

Orientation Guide for TRIG Members

June 2013



Your Destination... Our Priority



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Introduction and Overview of Guide

What is TRIG?

The Transportation Research and Innovation Group (TRIG) is the governing board for the MnDOT State Research Program. We want to thank you in advance for your willingness to represent your division on TRIG. As a TRIG member, you play an important role in helping to set direction for the research program.

MnDOT Research

MnDOT administers approximately \$10 million annually in funding for transportation research. [Research Services \(RS\)](#), housed in the Office of Policy Analysis, Research and Innovation (PARI), manages all funding and programmatic activities, including an average of 190 active research projects at any given time.

Research is conducted on a wide variety of critical transportation topic areas, including:

- Materials and Construction
- Planning and Policy
- Traffic and Safety
- Maintenance Operations & Security
- Environmental
- Bridges and Structures
- Multimodal

MnDOT research is comprised of multiple local, state, and federal programs.

- ▶ **Local Program** - The [Minnesota Local Road Research Board](#) (LRRB) supports research of interest to city and county engineers. Also included in the local program is the Research Implementation Committee (RIC), whose purpose is to transfer research results into practical application.
- ▶ **State Program** –This includes the State Research Program, the Implementation Funding Program, and the Cooperative Program for Transportation Research Studies (COPTRS). As the governing board for the State Program, TRIG provides general oversight for research activities conducted with state funding.
- ▶ **Federal Program** – The FHWA State Planning and Research (SP&R) Program and the National Cooperative Highway Research Program (NCHRP) comprise the federal program. These programs leverage federal funds to advance transportation research that is of national and/or regional significance.
- ▶ **Other Programs** – RS leverages funds from other sources (LRRB, DOTs, agencies, etc.) to stretch their research dollars.

Purpose of the Guide

This orientation guide is intended to be a resource for TRIG members, to become familiar with processes, roles, and responsibilities of serving on the TRIG.

Section 1: TRIG Members, Roles, & Responsibilities

1.1 Membership Composition and Roster

TRIG is composed of 14 voting members, 2 non-voting members, and Research Services support staff (Table 1-1). Members are appointed by the MnDOT Division Directors and there is no formal rotation schedule in place.

The voting members represent 10 specialty offices and 4 districts. This membership composition combines the expertise and insight of specialty offices with district representation – a structure that ensures relevant, innovative research and facilitates successful implementation of results.

To complement the expertise of specialty offices and districts represented on TRIG, non-voting members serve as resources, to provide information and advice. Their primary roles are described below:

- ▶ **MN Information & Technology Services** – Ensures that the proposed research projects will conform to and be compatible with existing systems, platforms, and/or software.
- ▶ **FHWA** – Provides oversight on the State Planning and Research (SP&R) program and department. RS leverages this program’s 80% contribution with 20% state match for all eligible research and implementation projects.

Research Services staff provide administrative and program support. Staff support positions include:

- Research Engineer
- Finance & Contract Services
- Project Advisors

The current member roster can be found online at mndot.gov/research/steeringcommittee.html.

Table 1-1: Example Representation of TRIG

MnDOT Specialty Offices

- Environmental Stewardship
- Bridges
- Project Management and Technical Support
- Traffic, Safety & Technology
- Maintenance
- Statewide Multimodal Planning
- Materials & Road Research
- Research Services
- Policy, Analysis, Research & Innovation
- Office of Transit

MnDOT Districts

- District 3
- Metro District
- District 6
- District 7

Other

- * MN Information & Technology (IT) Services
- *FHWA

* Denotes non-voting representative

1.2 Roles and Responsibilities

TRIG members are responsible for actively participating in and supporting MnDOT’s state and federal research programs. This participation and support leads to a strong, balanced program that results in new innovations and increased operational efficiencies. In addition, research is expected to align with MnDOT’s strategic directions: safety, mobility, innovation, leadership, and transparency.

State Research Program

As the governing board for the State Research Program, the TRIG is responsible for providing overall guidance for the use of state research funds. TRIG members are expected to be strong advocates for research within MnDOT and support their staff to participate in local and national research activities.

Table 1-2 provides TRIG members’ specific roles and responsibilities related to MnDOT’s State Research Program.



Table 1-2: Roles and Responsibilities – State Research Program

<p>Meeting Participation and Preparation</p>	<ul style="list-style-type: none"> Actively participate as a member by attending meetings. Members are expected to attend all meetings or send a representative (send a courtesy notice to the RS Director if someone else will be representing you at a meeting) Review meeting materials and proposals in advance of meetings Provide input on new research needs and initiatives Bring forward high priority research needs
<p>Project-Related Expectations</p>	<ul style="list-style-type: none"> Prioritize and select research and implementation projects for funding that represent the needs of the department and aligns with MnDOT’s strategic initiatives Provide guidance on struggling research projects regarding whether to terminate or extend, based on input from Principal Investigator, Project Coordinator and/or Technical Advisory Panel members
<p>Program Support</p>	<ul style="list-style-type: none"> Be an advocate and a champion for the research program Commit resources (personnel, equipment, match funds when needed, etc.) to support the research program Support your staff to share research information, photos, benefits, and results Collaborate and support marketing technology transfer opportunities which promote the use of research results Notify RS of video and photo opportunities Contact RS for marketing opportunities related to projects Participate in RS-led efforts to quantify benefits of research results

Federal Research Program

The federal research program is an important component of MnDOT's overall research activities, presenting opportunities to leverage resources and participate in national research efforts.



TRIG members' participation in the federal program allows MnDOT to be represented as an innovation leader, both nationally and internationally. In addition, members learn about new technologies, methods, tools, and practices being developed in other states and through collaborative efforts. Participation in the federal program also allows members to stay current with research results, influence new research, and establish professional contacts with peers from around the country and internationally.

TRIG roles and responsibilities related to the federal research program can be found in Table 1-3.

Table 1-3: Roles and Responsibilities – Federal Research Program

<p>Program Participation</p>	<ul style="list-style-type: none"> • Nominate panel members for National Cooperative Highway Research Program (NCHRP) projects • Provide input and feedback on cooperative and national research program solicitations for synthesis studies, domestic scans, and international scans • Review and recommend FHWA pooled fund study projects • Lead pooled fund efforts of interest within your specialty area (initiated by Specialty Offices) • Upon request, participate in National Field Tests and in National and International Scan Tours • Upon request, participate and/or support staff participation in the Transportation Research Board (TRB) Annual Meetings
<p>Technical Expertise</p>	<ul style="list-style-type: none"> • Submit and rank NCHRP problem statements • When applicable, develop need statements to support national program efforts • Upon request, respond to AASHTO-Research Advisory Committee (RAC) surveys in technical expertise area
<p>Program Support</p>	<ul style="list-style-type: none"> • Encourage and support staff participation in NCHRP and pooled fund projects • Ensure that quarterly reports and program benefits are documented and relayed to Research Services • Support involvement and participation in AASHTO research and technical program activities

1.3 Meeting Schedule and Activities

In-State Meetings

TRIG meets three times per year, in spring, fall, and winter. Meetings are held at the MnDOT Arden Hills Training and Conference Center or at another MnDOT facility. Though meeting activities and agenda items continually evolve, Table 1-4 provides a general overview of TRIG meeting activities.

Table 1-4: TRIG Meeting Schedule and Typical Activities	
Spring Meeting (early March)	<ul style="list-style-type: none"> • Review and select implementation proposals submitted through a formal solicitation • Shortlist ideas for future implementation projects • Review the previous year’s completed research efforts • Select high priority research projects • Marketing and communications update • Program updates • Administrative updates and discussion
Fall Meeting (early November)	<ul style="list-style-type: none"> • Review research proposals submitted through the annual Request for Proposals (RFP) solicitation • Shortlist research proposals for presentation and funding consideration at the winter meeting • Discuss process improvement topics • Review and select implementation proposals • Shortlist ideas for future implementation projects • Program updates
Winter Meeting (early December)	<ul style="list-style-type: none"> • Hear presentations from researchers whose proposals were invited to be presented for funding consideration • Select research proposals for funding • Select implementation proposals for funding

TRB Staff Visits to MnDOT

Each year, staff from the [Transportation Research Board \(TRB\)](#) visit MnDOT to learn about activities and issues that will assist TRB to deliver the best service to MnDOT. The primary purpose of a TRB staff visit is to enhance the partnership between MnDOT and TRB.

MnDOT is asked to share the following information during the visit:

- Problems/issues of current importance to MnDOT which TRB may be able to help address
- Emerging and future problems/issues that TRB needs to address in order to be in a position to continue to provide value to the department
- Suggestions regarding existing and potential TRB programs and activities to assure the best TRB service to your department

Visits from TRB staff typically include meetings, tours, and demonstrations with MnDOT specialty offices. **TRIG members are asked to participate by hosting TRB staff for short periods of time and sharing relevant information.** [Appendix A](#) “TRB/State DOT Partnership Visits” contains additional details about TRB visits.

Out-of-State Meetings and Opportunities

Membership on TRIG presents opportunities to attend national conferences and meetings. Each fiscal year MnDOT assembles an Out-of-State (OST) travel plan. Within the PARI Office OST Plan, the following trips are approved and **paid by others** for any MnDOT staff participating in:

- Research Peer Exchanges
- NCHRP Panel Meetings
- Pooled Fund Projects (non-lead state)
- Pooled Fund Projects (MN lead State)

Employees traveling on MnDOT business must follow policies and procedures as outlined in the MnDOT Business Manual. Chapter 2 “Travel Policy and Procedures” contains detailed information about requesting travel authorization, submitting required documents, and completing an out-of-state trip reports upon conclusion of the trip

If TRIG members are travelling for Research Peer Exchanges, NCHRP Panel Meetings, or Pooled Fund Projects where MnDOT is not the lead state, travel expenses are reimbursed by the sponsoring agency. MnDOT’s procedure for requesting approval to travel remains in effect for these trips. For all trips paid by other agencies, TRIG members must reference the PARI OST Plan and the Trip Number in their “Request and Authorization for Out of State Travel Form.”

For out-of-state travel associated with Pooled Fund Projects where MnDOT is the lead state, Research Services will provide reimbursement. TRIG members must request the appropriate funding codes from RS financial staff and submit an OST Trip Report to the SP&R Coordinator, along with quarterly progress reports. See [MnDOT’s SP&R Website](#) for quarterly report templates and submittal instructions.



1.4 Contracting Options

MnDOT Research Services facilitates several options to enlist the services of research professionals to conduct research. Options include universities, consultants, other agencies, and MnDOT staff. After projects are selected for funding, [detailed work plans](#) outlining scope of work and deliverables are used to create contracts or agreements. Contracting mechanisms are listed and described below. See [Appendix B](#) for contracting options, timelines, and processes. See [Appendix C](#) for Contracting Rules.

University Master Agreements

MnDOT periodically conducts an RFP and selects universities that are qualified to conduct research on specific topic areas. MnDOT enters into master agreements with these universities, and work orders are created on a project basis. See [Appendix D](#) for a list of universities who have master agreements with MnDOT to conduct academic research, as of the published date of this TRIG Guide.

Agreements with Minnesota State Colleges and Universities (MnSCU)

These are interagency agreements with state-supported technical colleges, community colleges, or state universities within the MnSCU system.

Transportation Research Assistance Program (TRAP)

MnDOT periodically conducts an RFP and selects consultants that are qualified to perform the following research-related services:

- Research Technical Writing & Editing
- Research Marketing and Technical Transfer Activities
- Research Event Coordination
- Research Program Support
- Outreach and Research Data Information Analysis

Work orders are created on a project basis, depending on the topic and qualifications of the consultant. Contracts of this type must have budgets less than \$100,000; MnDOT direct selects the consultant. See [Appendix D](#) for consulting firms included in the TRAP Certified List, as of 2011.

Partnership Agreements

Agreements of this type outline the terms of funding transfers and/or exchange of services that result in two entities working toward a common goal.

Interagency Agreements

These consist of agreements between MnDOT and other state agencies, to conduct research or to exchange/share resources and services.

Intra-agency Agreements

These are agreements with MnDOT specialty offices, to reimburse staff time and materials for conducting research. For instance, the Office of Materials may conduct pavement-related research at the MnROAD facility under this type of agreement.

Section 2: MnDOT Research

2.1 MnDOT Research Services

Research Services (RS) administers MnDOT's federal, state, and local research programs and provides program support to the TRIG. Research Services fosters a professional and productive environment that leads innovative research by serving global and regional collaboration.

Mission and Values

The mission of RS is to support Minnesota's transportation industry by meeting the innovation and information needs of transportation practitioners and the transportation community. Research and Library Services provides service leadership, financial management, informational services, and administrative support to:

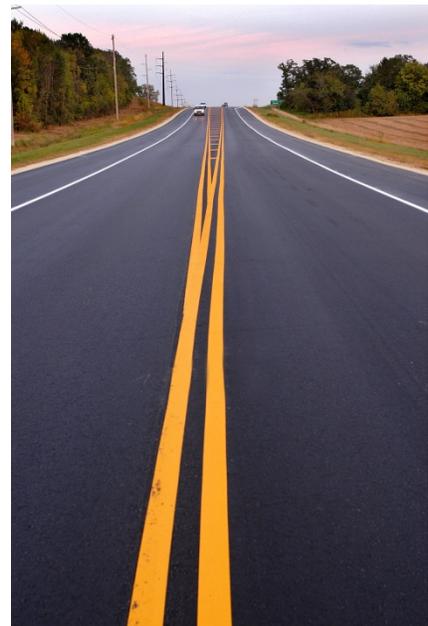
- FHWA State Planning and Research Program
- Minnesota's State Research Program
- The Local Road Research Board
- Leading Industry Collaborations

RS staff members operate under the following core values: Relevant, Customer-Centric, Proactive, One Voice, and Assumption of Goodwill.

Services and Staff

RS provides comprehensive assistance to its customers across four departments:

- ▶ **Research Management** - Helps customers articulate research needs, finalize research work plans, manage research projects, and implement the results.
- ▶ **Finance and Contract Services** – Identifies potential funding sources, assisting with contract amendments, and helping with budgetary and regulatory oversight.
- ▶ **Library Services** - Recognized as one of the nation's most elite transportation libraries, Library Services staff save individuals valuable time by honing in on the right resources to answer questions and provide materials that keep customers current in their fields.
- ▶ **Marketing and Communications** - Provides information and results to transportation practitioners and the general public to create awareness and application of research findings.



The RS staff directory can be found at the [Research Services Staff Directory](#).

2.2 Funding

MnDOT administers approximately \$10 million annually in funding for transportation research. This funding is generated by state, federal, and local sources, and is allocated to multiple disciplines and topic areas as described in this section.

Funding Programs and Sources

Funding programs and sources that comprise MnDOT's research program are listed below. The percentage of funding typically provided by each program source is shown in Figure 2-1.

- ▶ **FHWA State Planning and Research (SP&R)** – At least 25% of this funding is allocated towards state-specific research needs. SP&R funds are also used for federal programs (NCHRP, TRB Core Services, and AASHTO Technical Services), pooled fund projects, and single-state projects.
- ▶ **MnDOT's State Research Program (SRP)** – Funds for this program are available through MN State Statute, which allows the commissioner of transportation to set aside up to 2% of the total amount of all funds appropriated to the commissioner other than county, municipal, state and highway funds for research activities. These funds are used to address agency research needs and to support MnDOT's strategic directions of safety, mobility, innovation, leadership, and transparency.
- ▶ **Local Road Research Board (LRRB)** – The LRRB was established by the Minnesota Legislature in 1959. The goal of this program is to support research that is of interest to local engineers. Program funding is set at ½ of 1 percent of the state aid allocation.
- ▶ **Cooperative Program for Transportation Research and Studies (COPTRS)** – This program was established by agreement between the University of Minnesota and MnDOT. Its purpose is to foster cooperation in basic and applied sciences and engineering to effectively solve transportation problems, speed the technology transfer related to research results and stimulate new ideas and areas of research.
- ▶ **Other Funding** – Funding from other sources is leveraged to stretch existing research dollars. These funds, often contributed by public agencies and MnDOT offices and districts, demonstrate the commitment and support for MnDOT's statewide research programs.

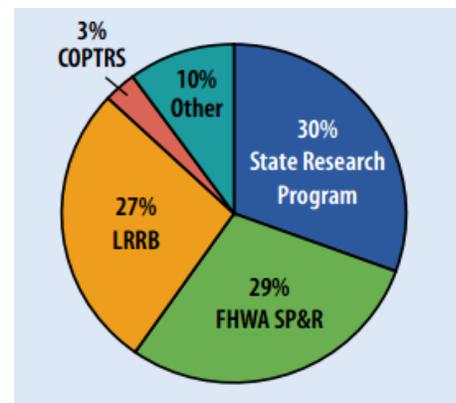


Figure 2-1: Typical Funding Percentages, by Source

Funding Allocations to Topic Areas

Research is conducted to address transportation issues within multiple disciplines and topic areas including: Materials and Construction; Planning and Policy; Traffic and Safety; Environmental; Maintenance Operations and Security; Bridges and Structures, and Multimodal. Funding allocations to these topic areas varies from year to year, depending on state, national, and local needs and priorities. Funding allocations by topic area for previous years can be found in RS's Annual Reports and "At-A-Glance" documents located online at [Annual Reports and "At-A-Glance" Web Link](#).

2.3 State Research Program

Processes and documents related to MnDOT's state research program can be found on the [Research Services' Website](#). A summary of key steps in the research process is provided below.

Defining Research Needs

The process used for defining research needs is comprised of three key steps:

- ▶ **Submitting Ideas** – Ideas for new research and implementation projects are collected from MnDOT employees and stakeholders using IdeaScale® on the [Minnesota Transportation Research Collaboration Website](#). This interactive website allows users to submit new ideas, vote on previously submitted ideas, and provide comments. TRIG members are encouraged to utilize the website to submit and review ideas for new research.
- ▶ **Prioritizing Needs** – All ideas submitted to the collaborative website are collated by RS and reviewed by the TRIG. Ideas that are identified as a priority for MnDOT are used to create Need Statements that further define the research need.
- ▶ **Developing Need Statements** – Need Statements contain detailed information about research ideas. RS works with authors of priority ideas to complete a [Need Statement Form](#), with a “champion” from MnDOT or a city or county agency.

Proposal Solicitation and Project Selection

Proposals for many new research projects are solicited via an annual academic Request for Proposals (RFP) process. Research proposals may also be solicited through stand-alone project RFPs and other mechanisms.

- ▶ **Annual Academic RFP and Selections-** Each summer, RS issues an RFP to request proposals from academic institutions on MnDOT's University Master Agreements list. The RFP communicates need statements and requests innovative research approaches.

Proposals submitted in response to the RFP are shared with TRIG members prior to the fall TRIG meeting. TRIG members are asked to review and prioritize proposals using the [Ranking Guidelines](#).

At the fall TRIG meeting, a limited number of proposals are selected for presentation to the TRIG. At the winter TRIG meeting, proposals are presented by their respective authors, and projects are selected for funding directly following the presentations.

- ▶ **Other Project Selections** – Research projects can be initiated by TRIG members at any time. As needs are identified by TRIG members, research proposals can be solicited through stand-alone project RFPs and other contracting mechanisms, as outlined in Section 1.4 “Contracting Options” of this Guide. In these cases, project selections are made on a case-by-case basis at TRIG meetings throughout the year, subject to funding availability.

Conducting the Research

All research projects are guided by technical experts and monitored by Research Services (RS).

- ▶ **Technical Advisory Panels** – Technical Advisory Panels (TAPs) are formed to guide each project. TAPs consist of the Principal Investigator (PI) who is conducting the research, agency staff who provide technical guidance, and RS staff who provide research management support. Roles, responsibilities, and operating guidelines for TAPs can be found in a series of videos at the [TAP Webpage](#) and in the [TAP Guidelines](#) document.
- ▶ **Research Management Support** – RS staff provide research management support throughout the life of all projects, including the following services:
 - Prepare project work plans for processing
 - Handle invoicing, purchase orders, agreements, and amendment requests
 - Manage partnership and interagency agreements
 - Track deliverables and timelines
 - Ensure funding continues when project timelines expand
 - Identify implementation opportunities
- ▶ **TRIG Funded Amendment Request Approvals** – Due to the exploratory nature of research and other circumstances, some projects may need contract amendments. Amendments can include additional time, revised work scope, and/or additional budget to adjust for unforeseen circumstances or to capitalize on opportunities to move research in a new direction.

In most cases, Research Services (with RS Director approval) will amend contracts as needed. However, TRIG approval is needed to amend contracts for large changes in funding or when contractual issues are occurring. The authority guideline and approval process for contract amendments are detailed on the following page in Table 2-1.



Table 2-1: TRIG Funded Amendment Request Approval Authority and Process

The Board will approve and/or make recommended next steps for amendment requests if the following situations occur:

- The original scope is expanded or changed significantly
- The amendment request exceeds 25% of the original contract or is greater than \$25,000
- Significant delays or unforeseen problems that have stagnated the project
- Nonperformance or plagiarism/copy write issues by the principle investigator

Research Services has the authority to approve amendment requests if:

- The amendment request is less than 25% of the original contract or not more than \$25,000
- Scope changes that are within the original project scope (IE. Methodology changes to make the study more statistically sound)
- Costs are for equipment or task(s) that are necessary to complete the original scope
- There are unforeseen needs to complete the project (IE. Cost for communication, etc.)
- Additional project scope is funded from another source (IE. LRRB, another DOT, Industry, etc.)
- Funding requests approved by TRIG either via email ballot or at a TRIG meeting

Approval Process:

- If the additional request using SRP funding is between \$25,000 and \$65,000 the Board will approve of the amendment request via email or SMART Board and the request will be reported during the next TRIG meeting. The email must contain a statement that the MnDOT champion supports this request and the reason.
- If the additional request is over \$65,000 the amendment request must be brought before the Board during the next TRIG meeting or via SMART Board, depending on the timing.
- All amendment requests using SRP and SPR funding must be reported back to the board during the next TRIG meeting.
- A minimum quorum of two-third members of the board with two (2) being from the Operations Division is the majority vote to approve the amendment request.

Final Products

Research projects can result in a number of outcomes and products. Findings often result in increased knowledge and advancements in state of practice. In addition, results take the form of products that are used in practice and/or assist with decision-making. Specific examples of final products are presented in Table 2-2.

Print	<ul style="list-style-type: none">• Final Reports• Guidebooks• Brochures
Electronic	<ul style="list-style-type: none">• Software• Excel Tools• Videos
Other	<ul style="list-style-type: none">• Specification Updates• Policy Guidance• Training Materials

Project Closeout and Evaluation

[Project Closeouts](#) include a structured process to conduct evaluation and collect information related to performance, implementation, marketing, outreach, education, technology transfer, and additional projects/phases.

Performing organizations are evaluated on technical performance, contract adherence, and project cooperation using a Professional/Technical Contract Evaluation Form. In addition, a Post-Project Evaluation Sheet is used to collect benefits, opportunities for implementation, and next steps.

Implementation

Research often leads to new innovations and products, improved policies and practices, and informed decision-making. Implementation of research results can occur throughout the research process, including during or directly following the research.

Research Services administers a formal implementation program to facilitate the transfer of research results into practice. The program consists of approximately \$1 million per year of dedicated funding. Implementation projects can take the form of demonstrations, pilot projects, training development, production of guidebooks/manuals, or other approaches that help move results into practice.

- ▶ **Submit Ideas** – Implementation Ideas are submitted using IdeaScale® on the [Minnesota Transportation Research Collaboration Website](#). Ideas are welcome at any time, and a call for ideas is also issued by RS annually, to encourage idea submissions.
- ▶ **Develop Implementation Plans** – RS contacts individuals who submit ideas to request additional information about the proposed implementation effort. An online survey is utilized to collect input, and RS staff uses this information to develop detailed implementation plans.
- ▶ **Select Projects for Funding** – The TRIG selects implementation projects for funding. Projects may be funded at any TRIG meeting, but a focus on implementation project selections is typically conducted during the Spring TRIG meeting, but can be submitted and/or approved at any TRIG meeting.
- ▶ **Conduct Projects** – Implementation projects are conducted in a similar manner as research projects. Technical Advisory Panels (TAPs) are formed to guide projects, and RS utilizes its established mechanisms and processes to administer funding and contracts, as applicable.

When State Planning and Research (SP&R) funding is used for implementation projects, specific eligibility requirements apply. [Appendix E](#) “Research & Implementation Project Guidelines for SP&R Program” provides eligibility guidelines for the use of SP&R funding for implementation.

Benefits and Value

MnDOT’s research program is seen as a leader nationally, due to its high-quality, decision- driven results. With the passage of MAP-21 federal transportation legislation, it is more important than ever to measure benefits and communicate the value of MnDOT’s research innovations.

Benefits are identified at key milestones during the life-cycle of research projects:

- ▶ **Project Idea Stage** – Anticipated benefits are documented in the research need statement and in the proposal. Intended audiences, end users, and implementation potential are identified during this stage.
- ▶ **Project Selection** - The prioritization process for selecting new research projects for funding takes into consideration the significance of benefits to be achieved.
- ▶ **Project Closeout** – Actual benefits are documented and utilized in marketing and outreach materials, to encourage implementation and communicate the value and benefits of research successes.

Outreach and Communications

RS produces a number of resources to help practitioners stay up-to-date in their fields:

Keep informed and up-to-date by following transportation research:

- ▶ **MnDOT Research Services Website** – Visit the [RS Website](#) for breaking news, information, and publications.
- ▶ **Research and Innovation Update Email** – Subscribe to receive emails featuring MnDOT Research results, news, and updates at [MnDOT Email Updates](#).
- ▶ **Social Media** – Follow MnDOT Research on [Facebook](#), [Twitter](#), [YouTube](#), and [LinkedIn](#). Visit [Crossroads](#), Research Services’ joint blog with the University of Minnesota
- ▶ **MnDOT iHUB** – Obtain TRB publications and newsletters via the [MnDOT iHUB](#) link. See [TRB RSS Instructions](#) to learn how to subscribe.
- ▶ **FHWA Pooled Fund Notices** – Sign up to receive alerts for project posting notices at the [TPF website](#).
- ▶ **Accelerator Newsletter** – mndot.gov/research/accelerator.html



Stay current in your field by accessing informational products:

- ▶ **At-A-Glance** – A quick reference guide to all active research contracts and multi-state pooled fund projects.
- ▶ **Research Summary Products** – Products that detail and/or summarize research results and state of practice in various topic areas:
 - *Research Reports* - Technical reports detailing research approaches and results
 - *Technical Summaries* - Two-page briefs on completed research
 - *State of Practice and Transportation Research Syntheses (TRS)* - Quick turn-around informational summaries; see [TRS Overview](#) and [Appendix F](#) for details.

RS is interested in obtaining photos and video of active research projects, for use in outreach materials. **TRIG members and their staff are asked to alert RS of opportunities to take photos and/or video during research projects.** RS can then arrange for someone to take photos or video.

2.4 Federal Research Program

National Cooperative Highway Research Program (NCHRP)

The [National Cooperative Highway Research Program \(NCHRP\)](#) is a means to conduct research in problem areas that affect highway planning, design, construction, operation, and maintenance nationwide. The program is broad, considers many aspects of transportation, and develops solutions that are practical and readily usable.

NCHRP is sponsored by state DOTs in cooperation with FHWA and is administered by the Transportation Research Board (TRB). MnDOT contributes over \$650,000 annually to NCHRP.

State DOTs, AASHTO committees, and FHWA propose research topics. The AASHTO Standing Committee on Research (SCOR) collects input from State DOTs and recommends projects for funding. Milestones in the NCHRP funding process include active involvement from TRIG members:

- ▶ **Submit Research Ideas** - NCHRP annually issues a call for new research problem statements. The RS Director forwards this notice to TRIG members and others involved in MnDOT research, requesting that problem statements be prepared and submitted.
- ▶ **Prioritize Problem Statements** - Problem statements are organized by TRB staff and sent to DOT State Representatives for voting. The RS Director, MnDOT's TRB State Representative, will request TRIG member input prior to compiling votes and comments on problem statements. MnDOT's priorities are reviewed by Division Staff prior to voting.
- ▶ **Select Projects** - The AASHTO Standing Committee on Research (SCOR) reviews voting results from the states and selects projects for funding.
- ▶ **Solicit Panel Members** - TRIG members are encouraged to serve on NCHRP project panels, to provide guidance on funded research. Panels are comprised of technical experts from around the country. If a TRIG member rates a problem statement "high" the RS Director will follow-up with them regarding nomination for a panel member.

State Planning & Research (SP&R) – Pooled Funds and Sole State Projects

State Planning and Research (SP&R) is a federal funding source allocated annually to State DOTs through FHWA, for transportation planning and research. Of this annual allocation, a portion is dedicated to research and implementation projects administered by Research Services.

SP&R funding can be used for the following project types:

- Federal Program Support (AASHTO, TRB, and NCHRP)
- Transportation Pooled Fund Projects (MnDOT serves as the lead state)
- Transportation Pooled Fund Projects (MnDOT contributes but does not lead)
- Sole State Projects (MnDOT is the only state involved; a 20% match must be identified)
- Research Support Contracts (staff, marketing, and program support)



- ▶ **Transportation Pooled Fund (TPF) Projects** - The FHWA Transportation Pooled Fund (TPF) Program is a means for multiple entities to combine resources and achieve common goals. TPF projects may be funded by a combination of federal, state, regional, and local transportation agencies, academic institutions, foundations, or private firms.

TPF projects must be sponsored by either a State DOT or FHWA. Specified individuals are authorized to post project solicitations and join existing projects via the [TPF website](#). MnDOT's authorized representative is the SP&R Coordinator, located in Research Services. After project solicitations are posted, "pledges" are made until projects are fully funded.

TRIG members are asked to visit the [TPF website](#) to sign up to receive alerts for project postings and monitor postings for opportunities in which MnDOT should participate.

- ▶ **Sole State Projects** - MnDOT may use its SP&R funding for projects that are "Minnesota-only" and do not have joint funding with other entities. These projects are known as sole state projects. MnDOT utilizes SP&R funding for both research and implementation projects. A 20% match must be identified in order to be eligible to use SP&R funding for sole state projects.

- ▶ **Initiating TPF or Sole State Projects** - TRIG members may wish to initiate projects using SP&R funding. The process for requesting State SP&R funding for pooled fund or Minnesota-only projects can be found at: [MnDOT SP&R Funding Request](#).
- ▶ **Obligations and Benefits of Participating in Pooled Fund Projects** - TRIG members' obligations and benefits of participating in pooled fund projects are as follows:
 - **Obligations**
 - Submit quarterly reports
 - Complete OST trip reports
 - Bring back and apply results and findings
 - Inform RS of marketing and implementation opportunities to share successes
 - **Benefits**
 - Network with peers
 - Travel opportunities
 - Participate in solving national problems
 - Recognition and personal satisfaction

Domestic and International Scans

The Domestic and International Scan Program is a joint initiative of FHWA, AASHTO, and NCHRP. The scan process features the formation of expert teams that travel within the United States and abroad to consult with their counterparts regarding transportation practices and advancements.

The [Domestic Scan Program](#) is broad and considers innovative practices of high-performing transportation agencies that could be beneficially adopted by other agencies. Each scan might span a one- to two-week period and entail visits to two to six sites, possibly geographically dispersed. Results of domestic scans are documented for use by those who participated and for others to apply the findings.

The [International Scan Program](#) focuses on topics of high interest to the U.S. transportation community and is led by designated FHWA and AASHTO Co-Chairs. Scan team members typically represent FHWA, State DOTs, local governments, transportation trade and research groups, the private sector, and academia. After a scan is completed, the scan team evaluates findings and develops a comprehensive report, which is circulated throughout the U.S. highway transportation community.

TRIG members are asked to provide input and feedback on topic solicitations for domestic and international scans. TRIG members may also be asked to participate in scans, as requested.

2.5 Major Milestones

Major milestones associated with programmatic research and TRIG activities are shown below:

MnDOT Research - Activities and Milestones	January	February	March	April	May	June	July	August	September	October	November	December
State Program Activities												
TRIG Meetings			■								■	■
Submit Implementation Project Ideas	■											
Review Implementation Proposals		■										
Submit Research Ideas					■							
Develop Research Need Statements						■	■					
Issue Research RFP								■				
Research Proposals Due									■			
Review Research Proposals										■		
National Program Activities												
TRB Annual Meeting	■											
NCHRP Call for Problem Statements							■					
Submit NCHRP Problem Statements									■			
NCHRP International Scan Proposals Solicited									■			
NCHRP Domestic Scan Proposals Solicited											■	
Votes due for NCHRP Problem Statements												■
NCHRP Call for Synthesis Topics			■									
NCHRP Projects Recommended for Approval			■									
NCHRP Call for Panel Members					■							
NCHRP Projects Approved						■						
ACRP* Problem Statements Due				■								
TCRP* Problem Statements Due						■						
NCFRP* Problem Statements Due							■					

* Airport Cooperative Research (ACRP), Transit Cooperative Research (TCRP), National Cooperative Freight Cooperative Research (NCFRP)

A detailed calendar of research-related meetings and events can be found online at the [Research Services Calendar](#).

Section 3: How Research Can Help TRIG Members

3.1 Suggest New Research

TRIG Members can play a significant role in shaping state-sponsored and national research efforts by submitting ideas for further development and consideration:

- Submit research ideas using IdeaScale® at the [Minnesota Transportation Research Collaboration Website](#)
- Seek out information answer questions and fill gaps through State of Practice or Transportation Research Synthesis (TRS) requests
- Submit problem statements via NCHRP’s annual solicitation
- Bring forth high-priority needs for funding consideration

3.2 Utilize Information Services and Resources

MnDOT Library Services

MnDOT Library staff provide many helpful services and products to keep individuals current in their respective fields and to ensure that all projects begin with a firm foundation and avoid duplication of efforts. Services include:

- Provide research assistance, efficiently answering data requests
- Conduct literature searches, providing customers with up-to-date publications and reports
- Create Transportation Research Syntheses when appropriate
- Host current online, searchable databases
- Maintain a broad array of transportation periodicals and materials

The MnDOT Library, located on the first floor of MnDOT’s Central Office Building in St. Paul, offers work spaces and free wireless internet service to its customers. Visit the [MnDOT Library Web Page](#) to submit requests through the “Ask a Librarian” and “Request Materials” web forms.

MnDOT Research Websites

The [MnDOT Research Services Website](#) contains a wealth of information and links to resources for transportation information.

MnDOT Internal Websites	External Websites
<ul style="list-style-type: none">• MnDOT Research Web Search• Office of Maintenance Research• MnROAD Research• Minnesota Guidestar (ITS) Program• Destination Innovation• iHub (TRB Publications)	<ul style="list-style-type: none">• Minnesota Local Road Research Board• U of M Center for Transportation Studies• Transportation Research Board• FHWA Transportation Pooled Funds• AASHTO-RAC Survey Results

MnDOT iHUB

The Transportation Research Board (TRB) uses RSS feeds for disseminating research. These RSS feeds are ordered by topic to facilitate simple access to particular areas of study. MnDOT maintains a customized [iHUB](#) site that allows employees to access reports through:

- TRB Website PDF Download
- MnDOT Library
- Print Publication Routing List
- Request a Hard Copy

Instructions for utilizing the MnDOT iHUB can be found at [TRB RSS Instructions](#).

Transportation Information Databases

TRB provides access to comprehensive tools for locating transportation resources.

- The [TRID](#) database combines records from TRB's Transportation Research Information Services ([TRIS](#)) database and the Joint Transport Research Centre's International Transport Research Documentation ([ITRD](#)) database. It contains more than one million records of published and ongoing research, covering all modes and disciplines of transportation.
- The [Research in Progress \(RiP\) Database](#) contains more than 26,000 current or recently completed transportation research projects.

AASHTO-RAC Listserv

The AASHTO Research Advisory Committee (RAC), comprised of State DOT research managers, maintains an active listserv that is often used for requesting and sharing current DOT practice, such as practices, policies, specifications, and other types of information.

TRIG members may work with the RS Director to request information via the listserv. Members may also be called upon to provide information in response to requests made by other DOTs. The [AASHTO RAC Listserv Guidelines](#) can be found online and in [Appendix G](#).

Results of AASHTO-RAC Listserv surveys can be found at [RAC Survey Results](#).

CTS Publications

The Center for Transportation Studies (CTS) produces a number of publications related to research, training, and innovations at the University of Minnesota (U of M).

[CTS Publications](#) include newsletters, technical reports, research briefs, annual reports, videos, and event proceedings.

- ▶ **Catalyst** - A monthly newsletter on the latest transportation innovations at the U of M.
- ▶ **Topic-Focused Publications** – An array of electronic and print publications:
 - Journal of Transport and Land Use
 - ITS Sensor
 - Freight and Logistics E-news
 - LTAP Technology Exchange

- ▶ **Technical Reports and Research Briefs** – Results of research conducted at the University of Minnesota, in all areas of transportation

Subscribe to CTS print and/or electronic publications at: [Subscribe to CTS Publications](#).

3.3 Participate in National and Local Research

National and local research activities offer significant benefits to TRIG, by enabling members to:

- Learn about new technologies, methods, tools, and practices
- Stay current with research results
- Establish professional contacts with peers from around the country and internationally
- Provide input and influence in solving a local and/or national problem

National Research Programs

The following national programs invite input and participation:

- ▶ **National Cooperative Research Program (NCHRP)** - TRIG members submit problem statements for new research and participate in funded projects by serving on panels.
- ▶ **FHWA Pooled Fund Projects** – TRIG members can leverage resources and participate in studies of national significance by initiating new projects and joining existing studies.
- ▶ **Other Federal Research Programs** – TRIG members can be involved in federal research by submitting problem statements and staying abreast of current results. Information about selected federal research programs can be found at the following web links:
 - [Cooperative Research Programs](#) – Cooperative research programs are focused on highway, transit, aviation and airports, freight, hazardous materials, and rail.
 - [Strategic Highway Research Program \(SHRP 2\)](#) – Funding for SHRP2 was authorized in federal transportation legislation. Emphasis areas include safety, renewal, reliability, and capacity. SHRP2 is offering opportunities for demonstrations and pilot projects to be conducted at State DOTs. The PARI Office provides coordination for MnDOT's participation in SHRP2.
 - [FHWA Research](#) – Exploratory advanced research and other targeted programs are administered by FHWA. Most programs are authorized under federal transportation legislation.

MnDOT Destination Innovation Program

In an effort to create a culture that invites innovation and rapid adoption of new practices, MnDOT established a Destination Innovation Program. The Destination Innovation (DI) fund allows MnDOT to leverage funding opportunities to deliver innovative and creative proposals driven by [MnDOT's Strategic Vision](#).

All MnDOT employees are eligible to submit a funding request by completing an application that can be found on [MnDOT's internal Destination Innovation website](#). The application requests details

about the proposed project, including how it fits into MnDOT's Strategic Vision, business benefits, return on investment, and how the project's performance will be evaluated.

The MnDOT Stewardship Council assesses each submitted request for Destination Innovation Funds and approves projects to move forward.

[CTS Research Councils](#)

The [CTS Research Councils](#), hosted by the University of Minnesota's Center for Transportation Studies (CTS), bring together University faculty and staff with practitioners from the public and private sectors to recommend direction for and participate in the Center's programs. The Research Councils focus on the following multidisciplinary topic areas:

- [Transportation and the Economy Council](#)
- [Transportation Safety and Traffic Flow Council](#)
- [Transportation Infrastructure Council](#)
- [Transportation Planning and the Environment Council](#)

Councils meet a minimum of three times per year and are often held in conjunction with [Research Seminars](#). Activities include providing advice during research projects, identifying emerging needs, participating in mechanisms to disseminate research results, and assisting with planning technical tracks of the annual CTS Research Conference.

To become involved as a "friend" of a Research Council, visit the [CTS Councils Web Page](#).

Appendix A: TRB/State DOT Partnership Visits

2012 TRB/STATE DOT PARTNERSHIP VISITS

Purpose of Visits

The primary purpose of a TRB staff visit to the state DOT is to enhance the partnership between the department and TRB. The visit should provide TRB staff with an understanding of the issues and activities of the state DOT to assist TRB in delivering the best service to the department.

It is therefore important that each visit include identification and discussion of the following:

- Problems/issues of current importance to your department which TRB may be able to help address
- Emerging and future problems/issues that TRB needs to address in order to be in a position to continue to provide value to the department
- Suggestions regarding existing and potential TRB programs and activities to assure the best TRB service to your department

Summaries of what has been learned during these visits are published annually in *TRNews*.

These reports, from 1999 to the present, can be accessed at

<http://www.trb.org/Activities/About/FieldVisit.asp>.

Content of Visits

To attain maximum benefit from the visit, the TRB staff and the state representative should work as a team to determine what should be included in the visit. A visit may include some or all of the following:

- Presentation by TRB staff to state DOT personnel providing an overview of TRB programs and services
 - This can be done in advance of the visit via webinar, or on-site during the visit
 - If done via webinar, can include DOT employees outside of the central office
- Meetings between the state representative and TRB staff at the beginning and at the end of the visit
- Short meetings (30-45 minutes) with selected key department personnel. Items to discuss include, but are not limited to:
 - Perceptions within the department on trends, policies, emerging issues, etc.
 - Problem areas -- state, regional, or national -- that need answers through research, synthesis of existing information, specialty conferences, etc.
 - Completed, current, and initiatives/activities of the department
 - Completed, current, and future research projects of the department and TRB
 - More detailed dialogue in the particular area of specialty of the TRB staff member making the visit
- Short meeting with the chief executive officer of the department
- Participation of the TRB staff member in department research peer reviews
- Visits to other key transportation organizations and universities within your state

Steps for Planning the Visit

The success of the TRB state partnership visit program over the past 50+ years can be directly attributed to the combined efforts of the state representatives and TRB staff in carefully planning for the visits. Based on this experience, the following steps are offered to help in planning for a successful visit:

1. The TRB staff usually makes initial contact with the state representative well in advance of the visit
2. TRB staff and the state representative work together to determine any specific objectives for the visit, focus areas, and potential dates for the visit
3. The state representative (or designee) schedules meetings with key department personnel and with the state DOT chief executive officer
 - If desired, schedule a TRB Overview presentation to department staff to take place before or during the visit
 - Meetings with each individual or team are normally scheduled for 30-45 minutes (perhaps longer with professionals in the area of interest of the staff) with a 15 minute break between scheduled meetings
4. The state representative and/or the TRB staff makes arrangements to meet/visit other transportation organizations and universities
5. The state representative and the TRB staff review and finalize the schedule
 - The final schedule should include information on day, time, location, name(s) of people to be visited, and their title
 - Also, a reminder on the purpose of the visit along with the schedule should be provided at least a week in advance to everyone who will be meeting with a request to confirm their participation
6. The TRB state representative provides the TRB staff with any additional items that might be useful, such as parking and sign-in instructions, an organizational chart of the department, and helpful website links containing information on the department and/or its research program

Helping to Assure that the Visit is Mutually Beneficial

It is important that both the state representative and the TRB staff benefit from the visit that justifies the time and effort that went into it. Some ideas that can help to assure this include:

1. Schedule meetings with key department personnel who can best contribute to the objectives and focus of the visit
2. The state representative may choose to accompany the TRB staff on any or all meetings and visits inside and outside of the department. Representatives generally have found this to be a very valuable opportunity to meet with customers and leaders inside and outside of the department.
3. The state representative and the TRB staff meet together at the end of the visit to review what was learned and to check any facts and action items
4. If desired, the TRB staff can provide a short (i.e., one page) written summary for the state representative highlighting what was learned and any resulting action items
5. The state representative can contact the TRB staff throughout the year with any questions or suggestions

Options for 2012

“Mini-Visits”:

A number of states requested TRB staff “mini-visits” for 2012. Characteristics of these “mini-visits” are as follows:

- Length of the visit to the DOT by the TRB staff will comprise one day or less
- The TRB staff will meet with the TRB State Representative, the DOT research staff, and the state DOT CEO
- Any additional meetings or visits by the TRB staff with those inside or outside of the DOT can be arranged by the TRB staff, if desired

Accompanying TRB Staff from CRP or SHRP2:

A number of the states also expressed a desire to also have staff from TRB’s cooperative research programs (CRP) or SHRP 2 programs accompany TRB Technical Activities Division staff on the visits. Tentative assignments of TRB staff from these Divisions have been made based on the preferences submitted by the TRB State Representatives. TRB Technical Activities Division staff will work with the TRB State Representative and other assigned TRB staff to try to select visit dates that will accommodate everyone.

Appendix B: Contracting Options

Mn/DOT Contracting Options

		Timeline and Process (Weeks) to get Contract Established															
Contracting Option	Dollar Value	0	1	2	3	4	5	6	7	8	9	10	11	12	13-24	24+	
			1 month				2 months				3 months				3 months	many months	
Transportation Summary (TS)																	
Mn/DOT Library/Specialty Office	\$2,000	Receive Request	Taylor Review	TS Completed (Actual Work)													
(Contractor - Currently CTC)	\$2,000																
Transportation Synthesis (TRS)																	
Mn/DOT Library/Specialty Office	\$4,000	Receive Request	Taylor Review	TRS Completed													
(Contractor - Currently CTC)	\$4,000																
Mn/DOT Contracting																	
Direct Select (DS) Contract	<\$5,000	Receive Request	Best Start ~2 weeks	Slowest Start ~8 weeks				Contract - depends on tasks									
TRAP Contract (Transportation Research Approved Program)	<\$100,000	Receive Request	Best Start ~3 weeks	Slowest Start ~5 weeks		Contract - depends on tasks											
Full Research Contract (MA) (master agreement list)	<\$100,000	Receive Request	Best Start ~3 weeks	Slowest Start ~5 weeks		Contract - depends on tasks											
	>100K		Best Start ~3 weeks	Slowest Start ~9 weeks				Contract - depends on tasks									
Full Research Contract (RFP) (RFP - Request for Proposal)	<\$100,000	Receive Request	Develop RFP ~2 weeks	Distributed to contractors for proposals ~4 weeks				Review and Approve ~3 weeks (End of Best)	Contract Development for additional 3 to 5 weeks (more at times) ~24 weeks)					Contract			
	>100K		Develop RFP with requestor ~2 weeks	Distributed for proposals ~7 weeks				Review and Approve ~3 weeks	Admin Approval 2 wks (End of Best)	Contract Development for additional 3 to 5 weeks (more at times) ~24 weeks)				Contract			
SPR (pooled fund) Contracting																	
Pooled Fund (PF) (lead state vs. participating as a research partner)	Lead State	Receive Request	Posted Pooled Fund project for other states interest to participate										SPR Funding and contract development	Contract			
	Existing PF	review 4/year	After reviewed and accepted funding moved to project	Shortest time 6 months			Slowest 9-12 months depending on lead agency (note PF projects are multistate longer timeframe projects)				Contract						
Training (LTAP)																	
OPERA Funding for an Idea																	

Notes

Master Agreement List includes		University of MN, ND, WI, IL, Michigan State, NDSU
Request Process	TS Process	Email Linda Taylor with your TS request - She will reply to your request in 1 week. Typical TS take approximately 4 weeks.
	TRS Process	Email Linda Taylor with your TRS request - She will reply to your request in 2 week. Typical TRS take approximately 6-12 weeks.
	DS Process	Get signed quote & Funding Source from requestor - RSS develops contract and work can begin. Contract development time (best 2 weeks - slowest 8 weeks)
	TRAP Process	Get request from funding organization - Supply work plan, TRAP vendor, funding Source to RSS. Contract development time (Best 3 weeks - slowest 5 weeks)
	MA Process	Get request from funding organization - Supply work plan, contractor, Funding Source to RSS. Contract is developed (best 3 weeks - worst 5 but can be slow as 9 weeks - especially if it's over 100,000 for administration approval)
	RFP Process	Get request from funding organization and Funding Source to RSS. RFP developed, distributed, reviewed, approved (12-16 weeks) with RSS then Contract is developed for an additional (5-8 weeks) (best 20 weeks but can be very slow - note 100K requires admin approval (more time)
	PF Process	Pooled fund projects are either existing (other states are the lead) or Minnesota is the lead state. Both require a request that is reviewed quarterly by Mn/DOT and then depending on the states and funding availability timing for participation in the project varies. Mostly for longer termed projects. Contact Deb Fick for more details.

Appendix C: Contracting Rules

Contracting Rules

1. **RS Funded Work Plans and Purchase Requests Come Through the RS Financial Services Section**

It is very important that the work plans and purchase requests that are using funding that Research Services administers come through the RSS Financial Services Section. This ensures that the funding splits are correct on the work plans, purchase requests, and invoices.

2. **Subcontractor amount in contracts**

Per Consultant Services; our general rule of thumb is that the prime Contractor should receive at least 50% of the Contract costs. There are exceptions to this though, depending on the situation (for example, if we're doing a Contract with the U of M for training, but the U is really just assisting and facilitating, while hiring subcontractors to actually develop and deliver the training, it's not unusual for the sub's costs to be greater).

3. **Amendment amount over the contract amount**

We will not double the original contract value without a significant and well documented justification. "Because it is easier than going through the contracting process again" is not an adequate justification. Per Consultant Services; there is no clear answer to this. In some cases, if we know there is a chance there will be future Amendments (for example, if the Contract is for a "Phase I" or pilot, and we think there is a chance of additional Phases), we like to indicate that up front in the original Cert Form and Contract to show that we were thinking proactively, and that there was a potential for an increase in costs and scope from the beginning. As long as there is a truly legitimate reason for the Amendment and increase, we have some flexibility on this.

If a request for an amendment is made on a contract that appears to be a second phase, it may need to be added to the research program RFP so that it competes with other projects.

4. **When to do an amendment? I.E. Scope change, task changes, Phase additions, etc.**

Per Consultant Services;

We do **NOT** need to do a formal Amendment if (we do need a Letter to the File though):

- There are key personnel changes.

- Due dates/Deliverable dates change, but the changes will not affect the expiration date of the Contract.
- If it is a Lump Sum Contract, and the breakdown of costs are being adjusted, but the actual Lump Sum amounts are staying the same.
- If it is a Cost Plus/Hourly Rate/Unit Rate Contract, and there are MINOR adjustments between labor and expenses, but the bottom line, Total Contract Amount, remains the same.

We **DO** need to do a formal Amendment if:

- The expiration date of the contract needs to be extended.
- The Total Contract Amount of the Contract is increasing.
If the Contract is a Lump Sum Contract, we should do an Amendment if the lump sum amounts increase OR decrease. Since a “lump sum is a lump sum” ...if the costs decrease, we should do an Amendment or they are still technically allowed that full Lump Sum amount.
- If the scope of work has a significant change, even if it doesn’t change the cost of the Contract (for example, if a research Contract completes the initial task(s), then the research takes on a different direction, the remaining tasks should be adjusted to describe the revised project intent).

5. **Last task (Final Report) has to be 5% of budget**

Task x: Draft Final Report: A draft final report will be prepared, following the MnDOT publication guidelines, to document project activities, findings, and recommendations. This report will be submitted through the publication process for technical and editorial review.

Deliverable: Draft final report

Duration: x months

Task x: Final Report Completion: During this task, technical and editorial comments from the review process are incorporated into the document as appropriate. Reviewers will be consulted for clarification or discussion of comments. A revised final report will be prepared and submitted for publication.

Deliverable: Final report

Duration: 4 months

6. **Request for Proposals (RFPs)**

Per Consultant Services, when a Request for Proposal (RFP) is posted, no contact with any contractors is to occur because it may disqualify them from bidding on the contract.

The language in the RFP is as follows:

Responders who have any questions regarding this RFP must submit questions by e-mail only to: **Ashley Duran, Contract Administrator** ashley.duran@state.mn.us (or **Melissa McGinnis**)

All questions and answers will be posted on MnDOT's Consultant Services Web Page at <http://www.dot.state.mn.us/consult/index.html> under the "P/T Notices" section. All prospective responders will be responsible for checking the web page for any addendums to this RFP and any questions that have been answered. **Note that questions will be posted verbatim as submitted.**

No other department personnel are allowed to discuss the RFP before the proposal submission deadline. Contact regarding this RFP with any personnel not listed above may result in disqualification.

7. When Developing A Work Plan, Keep the Cost in Mind

Per Consultant Services, when developing a work plan MnDOT's internal staff needs to have a decent handle on how much a project should cost. This is very important, and Cost Estimating and Management is a huge push within the department right now. If a project manager has any inkling that a cost may exceed the \$100K threshold for the TRAP Program, they need to utilize the RFP route right away...it's better to be safe than sorry.

Things do happen though. If while finalizing a scope and budget for a Contract, the costs begin to exceed that threshold, communication should stop at that point, and we should begin the RFP process. It does not disqualify that company from responding, but I think they should indicate their scope involvement on the conflict of interest when they submit their proposal. That would then be reviewed by the Contract Management office to make sure the conflict is not a deal breaker.

8. What are the rules or state statute about Purchase Orders being separate from a contract or can they be a task in the contract?

Per Jim Cownie; the general rule is that equipment and other goods can be purchased as part of a professional/technical (p/t) services contract only when "incidental" to the p/t services or as otherwise approved by the Commissioner of Administration. There are no hard and fast rules defining "incidental". Things that are a small percentage of the contract value (e.g. some printing of reports) will generally be viewed as incidental, while more expensive purchases are determined on a case-by-case basis. The Department of Administration recommends that agencies acquire equipment and goods separately wherever feasible, for example by using a Purchase Order for specialized equipment instead of having it be a part of a contract, especially if it is available on an existing state contract. Significant equipment purchases have been allowed as part of

p/t contracts; however, those have generally involved situations where the contractor is making a recommendation about or developing the specifications for the equipment and is responsible for installing, configuring, integrating, or optimizing the equipment. When these issues come up Jim Cownie and Consultant Services will talk with the Department of Administration to determine the best approach.

9. Work plan from lab and contract with university/consultant are separate

Some projects are funded to the Maplewood Lab and to a university or consultant. In these situations, the Maplewood Lab would have an Intragency Agreement (workplan) with the lab as the PI and a contract would be created with the university/consultant and the lab would be the TL.

10. Justification for Contracts Over 2 years

Per Consultant Services; this is a Department of Administration requirement on the Certification Form. No Contract can exceed 5 years total, but if a Contract initially exceeds 2 years, they require a justification. For Research Contracts, this is typically pretty easy as it's usually because the research needs to be conducted over several "seasons".

11. New dates for tasks for amendments

Per Consultant Services; if we are doing a time extension and/or amending the project schedule the entire schedule needs to be updated, whether the tasks are complete or not at the time. We need to know the accurate and/or new start and end dates for tasks so the Amendment can be done properly.

If a task is late in a contract and it crosses fiscal year and it doesn't change the end date of the contract then it is a letter to the file, not an amendment. The money will be de-encumbered for one fiscal year and encumbered under the next fiscal year.

12. Prepayments

Per the Minnesota Management & Budget and Department of Administration MAPS Policy and Procedures; Number 0803-01: Agencies shall not authorize a payment to be made unless the service has been performed, the goods or materials received, or the monthly telephone service was in effect, in accordance with Minnesota Statute 16A.41. Minnesota Statute 16A.065 authorizes prepayment for the following:

- Software and software maintenance services;
- Sole source maintenance agreements where it is not cost-effective to pay in arrears;

- Exhibit booth space or boat slip rental to guarantee availability of space;
- Registration fees when advance payment is required or when an advance payment discount is offered;
- Newspaper, magazine and other subscription fees customarily paid in advance: and,
- Items purchased from the Library of Congress or Supervisor of Documents.

MMB Prepayment Policy Guidelines:

- Space rental – pay according to agreement/contract terms and conditions.
- Airline tickets – standard practice is to pay for airline tickets when the reservation is made.
- Hotel rooms – it is acceptable to pay for the first night’s lodging to reserve the room.
- Licenses – these will be approved on a case-by-case bases by the Director of Agency Support
- Prepayments funded from one fiscal year for a service period that crosses fiscal years is limited to:
 - \$10,000 for computer maintenance and licenses
 - \$1,000 for all other services

Minnesota Statutes 2010

16A.065 PREPAY SOFTWARE, SUBSCRIPTIONS, UNITED STATES DOCUMENTS

Notwithstanding section 16A.41, subdivision 1, the commissioner may allow an agency to make advance deposits or payment for software or software maintenance services for state-owned or leased electronic data processing equipment, for sole source maintenance agreements where it is not cost-effective to pay in arrears, for exhibit booth space or boat slip rental when required by the renter to guarantee the availability of space, for registration fees where advance payment is required or advance payment discount is provided, and for newspaper, magazine, and other subscription fees customarily paid for in advance. The commissioner may also allow advance deposits by any department with the Library of Congress and federal Supervisor of Documents for items to be purchased from these federal agencies.

16A.41, Minnesota Statutes 2007

16A.41 CLAIMS AGAINST STATE

Subdivision 1. **Certified.** Except as provided in subdivision 1a, when claims against the state are made for which there is an appropriation available, an official with authority to pay a claim shall approve the claim by certifying that the service was performed, the goods or material furnished, or monthly telephone service is in

effect. The claim must be sent to the commissioner accompanied by a transmittal form as prescribed by the commissioner.

Subd. 1a. **Exception to certification.** When a claim against the state is made by a county, municipality, or other governmental subdivision, under an agreement with the commissioner of transportation, and that agreement provides for payment of the state's contractual obligations before commencing the work, certification that the series have been performed or that the goods or materials have been furnished is not required as a prerequisite to payment of the claim.

Subd. 2. **Declaration.** The commissioner may require a claimant to declare that the claim and its amount are just and correct and that no part of it has been paid. The following form may be used:

"I declare under the penalties of perjury that this claim is just and correct and that no part of it has been paid.

Signature of Claimant."

Subd. 3. **Declaration same as oath.** To sign the declaration in subdivision 2 is the same as to sign and swear under oath.

13. Equipment money amount: in contract and rules about getting equipment back.

Per Jim Cownie: There isn't a state law directly on topic. There is a state law that says a professional/ technical services contract can't include purchase of equipment except as "incidental" to the contract or except with approval of Commissioner of Administration (Minnesota Statutes section 16C.08 subd. 1). The purpose of that is to avoid using consultants to procure things that the state should really procure for itself using a competitive bidding process.

In those cases where equipment or supplies will be procured under a P/T contract, they are generally noted in MnDOT's pre-award audits. Contract Administrators are directed to contact Contract Management to develop suitable contract clauses dealing with things such as ownership after project completion, and risk of loss during the project. For work orders where a pre-award audit isn't done, we try to send periodic reminders for contract administrators to contact us when this comes up.

Not all equipment/supplies are equal of course. For consumable/expendable types of supplies, we generally don't worry about them. This is, at least to some extent, where computers fall. Computers seem to become obsolete so fast that there's no real residual value after two or three years, so we probably don't want a two or three year old computer back. If you have something like a piece of surveying equipment, for

example, we would probably want to take ownership of that equipment once the contract is up, and the contract should be drafted accordingly. Some judgment and discretion needs to be used, and I think this falls more into the category of a best practice than a state law or department policy.

14. What are the rules or state statutes for State funding, for Local funding, for Federal funding concerning research? For example, at one point there was a rule that we couldn't use state funding for research that we did with the Maplewood Materials Lab because we couldn't use state funding to pay for other MnDOT salaries. Is that a rule, is it still a rule, etc?

Per Warren Skallman; for federal funds they should refer to the agreement entered into with the federal government to determine eligibility. For state funds it would depend on the appropriation that is being used to pay for the state research as well as the any related agreement to determine eligibility. I'm not aware of one place that would provide all the "rules" for research.

15. COPTRS funding is for U of M only (or associated universities)

The level of funding is provided by legislative action.

16. Partnership Agreement Process

A Partnership Agreement is an a agreement with a public or private entity for research, experimentation, sharing of facilities or staff, or other cooperative programs that promote efficiencies in providing governmental services or that further development of innovation in transportation. The most notable feature of a Partnership Agreement is that it provides for establishment of a "dedicated receipts" fund, whereby any funds received under the agreement are designated and appropriated for the purposes of the project covered by the agreement. MnDOT has primarily used these agreements for joint facilities with local agencies, but has used the process for a variety of other short and long-term projects as well (for example, District One receives money to provide traffic control for Grandma's Marathon). If you are wondering whether a partnership may be appropriate for your project, please contact Jim Cownie or Lisa Ackerman.

Effective immediately, all Partnership Proposals should be submitted to the Contract Management Section. The routing and approval process for Partnership Proposals will be coordinated by Susan Berndt (Mail Stop 130; phone 651-366-3009). The Partnership Proposal form will be available on the Contract Management IHub site at:

<http://ihub.dot.state.mn.us/contracts/ContractManagement-ContractDocuments.html>
under Local Agency Partnership Contracts [Show/Hide].

Partnership Agreements will be drafted by the Contract Management Section, in coordination with the project manager.

Partnerships have moved beyond being used solely for maintenance facilities. In addition, each partnership has unique legal issues and contract drafting concerns. We believe that the partnership process is better aligned with the services provided by Contract Management, and will result in enhanced service to our customers.

Laurie Homberg, Finance, sets up the partnership accounts in MAPS. Refer to the Minnesota State Statutes 174.02.

17. Annual Plan Agreement

This is used when MnDOT does not have staff with the required skills or training (speakers, trainers, expert witnesses). This is limited to \$5,000 per contractor per fiscal year.

18. Interagency Agreement

This is an agreement to be used for services between MnDOT and other state agencies and between MnDOT and MnSCU colleges providing training services to MnDOT. This does not include the University of Minnesota or the Met Council.

19. Intragency Agreement

This is an agreement (work plan) used between MnDOT Offices.

20. Joint Powers Agreement

This contract is used between MnDOT and other public agencies that are non-state agencies.

21. Payment of Services From One Fiscal Year to Another

Per Consultant Services, the policy that gives guidance regarding payment of services from one fiscal year to another states that “If the service that is being performed crosses two fiscal years, agencies will request an invoice from the vendor for the services rendered up to June 30. Services rendered after June 30 must be paid from the subsequent fiscal year’s funds (this requirement applies to non-continuing appropriates and appropriation that have an end date of the closing year.) This is on page 8 of the Minnesota Administrative Systems “Payment Processing Guidelines”.

22. When Research Finance creates a Requisition Packet and then CSS posts and coordinates the RFP, CSS automatically creates the contract after the consultant is

selected. The Roadmap Managers want to be in the loop on the work plan/contract creation. In the Requisition Packet for the RFP, can we list who the Roadmap Manager is so they can be in the loop when the work plan/contract is created or is there a different way that you would suggest? Consultant Services prefers to have Becky and Carole be the contact person during the time that the RFP is issued and the contract is executed. The Roadmap Manager can be listed in the RFP Requisition Packet so when the work plan is being developed into a contract that the Roadmap Manager is involved.

23. Can the Roadmap Managers get an estimate from a consultant on the TRAP list for a work plan, then bring it to the TRIG board for approval, in which it may or may not get funded? Consultant Services says “Yes” they can get an estimate from a consultant on the TRAP list, but they need to tell the TRAP consultant that they may not get funded.

24. Can we go to more than one consultant on the TRAP list for the same project to get comparisons? Consultant Services say that we are allowed to contact a couple firms on the TRAP list at the same time to see if there’s a good fit; however, there should not be a discussion of the cost. Then choose the firm that best fits the project, than cost can be negotiated.

25. Master Agreement and TRAP RFPs

Nobody in MnDOT, other than the contract administrator is allowed to have contact with potential responders, as contact with other MnDOT personnel regarding a potential project (or program) during the RFP development and posting period is grounds for rejecting their proposal. Contract Administrators are not allowed to verbally discuss an RFP, in person or via phone, with the public. We really are discouraged from even direct mailing RFP’s. We are instructed to provide potential responders with a link to our website, where we post the RFP’s, and let them know we have posted a project they may be interested in. And, that is what was done for the Master Program.

26. Work on Contracts Cannot Be Started Until They Are Fully Executed; 16/A/C or 16C Violation

Per Consultant Services; if work begins before a Contract is encumbered OR executed, a 16A/C is required. If the Contract is encumbered, but work begins before the Contract is executed, just a 16C is required. If work continues once a Contract is expired, but before an Amendment executed, the same rules apply.

Per Contracts Management, the language in the 16a/16c violations forms are below. These forms are required to be filled out if work starts on a contract either before the contract is encumbered or before the contract is executed (all signatures obtained).

Generally Universities (or any contractor) run the risk of non-payment for work performed if work is started prior to these two things happening.

Below are the two statutes forbidding the start of work before the contract is signed and they are as follows:

Minnesota Statutes §16A.15, subdivision 3 (emphasis added).

Allotment and Encumbrance

A payment may not be made without prior obligation. An obligation may not be incurred against any fund, allotment or appropriation unless the commissioner [of finance] has certified a sufficient unencumbered balance or the accounting system shows sufficient allotment or encumbrance balance in the fund, allotment or appropriation to meet it. An expenditure or obligation authorized or incurred in violation of this chapter is invalid and ineligible for payment until made valid. A payment made in violation of this chapter is illegal. An employee authorizing or making the payment, or taking part in it, and a person receiving any part of the payment, are jointly and severally liable to the state for the amount paid or received. If an employee knowingly incurs an obligation or authorizes or makes an expenditure in violation of this chapter or takes part in the violation, the violation is just cause for the employee's removal by the appointing authority or by the governor if an appointing authority other than the governor fails to do so. A claim presented against an appropriation without prior allotment or encumbrance may be made valid on investment, review and approval by the commissioner [of finance], if the services, materials or supplies to be paid for were actually furnished in good faith without collusion and without intent to defraud.

Minnesota Statutes §16C.05, subdivision 2 (emphasis added)

Creation and Validity of Contracts

A Contract is not valid, the state is not bound by it and no agency, without the prior written approval of the commissioner, granted pursuant to Subdivision 2A, may authorize work to being on it, unless:

1. It has first been executed by the head of the agency or a delegate who is a party to the Contract;
2. It has been approved by the commissioner [of administration];
3. The accounting system shows an encumbrance for the amount of the Contract liability.

Appendix D: University Master Contracts & TRAP Certified List (2011)

MnDOT Research Services – University Master Agreements

- Iowa State University
- Montana State University (Western Transportation Institute)
- Marquette University
- University of Minnesota
- The Texas A&M University System(Texas Transportation Institute)

*NOTE: Universities are selected for master agreements via an RFP process conducted by MnDOT approximately every five years. Work orders outlining project-specific scope, tasks, and budget are created under these master agreements.

Transportation Research Assistance Program Certified List Program 2011

Firm	Category 1 Research Technical Writing & Editing	Category 2 Research Marketing & Technical Transfer Activities	Category 3 Research Event Coordination	Category 4 Research Program Support	Category 5 Outreach & Research Data Information
American Engineering Testing, Inc.		X			X
Athey Creek Consultants, LLC	X			X	X
Bolton & Menk, Inc.		X			X
Braun Intertec Corporation	X	X			X
CH2M Hill, Inc.	X	X	X	X	X
CTC & Associates, LLC	X	X	X	X	X
David M. Johnson		X		X	X
EVS, Inc.	X	X	X	X	X
Greenway International Consulting LLC <i>(dba Greenway Transportation Planning)</i>	X	X		X	X
HNTB Corporation	X	X			X
The Improve Group, Inc.	X	X		X	
Law Library Consultants, Inc	X	X	X		
Maxine M. Ruiz				X	
Olson & Nesvold Engineers, P.S.C.		X		X	X
Pavia Systems, Inc.	X	X			X
Professional Engineering Services, Ltd.	X	X			X
Richard L. Kronick	X	X		X	X
SRF Consulting Group, Inc.	X	X			X
Stantec Consulting Services, Inc.	X	X	X		X
Stonebrooke Engineering, Inc.		X	X		X
Weber Community Planning, LTD.	X	X	X		
Wenck Associates, Inc.	X	X	X	X	X

Last Updated 01/22/2013

Appendix E: Research & Implementation Project Guidelines for SP&R Program

Research & Implementation Project Guidelines for SP&R Program

Mn/DOT's research program is funded through the SP&R Part-II Research Program with state research dollars as matching funds. Eligible proposals meeting the requirements are funded at 80/20 split. Proposals not meeting SP&R eligibility requirements may be funded with reduced federal participation or entirely by state research funds based on recommendation from local FHWA in consultation with Research Services. Below lays out the eligibility requirement for the Implementation Program:

1. Address a Transportation Problem or Need

The proposal needs to clearly state the transportation problem being solved or need that is being satisfied

2. Research Link

The Implementation proposal needs to include a reference link to national, state or local research project that has been completed. If the reference link is not provided this could reduce SP&R participation. Examples of research can be linked to any of the following federal, state or local programs:

- a. Federal Program
 - i. NCHRP project or other Federal Cooperative Research Programs
 - ii. SP&R Pooled Fund Project (Mn/DOT may be the lead state or Mn/DOT may be a participating state))
 - iii. SP&R Minnesota single-state research project
- b. State Research
 - i. Mn/DOT Research Project through UofMN or MnSCU
 - ii. Other State DOT Research Project
 - iii. Intelligent Transportation System (ITS) or MN Guidestar Program
 - iv. Mn/DOT's Maintenance New Technology Research and Equipment Committee (NTREC) program
 - v. Mn/DOT's Cold Weather Test Facility - MnROAD
- c. Local Research
 - i. Local Road Research Board (LRRB) research projects

3. Demonstrate Application for department

The proposal needs to indicate how the results of the implementation project will be used or applied within the department. If possible, state how the results could lead to full implementation in day-to-day practice and whether there is commitment to support implementation statewide.

4. Internal Champions

Successful implementation projects need to have a management champion (usually a DE, ADE or Office Director) and a key Mn/DOT practitioner to lead the project.

Research & Implementation Project Guidelines for SP&R Program

5. Other Considerations:

Equipment purchases

- a. Equipment requests should be kept to a minimum and only includes items necessary to support the implementation project.
- b. SP&R funds may be used as seed money to demonstrate the viability of the equipment. Pilot project proposed should be limited to a specific area or location.
- c. Not intended as a funding source for full deployment of equipment through the state.
- d. Can't be used to supplement a District equipment budget.

6. Construction Project

- a. Extremely difficult to use research dollar to fund construction projects.
- b. Construction project has to be federally authorized, included in the STIP and comply with Federal requirements.
- c. Only the cost differentials between a standard approach and innovative approach may be funded through the SP&R program.

There is unofficial FHWA guidance, but eligibility for SP&R can be somewhat subjective and may be evaluated by the FHWA area engineer on a case-by-case basis.

SP&R funds can also be used for single-state research (non-implementation) projects leading to implementable results. As a general rule, RSS has the accounting systems in place to direct this type of funding for single-state research projects only to the Office of Materials and Road Research.

Appendix F: Transportation Research Synthesis – Quick-turnaround information for MnDOT and LRRB



Minnesota Department of Transportation
RESEARCH SERVICES

TRANSPORTATION RESEARCH SYNTHESIS

Quick-turnaround information for MnDOT and **LRRB**

LOCAL
ROAD RESEARCH
BOARD

What is a TRS?



- A synthesis of technical and/or policy information on a specific topic that you have requested.
- Two types: 1) Summary of completed and in-progress research or 2) Report on the state of practice among DOTs nationwide.
- Identifies innovations, recent trends, best practices and federal guidance.
- Based on state, national and international sources, including interviews with experts.
- Clearly written and organized for you to digest and apply.

Recent TRS topics

- Use of social media
- Bridge deck cracking
- Estimating non-auto mode share
- Small MPO funding estimates
- Snowplow blades
- 24-hr headlight use
- Distance-based road user fees
- Unpaving roads
- Survey and right of way data
- Project management software

See the [TRS web page](#).

How can a TRS help me?

- Investigate a problem without starting from scratch.
- Find out what other state DOTs are doing: designs, specifications, manuals, procedures.
- Review the latest and greatest on any issue that affects state DOTs.
- Receive a clear, concise report with all of the relevant findings, contact names and web links in one place.
- Save yourself a bunch of time.

To request a TRS

Contact Shirlee Sherkow
at 651-366-3783 or
shirlee.sherkow@state.mn.us

Call today and get your report
in *four to eight weeks!*

[TRS Request Form](#)

Appendix G: AASHTO-RAC Listserv Guidelines

Guidelines for RAC Surveys

The AASHTO-RAC listserv can be utilized to solicit information from other state DOT representatives regarding practices, policies, specifications, etc.

Once completed, the surveys and survey results can be posted in the RAC Survey Results database at <http://research.transportation.org/Pages/RACSurveyResults.aspx>.

Below are some general guidelines to assist you in putting together an effective survey and distributing it to other DOT representatives. For more detail on developing a survey instrument, see the following guidelines: http://lap.umd.edu/survey_design/questionnaires.html.

1. For the E-mail survey notice, it is recommended that you include the topic being surveyed and the due date in the Subject line.
2. Provide the context—include a brief summary of the problem that the DOT is facing.
3. Reference the specific topic area within the DOT that should respond to the survey so that the Research Director can forward the survey to the appropriate person.
4. Indicate the length of time it should take to complete the survey (try to limit surveys to 5-10 minutes maximum).
5. Limit the number of questions to a reasonable amount (<12 if possible).
6. Pilot test the questionnaire within your organization to ensure you are capturing the pertinent information.
7. Include a contact name and information for the person conducting the survey so he/she can field questions and collect survey results.
8. Utilize an automated survey system if possible (such as Survey Monkey) to capture the information electronically. Provide the website link of the survey then verify that the link works prior to sending out the survey email. **NOTE:** Particularly when using web-based survey instruments, don't force an answer to every question. Some RAC members prefer to read through the complete survey to determine the appropriate person in their organization to answer the survey questions; if they can't skip questions, they may decide not to respond to the survey.
9. Indicate a survey completion date that would allow a reasonable time for the Research Director to distribute the survey internally and get the survey completed and returned (consider 1-2 weeks turn-around time).
10. Request basic information about the individual filling out the survey, including name, organization, and contact information. This will allow you to follow-up on specific questions or to request additional information when needed.
11. Provide the individual with the option to attach documents such as PDF files if needed.
12. To optimize feedback, it is highly recommended that you send out a reminder note one week prior to the due date that indicates the state(s) that have responded and when survey is due.
13. Once the survey is completed, the survey results should be forwarded to Natassja Linzau (nlinzau@nas.edu) for posting on the SCOR/RAC website. Natassja—or the state Research Director—can then announce the availability of the results to the AASHTO-RAC listserv, with a thank you note to the participating states for responding to the survey.