total Subconsultant Costs)

Figure A2 - Template to Appropriate Study Costs for Contract Governing Non-State Entity Conducted Research

**6. Implementation of Research Results** – The end result of conducting the Research Plan should be some product and/or service providing solution to the issue described in Section 2, “Problem Statement.” Describe the anticipated products and/or services. Examples of such include construction or materials specifications, technical standards or practices, improvements to work flow, a new or revised design procedure, or other process, etc.

**Evaluate Potential Value of Recommended Product and/or Service**

What is the potential value of these products and/or services to the Department? Potential value can include, but not limited to, one or more of the following:

- Lives saved
- Reduced vehicle crashes
- Protection of the environment
- Reduced traffic congestion
- Department cost savings

Where possible quantify these values.

- How many lives can be saved?
- How many vehicle crashes can be avoided?
- How much money can be saved by the Department?

Suggest evaluation or analysis methods that could be employed to quantify these potential values.

**Additional MDOT Resources to Implement New Product and/or Service**

Identify additional MDOT financial, physical asset, or human resources required to incorporate these new products and/or services into current MDOT practice. Will implementation impact human resource requirements such as:

- Increase the work load for existing employees?
- Require additional employees?
- Require special training for any of these employees?

Will implementation require increased use of existing, or purchase of new, physical assets such as material test or maintenance equipment, computers, etc.?

If a product is going to be developed that will require ongoing maintenance, identify who will take responsibility for this maintenance after study completion. Examples include:

- If computer software is a study deliverable, which MDOT Division(s) or District(s) will be responsible for using and maintaining it?
- If data for inputs to a software program are required from Divisions or Districts other than the user Divisions or Districts, are the data providers willing and able to provide such data?
- If new materials testing equipment is recommended for use by the Districts or Central laboratory, are these entities willing and able to both purchase and use this equipment with their employees?

**How Practical is the New Product and/or Service to Implement?**

How practical are these products and/or services for implementation? Include discussion of potential barriers or impediments to implementation.

- 7. Summary** – Include a one or two paragraph summary (250 words maximum) of the proposed research. Include only succinct statements that identify the MDOT problem, the approach to solve the problem, and anticipated research products and/or services that will provide solution to the problem.
- 8. MDOT Research Champion(s) of Proposed Research** – Include the following information for each of the identified MDOT research Champions, or other MDOT personnel who have agreed to provide MDOT services in support of the study:

Name:  
 Title:  
 MDOT Division:  
 Work address:  
 Phone:  
 Email address:

**9. Research Proposal Submitted By:**

Name:  
 Title:  
 Organization:  
 Address:  
 City, State, Zip:  
 Phone/Fax:  
 Email address:

- 10. Submission** – Submit research proposal as a Microsoft Word document via email to Robbie Vance at [rvance@mdot.state.ms.us](mailto:rvance@mdot.state.ms.us).

Also submit to Mr. Vance a document separate from the research proposal that includes the table accounting for the proposed study costs in terms of traditional accounting line items as discussed under section 4. "Funding."

## **Appendix B. Project Schedule**

All research proposals will include a Project Schedule via a Gantt chart that graphically illustrates the duration of each study task/subtask as well as the relative concurrence and sequence of same as developed for the research plan. If the proposal is selected for funding by MDOT, this schedule will be incorporated as part of the contract document. After a notice to proceed (NTP) is issued, the Project Schedule will be updated by the Consultant and will serve as supporting documentation with submission of quarterly progress reports and invoices.

After the NTP has been issued and the study is under contract, changes are allowed to the content and ordering of tasks/subtasks with TAC approval. Any approved revisions require corresponding update by the Consultant of the Project Schedule and the planned project progress and planned gross expenditures graphs.

### **Show NTP as Start Date in Project Schedule with Initial Proposal Submission**

Do not put October 1 as the start date in the Project Schedule when initially submitting a proposal because the NTP date is unknown at the time of submission. Develop the Project Schedule in terms of "Months from Notice to Proceed (NTP) Date" as illustrated in Figure B1. "Example of a Project Schedule Using a Gantt Chart." After the NTP is issued the Project Schedule is revised relative to the date of the NTP.

### **Quarterly Progress Reports**

Consultant submission of quarterly progress reports (QPRs) is shown as a separate task in both the Research Plan and the Project Schedule. Figure B1. illustrates this requirement in the Project Schedule as Task C5, QPRs, with the initial submission of the research proposal. Note each QPR is shown as a two week period of time following each three-month increment of time within the thirty-month study period.

After the NTP is issued, the Project Schedule must be updated to show the submission of QPRs relative to the date of the NTP per the schedule shown in Appendix C, "Quarterly Progress Reports." See Figure B4, "Example of Updated Project Schedule after NTP is Issued."

### **Submission of Interim and Final Reports**

Each interim report and the final report follow a three-month review, comment and revision period of time prior to submission of the final version of the given report. Each three-month time period is included in the Project Schedule per the following time sequence:

- The Consultant will submit a draft of the interim/final report to the MDOT study TAC three months prior to the time shown in the Project Schedule as the particular report completion date.
- The TAC will have one month to review the draft of the report and submit comments to the Consultant. If no comments are provided by the TAC by the end of this one-month review period, then the report will be considered approved by the TAC and the Consultant will proceed with providing the final version of the interim/final report.
- If comments are provided by the TAC, the Consultant will have one month to address the TAC comments and submit a second version of the draft interim/final report to the TAC members.
- The TAC members will have two weeks to evaluate the adequacy of how their comments were addressed by the Consultant in the report and provide any feedback to the Consultant.
- If no comments are provided by the TAC by the end of this two-week review period, then the interim/final report will be considered approved by the TAC.

The Project Schedule will show the draft of the final report submitted three (3) months prior to the end of the proposed Project Progress schedule. The final version of the final report will be submitted by the contract termination date.

Figure B1 illustrates these requirements in the Project Schedule as Tasks C2, d) Interim Report and C6, Final Report with the initial submission of the research proposal. Note the MDOT review and Consultant revision sequences shown in this example for both reports.

### **Planned Progress and Planned Expenditure Graphs**

Two additional graphs are also required at the time of submission of the proposal: one displaying planned progress with time and the other showing planned expenditures with time. If the proposal is selected for funding by MDOT, each of these graphs will be periodically updated throughout the duration of the study by the Consultant and will serve as supporting documentation with the submission of both quarterly progress reports and invoices.

The example Project Schedules and corresponding graphs included in the following figures were developed using Excel. Therefore, no special software is required by the Consultant to display this information in the required format.

### **Example of a Project Schedule Using a Gantt Chart**

Figure B1 illustrates the required format for a Project Schedule at the time of initial submission of a proposal. In this example a thirty month contract period is anticipated for completion of this hypothetical study.

The Research Task and Sub-Task columns include the tasks and subtasks developed in the research plan by the Consultant. The Work % column represents for each task/subtask the amount of work required to complete the given task/subtask relative to the total amount of work required to complete the study. As illustrated near the bottom of the Work % column, the Total Work % should be 100, including all the tasks and subtasks.

As an example, consider Task 1 Subtask a, the Literature Search. The Consultant indicates that this effort will require 5% of the total effort to complete the study. Note that 20% of the effort to complete the literature search task/subtask is planned to be performed during the first month, 40% of the effort to complete this task/subtask will be performed during the second month, and likewise 40% during the third month. At the end of the third month it is planned to have 100% of the literature review task/subtask complete.

In this example study the MDOT Materials Division will provide aggregate samples for testing by the Consultant. Figure B1. illustrates MDOT providing these samples to the Consultant by the end of month four. Displaying MDOT's responsibility for this task in the Project Schedule is important because timely provision of these samples by MDOT will enable the Consultant to complete aggregate testing by the end of month thirteen. This in turn allows the Consultant to maintain the schedule for completion of the rest of the tasks and provide the final report within the planned thirty month study period.

MDOT will also review the interim and final reports. The tasks/subtasks for this study include all of MDOT's responsibilities which are shown in the Project Schedule with designations M1 through M3.

## MDOT Research Project Progress Schedule

Research Study Title \_\_\_\_\_ NTP Date \_\_\_\_\_ Federal FY \_\_\_\_\_ QPR Period \_\_\_\_\_ Overall % Complete 0 %  
 State Study Number \_\_\_\_\_  
 Research Agency \_\_\_\_\_  
 Principal Investigator \_\_\_\_\_

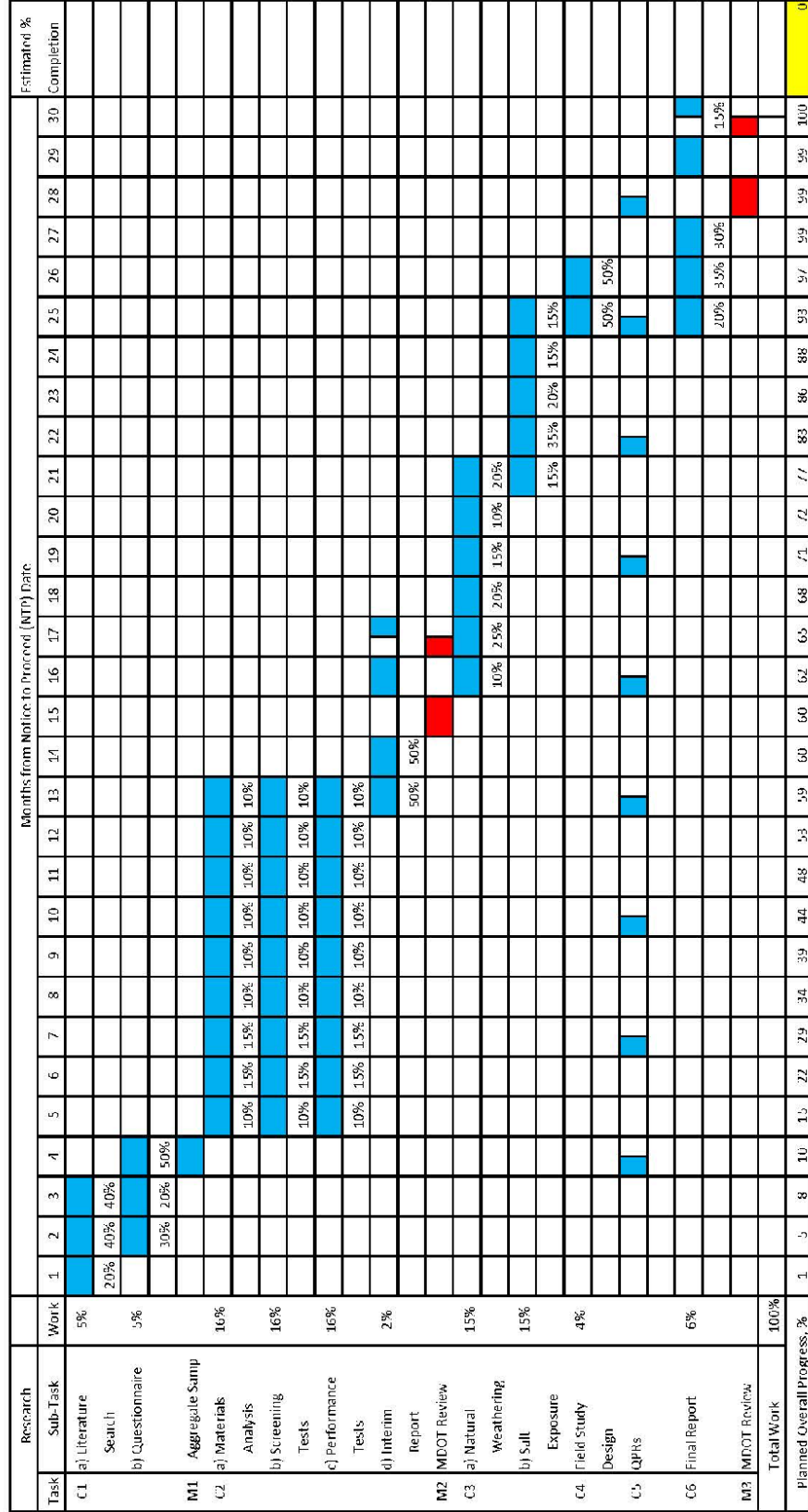


Figure B1. Example of a Project Schedule Using a Gantt Chart

The lower left-hand corner of the chart includes a cell entitled Planned Overall Progress, %. The project progress schedule allows for an account of the cumulative amount of planned work to be completed by the end of each month included in the duration of the study. Note the bottom row of cells including the numbers one through one hundred, corresponding to months one through thirty. At the end of the first month 20% of the literature search is planned for completion, which represents 1% of the total work effort to complete the study. This value is calculated as:

$$0.05 * 0.20 * 100 = 1$$

Where:

0.05 = Percent, expressed in decimal form. Five percent of the total research effort is required to complete the literature search subtask

0.20 = Percent, expressed in decimal form. Twenty percent of the total effort to complete the literature search.

During the second month it is planned to complete 40% of task 1 subtask a and 30% of task 1 subtask b with 5% of the total research effort planned for completion by the end of the second month. This value is calculated by adding the cumulated planned work shown in the previous month calculations to the current month.

$$1 + (0.05 * 0.40 + 0.05 * 0.30) * 100 = 5$$

Where:

1 = percent of total work effort planned for completion by the end of the previous month

0.05 = Percent, expressed in decimal form. Five percent of the total research effort is required to complete the literature search subtask

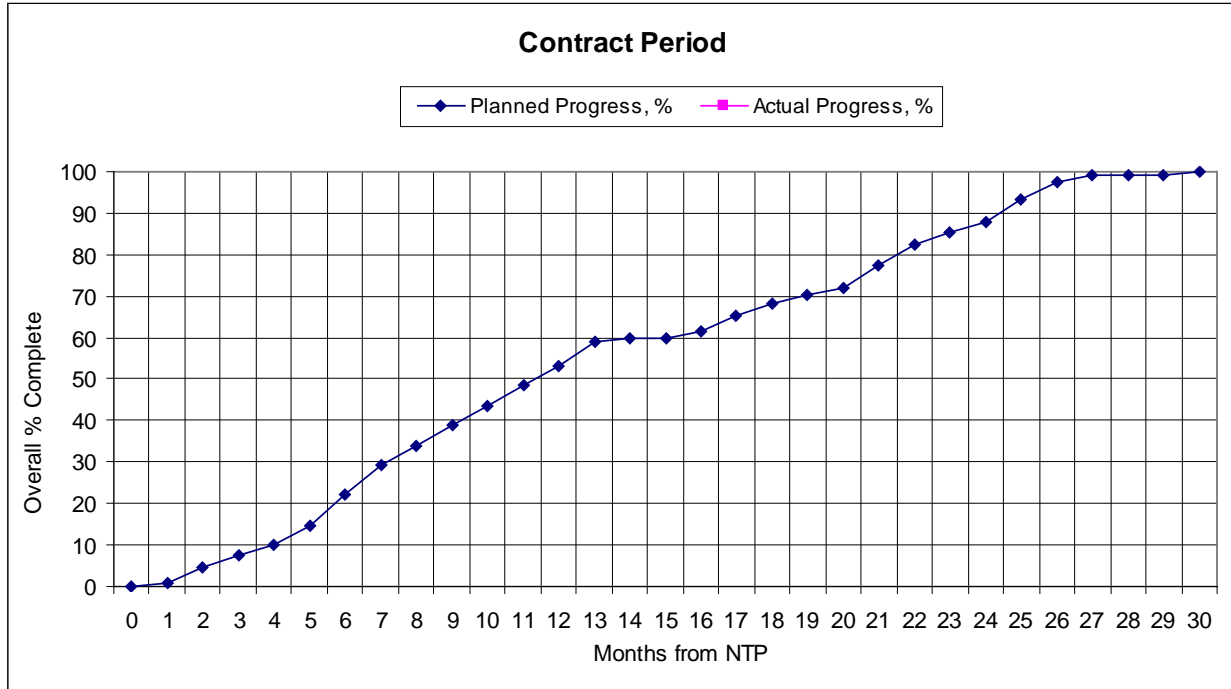
0.40 = Percent, expressed in decimal form. Forty percent of the total effort to complete the literature search subtask.

0.05 = Percent, expressed in decimal form. Five percent of the total research effort is required to complete the Questionnaire subtask

0.30 = Percent, expressed in decimal form. Thirty percent of the total effort to complete the Questionnaire subtask.

## Planned vs. Actual Project Progress

Figure B2 illustrates the planned versus actual progress for the study which is developed from information included in the progress schedule chart – Planned Progress, % vs. Months from NTP and Actual Progress, % vs. Months from NTP.

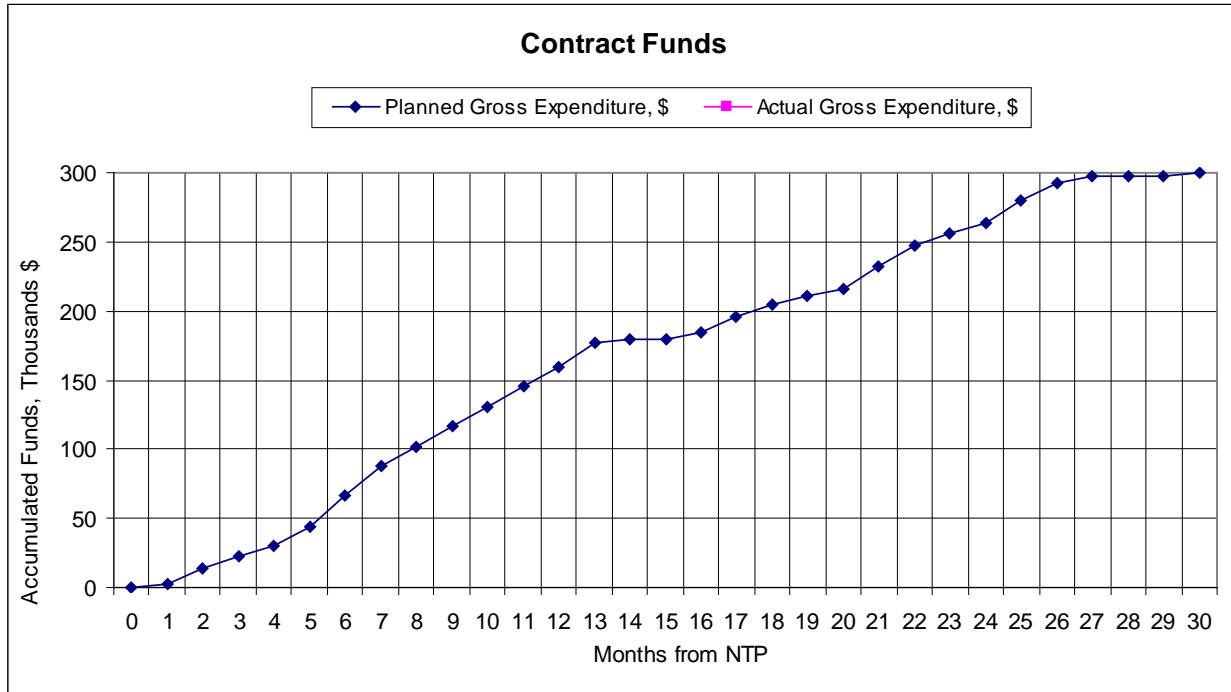


**Figure B2. Planned vs. Actual Project Progress**

At the onset of the study only the Planned Progress, % vs. Months from NTP curve is available, but as the study progresses the “Actual Progress, %” curve evolves from data that is periodically entered into the last column of the progress schedule chart, “Estimated % Completion” for each task/subtask by the Consultant. Information regarding the calculation and entry of values into this column is included in Appendix C, Quarterly Progress Reports. The MDOT Assistant Project Manager monitors the tracking of this curve relative to the Planned Project Progress curve and advises the State Research Engineer of occurrence and cause of significant deviation between these two curves. For convenience the Consultant may want to submit an invoice at the same time a quarterly progress report is submitted, but this is entirely at the discretion of the Consultant.

## Planned vs. Actual Cumulative Gross Expenditures

Figure B3 illustrates the planned versus actual cumulative gross expenditures with time for the study. The Planned Cumulative Gross Expenditure, \$ vs. Months from NTP curve is fully developed at the time the proposal is submitted by the Consultant.



**Figure B3. Planned vs. Actual Gross Expenditures**

The data to develop this curve is derived from two sources. The first source is the second funding table discussed in Appendix A, section 4, Funding where the total study cost is subdivided based on tasks/subtasks. This information is used in conjunction with the appropriation of task/subtask per month in the progress schedule. For example assume in the hypothetical study that Task 1 Subtask 1 was a literature search and the Consultant determined that \$15,000 would be required for its completion. From Figure B1 20% of this literature search is planned to be completed during the first month of the study, so the expenditure for this subtask for the first month is calculated as:

$$0.2 * \$15,000 = \$3,000$$

For the second month the Consultant estimates that an additional 40% of the literature search will be completed and the planned funding would be calculated as:

$$0.4 * \$15,000 = \$6,000$$

For the third month the Consultant estimates the final 40% of this subtask will be completed:

$$0.4 * \$15,000 = \$6,000$$

The Planned Cumulative Gross Expenditure, % vs. Months from NTP for the end of month two would be determined by adding the expenditure for month one to the planned expenditure for month two, for the end of month three the Planned Cumulative Gross Expenditure, % would be determined by adding the cumulative value at the end of month two to the planned expenditure for month three, for the end of month four the Planned Cumulative Gross Expenditure would be determined by adding the cumulative value at the end of month three to the planned expenditure for month four, etc.

In the event of the purchase of equipment included in a task/subtask, the planned expenditure for the cost of that equipment would be included in the month during which the Consultant planned to pay for the purchase of that equipment.

The "Actual Cumulative Gross Expenditure, \$" curve evolves from data provided by the Consultant with submission of quarterly progress reports and invoices. The Actual Cumulative Gross Expenditure represents the total funds invoiced by the research agency as of the date of its calculation and is plotted relative to the study NTP date. The MDOT Assistant Project Manager monitors the tracking of this curve relative to the Planned Cumulative Gross Expenditure curve and advises the State Research Engineer of occurrence and cause of significant deviation between these two curves. For convenience the Consultant may want to submit an invoice at the same time a quarterly progress report is submitted, but this is entirely at the discretion of the Consultant.

### **Update Project Schedule after NTP is Issued**

After an NTP is issued for a study the Project Schedule is updated by the Consultant using the date of the NTP as the starting date for planned sequence of tasks and subtasks. The date of the NTP and corresponding Federal FY will be included in the Progress Schedule header information. Additional revisions to the Progress Schedule relative to this NTP date are made by replacing the verbiage "Months from Notice to Proceed (NTP) Date" with subdivision of the research contract period based on Federal FY. Each number of month entries from the NTP is replaced with the actual month from the NTP.

Figure B4. "Example of Updated Project Schedule after NTP is Issued" illustrates these updates for the same example study used in Figure B1. In this example the NTP date is December 23, 2010 which is in Federal Fiscal Year 2011. Note the Federal Fiscal Years 2011 through 2013 included in the thirty-month study period beginning with the NTP date

replace the row of cells labeled "Months from Notice to Proceed (NTP) Date." Note also the corresponding months included in each Federal FY encompassing the duration of the study. As a result of updating the Project Schedule in this manner each of the Research tasks and subtasks are shown relative to December 23, 2010.

There are practical applications for updating the Project Schedule after the NTP is issued. For example, the MDOT Materials Division can now schedule aggregate sampling activities during April, 2011 to provide the samples to the Consultant by the end of that month. The Consultant can in turn schedule testing these samples from May 2011 through January 2012. Planning these activities during these particular periods of time will facilitate producing a final report by the scheduled end of the study - June 2013.



## Appendix C. Quarterly Progress Reports

The MDOT Research Division is required to submit a quarterly progress report (QPR) to the Federal Highway Administration (FHWA) that includes relevant information for each study included in the work program for the given Federal fiscal year (Federal FY). To facilitate this submission in a timely manner to the FHWA, the Consultant will write and submit to MDOT QPRs in accordance with the format provided herein and submitted no later than the 15<sup>th</sup> of the month immediately following a given quarter.

### Submission Schedule

A Federal FY begins October 1<sup>st</sup>. The following are the scheduled dates that each Consultant needs to submit their QPR.

Quarter	QPR Period	Submission Deadline
1 <sup>st</sup>	October 1 – December 31	January 15
2 <sup>nd</sup>	January 1 – March 31	April 15
3 <sup>rd</sup>	April 1 – June 30	July 15
4 <sup>th</sup>	July 1 – September 30	October 15

When the Consultant receives written notice that his/her study has been approved for funding, the Consultant must begin accounting for the progress of the study. There is a lapse of time between the written notice of funding approval and the issuance of a notice to proceed. This time must be accounted for by the Consultant via a quarterly progress report(s). The information included in the Progress and Plans for next quarter sections of the QPR will account for the development of the research contract. For example a TAC meeting held during this interim period may identify issues not previously addressed in the proposal research plan. Resolution of these issues may require some modification to the tasks/subtasks included in the research plan to develop an acceptable scope of work for inclusion in the research contract.

It is the responsibility of each Consultant to provide the MDOT Research Division with a QPR without this Division being required to remind the Consultant each quarter that a report is due. To address this issue, the MDOT Research Division will keep record of all late submissions of QPRs, and this information will be considered in awards of subsequent research.

QPRs will be submitted to all TAC members of a given study via email and to Robbie Vance at [rvance@mdot.state.ms.us](mailto:rvance@mdot.state.ms.us). Direct any

questions regarding completion of these reports to Bill Barstis at [wbarstis@mdot.state.ms.us](mailto:wbarstis@mdot.state.ms.us).

### **Quarterly Progress Report Format**

An electronic copy of the QPR format will be provided to the Consultant subsequent to MDOT approval of a research study. This format is included in an Excel workbook file that includes two worksheets:

- Sheet1-Progress and Plans
- Sheet2-Project Schedule and both Planned vs. Actual Graphs

#### **Sheet 1-Progress and Plans**

The following provides direction on completion of select QPR column entries in Sheet1.

#### **Months Included in Progress Reporting Period**

Enter one of the following four entries corresponding to the time frame for which Progress is reported:

- October-December
- January-March
- April-June
- July-September

#### **Progress**

Under this heading include a brief **one-paragraph** summary of what was accomplished for each work task/subtask during the last quarter. **Include only those tasks/subtasks for which work was actually performed.** Also provide an estimate of the percent work completed for each of those tasks/subtasks.

As an example consider Figure C1. "Example of a Project Schedule Included with Submission of a QPR." The QPR Period is October, November and December in Federal FY 2012. Assume work was performed during this QPR Period on two subtasks. The information for both subtasks would be included in one simple paragraph with corresponding amount of work expressed as a percent completed for each subtask.

Task 2 Subtask a) Materials Analysis – 30% (Interpreted as 30% of the total amount of work required to complete this task/subtask was actually performed during the months October, November and December). The Consultant would include a brief description of the actual work performed during this period of time. Task 2 Subtask b) Screening Tests – 30% The Consultant

would include a brief description of the actual work performed during this period of time.

This entire paragraph would be entered into the cell located immediately below the cell labeled "Progress."

### **Plans for Next Quarter**

Under this heading include a brief **one-paragraph** summary of what is planned to be accomplished during the next quarter for each work task/subtask. **List only those tasks/subtasks for which work is actually planned.** Follow the same direction provided for "Progress" by combining all tasks/subtasks into a one paragraph entry for the cell located immediately below the cell labeled "Plans for Next Quarter".

### **Problems Encountered or Anticipated**

Include discussion of any problems encountered during the previous quarter, or anticipated during the next quarter, that may delay submission of any project deliverables. In the example from Figure C1 problems may have been encountered with obtaining all of the requisite test equipment to complete the planned 30% work for the Performance Tests during the quarter under consideration. Although work was planned, if no work was actually performed, it will not be listed under Progress. The Consultant would include discussion of these problems and how they may affect submission of the interim report due in February 2012. **List only those tasks/subtasks corresponding to problems actually encountered or anticipated.** Follow the same direction provided for "Progress" by combining all tasks/subtasks into a one paragraph entry for the cell located immediately below the cell labeled "Problems Encountered or Anticipated."

### **Total Staff**

The remaining entries in Sheet1-Progress and Plans pertain to EEO and Title VI Information. Enter the total number of staff that worked on this project during the last quarter under the Total Staff heading. Show the distribution of the total number of staff based on gender and race under the appropriate adjacent headings. Make sure that the sum of this distribution equals the total.

### **Sheet 2-Project Schedule and both Planned vs. Actual Graphs**

In workbook sheet 2 the Consultant will enter an updated Progress Schedule, Planned vs. Actual Project Progress graph, and Planned vs. Actual Gross Expenditures graph with each QPR submitted subsequent to the issuance of the NTP.

## Project Schedule

Consider Figure C1. "Example of a Project Schedule Included with Submission of a QPR." The Federal FY and QPR entries in the Project Schedule header will be updated to correspond to the particular three-month reporting period with the actual months entered for "QPR Period." Note the last column in this figure "Estimated % Completion." This refers to the cumulative estimated percent completion of the corresponding task or subtask as of the end of the given QPR Period – in this example the end of the QPR Period October, November and December in Federal FY 2012. The previous QPR for this study; i.e., Federal FY 2011 QPR Period July, August and September, would have shown all three subtasks of Task 2 at 60% complete.

During the previous quarter; i.e., October, November and December, the Consultant indicated that thirty percent additional progress was made on the first two subtasks of Task 2 as discussed under the Progress section of the QPR. These two subtasks were updated to reflect ninety percent completion as of the end of December.

**Note that Estimated % Completion for each task/subtask corresponds to a point in time during the duration of the study; i.e., in this case the end of the given QPR Period.** If during the previous quarter several invoices were submitted, then the Project Schedule was updated in accordance with direction provided in Appendix D, Supporting Documentation with Submission of Invoices. Those invoices would reflect work performed during the last quarter. The update of the Project Schedule for the end of the last QPR period should be relative to the submission of the last invoice during the last quarter, not the end of the previous QPR period.

At the bottom of the last column in this chart is a cell containing the number forty-eight, which corresponds to Overall % Complete as shown in the header information. This means that 48% of the total amount of work required to complete this research study was completed by the end of the last quarter. This overall 48% includes 100% completion of the Literature Search and Questionnaire Subtasks, 90% completion of the Materials Analysis and Screening Tests Subtasks, and 60% completion of the Performance Tests Subtask. Note that the Planned Overall Progress by the end of this QPR Period was 53%, so the study is overall 5% behind schedule.



## **Planned vs. Actual Graphs**

In workbook sheet 2 the Consultant will also include an updated project progress graph, Planned vs. Actual Project Progress, with Actual Progress, %, plotted to date (Figure C2). An updated project expenditures graph, Planned vs. Actual Gross Cumulative Expenditures, will also be provided with Actual Gross Expenditure, \$, plotted to date (Figure C3). Both of these graphs are included on the same workbook sheet and horizontally aligned to allow vertical correspondence of the months along both horizontal graph axes. Note that the labeling along the x-axis of both graphs has been modified from number of months from the NTP date to the first letter of each month subsequent to the NTP date.

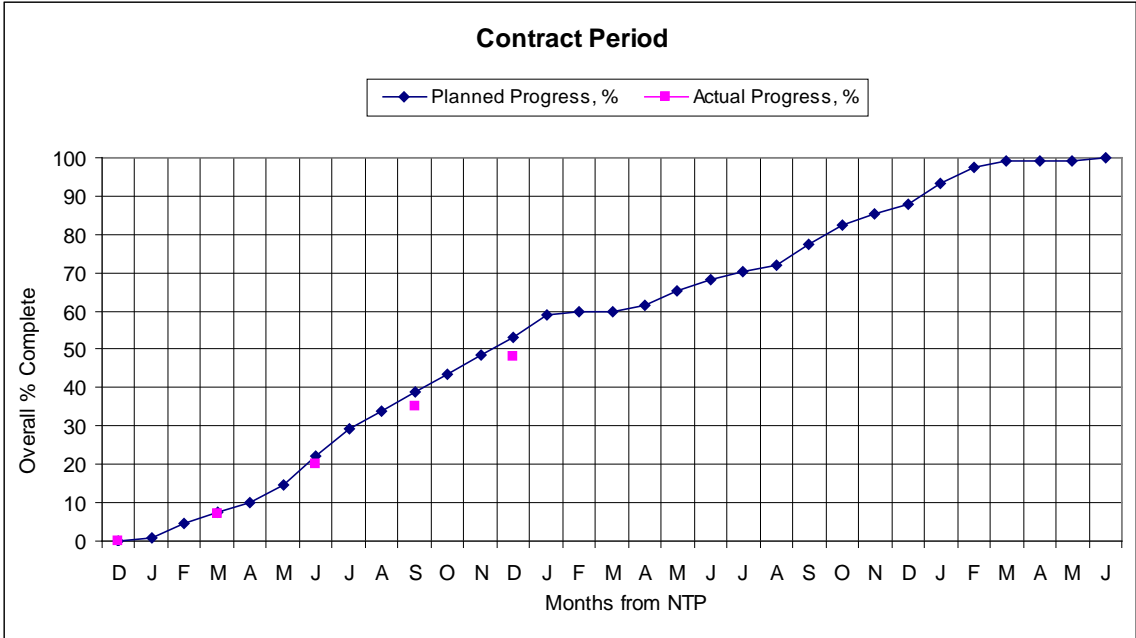


Figure C2. Planned vs. Actual Project Progress

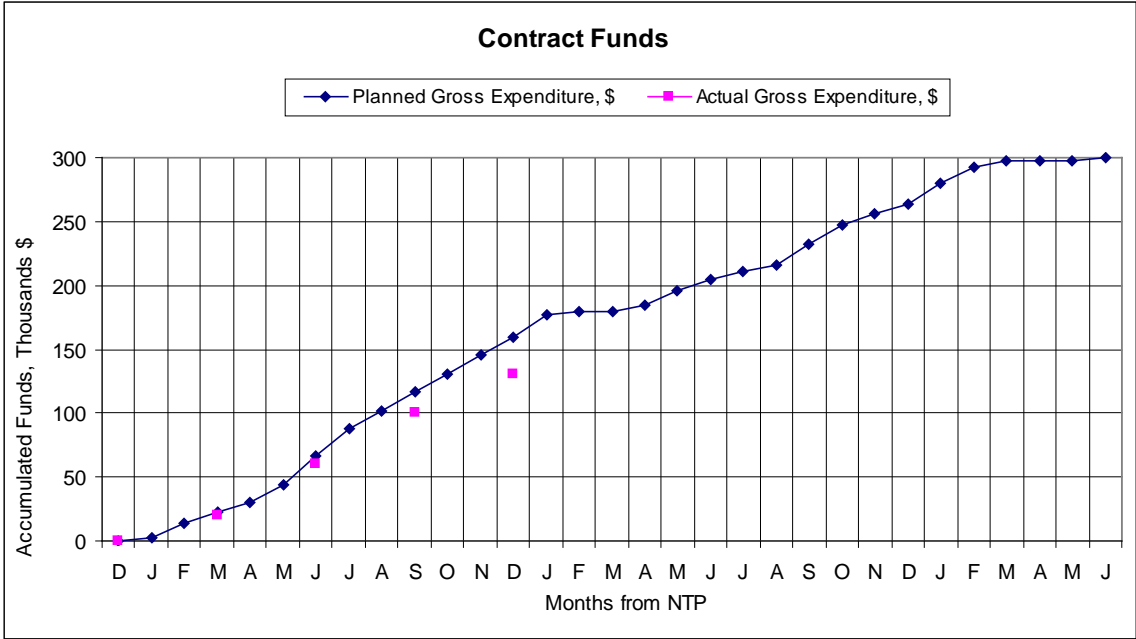


Figure C3. Planned vs. Actual Gross Expenditures

## **Appendix D. Supporting Documentation with Submission of Invoices**

Invoices submitted to the Department will be formatted in accordance with the requirements of the research contract. Supporting documentation must also be submitted with each invoice for interpretation of the invoiced amount in terms of the research tasks and subtasks. The following paragraph provides the requirements for this supporting documentation.

List each task/subtask for which work was completed and billed for in the invoice. Include a brief one or two paragraph summary of what was accomplished for each of these tasks/subtasks that warrant reimbursement.

**List only those tasks/subtasks for which work was actually performed and billed for in the invoice.** Provide an estimate of the percent work completed and a corresponding amount of money for each these tasks/subtasks.

For example, assume that the literature search subtask planned cost is \$15,000.00 and that 50% of this subtask is complete. The Consultant submits an invoice. The estimated percent work completed would be 50% and the corresponding amount of money \$7,500 for this subtask. The total amount billed in a given invoice will equal the total amount appropriated to the various tasks/subtasks in the supporting documentation for that invoice. By extension, the total amount billed from all of the invoices submitted throughout the duration of the study will equal the total amount appropriated to the various tasks/subtasks as shown in the breakdown of study costs in accordance with Appendix A, section 4, "Funding," subsection 2.

### **Attach Updated Progress Schedule and Project Progress and Expenditures Graphs**

The Consultant will use sheet 2 of the QPR Excel workbook to submit the following with each invoice:

- An updated Project Schedule (Figure C1)
- Planned vs. Actual Project Progress, with Actual Progress, %, plotted to date (Figure C2)
- Planned vs. Actual Gross Cumulative Expenditures, with Actual Gross Expenditure, \$, plotted to date (Figure C3)

Refer to Appendix C for details on how to update the Progress Schedule and accompanying graphs. **Note that Estimated % Completion for each task/subtask corresponds to a point in time during the duration of the study; i.e., in this case the invoice date.**

Consultant cannot bill for more than the contract amount. The overall dollar amount of the contract must remain the same unless an increase in study funding is approved by the MDOT RAC and FHWA.

Consultant will submit the final invoice at time of submission of the final version of the final report. This invoice will be stamped "Final Invoice."

## **Appendix E. Responsibilities of Technical Advisory Committee (TAC) Members**

### **Research Study Champions and Development of Research Proposals**

- “Begin with the end in mind.” Research study Champions know best what the overall goal is for the study; for example, a specification or incorporation of new technology into business processes. The objective is implementation of the results of the study. Champions work with the Consultant towards this objective beginning when the Consultant first presents the research idea to the Champion.
- Some studies require MDOT services for successful conduct of the study. Such services might include provision of data, materials sampling and testing, traffic control, etc. Champions provide such services, or assist the Consultant in identifying MDOT personnel within the MDOT Divisions or Districts needed to secure the services.
- Champions advise the Consultant if they know of any other research work that may be related to the proposed research – either completed or ongoing.
- Subsequent to submission of the research proposal to the MDOT Research Division, a “Research Proposal Review Form” is provided to each identified Champion to evaluate the proposal. These individuals complete the review forms and submit them back to the Research Division. The Research Division evaluates the reviewer responses to make funding recommendations to the MDOT Research Advisory Committee (RAC). If the study is initially developed with Champion input, the responses on the proposal review form should favorably reflect this input.

### **Technical Advisory Committees**

- Subject to available funds proposed research receiving favorable relative reviews are generally considered for funding recommendation. A Technical Advisory Committee (TAC) is formed for each recommended study. TAC members are individuals who have indicated a willingness to serve on this committee in accordance with the guidelines provided in this Appendix. A TAC chairperson is selected by the TAC members via simple majority vote.
- The TAC includes one individual from the MDOT Research Division to function as an Assistant Project Manager to the State Research Engineer. This individual provides study contract development and administrative support as discussed in Appendix F and may function as a research Champion if they are a subject matter expert within the given field of research.

## **TAC Responsibilities**

- Research Division personnel do not always have Champion expertise on the study subject matter. Therefore, other than the Research Division TAC member, a TAC member's primary responsibility is to monitor and guide the research effort technical aspects towards implementable results throughout the duration of the study. Champion participation in TAC meetings, round table discussions, and possibly technology demonstrations is essential for getting good results. TAC members also review meeting minutes, quarterly progress reports, interim and final reports, and evaluate study deliverables.

## **TAC Meetings**

- At the first TAC meeting, the TAC members must review and approve, or recommend changes to, the research plan tasks and subtasks, Project Schedule, and funding allocation per task and subtask. If any changes are recommended, the Consultant revises the proposal accordingly and then sends it back to the TAC members for review and approval of same. These three aspects of the proposal must be finalized before beginning development of a contract for the study.
- Subject to TAC approval, changes are allowed to the content and ordering of the tasks/subtasks, or reallocation of funds to same, at any point prior to or after award of the study contract. However, if the study is already included in an approved Research Work Program, the total amount of the study after reallocation of funds cannot exceed the total amount provided in the Research Work Program. In this case, should the TAC and Consultant identify work requiring funds in an amount exceeding that already approved, a follow-up or second research study effort should be considered for funding at a later date.
- TAC members communicate early and often with the Consultant and Research Division TAC member. TAC meetings may be held as needed throughout the conduct of the study to monitor study progress. TAC members should advise Research Division if they do not feel that the study is progressing as it should.

## **Review Quarterly Progress Reports**

- TAC members review quarterly progress reports and advise Research Division TAC member of any concerns.

## **Review of Interim and Final Reports**

- TAC members review all interim and final reports in accordance with a three-month review, comment and revision period of time per the following sequence:

- The Consultant will submit a draft of the interim/final report to the MDOT study TAC three months prior to the due date of the particular report.
- The TAC will have one month to review the draft of the report and submit comments to the Consultant. If no comments are provided by the TAC by the end of this one-month review period, then the report will be considered approved by the TAC and the Consultant will proceed with providing the final version of the interim/final report.
- If comments are provided by the TAC, the Consultant will have one month to address the TAC comments and submit a second version of the draft interim/final report to the TAC members.
- The TAC members will have two weeks to evaluate the adequacy of how their comments were addressed by the Consultant in the report and provide any feedback to the Consultant.
- If no comments are provided by the TAC by the end of this two-week review period, then the interim/final report will be considered approved by the TAC.

#### **Review/Evaluate Research Study Deliverables**

- The end result of conducting the Research Plan should be some product and/or service providing a solution to the issue described in Appendix A. "Research Proposal," section 2, "Problem Statement." TAC members review/evaluate research study deliverables such as construction or materials specifications, technical standards or practices, a new or revised design procedure, etc., and then provide feedback to the Research Division TAC member.

## **Appendix F. MDOT Research Division TAC Member Responsibilities**

The TAC includes one individual from the MDOT Research Division to function as an Assistant Project Manager to the State Research Engineer. This individual provides study contract development and administrative support including:

- Become familiar with the entire research proposal development and submission process included in this document
- Schedule and attend all TAC meetings
- The Consultant is supposed to indicate if MDOT needs to provide data, materials sampling and testing, traffic control, or some other service to facilitate conduct of the study. The Consultant does this by including within the Research Plan MDOT performed study tasks and subtasks. If the Consultant does include such MDOT performed service(s) in the Research Plan then determine if a support study is required to pay for same.
- The initially submitted Research Plan may not always include required MDOT provided services to complete the study. Review the Consultant performed tasks/subtasks and determine if MDOT performed tasks/subtasks need to be added to the Research Plan. If so, determine if a support study needs to be developed to pay for the MDOT provided services.
- Extract Research Plan and Project Schedule (Gantt chart) from the research proposal and incorporate same into appropriate contract development process
- Appendix A. "Mississippi DOT Research Proposal Format," section 4, "Funding" refers to a separate document submitted with the research proposal that includes a table accounting for proposed study costs in terms of traditional accounting line items. This table is to be used along with the Research Plan and Project Schedule for development of the contract documents
- Provide technical input if conduct of study and implementation of study results impact MDOT Research Division responsibilities
- Monitor study progress and corresponding expenditures
- Review quarterly progress reports
- Consultant travel must be approved in writing by the MDOT State Research Engineer prior to the scheduled travel. The Consultant will submit a letter of request with a format including a location for signature and dating by the State Research Engineer. Appendix G. "Sample Letter Requesting Approval to Use Study Funds to Present

Research Results" illustrates the required detailed breakdown of anticipated travel expenses. Ensure Consultant submits travel request and it is approved before date of actual travel.

- Review submitted invoices with supporting documentation and advises State Research Engineer regarding payment of invoiced amounts.
- Advise the Consultant that the last invoice submitted should be stamped "Final Invoice."
- The last invoice should be submitted when the final version of the final report is submitted. Follow up with the Consultant if the last invoice is not submitted at that time.
- Monitor and keep record of actual receipt of study deliverables compared to the planned receipt per the Progress Schedule.
- A Technical Report Documentation Page is included in all interim and final study reports. This TAC member completes the MDOT-specific entries for this page and then provides the page in electronic format to the Consultant for completion of remaining required entries.
- Review all interim and final reports
- Subsequent to completion of the study, solicit and compile feedback from the TAC members to answer the question, "What products or services were developed as a result of conducting this study that provide acceptable solution to the problem(s) described in Appendix A. "Research Proposal," section 2, "Problem Statement?"
- Keep State Research Engineer informed of any significant issues pertaining to conduct of study, contract issues, or study deliverables

## Appendix G. Sample Letter Requesting Approval to Use Study Funds to Present Research Results

John Doe  
ABC Engineering, Inc.  
100 Hwy 98  
Destin, Florida 78234

October 31, 2011

**Ref:** Request to Use MDOT Project Funds to Attend 2012 TRB Annual Meeting

Dear Mr. Watkins

ABC Engineering, Inc. requests your approval to use Mississippi Department of Transportation (MDOT) funds from State Study (SS) Number XXX to travel to Washington DC and attend the 91<sup>st</sup> annual meeting of the Transportation Research Board (TRB). The purpose for this travel is to present research results for SS Number XXX. Dates of travel would be January 21 to 26, 2012. This request will not change the total cost of the project. The following is a summary of the anticipated costs:

<u>Item</u>	<u>Estimated Cost</u>
Registration	\$ 380.00
Lodging	\$1,047.70
Airfare	\$ 521.13
Meals	\$ 276.00
Personal Vehicle Mileage to Airport	\$ 15.30
Baggage Fees	\$ 50.00
Airport Parking	<u>\$ 60.00</u>
<b>Total for all items</b>	<b>\$2,350.13</b>

- Registration for the meeting is \$380.
- Lodging costs were calculated at 5 nights at \$183/night with 14.5% tax as per a hotel reservation.
- Airfare cost was booked at \$521.13.
- Meals were calculated at a rate of \$46.00 per day of travel for Washington DC per the Mississippi Department of Finance and Administration Travel Manual
- Vehicle mileage was calculated at \$0.51/mile.

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MDOT State Research Engineer

Date