

POLICIES AND PROCEDURES NEW ENGLAND TRANSPORTATION CONSORTIUM April 2002

Updated

- **December 2011**
- **March 2015**
- **April 2016**
- **November 2016**
- **December 2017**

Table of Contents

I. INTRODUCTION	4
II. NETC PROCESS	4
A. NETC GOALS	4
B. NETC VISION	5
C. NETC MISSION	5
D. NETC MEMBERSHIP	5
III. AUTHORITY	5
IV. ORGANIZATION	9
A. POLICY COMMITTEE	9
B. ADVISORY COMMITTEE	9
C. TECHNICAL COMMITTEES	12
D. ADMINISTRATIVE MANAGEMENT	12
V. ORDER OF BUSINESS FOR ADVISORY COMMITTEE MEETING	15
VI. FINANCIAL REPORT	16
VII. REPORTS	16
A. NETC PROGRAM QUARTERLY PROGRESS REPORTS FOR TPF (SEE APPENDIX A-9 FOR FORMAT)	16
B. RESEARCH PROJECT REPORTS (SEE APPENDIX A-8- FOR FORMAT)	16
C. ANNUAL FINANCIAL REPORT	17
VIII. RESEARCH PROPOSALS	17
A. PROBLEM STATEMENT	17
B. REQUEST FOR PROPOSALS	17
C. RESEARCH PROPOSALS	18
D. APPROVAL OF RESEARCH PROPOSALS	19
E. MODIFICATIONS OF PROPOSALS OR WORK PLANS	19
F. AUTHORIZED TRAVEL AND ALLOWABLE COSTS	19
IX. PATENTS, COPYRIGHTS AND OTHER OWNERSHIP RIGHTS	19
X. CHANGES IN NETC POLICY AND PROCEDURES	20
XI. APPENDICES	20
A-1 DEFINITIONS	21
A-2 MEMORANDUM OF UNDERSTANDING	23
A-3 RESEARCH PROBLEM STATEMENT FORMAT	27
A-4 PROCEDURE FOR SELECTING PROBLEM STATEMENTS TO BE DEVELOPED INTO RFPs	29

A-5	GUIDELINES FOR THE FORMATION OF NETC TECHNICAL COMMITTEES	30
A-6	SCOPE OF WORK FORMAT	32
A-7	PROPOSAL EVALUATION GUIDELINES	34
A-8	PROCEDURE FOR FINALIZING AND FORMAT OF THE FINAL REPORT	36
A-9	QUARTERLY PROGRESS REPORT FORMAT	41
A-10	TYPICAL SCHEDULE OF PROGRAM YEAR ACTIVITIES	42
A-11	DISTRIBUTION LIST FOR FINAL REPORTS	44
FIGURE 1:	SCHEMATIC OF ANNUAL NETC PROCESS	6
FIGURE 2:	ESTIMATED TIME FRAME FOR ANNUAL NETC PROCESS	7
FIGURE 3:	SCHEMATIC OF NETC QUICK RESPONSE PROCESS	8
FIGURE 4:	NETC ORGANIZATIONAL CHART	11

POLICIES AND PROCEDURES NEW ENGLAND TRANSPORTATION CONSORTIUM (NETC)

I. INTRODUCTION

The NETC was formed as a regional approach to develop innovative solutions to common transportation problems among the New England states. Its purpose is to pool the financial, professional and academic resources of the region and to use them to research and develop improved methods of dealing with common problems in the planning, design, construction, maintenance, rehabilitation, reconstruction, and operation of transportation systems in the participating states. The program is intended to supplement, not to replace, ongoing state and federal research activities and other national programs such as the National Cooperative Highway Research Program (NCHRP). To this end, a Memorandum of Understanding establishing NETC has been consummated. It is appended hereto.

II. NETC PROCESS

The changing needs of society, as reflected in its transportation needs, rise and fall rapidly. With the recognition of the urgency to address these needs, the NETC program was conceived to function on a rolling and annual basis. Figures 1 and 2 set forth: (1) the NETC Annual Process; and, (2) an annual time frame for completing this process. Figure 3 sets forth the NETC Quick Response Process, which functions on a rolling basis. The NETC Process is not static, its activities and studies are dynamic and designed to address the wide range of needs facing the transportation community. Changes may be instituted at any time as recognized in Section X. Its Goals and Membership, which follow, present a commitment to excellence unparalleled.

A. NETC Goals

The following goals were established for NETC in order to focus the resolve of participating state transportation agencies and universities:

- Addressing transportation needs specific to the New England region through a process of collaboration and networking of DOTs and academic & research professionals.
- Delivering a program for the New England region consisting of research and implementation, this includes technology development & transfer, and related education & training.
- Providing a responsive, efficient, and accountable research program.

B. NETC Vision

To be the research program of choice to solve New England regional transportation problems.

C. NETC Mission

To develop and implement innovative solutions to transportation problems relevant to New England states that improves the performance of our agencies.

D. NETC Membership

NETC membership now extends to the six New England state departments of transportation and Ex-Officio membership to the Federal Highway Administration. They are:

- Connecticut Department of Transportation
- Massachusetts Department of Transportation
- Maine Department of Transportation
- New Hampshire Department of Transportation
- Rhode Island Department of Transportation
- Vermont Agency of Transportation
- Federal Highway Administration, Ex-officio

Each of the member Departments of Transportation has designated a university, usually a state land-grant university, to participate with the Department of Transportation in molding an effective program of Research and Development. The following state universities have been so designated:

- University of Connecticut; Storrs; CT
- University of Maine; Orono, ME
- University of Massachusetts; Amherst, MA
- University of New Hampshire; Durham; NH
- University of Rhode Island; Kingston, RI
- University of Vermont; Burlington, VT

In addition, NETC will call upon other universities or research organizations (both public and private), as deemed appropriate, in order to achieve its goals and those of its member states.

The following pages set forth the organization and management structure and activities and are designed to achieve the goals set forth by the NETC membership.

III. AUTHORITY

The current federal-aid highway legislation contains provisions for states to pool resources to address various Research and Development needs. This authority, Federal Grant and Cooperative Agreement Act (GCA) of 1977, as amended, Section 6300, et. seq., of Title 31, United States Code (U.S.C.) is the administrative and legal tool for the establishment and continuation of Consortium activities and programs. Each state has similar enabling legislation that addresses the designated contracting procedures of the member states.

FIGURE 1: SCHEMATIC OF ANNUAL NETC PROCESS

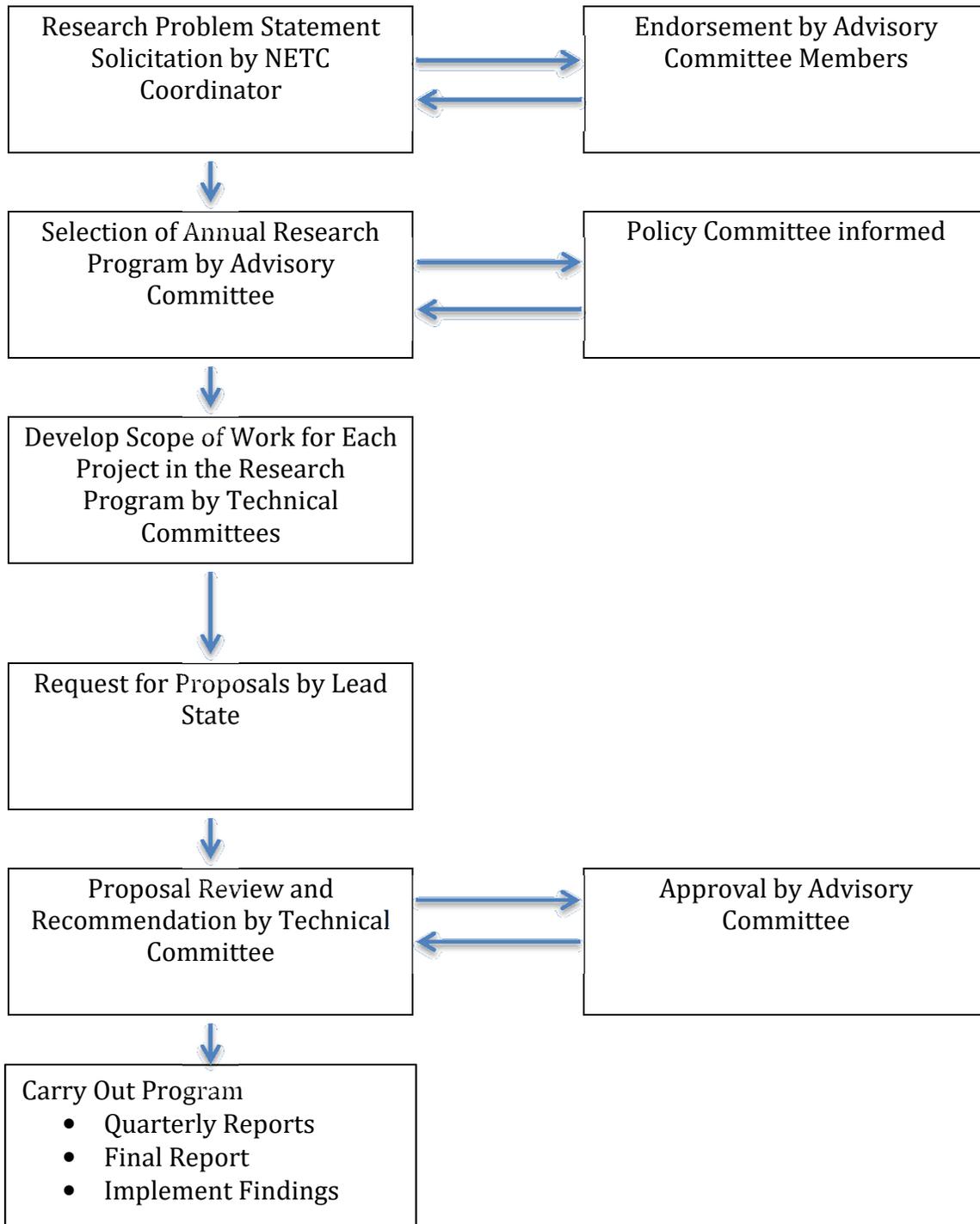
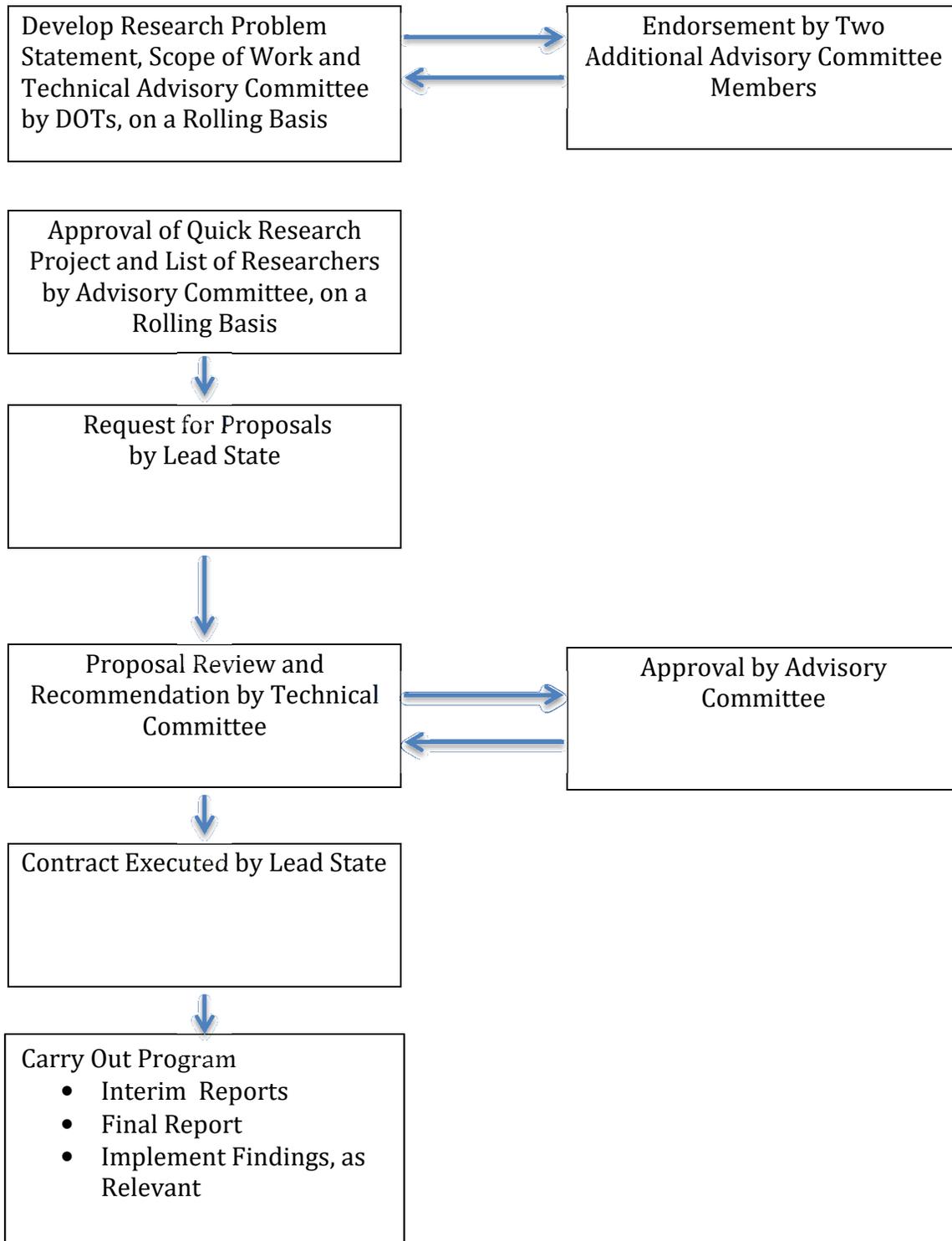


FIGURE 2: ESTIMATED SCHEDULE FOR ANNUAL NETC PROJECT SELECTION PROCESS

NOVEMBER:	Coordinator solicits Research Problem Statements that require endorsement by the State DOT representatives to the Advisory Committee
JANUARY:	Deadline for Coordinator's receipt of Research Problem Statements from the State DOT representatives to NETC Advisory Committee
MARCH:	Deadline for receipt of Literature Search results for Research Problem Statements by endorsing state transportation department
APRIL:	Advisory Committee selects Research Problem Statements to be recommended for the Research Program of the upcoming Federal fiscal year and those to be submitted to the National Cooperative Highway Research Program as "NETC-sponsored"
MAY:	Policy Committee is informed on the Research Program recommended by Advisory Committee for the upcoming Federal fiscal year.
JUNE:	Project Technical Committees formed to develop Scopes of Work
AUGUST:	Lead State reviews Scopes of Work and issues RFPs
OCTOBER:	Deadline for receipt of Proposals. Coordinator distributes Proposals to Project Technical Committees for evaluation and recommendation of award.
JANUARY:	Advisory Committee to approve funding for changes in budget and scope of research projects
JAN - MARCH:	Research project agreements executed and projects start

FIGURE 3: SCHEMATIC OF NETC QUICK RESPONSE PROCESS



IV. ORGANIZATION

The basic organizational structure of the NETC is established in the Memorandum of Understanding signed by the Chief Administrative Officers of the participating New England states and FHWA (see Appendix). Following is a brief description of the functions and responsibilities of each of the Committees. The organization is shown in Figure 4. Changes to the Memorandum of Understanding are by majority vote of the Policy Committee.

A. Policy Committee

The NETC will operate under the governance of the Policy Committee, which consists of the Chief Administrative Officials (CAO) from the six state transportation agencies. FHWA shall designate an Ex-Officio member.

The primary functions of the Policy Committee shall be to intercede with regional priorities or critical issues, support the research, development, and implementation needs to be addressed by the Consortium; stay attentive to the annual program developed in conjunction with the Advisory and Technical Committees; and acquire/provide funding to carry out the Program. Functions of the Policy Committee can be revised, added, or deleted, as it deems appropriate.

B. Advisory Committee

The Advisory Committee shall meet as often as appropriate. It shall provide direct and continuous liaison among the Policy Committee, the Technical Committees, and management of the NETC. The primary functions of the Advisory Committee will be to: provide funding for the NETC; solicit specific research needs; accept direction from the Policy Committee on critical issues, implementation needs and opportunities; develop and inform to the Policy Committee an annual work program; review and approve quick response research projects on a rolling basis; provide boundaries of research breadth; provide resources for Technical Committee assignments; continuously monitor progress of research progress and implementation; and carry out the directions from the Policy Committee.

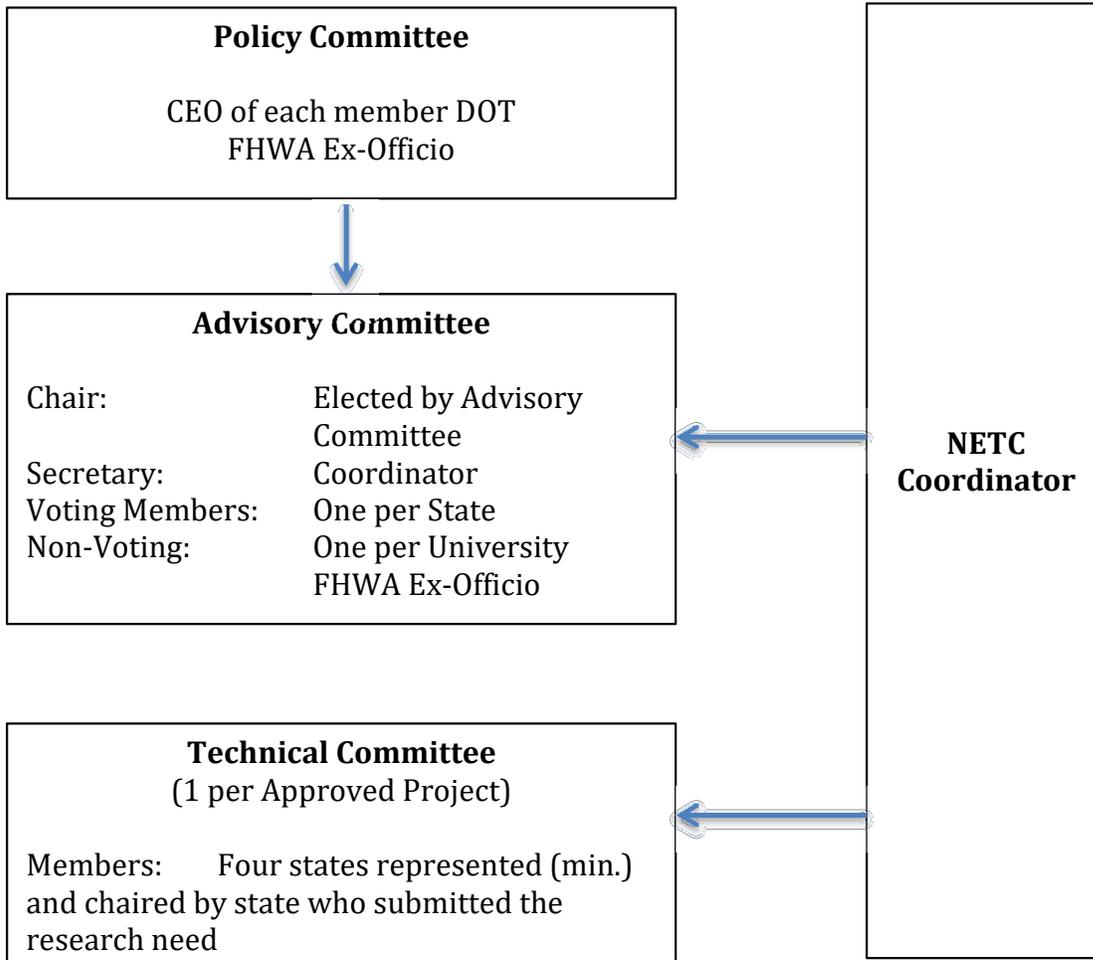
Each university will be invited to appoint, with input from the State member, one person to the Advisory Committee as a technical resource. The service term of the appointed university representative shall be limited to three years, with an unlimited option to reappoint the same representative. This appointee shall have no voting rights on the Advisory Committee. The University's role will be to provide advice and counsel on the worthiness of the needs perceived by the participating states. These activities are envisioned to be but not limited to: promoting NETC activities at their respective universities; encouraging researchers to work closely with DOT representatives to develop Research Problem Statements; focusing attention on researchable needs; presenting new technologies and emerging trends for consideration; providing guidance on the course of current and proposed work; provide a university perspective

at Advisory Committee meetings; assisting in implementing research results; mentoring future university representatives to the Advisory Committee; facilitating communication with researchers, as needed; and providing input on Consortium activities undertaken.

The Advisory Committee shall recommend a state whose personnel shall function as lead agency for the Consortium. The lead state shall provide needed management, contracting, and invoicing functions and activities for the Consortium. The lead state shall be selected by consensus of the Advisory Committee. The coordinator shall be selected from proposals solicited from interested organizations. The Coordinator shall act as the secretary of NETC Advisory Committee.

The term of office for the Chair of the Advisory Committee shall be two years commencing on July 1 of the years ending in an even number.

FIGURE 4: NETC ORGANIZATIONAL CHART



C. Technical Committees

For each project undertaken by the NETC, a Technical Committee member will be nominated by each member DOT and approved by the NETC Advisory Committee to guide the technical aspects of the research project activities. The Technical Committees shall consist of at least one representative from a minimum of four states having technical knowledge and expertise in the subjects being studied. A quorum of three voting members is required for conducting business of the Technical Committee.

For NETC Quick Response Projects, the Technical Committee, approved by the Advisory Committee, shall consist of at least one person from no less than three states, technically knowledgeable of the subjects being studied. A quorum of two voting members is required for conducting business of the Technical Committee.

States may have multiple members on the Technical Committee, but may only exercise one vote. Other individuals may be added to the Technical Committee, if deemed appropriate and approved by the Advisory Committee. A state may designate an alternate individual to represent them as a voting member. The duties of the Technical Committee under the procedural and administrative guidance of the NETC Coordinator include:

- 1) Preparation of the scope of work to be undertaken. Recommending additional research organizations to receive RFP's (other than the Universities named in Section II;
- 2) The timeline and budget listed in the Research Problem Statement shall be reviewed carefully when preparing the Scope of Work document, and revised as necessary;
- 3) If the Technical Committee believes that the proposed work is not timely or prudent, such a recommendation should be made to the Advisory Committee;
- 4) Review and evaluation of proposals in response to RFP's;
- 5) Providing recommendations to the Advisory Committee on the research organization to conduct a particular study;
- 6) Technical monitoring of each study as it progresses;
- 7) Delivery of recommendations to the Advisory Committee concerning the acceptability of interim and completed work, as well as recommendations to continue the project including extended timeline and budget;
- 8) Collaboration with the research organization on plans for implementation that include a technology transfer and plans for incorporating the research results/ products into practice; and
- 9) Recommending to the Advisory Committee actions appropriate for implementation of the findings.

D. Administrative Management

The day-to-day administrative management of the Program shall be vested in a body or person, who shall be apart from the regular hierarchy of the NETC. That person/body, selected as the successful respondent to a request for proposals to provide coordinator services for NETC, may have the responsibility and authority to:

- Coordinate activities to stimulate research needs from state DOT subject matter expert groups;
- Manage the procedural and administrative requirements of the NETC research projects;
- Provide administrative and technical support to the NETC Advisory Committee,
- support the Technical Committees' oversight of Research Projects;
- Facilitate communication with the NETC Advisory and Technical Committees, sub-grantees, and third parties;
- Conduct services for technology transfer of NETC activities; and
- Report to the Lead State as required.

This list is an example only of the duties that may be assigned to the NETC Coordinator. Duties may vary depending on the Lead State and other changing circumstances. Specific duties and responsibilities will be defined in a scope of work in the contract issued by the Lead State to the NETC Coordinator.

The Lead State and Coordinator shall provide all services necessary for the administration and coordination of the activities of the New England Transportation Consortium (NETC). These services shall include, but not be limited to, the following:

1. Meetings

The Coordinator shall schedule and make all necessary arrangements for all meetings of the Policy, Advisory and Technical Committees. These arrangements shall include securing a meeting place at a convenient location and notifying all persons who are to attend. He/she shall also attend all meetings of the Policy and Advisory Committees, record the minutes of these meetings, and distribute copies of these minutes to all attendees and other parties as directed. When requested by any NETC committee, he/she shall also arrange any meeting between the committee and a university, a state department of transportation, or any other party. The Coordinator shall also arrange and publicize general workshops or seminars to aid in the dissemination of information from either completed or ongoing NETC research projects. The latter function is envisioned to occur annually, but may be scheduled at other time intervals as needs dictate.

2. Conferences & Events

The NETC Coordinator will attend conferences and events as recommended by the Advisory Committee. This may include the following:

- NASTO (2nd wk in June) – Attend and exhibit. Host Policy Committee meeting, if possible.
- AASHTO RAC (3rd wk in July) – Attend every year, but only exhibit every four years when the meeting is held in our region.
- New England Materials and Research Engineers Meeting (June) – Attend, no exhibits at this meeting. Also, provide presentation to discuss NETC projects and future research ideas. Sponsorship amount to be approved by Advisory Committee.

- NESMEA Fall Meeting (4th wk in Oct.) – Attend on an as-needed basis. No exhibits. Consult the agenda and check with AC members before each meeting.
- AASHTO Executive Meeting (3rd wk in Nov) – Attend only by Advisory Committee request.
- Regional Technical Meetings – Coordinator may be requested to attend regional meetings with various technical groups, including but not limited to, safety, geotechnical, bridges, and pavement management.

3. Inter-committee Communication

The Coordinator shall facilitate all formal communication between the different NETC committees (i.e., the Policy, Advisory, and Technical Committees) working through the Chair of the respective committees. An Advisory Committee liaison will be appointed to each Technical Committee.

4. Third Party Communication

The Lead State and Coordinator shall also be required to communicate with the state universities, research institutions, TRB, NCHRP, and with other entities associated and/ or involved with the undertakings of NETC, as directed.

5. Program Finances/ Accounting

The Lead State shall issue, manage, and monitor invoices to Principal Investigators for all active Research Projects. This includes verifying conformance with NETC agreement provisions (including project-budget-total and line-item compliance), confirming consistency between progress of work and percent billed, and preparing recommendations to the Lead State for processing payments. The Lead State may ask the Coordinator to review and comment on invoices. The Lead State is responsible for payments to the Principal Investigator for all active Research Project assignments. The Lead State shall present quarterly financial reports to the NETC Advisory Committee. Financial reports shall include but not be limited to the following: 1) overall fund balance, 2) individual project balances (in quarterly financial status reports), and 3) information on projects that have been closed out to enable the Advisory Committee to make decisions on reprogramming unencumbered Research Project balances. The Lead State shall manage and maintain all financial reports.

6. Research Program - Monitoring

The Lead State shall be responsible for keeping track of and monitoring the studies of the research program. Input from the Technical Committees and the Advisory Committee via the Coordinator will be provided as necessary. In cases where the progress and finances of a project become an issue, the Lead State and Coordinator shall advise the Advisory Committee in a timely manner.

7. NETC Program Reports

The Lead State shall compile quarterly reports to document work progress and final project reports. The Coordinator shall maintain a current mailing list for reports, which will be provided to the researchers as needed.

8. Problem Statements and Requests for Proposals (RFP's)

For any problem statement selected by the Advisory Committee and whose scope of work has been developed by the Technical Committee, the Coordinator shall support and coordinate with the Lead State for RFP solicitation to appropriate universities and research institutions. When proposals are received, the Coordinator shall work with the Lead State to organize them for review, analysis, and contractor selection by the NETC.

9. Prosecution of Work

Following the Lead State's assignment of a NETC Research Project, the Lead State shall prepare and enter into an agreement with the research project's principal investigator and the institution. This document shall be acceptable to NETC and the contracting entity of the research institution. The document shall contain needed clauses and phrases to protect each party and assure that the work is conducted in a prompt, professional manner.

10. Oversight of Procedural Aspects of Research Project Contracts

The Coordinator shall act as the agent of NETC in all dealings with the project principal investigators who are contracted to carry out research sponsored by NETC. The Coordinator shall provide all services, facilities and staff needed to carry out the administrative and clerical functions necessary for this program. This includes but is not limited to: monitoring the progress of contracted research to ensure that both intermediate and final due dates for project progress are met;; project final reports are completed and submitted; and, disseminating the results of completed projects as appropriate.

With assistance from the Coordinator, the Lead State shall ensure that project billings are properly and promptly provided.

11. General Requirements of the Coordinator

The Coordinator shall be required to be available during normal business hours for the period of this contract to assist with issues as they arise. The Coordinator shall maintain current rosters for all NETC Committees and provide changes to the affected committees as needed.

V. ORDER OF BUSINESS FOR ADVISORY COMMITTEE MEETING

The Advisory Committee generally meets periodically to review the Program and act on new research proposals. The following order of business is followed, but can be altered at the discretion of the Committee if the need arises:

- A. Reading and acceptance of the minutes of the previous meeting;
- B. Presentation of quarterly financial report;
- C. Quarterly progress reports on current research projects;
- D. Presentation of proposed research projects; and,
- E. Miscellaneous items of concern to the Committee.

Specific items under B, C and D above are outlined in the following sections.

VI. FINANCIAL REPORT

The research universities shall invoice NETC for authorized work performed. Each expenditure shall be coded to an approved project. The Lead State will work with the Coordinator to present a summary of quarterly expenditures to the Advisory Committee.

NETC projects are designated by calendar year in which they will be started and the order of the approved project. Examples: Project 2010-1 was approved in calendar year 2010 and was the first project approved in that year; Project 2010-3 was the third project approved in calendar year 2010.

VII. REPORTS

A. NETC Program Quarterly Progress Reports for TPF (See Appendix A-9 for format)

The Lead State will be the contact point for the researchers to submit quarterly reports. The written progress reports become a part of the minutes of the Committee meeting.

Additional comments on Progress Reports, from affected state personnel, may be solicited by the Coordinator. These are, in turn, forwarded to the researchers at the earliest possible date for their consideration and use.

Quarterly Progress Reports present the current status of a project, problems encountered, delays which might put the work behind schedule, etc.

B. Research Project Reports (See Appendix A-8- for format)

Research projects, as part of their scope of work, may require a deliverable such as Task Report, Draft Final, and Final report. Copies of all reports should be submitted to the Coordinator. The Coordinator shall disperse reports to the Chair and members of the Project Technical Committee for review. The Chair of the Project Technical Committee will coordinate the Committee's review of the report and provide the PI with the review comments.

In resolving the Technical Committee's review comments, the PI should communicate directly with the Chair of the Technical Committee. When the PI has resolved the Technical Committee's comments to the satisfaction of the Chair, the Chair will provide the PI with an e-mail, with a copy to the NETC Coordinator, authorizing the PI to provide one bookmarked PDF version of the final report to the NETC Coordinator for a final 'quality control' check. Upon completion of the 'quality control' check, the Coordinator will post the final report on the TRB and NETC Website. The NETC Coordinator will provide a url of the final report to anyone requesting it and will provide hard copy reports when requested.

C. Annual Financial Report

Annually, at the close of each calendar year, the Lead State shall prepare a Financial Report which summarizes NETC expenditures and the status of each on-going project for the previous year. This report shall contain a summary listing of all completed NETC reports and activities for the reported year.

VIII. RESEARCH PROPOSALS

A. Problem Statement

Annually the NETC Coordinator shall solicit problem statements from the member states. The problem statements shall be approximately one page in length and shall present a problem and/or need which affect the member states. A ballpark cost estimate and time frame to perform the intended work shall be included with the statement. A sample problem statement is shown in Appendix A3-l.

The problem statements shall be compiled by the NETC Coordinator and presented to the Advisory Committee. From the problem statements submitted, the Advisory Committee will select those considered to have the highest priority for funding within the amount of funds available and recommend them for development of scope by the Technical Committees and subsequently for RFP solicitation by the Lead State.

Additionally, the NETC Coordinator will accept problem statements for quick response projects from member states on a rolling basis. The problem statements shall be approximately one page in length and shall present a problem and/or need which affect at least three member states. In addition to the problem statement, the member state will provide a scope of work, timeframe, list of Technical Advisory Committee members, and list of potential researchers.

The problem statements shall be submitted by the NETC Coordinator and presented to the Advisory Committee as complete packages are received. Once a problem statement is submitted, the Advisory Committee will review and approve those considered to have priority and for which there are funds available. The Advisory Committee may also decide that RFPs will be issued to other research institutions or agencies.

B. Request for Proposals

For the Annual Research Program, the NETC Coordinator shall secure staffing for the Technical Committees to address each approved problem statement. The Technical Committee shall be convened to develop the scope of work for the project. The format for the scope of work is shown in Appendix A6-l. Requests for Proposals are to be distributed to researchers at the New England State Land Grant Universities. The technical committee may recommend to the Advisory Committee that RFPs be issued to other research institutions or agencies. The Lead State shall complete and submit the RFP to all designated state universities and any additional groups approved by the NETC Advisory Committee.

For the Quick Response Program, after receiving Advisory Committee approval, the NETC Coordinator will work with the Lead State to complete the RFP, which will include the previously approved scope of work. The Lead State shall distribute the RFP to the approved list of researchers.

C. Research Proposals

The proposal should be a well thought-out document that establishes in clear, concise terms the necessity of the research undertaking, definite project objectives, and a systematic work plan designed to attain the project objectives. The proposal should contain, but is not limited to, the following:

1. **Project Identification:** The project number, title and name or names of the principal investigator(s) [P.I.(s).] Resumes of the principal investigator(s), including a description of the P.I.'s related research and publications, should be included as an appendix to the proposal.
2. **Significance of the Problem:** A clear definitive statement of the problem and its significance.
3. **Objectives of the Research:** In clear, concise terms state the objectives of the proposed work.
4. **Methodology:** A description of the major tasks that will be undertaken to complete the proposed work. A number and title should be assigned to each task followed by a description of the methodology to be used in carrying out the task. Note: since the NETC recognizes that research results are not automatically put into practice upon completion of the research and that implementation is more likely when researchers and user agencies collaborate to plan for implementation, NETC requires all research proposals include a technology transfer and implementation plan for incorporating the research results/products into practice. These should include, but are not limited, to fact sheets, project posters, and a recording of project presentations.
5. **Schedule of Major Activities:** To allow for flexibility in the project start date, the schedule should be generic and not refer to particular months or a particular year. The schedule should show, in terms of elapsed time (number of months or weeks) from the start of the project, the planned start and completion of each of the major tasks described in the methodology. All required research project deliverables, to be submitted to the NETC Coordinator for distribution to the project Technical Committee, should be included in the schedule. Allow thirty (30) days for the Draft Final Report to be reviewed by the Project Technical Committee.
6. **Budget and Total Cost:** In the event that the proposal is selected for funding, the proposal budget will be incorporated into the funding agreement. Invoices for project costs will be reviewed against the proposal budget for consistency. Therefore the proposal's budget categories must be consistent with the categories that will be used for invoicing project costs.

Research proposals are submitted to the Lead State who forwards them to the Technical and Advisory Committees. Review and comments by affected staff personnel are solicited through the Committee process. Considerations to be addressed in the proposal evaluation process are shown in the Appendix.

D. Approval of Research Proposals

Proposals that merit consideration are accepted by a majority of the Advisory Committee members.

E. Modifications of Proposals or Work Plans

The Advisory Committee, after review of approved projects, may at any time vote to change a proposal or work plan. It might cancel an on-going project which is not meeting the objectives as stated.

F. Authorized Travel and Allowable Costs

1. Authorized Travel: Travel that is necessary for the conduct of NETC funded research projects is eligible for reimbursement, up to the amount budgeted in the project agreement, without special approval of the Consortium.
2. Travel Requiring Prior Approval: Travel associated with the presentation of papers or the attendance at regional, national, or international conferences is not considered necessary for the conduct of NETC funded research projects and must receive prior approval from the Consortium to be eligible for reimbursement.
3. Allowable Costs: The authority for determining allowable travel costs is OMS Circular A-21 "Cost Principles for Educational Institutions" and OMS Circular A-110 "Grants and Agreements with Institutions of Higher Education Hospitals and other Nonprofit Organizations" which are incorporated here by reference.

IX. PATENTS, COPYRIGHTS AND OTHER OWNERSHIP RIGHTS

New concepts which evolve into items that may have a potential market value are to be patented in a manner to protect the interests of NETC.

The title to all products of research done by the NETC resides with the University or Researcher that prepared the report. However, the University shall grant to NETC member departments, the United States Government, and the general public, a non-exclusive, irrevocable, royalty-free, worldwide license in such copyrighted data to use, reproduce and prepare derivative works. The University may use any of the data, plans and reports completed under the NETC program for whatever purpose and may distribute products in any way. However, the following text must appear on the inside front of any reports or publications:

"This report [article, paper or publication], prepared in cooperation with the New England Transportation Consortium, does not constitute a standard, specification or regulation. The contents of this report [article, paper or publication] reflect the views of the author(s) who is (are) responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the views of the New England Transportation Consortium or the Federal Highway Administration."

“You are free to copy, distribute, display, and perform the work; make derivative works; make commercial use of the work under the condition that you give the original author and the New England Transportation Consortium credit. For any reuse or distribution, you must make clear to others the license terms of this work. Any of these conditions can be waived if you get permission from the NETC. Your fair use and other rights are in no way affected by the above”.

X. CHANGES IN NETC POLICY AND PROCEDURES

Any change in NETC Policy and Procedure, when determined to be in the best interest of the States, shall be by majority vote of all NETC Advisory Committee Members.

XI. APPENDICES

A-1 DEFINITIONS

Whenever the following terms are used in this document they shall be interpreted to intend and mean the following:

New England Transportation Consortium (NETC): A joint undertaking through which the transportation agencies of the six New England states pool their resources to focus on the research, development and implementation of improved methods for dealing with common problems associated with the region's transportation system.

Policy Committee: The governing authority for the operation of the NETC. It consists of the chief administrative officers of the six transportation agencies and, ex-officio membership by FHWA. Its functions are to intercede with regional priorities or critical issues, stay attentive to the annual program, and acquire/provide funding.

Advisory Committee: Provides direct and continuous liaison among the Policy Committee, the Technical Committees and the NETC Coordinator. One member is appointed by each member state of the Policy Committee and each university designated by the State Department of Transportation. Its functions are to solicit research needs, develop and propose the annual work program, review research project progress and implementation and advise and carry out the directions of the Policy Committee.

Technical Committee: Guides the technical aspects of the work of particular research project for which it has been formed. It consists of one member from each of the six states and one from the FHWA, each of whom is technically knowledgeable of the research project's subject. The committee is responsible for formulating and monitoring the research project, and making recommendations for the implementation of its findings.

Coordinator: A body or a person who provides the administrative management for the NETC program. He/she oversees the NETC Research Program and Processes and carries out the administrative requirements of the Policy and Advisory Committees.

Federal Highway Administration (FHWA): The Federal Highway Administration of the United States Department of Transportation and its duly authorized agents or representatives, each acting within the scope of his/her designated duties.

Pooled Funds: The financial resources of the combined contributions from the six states of the NETC and FHWA.

Lead State: The state through which pooled funds from the sponsoring agencies of FHWA are funneled. It executes contracts for research and oversees the procedural aspects of NETC contracts and conducts the financial transactions of the NETC.

Research Project: A technical study, contracted and funded by the NETC, carried out by a principal investigator affiliated with a university or research institution.

Research Program: All aspects of the principal activity of the NETC, including the orientation, progress, and implementation of all its sponsored research projects.

Problem Statement: A statement of a research need and justification for developing a research project to address the need.

Request for Proposal (RFP): A detailed statement of a research need and the work envisioned to address this need. Included are funding and time constraints for the work to be performed.

University Representative: A person appointed to the Advisory Committee as a nonvoting member, by the educational institution designated by each State's Department of Transportation to provide technical expertise and counsel to the NETC Advisory Committee.

**A-2 MEMORANDUM OF UNDERSTANDING
OF THE NEW ENGLAND TRANSPORTATION CONSORTIUM**

PURPOSE

Revised October 1995

The transportation agencies of the six New England States join together to pool their professional, academic, and financial resources for transportation research. The cooperation will focus, not only on research, but also on development and implementation of substantially improved methods for dealing with common problems. Such problems will be associated with the administration, planning, design, construction, rehabilitation, reconstruction, operation, and maintenance of the transportation system in the region.

This Memorandum of Understanding is established among the six states to formally describe the organizational, financial, and administrative activities which constitute the Consortium.

MEMBERS

Connecticut Department of Transportation
Maine Department of Transportation
Massachusetts Highway Department
New Hampshire Department of Transportation
Rhode Island Department of Transportation
Vermont Agency of Transportation
Federal Highway Administration, Ex-Officio

ORGANIZATION AND MANAGEMENT

Policy Committee

The NETC will operate under the governance of the Policy Committee, which consists of the Chief Administrative Officials (CAO) from the six state transportation agencies. FHWA shall designate an Ex-Officio member.

The primary functions of the Policy Committee shall be to intercede with regional priorities or critical issues, support the research, development, and implementation needs to be addressed by the Consortium; stay attentive to the annual program developed in conjunction with the Advisory and Technical Committees; and acquire/provide funding to carry out the Program. Functions of the Policy Committee can be revised, added, or deleted, as it deems appropriate.

Advisory Committee

The Advisory Committee shall meet as often as appropriate. It shall provide direct and continuous liaison among the Policy Committee, the Technical Committees, and management of the NETC. Each member State of the Policy Committee will appoint one person to the Advisory Committee plus Ex-Officio membership by FHWA. The primary functions of the Advisory Committee will be to: solicit specific research needs; advise the Policy Committee on implementation needs and opportunities; develop and propose to the Policy Committee an annual work program; continuously monitor

progress of research projects and implementation of research results; and carry out the directions from the Policy Committee.

Each member Department of Transportation shall designate a university, usually a state land-grant university, to participate with the Departments of Transportation in molding an effective program of Research and Development. The designated university will appoint one person to the Advisory Committee as a technical resource. This appointee shall have no voting rights on the Advisory Committee. The University's role will be to provide advice and counsel on the worthiness of the needs perceived by the participating states. These activities are envisioned to be, but not limited to: focusing attention on researchable needs; presenting new and proposed work; assisting in implementing research results; and providing input on Consortium activities undertaken.

The Advisory Committee shall recommend to the Policy Committee a state whose personnel shall function as lead agency for the Consortium. The Lead State shall be selected by consensus of the Advisory Committee. In general, the Lead State shall be the state from which the coordinator is selected. The coordinator shall be selected from proposals solicited from interested organizations. The Chair of NETC Advisory committee shall be elected annually by majority vote of the members. The Lead State's representative shall act as the secretary of NETC Advisory Committee.

Technical Committee

For each project undertaken by the NETC, a Technical Committee will be nominated by each State Department of Transportation and approved by the NETC Advisory Committee to guide the technical aspects of the work. The approved Committee shall consist of one person from each of the six states and FHWA, technically knowledgeable of the subjects being studied. Other individuals may be added to the Technical Committee, if deemed appropriate and approved by the Advisory Committee. The duties of the Technical Committee include: 1) preparation of the scope of work to be undertaken and recommending additional research organizations to receive RFP's. If the Technical Committee believes that the proposed work is not timely, such a recommendation should be made to the Advisory committee; 2) review and evaluation of proposals in response to RFP's; 3) providing recommendations to the Advisory Committee on the research organization to conduct a particular study; 4) technical monitoring of each study as it progresses; 5) delivery of recommendations to the Advisory Committee concerning the acceptability of interim and completed work; and 6) recommending actions appropriate for implementation of the findings.

Administrative Management

The day-to-day administrative management of the Program shall be vested in a body or person, who shall be apart from the regular hierarchy of the NETC. That person/body, selected as the successful respondent to a request for proposals to provide management services for NETC, shall have the responsibility and authority to: oversee the procedural aspects of the research; conduct the financial interchanges of the NETC;

and provide services which address the administrative requirements of the Policy, Advisory and Technical Committees. This body or person shall be designated NETC Coordinator. Administratively, the Coordinator shall report to the Lead State's designee. The Coordinator shall serve a four-year term, at the end of which a performance review shall be conducted. The Advisory Committee then has two courses of action: (1) reappoint the Coordinator; or, (2) solicit proposals for the position of NETC Coordinator.

The Lead State and Coordinator shall provide all services necessary for the administration and coordination of the activities of the New England Transportation Consortium (NETC). This structure is shown schematically in the attached Figure entitled, "NETC Organizational Chart."

FUNDING

NETC will create a regional pooled fund study, to provide a funding mechanism for the Program. The Policy Committee will determine the size of the Program and the amount of each State's contribution. The Lead State and Coordinator will then administer the work as necessary in conformance with FHWA requirements. Payments to the researchers will be made from the pooled fund account.

PROGRAM DEVELOPMENT

Annually, the Policy Committee will approve and publish a Program of research and implementation and/ or specific projects it desires to have investigated. RFP's will be developed and employed to address the needs of NETC. They will then be submitted by the Coordinator to the Advisory Committee and the universities designated by the NETC, Departments of Transportation and to other researchers approved by the Advisory Committee.

PROJECT SELECTION AND ADMINISTRATION

Responses to the RFP's with Technical Committee recommendations will be submitted to the Advisory Committee, through the Coordinator. The Advisory Committee will recommend specific projects to be funded to the Policy Committee, for their consideration, revision, and/ or acceptance.

Contract administration will be managed by the Lead State and the Coordinator. Technical guidance will come from the Technical Committee and overall guidance from the Advisory Committee.

AMENDING THE MEMORANDUM OF UNDERSTANDING

This MOU can be amended at any time in any way by the Policy Committee.

SUPERSEDING EXISTING MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding dated November 1, 1995 extinguishes and supersedes the Memorandum of Understanding of the New England Transportation Consortium dated February 17, 1988, modified by the NETC Policy Committee May 21, 1990, and endorsed by participating agencies on July 31, 1990 and May 2, 1994.

“AGREED”

J William Burns	11/3/95
Commissioner, Connecticut Department of Transportation	Date
John Melrose	11/8/95
Commissioner, Maine Department of Transportation	Date
Laurinda T. Bedingfield	11/10/95
Commissioner, Massachusetts Highway Department	Date
Charles O'Leary	10/28/95
Commissioner, New Hampshire Department of Transportation	Date
William F. Bundy	10/28/95
Director, Rhode Island Department of Transportation	Date
Glen Gershaneck	10/30/95
Secretary, Vermont Agency of Transportation	Date

A-3 RESEARCH PROBLEM STATEMENT FORMAT

I. PROBLEM TITLE

A suggested title in as few words as possible.

II. RESEARCH PROBLEM STATEMENT

A statement of the general problem or need. One or more paragraphs are sufficient.

III. RESEARCH OBJECTIVES

A clear and specific statement of the objectives that are to be met by the research necessary to adequately address the research problem described in the Research Problem Statement.

IV. ESTIMATE OF FUNDING NEEDED

An estimate of the funds necessary to accomplish the objectives stated in III above.

V. RESEARCH PERIOD

An estimate of the number of months necessary to complete the research project, including preparation of a Draft Final Report and its review by the NETC project Technical Committee (90 days), and the preparation and printing of the Final Report.

VI. URGENCY AND PAYOFF POTENTIAL

A description of the urgency of the need for this research in relation to the transportation needs of the six New England States and, if possible, the potential for payoff in benefit/ cost terms.

VII. PRELIMINARY LITERATURE SEARCH

In order to avoid duplicating research already published or in progress, the submitter of the Problem Statement should perform a quick literature search prior to submitting the Problem Statement and attach a summary of the results of the literature search to the Problem Statement. This literature search can be conducted by accessing the Transportation Research Board's 'TRID' database available at <http://trid.trb.org> The TRID database contains information on completed research as well as research in progress (<http://rip.trb.org>).

Source of preliminary literature search (check as appropriate):

TRID

RIP

Other (describe): _____

Summary of preliminary literature search (how the subject of this Research Problem Statement would differ from or add to, existing studies.

Attach additional pages if necessary):

VIII. KEY WORDS TO BE USED FOR ADDITIONAL LITERATURE SEARCH

Provide the key words that can be used to conduct a search of the Transportation Research Board's electronic database (TRID) for completed, related research. To the maximum extent possible key words should be selected from the National Transportation Library's Transportation Research Thesaurus. The Thesaurus can be found at <http://trid.trb.org/trt.asp>

IX. ENDORSEMENT BY THE SPONSORING DOT

(To be signed by the DOT representative to the NETC Advisory Committee through whom the Problem Statement is submitted)

By signing the endorsement, the DOT representative is certifying that:

- 1. The Problem Statement follows the required format
- 2. The required literature search has been conducted
- 3. The Problem Statement addresses a transportation issue of relevance to NETC and does not duplicate another Problem Statement being submitted at this time.

(Name) (DOT) (Date)

X. ENDORSEMENT BY A DOT SPONSOR TO LEAD THE TAC (To be signed by a DOT lead with technical knowledge and commitment to the research outcome).

DOT Technical Endorsement: I agree to chair the NETC Technical Committee if this problem statement is selected.

(Name) (DOT) (Date)

NOTE: To expedite the processing of Research Problem Statements, NETC encourages submittal by E-mail

Approved NETC Advisory Committee 3/10/99; Revised NETC Advisory Committee 9/26/01; Revised NETC Advisory Committee 8/15/06; Revised NETC Advisory Committee 11/21/2017

A-4 PROCEDURE FOR SELECTING PROBLEM STATEMENTS TO BE DEVELOPED INTO RFPs

STEP I: SCREEN PROBLEM STATEMENTS BASED ON INTEREST OF THE INDIVIDUAL STATES

- "No": a simple majority of "No" votes will drop the Problem Statement from further consideration

STEP II: SCORE THE PROBLEM STATEMENTS WHICH PASS STEP I SCREENING

- Scoring is based on each state's appraisal of the degree to which the Problem Statement addresses a transportation issue of importance to the New England states.
- A score of "3", "2", "1", or "0" is assigned to each of the Problem Statements. "3" is the highest score.
- The scores of each of the Problem Statements are recorded.

STEP III: RANK ORDER PROBLEM STATEMENTS BASED ON STEP II SCORE

- A rank order will be assigned to each Problem Statement based on its score (highest score~ rank order # 1).

STEP IV: SELECT PROBLEM STATEMENTS TO BE DEVELOPED INTO RFP's, BASED ON STEP III RANK ORDER AND FUNDS AVAILABLE

A-5 GUIDELINES FOR THE FORMATION OF NETC TECHNICAL COMMITTEES

TECHNICAL COMMITTEE CHAIRS:

Selection of Chairs: For each Technical Committee, a Chair shall be appointed prior to the initial organizational meeting of the committee. It is the intent of the NETC Advisory Committee that the Technical Committee member from the State that submitted the Problem Statement serves as the Chair.

In the event this is not possible, the Advisory Committee will ask the State's appointing representatives to the committee to nominate one of the representatives for Chair. Nominations will be submitted to the NETC Coordinator. The NETC Advisory Committee will select the Chair from among those nominated.

Qualifications of Chairs: Since the Chair will function as the coordinator/leader of the committee, he/she should be sufficiently knowledgeable in the subject matter of the committee's project to ensure that the committee's work is of the highest quality. In addition, the Chair should possess the leadership and group dynamics skills necessary to facilitate an exchange of ideas among committee members and ensure that the committee will complete its assignments on schedule.

The following hints have proven to be productive for Chairs:

- Preside, don't rule
- Draw out the quiet, quiet down the loud
- Mediate, don't agitate
- Raise questions about issues
- Search for a consensus
- Carefully state personal opinions
- Take breaks
- Thank committee members

TECHNICAL COMMITTEE MEMBERS:

Appointment of Technical Committee Members: Technical Committee members shall be appointed as described in Section IV.C. Technical Committees

Qualifications of Technical Committee Members: Technical Committee members should be knowledgeable about the subject matter of the committee's project and have a willingness to commit the time necessary to accomplish the committee's responsibilities on schedule.

TECHNICAL COMMITTEE RESPONSIBILITIES:

- Develop Scope of Work from Problem Statement: In developing the project scope of work, the committee may include any task or tasks that it feels will contribute to the accomplishment of the project's objectives. After reviewing the project Problem Statement, the committee may recommend that the project not be considered for development into an RFP. The committee should make every effort to keep the Scope of Work consistent with the amount of funds allocated for the project. However, if the committee feels

that a costlier Scope of Work is warranted, they can make that recommendation through the NETC Coordinator to the NETC Advisory Committee.

- Review Proposals & Make Recommendation to Coordinator
- Arrange Start-up Meeting with PI
- Tailor Tech Transfer and Implementation Plan using internal understanding of State DOTs
- Assist PI with needs from DOTs
- Periodic Web Meetings or Conference Calls with PI
- Review of Draft Deliverables
- Authorize PI to complete Final Report
- Work with NETC Coordinator and PI on Tech Transfer and Implementation
- Determine the Feasibility of Demonstration Project Related to the Research

Adopted by NETC Advisory Committee 07/24/96; Revised 2/26/07; Revised 10/21/14; Revised 11/21/2017

A-6 SCOPE OF WORK FORMAT

NETC PROJECT:

Problem Statement title:

Research problem statement:

Research objectives:

Principle Tasks: Provide clearly defined tasks, as well as clearly defined deliverables at the task level. The proposal should include deliverable(s) at the conclusion of every major task. The deliverables should incorporate a summary of the data collected, a presentation on progress to the Technical Committee, and an interim report for review.

Task 1:

Task 2:

Task 3:

Task 4:

MEETINGS WITH PROJECT TECHNICAL COMMITTEE: The proposal should provide for a minimum of four (4) meetings with the Technical Committee that has been established to monitor the progress of the project. The Technical Committee meetings will include a Kick-Off meeting at the start of the project, as well as meetings at the conclusion of every major task. Annually, the Principal Investigator will make presentations to the Technical Committee and the NETC Advisory Committee. These presentations can be conducted remotely using a webinar application.

REPORTS: The Principal Investigator will be required to prepare and distribute the following reports:

Post-Task Reports (Optional): One (1) copy prepared and e-mailed to the NETC Coordinator, after each Task is completed. Report should include documentation of the Research Project to date (completed Task) and the proposed next steps (proposed Task). The report should arrive no later than ten (10) working days after the scheduled end date for the proposed Task. The Coordinator will forward copies to the Project Technical Committee. The Post-Task Report deliverables must also be included in the Schedule of Major Activities which is required for all proposal submissions. Please see the Proposal Preparation Guidelines for more information.

Quarterly Progress Reports: One (1) copy prepared and e-mailed to the Lead State and NETC Coordinator, on a calendar quarter basis, so as to arrive no later than three (3) working days after the end of the calendar quarter. The NETC Coordinator will forward copies to the Project Technical Committee.

Draft Final Report: One (1) copy of the Draft Final Report will be prepared and emailed to the members of the Project Technical Committee for review prior to completing the Final Report. Principal Investigators should allow ninety (90) days, in the Project Schedule, for completion of the review of the Draft Final Report including resolution of the Project Technical Committee's comments and receipt of approval from the Project Technical Committee Chair to submit the Final Report to the NETC Coordinator.

Final Report: Upon receipt of approval from the Chair of the Project Technical Committee to submit the Final Report to the NETC Coordinator, the PI will submit the report in ADOBE™ PDF. Upon submittal of the Final Report to the NETC Coordinator, Principal Investigators should allow thirty days in the project schedule for completion of the Coordinator's review.

TECHNOLOGY TRANSFER STRATEGY: NETC recognizes that research results are not automatically put into practice upon completion of the research and publication of the final report. Effective implementation is more likely when researchers and user agencies collaborate to plan for implementation. Therefore, NETC requires that all research proposals for NETC funded research include an implementation plan and technology transfer strategy for incorporating the research results/products into practice. The implementation plan should be drafted by the PI in the final report, and should indicate the type of activities (workshops, demonstrations, etc.) that would be considered the most effective means for disseminating the results of the study to potential users. The PI will then need to work closely with the Technical Committee members to tailor the implementation plan to each DOT with a one page summary of the tasks and schedule of activities that should be carried out by the Technical Committee after the research project is complete. Additionally, the NETC requires that each project include a Tech Transfer Toolbox as a deliverable. The toolbox will include a one page fact sheet, a project poster, and a recorded webinar of a project presentation. Implementation of the research results should be viewed as a priority in the scope of work.

FUNDS AVAILABLE: \$

TIME TO COMPLETE: X months (including preparation and review of final report). The time to complete should be limited when feasible. If the scope of work dictates lengthy project duration, consider proposing a multi-phased project.

DEVIATION FROM THE SCOPE OF WORK: In the event that the proposer deems it necessary to deviate from the Scope of Work (Cost, Principal Tasks, Time to Complete, etc.) in order to accomplish the objectives of the research project, such deviation should be noted and the reasons clearly stated in the proposal.

A-7 PROPOSAL EVALUATION GUIDELINES

1. Understanding of the Problem: A clear and succinct statement and understanding of the problem and the research objectives is desired. A review of the present state-of-the-art and a description of how the proposed work will create new knowledge and benefit the New England Transportation Consortium should be presented.

2. Research Approach: The evaluation of the research approach will consider consistency with the objectives and the scientific and practical aspects of the research methodology. This evaluation will include such items as the approach to data collection, cooperative features, innovative concepts, and reliability of equipment proposed for use. Consideration will also be given to whether or not the approach is sufficiently detailed, both in terms of work and budget allocations by tasks.

3. Application of Results: The evaluation will include a realistic appraisal of the prospects for successful accomplishment of project objectives. The evaluation will consider the statements in the proposal indicating the manner in which the anticipated results would be reported and how they could be used to improve transportation engineering or transportation evaluation practices; e.g., mathematical models, design techniques, field or laboratory test procedures, changes in highway specifications, impact methodologies, etc. Consideration will also be given to whether or not there might be any financial or institutional barriers to implementation of products from the research.

4. Qualifications of Principal Investigator(s): Proposals are desired from individuals having demonstrated capability and expertise in the subject problem area. The evaluation will be based on the evidence contained in the proposal pertaining to both the experience and the indicated amount of effort by the principal investigator(s).

5. Facilities and Equipment: The evaluation will be based on the evidence contained in the proposal. It is important to consider whether facilities and equipment are actually available or are proposed to be purchased or built. The proposal budget often provides some insight into this situation.

6. Implementation/Technology Transfer Plan: The evaluation will appraise the clarity and practicality of the Implementation/Technology Transfer Plan and the prospects for its success in promoting the implementation of results from the research.

7. PI's Past Performance: The NETC Coordinator and Advisory Committee will consider the PI's past performance on previously completed projects in regard to completion of projects on time. Please note that sections 1-6 of this proposal will be evaluated by the Technical Committee, and section 7 will be evaluated by the NETC Coordinator and Advisory Committee.

Approved NETC Adv. Comm. 12/1/99; Revised 2/26/07; Revised 10/21/14;
Revised 11/28/2017

A-7 RECOMMENDED PROPOSAL EVALUATION GUIDELINES (Cont'd)

Analysis Sheet

PROJECT TITLE:

PRINCIPAL INVESTIGATOR(S):

<u>COMMENTS</u>	<u>WEIGHT</u> x <u>RATING</u>	<u>WEIGHTED</u> = <u>RATING</u>
1. Understanding of the Problem: _____ _____	<u>30±%</u> x	_ =
2. Research Approach: _____ _____	<u>20±%</u> x	_ =
3. Application of Results: _____ _____	<u>10±%</u> x	_____ =
4. Qualifications of Principal Investigator(s); _____ _____	<u>15±%</u> x	_ =
5. Facilities and Equipment: _____ _____	<u>15±%</u> x	_ =
6. Implementation/Tech Transfer Plan: _____ _____	<u>10±%</u> x	_____ =
TOTAL WEIGHTED RATING		_____

NOTES:

1. Weight: To be assigned by the Project Technical Committee.
The total of the five weights must equal 100%
2. Ratings:
 - 'Outstanding' = 5
 - 'Very Good' = 4
 - 'Good' = 3
 - 'Fair' = 2
 - 'Poor' = 1

Each Technical Committee member will rank the proposals '1st', '2nd', '3rd', etc., based on the TOTAL WEIGHTED RATING they assigned to the proposal. The PI with the most '1st' rankings from all of the Technical Committee members will be selected.

A-8 PROCEDURE FOR FINALIZING AND FORMAT OF THE FINAL REPORT

1. Procedure for Finalizing the Final Report:

- One (1) copy of the draft final report should be emailed to the Chair and members of the Project Technical Committee for review. The Chair of the Project Technical Committee will coordinate the Committee's review of the report and provide the PI with the review comment.
- In resolving the Technical Committee's review comments, the PI should communicate directly with the Chair of the Technical Committee. When the PI has resolved the Technical Committee's comments to the satisfaction of the Chair, the Chair will provide the PI with an email, with a copy to the NETC Coordinator, authorizing the PI to provide one bookmarked PDF version of the final report to the NETC Coordinator for a final 'quality control' check. Upon completion of the 'quality control' check, the Coordinator will post the final report on the NETC Website and distribute to the recipients noted in A-11. The NETC Coordinator will provide a url of the final report to anyone requesting it.

2. Format for the Final Report: NETC's format requirements for the final report are as follows:

Title Page (*See attached*):

Title: The following should be used as the title: "*To be provided by NETC Coordinator*"

For "Project No.", use ("*To be provided by NETC Coordinator*")

The following disclaimer statement and copyright statement must be provided at the bottom of the title page:

"This report, prepared in cooperation with the New England Transportation Consortium, does not constitute a standard, specification, or regulation. The contents of this report reflect the views of the author(s) who is (are) responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the views of the New England Transportation Consortium or the Federal Highway Administration".

"You are free to copy, distribute, display, and perform the work; make derivative works; make commercial use of the work under the condition that you give the original author and the New England Transportation Consortium credit. For any reuse or distribution, you must make clear to others the license terms of this work. Any of these conditions can be waived if you get permission from the NETC. Your fair use and other rights are in no way affected by the above".

3. Technical Report Documentation Page, Form DOT F 1700. 7 (8-72)(See attached):

This page, page "ii" of the report, should be placed immediately following the title page. Box 9 should read: "*To be provided by NETC Coordinator*". Box 14 should read: "*To be provided by NETC Coordinator*". All of the blank boxes on the form should be appropriately completed.

4. SI (Modern Metric) Conversion Factors Page (See attached): This page, page "iii" of the report, should be placed immediately following the Technical Report Documentation page.

SAMPLE TITLE PAGE

Investigation of Northern Long-Eared
Bat Roosting Sites on Bridges

Dr. Scott Civjan, PI
Dr. Elizabeth Dumont, Co-PI
Alyssa Bennett, External Research Associate
Angela Berthaume, Graduate Student Assistant

Prepared for
The New England Transportation Consortium
May 25, 2017

NETCR100

Project No. 14-2

This report, prepared in cooperation with the New England Transportation Consortium, does not constitute a standard, specification, or regulation. The contents of this report reflect the views of the authors who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the views of the New England Transportation Consortium or the Federal Highway Administration.

You are free to copy, distribute, display, and perform the work; make derivative works; make commercial use of the work under the condition that you give the original author and the New England Transportation Consortium. For any reuse or distribution, you must make clear to others the license terms of this work. Any of these conditions can be waived if you get permission from the NETC. Your fair use and other rights are in no way affected by the above.

TECHNICAL REPORT DOCUMENTATION PAGE

General instructions: To add text, click inside the form field below (will appear as a blue highlighted or outlined box) and begin typing. The instructions will be replaced by the new text. If no text needs to be added, remove the form field and its instructions by clicking inside the field, then pressing the Delete key twice. Please remove this field before completing form.

1. Report No. Enter the report number assigned by the sponsoring agency.	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Enter title and subtitle (use mixed case with initial caps for first word in title and subtitle) with volume and part numbers, if applicable.		5. Report Date Enter same date as is on the report cover. Enter full publication date, including month and date, if available, and full year. Example: June 5, 2014 or June 2014 or 2014
		6. Performing Organization Code Enter any/all unique numbers assigned to the performing organization, if applicable.
7. Author(s) Enter name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. Form of entry is first name, middle initial (if applicable), last name, and any additional qualifiers. Primary author is listed first. After each author name, enter ORCID (http://orcid.org) URL, when available. Example: Josiah Carberry, Ph.D. http://orcid.org/0000-0002-1825-0097		8. Performing Organization Report No. Enter any/all unique alphanumeric report numbers assigned by the performing organization, if applicable.
9. Performing Organization Name and Address Enter the name and address of the organization(s) performing the research.		10. Work Unit No.
		11. Contract or Grant No. Enter the number of the contract, grant, and/or project number under which the report was prepared. Specify whether the number is a contract, grant, or project number. Example: Contract # 8218
12. Sponsoring Agency Name and Address Enter name and address of the organization(s) financially responsible for the work. After each agency name, enter funding type (e.g. SPR). Optional: Add a Funder ID (http://crossref.org/fundingdata/) URL, when available. Example: Missouri Department of Transportation (SPR) http://dx.doi.org/10.13039/100007251		13. Type of Report and Period Covered Enter the type of report (e.g. final, draft final, interim, quarterly, special, etc.) followed by the dates during which the work was performed. Example: Final Report (June 2012-June 2014)
		14. Sponsoring Agency Code If available, enter the office code or acronym if a sponsoring agency (such as FHWA or NHTSA) is named in field #12. For FHWA office codes, see https://fhwaapps.fhwa.dot.gov/foisp/hqphone.do
15. Supplementary Notes Conducted in cooperation with the U.S. Department of Transportation, Federal Highway Administration. Enter information not included elsewhere, such as translation of (or by), report supersedes, old edition number, alternate title (e.g. project name), hypertext links to documents or related information in the form of URLs, PURLs (preferred over URLs - https://purl.org/docs/index.html), DOIs (http://www.doi.org), insertion of QR codes, copyright or disclaimer statements, etc. Edit boilerplate FHWA statement above if needed.		
16. Abstract Enter a brief factual summary of the most significant information, including the purpose, methods, results, and conclusions of the work. When appropriate, the abstract should include advice on how the results of the research can be used. For guidance, please see ANSI/NISO Z39.14-1997 (R2015) Guidelines for Abstracts (http://www.niso.org/apps/group_public/project/details.php?project_id=124).		

<p>17. Key Words Enter words, terms, or phrases that identify important topics in the report. When possible, terms should be selected from the Transportation Research Thesaurus (TRT) (http://trt.trb.org) in addition to terms not found in the TRT.</p>		<p>18. Distribution Statement No restrictions. This document is available through the National Technical Information Service, Springfield, VA 22161. Enter any other agency mandated distribution statements. Remove NTIS statement if it does not apply.</p>	
<p>19. Security Classif. (of this report) Enter security classification of this report (e.g. Unclassified). Reports carrying a security classification will require additional marking giving security and downgrading information as specified by the sponsoring agency.</p>	<p>20. Security Classif. (of this page) Enter the security classification of the form (e.g. Unclassified). When at all possible, this form should remain unclassified. If a classification is required, identify the classified items on the page by an appropriate symbol as per instruction from the sponsoring agency.</p>	<p>21. No. of Pages Enter the total number of pages in the report, including both sides of all pages and the front and back covers.</p>	<p>22. Price Refers to the price of the report. Leave blank unless applicable.</p>

SI* (MODERN METRIC) CONVERSION FACTORS				
APPROXIMATE CONVERSIONS TO SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	acres	0.405	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft ³	cubic feet	0.028	cubic meters	m ³
yd ³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa
APPROXIMATE CONVERSIONS FROM SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	acres	ac
km ²	square kilometers	0.386	square miles	mi ²
VOLUME				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m ³	cubic meters	35.314	cubic feet	ft ³
m ³	cubic meters	1.307	cubic yards	yd ³
MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact degrees)				
°C	Celsius	1.8C+32	Fahrenheit	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.
(Revised March 2003)

A-9 QUARTERLY PROGRESS REPORT FORMAT

A. PROJECT NUMBER AND TITLE:

B. PRINCIPAL INVESTIGATOR(s) & UNIVERSITY(s):

C. WEB SITE ADDRESS (*If one exists*):

D. START DATE (*Per NETC Agreement*):

E. END DATE (*Per NETC Agreement*):

F. ANTICIPATED COMPLETION DATE:

*If different from the END DATE in paragraph E., the reason must be given. It is the responsibility of the Principal Investigator to insure that the project, including review of the draft report by the Project Technical Committee and the printing of the Final Report, is completed prior to the Agreement End Date. Costs incurred after the Agreement End Date cannot be reimbursed. **Requests for extensions of the Agreement End Date must contain the reasons for the request and be submitted so as to arrive in the Coordinator's office at least 90 days prior to the Agreement End Date.***

G. PROJECT OBJECTIVES:

H. REPORT PERIOD:

I. ACCOMPLISHMENTS THIS PERIOD:

J. PROBLEMS ENCOUNTERED (If any): *If the project is behind schedule, a detailed description of why must be included in this quarterly report.*

K. TECHNOLOGY TRANSFER ACTIVITIES: *List any reports, papers, presentations published/presented during the report period or anticipated for the next quarter.*

L. STATUS BY TASK: *Show Work Task Number, description and % complete for each task including those completed, those underway, and those not started.*

M. PERCENT COMPLETION OF TOTAL PROJECT: _____%

N. ACTIVITIES PLANNED FOR NEXT QUARTER:

O. FINANCIAL STATUS:

As of: Month, Day, Year

Total Project Budget: \$ _____

Total Expenditures : \$ _____

Note: This report should not require more than 2-3 pages & should be e-mailed to the Lead State and the NETC Coordinator so as to arrive no later than three (3) working days after the end of each calendar quarter.

A-10 TYPICAL SCHEDULE OF PROGRAM YEAR ACTIVITIES

Research Problem Statement (RPS) solicitation - due mid-January. The six member state DOTs (NH, ME, VT, CT, RI, MA) submit research problem statements (RPS) that are endorsed by the research manager in each state. The RPS solicitation goes out in mid-November, and submissions are due to the NETC Coordinator by mid-January.

Literature Search Performed on RPSs - due March 1. The NETC Coordinator organizes the effort for endorsing state transportation departments to perform literature searches on their research problem statement submitted. Once they are complete, the NETC Coordinator distributes them to the Advisory Committee for review in preparation for the ranking meeting.

Ranking of the Research Problem Statements - due March 31. The NETC Advisory Committee reviews all the research problem statements and literature searches and with support from their department's technical staff, ranks them. The highest ranked projects are selected to move forward as the Annual Research Program.

Technical Committee (TC) Formation - names due April 15. Technical Committees (minimum of 4 states represented) are established. The Advisory Committee members are responsible for providing the name and contact information. A state can have more than one Technical Committee member, but they are only allowed one vote.

Scope of Work written by TCs - due June 15. The Technical Committees use the Research Problem Statement to develop a Scope of Work. First, the Technical Committee Chair should meet with their respective Advisory Committee member and NETC Coordinator to discuss the Scope of Work. Then the Technical Committee Chair prepares an initial draft of the Scope of Work for distribution to the rest of the committee. Finalizing the draft Scope of Work document usually requires one meeting and several email exchanges. The Scope of Work will be reviewed by the Advisory Committee during their June conference call before moving on to the next step.

Scope of Work received by Lead State - due July 1. The Scope of Work must be received by the Lead State before moving on to the next step.

Solicit a Request for Proposals - Proposals due September 15. The Lead State issues the RFP solicitation in late July and it is generally open for six (6) weeks.

Review of Proposals by TCs - recommendations to AC - due October 15. The Technical Committee will review and evaluate all the proposal submissions (usually 3-4). The Technical Committee will recommend that a specific proposal be funded.

Recommendations approved by AC - due October 31. The recommended proposal for funding must be approved by the Advisory Committee before moving on to the next step.

Execute Research Contract - due February 1. The Lead State will work with the research institution to execute a research contract.

Conduct Research (ongoing). The NETC Coordinator will organize and facilitate the project kick-off meeting, or any Technical Committee meetings throughout the project (usually a minimum of 2). The NETC Coordinator and Lead State will also request Quarterly Progress Reports for each open research project. They are due the third business day of January, April, July, and October. The Quarterly Progress Reports are distributed to the Technical Committee for review.

Implementation (ongoing). The NETC Coordinator works with the Technical Committee members to ensure implementation of the research at their respective DOTs.

A-11 DISTRIBUTION LIST FOR NETC FINAL REPORTS

Notification by email that report is available in electronic PDF format from the NETC website (Hyperlink provided by URL).

AASHTO RESEARCH ADVISORY COMMITTEE-Region 1:

Northeastern Association of State Transportation Officials (NASTO): ListServ RAC_REG1@LSW.NAS.EDU

- Connecticut
- Delaware
- Maine
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Rhode Island
- Vermont
- District of Columbia

NETC ADVISORY COMMITTEE (STATE UNIVERSITIES):

Michael A. Knodler, Jr., PhD
University of Massachusetts Amherst
mknodler@engin.umass.edu

Per E. Garder
University of Maine
garder@maine.edu

Jo Daniel
University of New Hampshire
Jo.Daniel@unh.edu

Eric Jackson
University of Connecticut
E.jackson@engr.uconn.edu

Deborah Rosen
University of Rhode Island
drosen@uri.edu

Eric Hernandez
University of Vermont
eric.hernandez@uvm.edu

FEDERAL HIGHWAY ADMINISTRATION DIVISION OFFICES (CT, MA, ME, NH, RI):

Patrick Bauer
Federal Highway Administration, NH
James C. Cleveland Federal Bldg.
53 Pleasant Street
Suite 2200
Concord, NH 03301
Patrick.Bauer@dot.gov

Amy Jackson-Grove
Federal Highway Administration, CT
628-2 Hebron Avenue, Suite 303
Glastonbury, CT 06033
Amy.Jackson-Grove@dot.gov

Carlos Machado
Federal Highway Administration, RI
380 Westminster Mall, Fifth Floor
Providence, RI 02903
carlos.machado@dot.gov

Todd Jorgensen , Division Administrator
Federal Highway Administration
Edmund S. Muskie Federal Bldg.
40 Western Avenue, Room 614
Augusta, ME 04330
Todd.jorgensen@dot.gov

Jeff McEwen Pamela Stephenson Federal Highway Administration, MA
Transportation System Center
55 Broadway, 10th Floor
Cambridge, MA 02142
Jeff.McEwen@dot.gov

LEAD STATE FHWA (subject to change):

Christopher Jolly
Federal Highway Administration Vermont
87 State Street
PO Box 568, Room 216
Montpelier, VT 05601
Christopher.Jolly@dot.gov

NETC ADVISORY COMMITTEE (STATE DOTs):

Emily Parkany
Vermont Agency of Transportation
Materials & Research Section
National Life Building, Drawer 33
Montpelier, VT 05633-5001
Emily.Parkany@Vermont.gov

Michael Connors
Connecticut Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546
Michael.Connors@ct.gov

Jo Lima
Rhode Island Department of Transportation
Research & Technology Development
2 Capitol Hill, Room 013
Providence, RI 02903
Jose.Lima@dot.ri.gov

Dale Peabody
Maine Department of Transportation
Transportation Research Division
Office of Policy & Research
16 State House Station
Augusta, ME 04333-0016
Dale.peabody@maine.gov

Nicholas Zavolas
Massachusetts Department of Transportation
Office of Transportation Planning
10 Park Plaza, Room 4150
Boston, MA 02116-3973
Nicholas.Zavolas@state.ma.us

Ann M. Scholz
New Hampshire Department Of Transportation
Bureau of Materials & Research
P.O. Box483, 5 Hazen Drive
Concord, NH 03302-0483
AScholz@dot.state.nh.us

FHWA, LIBRARIES/INFORMATION CENTERS:

Federal Highway Administration Research Librarian
FHWA Research Library
6300 Georgetown Pike
McLean, VA 22101-2296
fhwalibrary@dot.gov

Office of Corporate Research, Technology, and Innovation Management
Federal Highway Administration, HRTM-10
Turner-Fairbank Highway Research Center, Room T-305
6300 Georgetown Pike
McLean, VA 22101-2296
John.moulden@dot.gov

National Transportation Library (NTL)
NTLDigitalSubmissions@dot.gov

National Technical Information Service (NTIS)
5301 Shawnee Road
Alexandria, VA 22312
input@ntis.gov

Transportation Research Board Library (TRID)
500 Fifth Street, NW
Washington, DC 20001
<http://trid.trb.org/submit.asp>

Transportation Library, Northwestern University
(Attn: Roberto Sarmiento)
1935 Sheridan Road
Evanston, IL 60208
r-sarmiento@northwestern.edu

Carol Paszamant
NJ DOT Research Library. P.O. Box 600
MOB, Third Floor
Trenton, NJ 08625-0600
DOT.Library@dot.nj.gov

Connecticut State Library
Collection Management
231 Capitol Avenue
Hartford, CT 06106
CSL.ISREF@ct.gov

Susan Dresley
Volpe National Transportation Systems Center
Susan.dresley@dot.gov
volpelibrary@dot.gov

Rita Evans
University of California, Berkeley
412 McLaughlin Hall
Berkeley, CA 94720
revans@library.berkeley.edu

Charles Shipman
New Hampshire State Library
20 Park Street
Concord, NH 03301
charles.shipman@dncr.nh.gov