MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

Research Administration Manual

Maryland State Highway Administration

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Office of Policy & Research

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1. INTRODUCTION

1.1 Purpose of Research Manual

The primary purpose of this manual is to provide a description of how the Maryland Department of Transportation State Highway Administration (SHA) manages its research program. The manual provides a condensed reference outlining general responsibilities, requirements and policies associated with the development and management of SHA's research work program. This information should help those who are interested in better understanding the process of soliciting research needs and selecting projects to fund.

This manual is also intended to satisfy the federal requirement contained in 23 CFR 420.209(b) which requires that each state document its management process and procedures for selecting and implementing Research Development & Technology (RD&T) activities.

1.2 Research and Knowledge Management Division (RKM) Mission and Responsibilities

The mission of the Research and Knowledge Management (RKM) Division is to develop and maintain a research program that supports SHA's strategic goals and objectives, to share research information, and to support appropriate technology transfer activities.

Primary responsibilities of the RKM Division in fulfilling this mission include:

- Developing and managing SHA's research work program. The source of funding for the program is the federal-aid State Planning and Research (SPR) Program. The Research Division manages the research portion of the SPR program while the Office of Planning and Preliminary Engineering manages the planning portion. Based on the federal requirements, 25% of the SPR funding must be spent on research activities. Therefore, the annual work program budget is based on 25% of total SPR funding for the year.
- Coordinating activities for the National Cooperative Highway Research Program (NCHRP). The NCHRP is an applied, contract research program with the objective of developing near-term, practical solutions to problems facing transportation agencies. Funding support for NCHRP comes from the states (5.5% of total SPR funds) and provides funding for a national highway research program which is administered by the Transportation Research Board (TRB). The RKM Division's role includes soliciting problem statements for research issues of national significance and coordinating Maryland's ballot to determine research priorities.
- Supporting the Technology Transfer (T2) Center at the University of Maryland and serving on its Advisory Board, which provides numerous training opportunities for SHA employees, local jurisdictions and the transportation community in Maryland.
- Keeping SHA abreast of the latest developments in surface transportation research by distributing information from TRB, other state DOT's and transportation research organizations to the appropriate areas in SHA.
- Representing Maryland DOT as the TRB State representative and serving as Maryland's representative on the national AASHTO Research Advisory Committee (RAC).
- Partnering with the University Transportation Centers located at the University of Maryland and Morgan State University on internship and research activities.

- Manage agreements with the state Institutions of Higher Education (i.e. universities) in support of SHA's research and technical assistance activities.
- Coordinating SHA's response to NCHRP and state DOT surveys.

1.3 Role of SHA's Research Advisory Board (RAB)

The Research Advisory Board (RAB) provides guidance on the management of SHA's research activities. This includes providing input on SHA's overall research direction, prioritizing research needs, and supporting the implementation of research efforts.

1.4 Research Advisory Board Meetings and Membership

The RAB meets as needed and membership includes the following:

- SHA Administrator (Chair)
- SHA Chief of Staff
- SHA Chief Administrative Officer
- SHA Chief Engineer
- SHA Chief Operating Officer
- SHA Director of Policy and Research
- SHA Deputy Director of Policy and Research
- FHWA Representative (non-voting)
- MDOT Headquarters Representative
- MDOT Modal Representative
- University Representative (University of Maryland)
- University Representative (Morgan State University)

2. RESEARCH WORK PROGRAM DEVELOPMENT

The annual research needs solicitation and proposal selection process is described in this section. Please refer to Appendix A for a flowchart that summarizes the process.

2.1 Determining Research Needs

Each January the Research Division sends out a request for research needs to all SHA offices. Research needs are submitted to the Research Division by March 31st. The needs are reviewed by Division staff and discussed with the submitting offices. Once finalized, the list of research needs is presented to SHA's Leadership (Administrator and Chiefs) for their review and acceptance.

Following acceptance of the proposed research needs, the Research Division works with the submitting offices to prepare the research request for proposals (RFPs) that describes each need and the specific objectives directed toward problem solution. Some research needs can be addressed through a literature search or survey to the states and do not require a full research study. For these types of projects the Research Division may be able to address the need for the requesting office rather than issuing an RFP for it.

2.2 Request for Proposals

SHA's Research RFP is distributed electronically to the state universities that partner with SHA on transportation research and technical assistance activities. This includes the following universities in Maryland but is subject to change on an annual basis:

- Morgan State University
- Salisbury University
- Towson University
- University of Baltimore
- University of Maryland, Baltimore County
- University of Maryland Center for Environmental Science
- University of Maryland, College Park

2.3 Proposal Selection

Any interested university listed in section 2.2 may submit a proposal in response to SHA's RFP. The SHA intends to award projects to the university whose proposal is determined to be the most advantageous to the Administration. It is expected that proposers possess extensive knowledge and research capabilities related to the field of study.

A Technical Advisory Committee (TAC) is formed to evaluate each proposal. The TAC includes the technical office that requested the research, Research Division staff, and other key stakeholders as needed. The following criteria are included in proposal evaluations:

1. The proposer's demonstrated understanding of the scope of work
2. The proposer's research work plan and technical objectives
3. Research deliverables
4. The plan for ensuring application of research results (i.e. implementation by SHA)
5. Project schedule and itemized budget
6. Adequacy and availability of equipment and facilities
7. The experience, qualifications, and availability of the research team
8. Past performance on SHA research projects. Proposers who have not worked with SHA receive a neutral rating in this category.

Once the evaluation is complete, the selected proposer is notified and provided with review comments. All other proposals are designated as unsuccessful and the proposers are notified.

Detailed information on the RFP and proposal selection process is provided in SHA's Guidelines for Preparing Research Proposals. The Guidelines can be found on-line under the "Program Information" section of the Research Projects Page.

2.4 Research Work Program Development and Approval

After endorsement of the draft research work program by SHA's Administrator, the Research Division sends it to the FHWA Maryland Division for approval by September 1st each year. The work program includes the following information:

- A description of RD&T activities to be accomplished in the program period.
- The estimated cost for each eligible activity, with a breakdown of funding by Federal, State and other sources (if applicable).
- A description of any cooperative RD&T activities in which the State DOT is participating, e.g. pooled fund studies.
- The following statement certifying compliance with 23 USC 505 "State Planning and Research," is included in the cover letter to FHWA

  I, _____, Administrator, SHA, of the State of Maryland, do hereby certify that the State is in compliance with all requirements of 23 U.S.C. 505 and its implementing regulations with respect to the research, development, and technology transfer program, and contemplate no changes in statutes, regulations, or administrative procedures which would affect such compliance.

3. RESEARCH PROJECT MANAGEMENT

3.1 Research Agreements

Research agreements are required for all projects conducted by non-SHA staff. The Research Division prepares and processes inter-agency agreements for projects with state universities. These agreements are multi-year and outline the general terms and conditions of projects to be done with a particular entity. Once the agreement has been executed, individual projects, or tasks, can then be authorized with a written Notice-to-Proceed after review and acceptance of a project proposal. Research projects completed by a consulting firm are usually covered under an existing open-end A&E contract at SHA. If a new contract is needed or if the project requires a sole source procurement, the Research Division must work through SHA's Office of Procurement and Contract Management.

3.2 Notice-to-Proceed

A written notice-to-proceed from the Deputy Director of Policy and Research (or other appropriate SHA official as determined by the Deputy Director) is required prior to beginning work on a project. The notice-to-proceed shall include: project title, task number, total amount payable (upset limit) and the completion date. *Note: Expenses for any work done prior to the date of the Notice-to-Proceed cannot be reimbursed.*

3.3 Administrative Lead Responsibilities

Each research project will have an Administrative Lead from the Office of Policy and Research and a Technical Lead from the office that requested the research. The Administrative Lead is the central point of contact and is responsible for overall management of the project. This includes facilitating project discussions, setting up regular meetings/conference calls, identifying and troubleshooting problems, obtaining and coordinating the internal review of quarterly reports/final deliverables, and disseminating and promoting research results.

3.4 Technical Lead Responsibilities

The Technical Lead is expected to have an in-depth understanding of the issue and of SHA's current practices and needs. They are responsible for attending project meetings/conference calls, providing technical guidance, ensuring that their office leadership is kept informed of the research, reviewing quarterly reports and deliverables, and working to implement the research results when appropriate. The importance of timely and substantive input from the Technical Lead is critical to the success of a research project. Detailed guidance for Technical Leads is provided in Appendix B.

3.5 Project Meetings

3.5.1 Kick–Off Meetings

A kick-off meeting should be held for each new project. If a meeting to discuss the project scope is held during the RFP stage and the proposed research work plan is determined to be sufficient by TAC to start the project, a conference call can be scheduled in lieu of an in-person kick-off meeting. The meeting

should include the Principal Investigator (P.I.), the Technical Lead, the Administrative Lead, and any other key people involved with the study. Data and SHA internal coordination needs, expectations for progress reports, final reports and deliverables, future meetings, and project completion date should be discussed at the meeting. The Administrative Lead should request that the P.I. include a technical report documentation page and a two page summary with the final report (The Administrative Lead can provide samples). The Research Team should also identify who the primary writer of the final report will be and a copy of the "Guidelines for Preparing SHA Research Reports" should be provided to that individual. The Guidelines can also be found on-line under the "Program Information" section of the Research Projects Page.

3.5.2 Progress Meetings

Progress review meetings are held throughout the duration of a research project and may be requested by the research team or SHA. A schedule for progress meetings should be established at the kick-off meeting or, they can be held on more of an ad hoc basis as project conditions warrant. In either case, progress meetings should be held at least twice a year and include all members of the project technical team.

3.6 Quarterly Reports/Invoicing

3.6.1 Quarterly Reports

Progress reports are submitted to the Research Division on a quarterly basis (March 31, June 30, September 30 and December 31) unless specified differently in the research project agreement. The Administrative Lead will send a reminder each quarter along with the report template to the P.I. At a minimum, the report is expected to include the following:

- Progress made on the research project for that quarter. This may be shown by including a brief description of work during that period under each major task in the research work plan together with the estimated percent complete for that task.
- Anticipated work for the next quarter.
- Significant results to date.
- Circumstances affecting the project or budget.
- Potential Implementation

The Quarterly Progress Report Template can be found on-line under the "Program Information" section of the Research Projects Page.

3.6.2 Invoices

The timely submission of invoices and progress reports is important. Invoices should be received quarterly and must reference the project title and task number. Invoices should clearly show the cost being invoiced, the amount previously requested for payment, and the total amount invoiced to date.

3.6.3 Progress Report/Invoice Reviews

A progress report must be received from the P.I. before the invoice can be paid. If a progress report has not been received, the Administrative Lead will send an e-mail to the P.I. and copy the university contact listed on the invoice, requesting that the progress report be expedited to avoid a late invoice payment.

The Administrative Lead will check with the Technical Lead to see if he/she is satisfied with the work completed and if sufficient progress has been made to justify the amount of the invoice. It is also very important for the Administrative Lead to check the last invoice submitted to verify that the invoice number and previous amount invoiced are correct. Once the Administrative Lead completes these steps, the invoice can be processed for payment.

If the invoice is from a state institution, the electronic original should be sent to the Financial Accounting and Reporting Section of the Office of Finance to be processed through FMIS (EPICS or MSTARS). The Research Division's Index Number (01012), the agency object (either 8199 – technical services such as training, or 9037 – research and development costs), and project number (the SP number set up in EPICS) must be included on the invoice. The invoice must also be approved by the Deputy Director of Policy and Research or the appropriate authorized approver before it is sent to the Office of Finance. The submission of the invoice for payment must follow the internal invoice submission process established by the Office of Finance.

If the invoice is from an entity that is not a state institution, the original should be approved by the Deputy Director of Policy and Research or the appropriate authorized approver and given to the Enhanced Procurement Information Control System (EPICS) Initiator to enter into EPICS.

An electronic copy of the invoice should be e-mailed to the Technical Lead for their records and then saved in the N drive project folder. The Administrative Lead is responsible for checking the monthly expenditures report to make sure that payment was made.

3.7 Interim and Final Reports

Research reports document the methodology and findings of the research and are an essential requirement of every project. Reports should be written for an audience broader than just the technical experts with an intimate understanding of the subject. Primary units of measure should be U.S. Units, but metric equivalents can also be included. A brief description of what each figure and graph conveys should be discussed in the text of the report (this will help address ADA accessibility issues).

Research reports submitted to SHA should generally follow this outline:

- Preliminaries (Cover Page, Technical Documentation Page), Table of Contents, List of Tables, List of Figures)
- Executive Summary
- Introduction – background information on the subject and the research objective
- Literature Review – review of previous research related to the subject
- Methodology – method of collecting data, analysis of data, equipment used, procedures
- Research Findings/Discussion – presentation of results, validity of the research objective, factors affecting results, implications
- Conclusions and Recommendations for implementation by SHA

All draft reports are expected to be thoroughly edited and reviewed before being submitted to SHA. Any report that is found to have style and grammatical issues will be returned to the P.I. before the Technical Lead is asked to provide comments on the content. The final 10% of the project budget will also be withheld until the report is accepted by SHA. The Guidelines for Preparing SHA Research Reports can be found on-line under the "Program Information" section of the Research Projects Page.

3.7.1 Interim and Final Report Reviews

The Administrative Lead in the Research Division will circulate copies of the interim reports and draft final reports to all members of TAC for review and comment, compile all comments, and ensure that they are addressed by the P.I.

3.8 Distribution of Final Reports

All final reports should include the technical documentation page and a two-page summary. Electronic copies of the reports and two-page summaries should be saved in the project directory file and posted on-line on SHA's Research Projects Page.

The RKM Librarian will send the links of the final reports and two-page summaries to:

1. The FHWA Maryland Division Office
2. The Maryland Technology Transfer Center
3. The SHA Technical Lead
4. Federal Highway Administration Research Librarian - fhwalibrary@dot.gov
5. Turner Fairbank Highway Research Center - patricia.sergeson@dot.gov
6. National Transportation Library (NTL) - NTLDigitalSubmissions@dot.gov
7. National Technical Information Service (NTIS) – input@ntis.gov
8. Northwestern University Transportation Library - r-sarmiento@northwestern.edu
9. Transportation Research Board E-Newsletter - KFebey@nas.edu

The RKM Librarian should also upload the final report to Transportation Research Board Library (TRID) at http://trid.trb.org/submit.aspx and delete the record from TRB's Research in Program (RiP) database and complete and sign the end of project checklist.

3.9 TRB/Transportation Conference Presentations

Principal Investigators are expected to notify the Research Division about all presentations on SHA projects funded at transportation related conferences such as the TRB Annual Meeting. As a courtesy, copies of the draft presentation should be sent to SHA at least one month prior to the conference for review.

4. PROGRAM REPORTING/EVALUATION

4.1 Financial Reports

The RKM Division develops a monthly report of expenditures for all active research projects. A summary of new charges and a spreadsheet for each open Research Work Program is distributed internally among RKM Division staff. The report should be reviewed by the Administrative Lead and the Division Chief of the RKM Division to ensure there are no erroneous charges and the total expenditures are commensurate with the percentage of work completed on each project. If the report indicates that an erroneous charge was placed against a research project number, it is the responsibility of the Administrative Lead to work with the appropriate office and/or Cost Accounting Division to make sure a journal entry is completed in FMIS to have the charge corrected.

The RKM Division also sends a monthly financial report to the Program Development Division which keeps a running total of SHA's SPR, Part B expenditures for the current fiscal year.

4.2 Annual Reports

In accordance with the federal requirement contained in 23CFR 420.117, the Research Division must prepare and submit to FHWA periodic reports summarizing program accomplishments, expenditures, project status, etc. This report is provided to the Maryland Division Office by March 31st every year. Additional information can be provided throughout the year upon request by FHWA.

4.3 TRID and RiP Databases – Reporting Completed and Research in Progress

As described in Section 6.7, there are several primary transportation research databases that are routinely used for literature searches. The Administrative Lead is responsible for updating the records for his/her active projects in the Research in Progress (RiP) database and sending links for final reports for TRB to include in the Transportation Research Information Database (TRID).

4.4 Customer Satisfaction Survey

The mission of the Research Division is to develop and maintain a research program that supports SHA's Business plan, to share research information, and to support appropriate technology transfer activities. In order to gauge general customer satisfaction with and opinions about the Research Division services, a periodic survey is conducted by the Division.

5. PROJECT AGREEMENT CLOSEOUT

5.1 SHA FMIS Closeout

To initiate closing project numbers in FMIS, the Research Division sends a memo to the Office of Finance, Program Coordination Section with the project numbers that should be closed. They will notify the Federal Aid Program Section that the projects are being closed in FMIS.

Note: *For projects with federal funding, it takes at least 120 days for the project to be closed after notification. This allows time for all final federal-aid billing and paperwork to be completed.*

5.2 FHWA Closeout

The entire authorization (all projects in the work program) must be closed out at the same time. An authorization cannot be closed on a project by project basis. The Research Division will send an e-mail to the Federal Aid Program Section to close an authorization. The e-mail will request the year to be closed, an attachment with links to the final reports for each project, and a copy of the most recent financial report for that work program. The leftover money is then de-obligated and re-obligated for future Research Programs.

Note: *Funds lapse after four years once they have been de-obligated. The Office of Finance monitors this closely and always obligates the oldest money first.*

6. OTHER

6.1 Transportation Pooled Fund Studies

Transportation Pooled Fund Studies (TPF) are a means for State Departments of Transportation (DOT), commercial entities, and Federal Highway Administration (FHWA) program offices to combine resources and achieve common research goals. A TPF study is intended to address a new area of planning, research or technology transfer or provide information that will complement or advance those areas. The studies must be sponsored by a State DOT or FHWA and more than one agency must find the subject important enough to pledge funds or other resources to conduct the research, planning, and technology innovation activity. TPF studies are eligible for a match waiver to the SPR Part 2 funds "if the FHWA determines that the interest of the Federal-aid highway program would be best served" (23 CFR 420.119(d)).

For the latest on pooled fund program procedures please visit FHWA's Transportation Pooled Fund Program website.

6.2 Experimental Features

When a new or innovative highway technology or alternative standard technology is incorporated into a federally funded project, FHWA requires that the "experimental feature" be evaluated to determine if it performs satisfactorily. Federal guidelines require that the features be evaluated according to an approved work plan. SPR funds can only be used for the evaluation of experimental features and not for materials or construction of the feature itself. The Experimental Features Program is managed by SHA's Office of Materials Technology. Guidelines for FHWA's Experimental Features program can be found on-line.

6.3 New Products

The New Products Evaluation Program (NPEP) is a mechanism that allows vendors to pursue eligibility to use their products on SHA projects. The NPEP is managed by SHA's Office of Materials Technology, and the New Products Committee investigates, evaluates and makes recommendations regarding the usefulness of new products. The Committee includes representatives from various technical offices throughout SHA. Committee meetings are held twice a year and subgroups meet more frequently to address specific evaluations.

Note: Approval of a new product means that the product is eligible for use on SHA's projects where appropriate. However, product acceptance is on a project-by-project basis and all products must meet SHA's Quality Assurance Guidelines.

6.4 Local Technical Assistance Program (LTAP)

The Local Technical Assistance Program (LTAP) Centers provide transportation technology transfer services to county and local agencies with transportation responsibilities. The Centers receive funding through the federal LTAP program and the state DOTs. LTAP centers have five basic responsibilities: maintain mailing lists; publish a quarterly newsletter; serve as a clearinghouse for transportation information; provide information and training on new and existing technologies; and perform a self-evaluation of the program.

The Maryland Transportation Technology Transfer Center (T2 Center) was established in 1984 at the University of Maryland, College Park, to serve these needs in Maryland. The RKM Division is represented on the T2 Center's Advisory Board.

6.5 Peer Exchanges

The Federal Highway Administration requires that each state host a peer exchange periodically to review its research program. The goal of the peer exchange is for participants from various state research programs, the Federal Highway Administration, the host state, and others as deemed appropriate, to share information and to identify the strengths and opportunities for improvement of the host state's research program. At the end of the one-to-two day exchange, the Peer Exchange Team develops a report, which the host state refers to for program improvements. The cost of hosting a peer exchange is included in the Research Work Program for the fiscal year in which it will be held. In accordance with 23 CFR 420.209(a) (7), expenses for hosting peer exchanges are eligible for 100% federal funding.

6.6 NCHRP

NCHRP is an acronym for the National Cooperative Highway Research Program, which is a national pooled fund (cooperative) transportation program that is managed by the Transportation Research Board (TRB). It is an applied research program in which states and sponsors can submit research problem statements on transportation issues of national importance for possible funding. All states contribute 5.5% of their SPR funds which allows for a national transportation research program of around $35 million/year.

There are two major programs in which the RKM Division maintains a lead coordination role on behalf of the SHA. They are the overall NCHRP (projects) program and the NCHRP Synthesis Program.

6.6.1 NCHRP Projects

Each year TRB solicits research needs from the states, FHWA and AASHTO committees/subcommittees. Detailed research problem statements are submitted for consideration and reviewed by NCHRP staff and FHWA subject matter experts. These statements are then rated by the AASHTO Standing Committee on Research (SCOR) and the AASHTO Research Advisory Committee (RAC). The ratings and review comments are priority ranked by NCHRP staff and provided to SCOR prior to its annual March meeting to recommend projects for NCHRP funding. The recommendations are then approved by ballot by the Chief Executive Officers of the State DOTs each summer.

Once approved NCHRP staff formulate project panels to develop the Requests for Proposals (RFPs), to review contractor proposal submissions, to recommend selection of a contractor, and to serve as oversight review panel throughout the duration of the project study. The RKM Division coordinates and submits nominees to serve as project panel members.

6.6.2 NCHRP Synthesis Projects

Historically, a continuing project funded through the NCHRP process is NCHRP Project No. 20-05, "Synthesis of Information related to Highway Problems." NCHRP syntheses topics are solicited annually where there is a nationally recognized need to gather information regarding the current state of practice in transportation development and operational issues and to document state-of-the-art/best practices.

The RKM Division sends out an announcement about the synthesis program and SHA offices can then submit ideas on-line through TRB's website. A committee reviews all submittals and selects topics for funding. Once a synthesis topic has been selected NCHRP staff follow a similar process to other NCHRP

projects for forming project panels and selecting contractors. The Research Division coordinates and submits nominees to serve as synthesis project panel members.

6.7 Literature Searches

A review of the relevant literature is an essential component of a research project. Conducting a literature search will allow the investigator of the research problem to gain an improved understanding and build upon what is already known about the topic being researched.

For transportation research there are several major bibliographical databases that should be searched. These include the Transportation Research Information Database (TRID), the Research in Progress (RiP) database, University Transportation Center (UTC) Reports database, and the TRB Publications Index.

- The TRID database is available online at http://trid.trb.org/.
- The RiP database is available online at http://rip.trb.org.
- The TRB Publications Index is available online at http://pubsindex.trb.org/.
- Online Access to the full text papers published in the Transportation Research Record (Journal of TRB) since 1996 is available at https://journals.sagepub.com/home/trr
- Another potential useful source is the Bureau of Transportation Statistics National Transportation Library, which is available at http://ntl.bts.gov/.
- Searches via other search engines, e.g. Google, Yahoo, etc. may also be useful.

These online resources are publicly available. However, the RKM Division can assist with literature searches for SHA staff upon request.

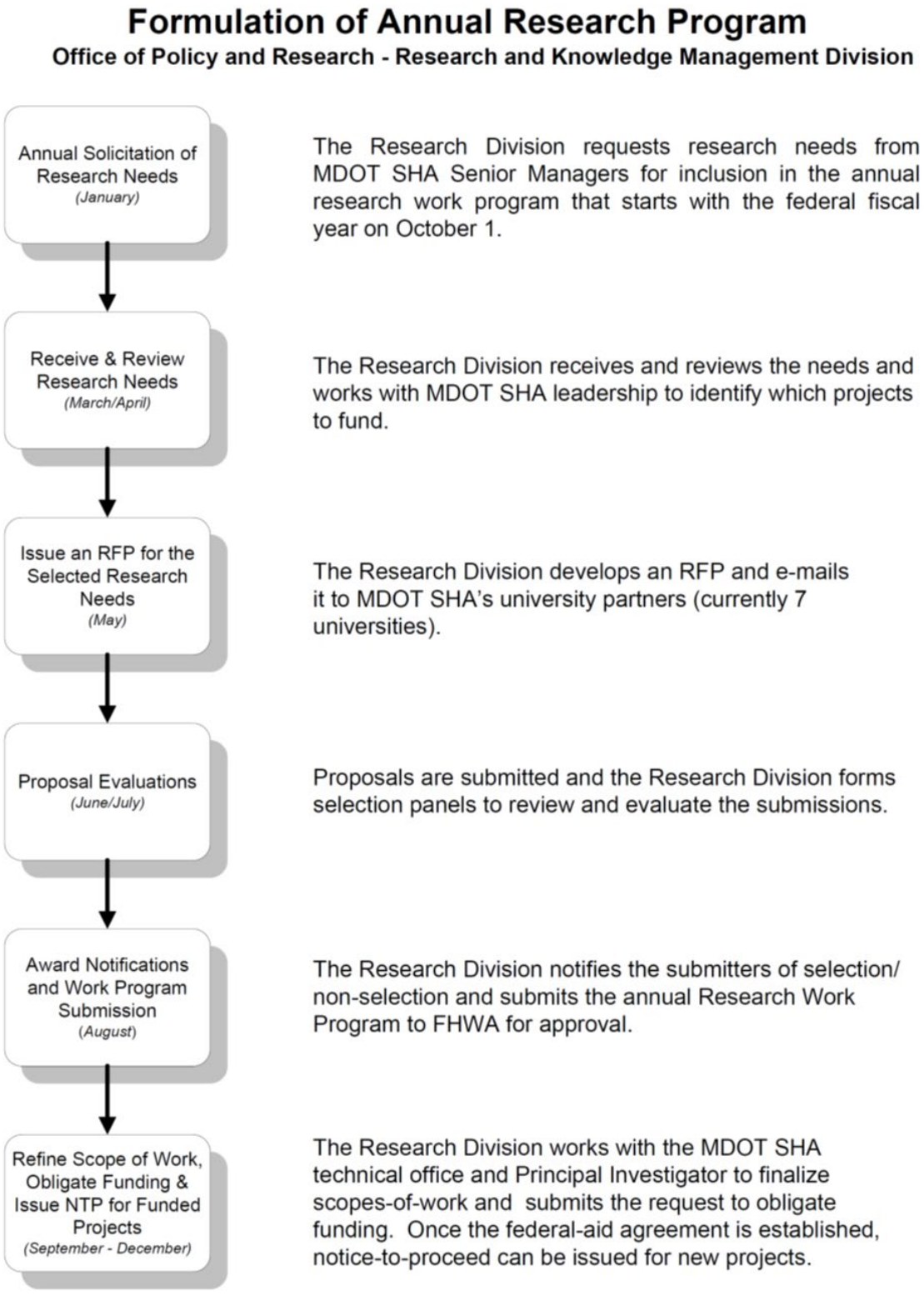
7. IMPLEMENTATION AND TECHNOLOGY TRANSFER

7.1 Implementation

Implementation is the critical link between research results and practical application. Planning implementation starts as early as the problem statements, which are assessed for implementation potential. Implementation is considered at the beginning, middle and end of every project. We ask for an implementation plan in the proposal and initial TAC meetings. Regular TAC meetings with stakeholders from multiple sections within the Agency of Transportation, other state agencies, local governments, FHWA and others help foster implementation as the potential implementers are apprised of the research and help guide the project into results that will be useful and implementable. As projects near completion or are close to producing results, the Research Section and TAC evaluates them for applicability to SHA practice. Implementation activities, methods, and actions required by the numerous technologies with which SHA deals are broad and flexible. Implementation is primarily the responsibility of the TAC and the research users. Monitoring and follow-up of implementation progress is performed periodically by the Research Section.

Appendices

Appendix A – Research Work Program Flow Chart



Appendix B – Guidance for Technical Leads

The Maryland Department of Transportation State Highway Administration's (SHA) SPR Part II Research Program is administered by the Research Division and Knowledge Management Division in the Office of Policy and Research. The majority of SHA's research is conducted by local universities.

While the Research Division is responsible for overall administration of SHA's research work program (including providing direction to research contractors), this role is more in helping to identify research needs and to facilitate the undertaking of the research in a fair and responsive manner. All research projects have an Administrative Lead in the Research Division and a Technical Lead with expert knowledge in the area relevant to the research study/project.

Summarized below are the major responsibilities of the Technical Lead for research projects.

Review problem statement submittals to ensure that they accurately describe the nature of the problem and proposed research need.

For projects selected for funding, **assume lead responsibility in reviewing the scope of work for the research project**. The Research Division will assist in the development of a scope of work, but does not always have the expertise needed to describe the work tasks that need to be done or to identify the products of the research project. It is very important that the Technical Lead make sure that the work tasks and products described in the scope of work meet the technical objectives of the study/project.

SPECIAL NOTE – if equipment is required for the research project and it is valued at over $500, please ensure that proper approvals have been requested from the appropriate office (i.e. – Office of Information Technology – for electronic equipment, or the responsible technical office – for specialized equipment, any non-consumable item, etc.) and documented as approved budget items. All equipment valued at over $500 "after taxes", shall convey to SHA at the project's completion. The Technical Lead shall facilitate the collection of all items being conveyed at the project's completion.

Attend project coordination meetings to obtain feedback, provide input and to monitor progress of the research study/project. Being involved will help ensure that the project meets your needs and provides the highest quality results.

Serve as the central contact for technical questions on the research study/project. Research Division staff have varied experiences and backgrounds, but they are not experts in all functional areas. To the extent applicable, **coordinate internal SHA data collection** that is needed to support the research study/project.

Review all progress reports and invoices. The Research Division will provide copies of all invoices and progress reports for review by the Technical Lead. The Technical Lead should review these documents to ensure that the requested payment is consistent with the project tasks and is commensurate with the amount of work completed. Based on the recommendation of the Technical Lead the Research Division will process invoices for payment.

Assist in the evaluation of those conducting the research by providing feedback on their performance and/or completing consultant performance evaluations (if applicable).

Review research project reports to ensure that the technical aspects and findings of the research study/project are clearly and accurately documented.

Help disseminate research findings to co-workers and others interested in the research topic.

Research Division staff will be involved in all of these activities, but a more favorable outcome from the research study/project is likely with a strong involvement from the Technical Lead.