Alaska
Department of
Transportation
and
Public Facilities

Alaska Standard Operating Procedures Manual

for Research and Technology Transfer

Effective April 15, 2004

Preface

This document applies to the Department's Research and Technology Transfer program, including experimental and demonstration projects, from the conception of a project through the implementation of results. It also applies to the Local Technical Assistance Program, the Native Local Technical Assistance Program, the Border Technology Exchange program, the National Highway Institute program, and the Technology Applications Program. It provides an overview of the programs and the way they are run. This manual is not an official Department policy or procedure. It is a guidebook for program staff and program users. This document fulfills the requirements set out in 23 CFR 420.207(c).

Prepared by: Billy Connor, P. E.
Statewide Research Manager, Design and Engineering Services

Recommended: _____

      Gary Hogins, P.E.
      Director
      DESIGN AND ENGINEERING SERVICES DIVISION

Recommended: _____

      Michael Barton
      Commissioner
      ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

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1.1.   Research and Technology Transfer Program Overview

The Department of Transportation and Public Facilities (DOT&PF) Research and Technology Transfer program (RTT) is funded through the Federal Highway Administration's (FHWA) State Planning and Research (SPR) program, Local Technical Assistance Program (LTAP), Surface Transportation Program (STP), and state matching funds.

The research staff conducts and oversees research projects on behalf of the Department. Through the research staff, the Department also maintains contact with the national and international transportation research community to obtain findings that may apply to Alaska. The research staff provides results to appropriate Department staff, local agencies, and the public through publications, training, and other means. Research staff also assists in implementing these findings.

RTT includes the following programs for the Department:

- Local Technical Assistance Program (LTAP)

- Native Local Technical Assistance Program (NLTAP)

- Border Technology Exchange Program (BTEP)

- National Highway Institute (NHI) training program

- Technology Applications Program (TAP)

The RTT staff may also undertake work using additional state funds or funds from other agencies, such as the Alaska Science and Technology Foundation, if they become available.

1.2.   Program Goals and Responsibilities

1.2.1   Research

The goal of the RTT program is to improve procedures, techniques, materials, and equipment used by the Department for planning, design, construction,

operation, and maintenance of state transportation systems and facilities, and to ensure their implementation within the Department and in local communities.

Through conducting and implementing relevant research, we assist Department staff and other transportation professionals in their efforts to:

- Advance safety

- Use state and federal resources efficiently

- Ensure that transportation systems are constructed and operated with minimal harm to the environment

- Design, construct, maintain, and operate facilities at the lowest life cycle costs

- Protect the Department's capital investments

1.2.2   Local Technical Assistance Program (LTAP)

The LTAP is a national program designed to improve access to highway, road, and street technology for communities and tribal governments. Its mission is to foster a safe, efficient, environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer.

LTAP, a program of FHWA, serves as a primary channel through which existing and new innovative transportation technology is prepared and delivered to urban and rural communities in the United States and to American Indian tribal governments. There are 57 Technology Transfer (T2) Centers (one in each state, one in Puerto Rico, and six for American Indian tribal governments) that provide training and technical assistance via training and workshops, information dissemination, and technical assistance.

The LTAP is designed to be flexible, and varies from state to state to help meet transportation needs in the most efficient, cost-effective, and responsive manner. LTAP operations, goals, and objectives are further defined in the *LTAP Handbook*. Work tasks include:

- Publishing a quarterly newsletter

- Serving as a clearinghouse for local transportation agencies to obtain publications, video tapes, and

other technology resource documents, such as manuals and field guides

- Maintaining a comprehensive, up-to-date mailing list of rural and local officials having transportation responsibilities

- Conducting at least 10 training courses per year for local transportation agencies

- Providing information on new and existing technology

1.2.3 Border Technology Exchange Program

BTEP is an initiative of FHWA's International Programs Branch. It came about because the North American Free Trade Agreement (NAFTA), which expanded potential for trade with border countries, did not address the transportation infrastructure impacts of increased trade. NAFTA also failed to address the aspects of new working relationships required to advance transportation projects and systems under a free trade environment. FHWA designed BTEP to enhance and expand binational working relationships, and to create the opportunity for transportation officials to improve the planning, design, construction, and operation of land transportation facilities.

In Alaska, the BTEP is a relationship with the Yukon Government Transportation (YGT) in the Yukon Territory in Canada, and it:

- Formalizes and funds several unofficial ongoing activities, such as sharing design, construction, and/or mitigation techniques on a variety of pavements and asphalts, permafrost, and new structure designs

- Forms new, long-term activities

BTEP provides the opportunity to expand the transportation knowledge base of both countries. Because Alaska DOT&PF and the YGT both deal with cold weather engineering problems, both have similar design, construction, and maintenance difficulties, and can share problems and solutions.

1.2.4 National Highway Institute

NHI is the technical training organization of the FHWA. Created in 1970 by federal legislation, the NHI administers training programs reaching more than 15,000 people each year, and it works with approximately 550 universities nationwide to administer educational programs that attract students to the transportation field.

The training that states receive is technical training produced by NHI and taught by NHI contract instructors or FHWA employees. States receive training upon request, depending on availability of instructors. The NHI program provides training for DOT&PF employees who are federal-aid eligible; that is, employees who are working on projects funded by FHWA.

NHI provides technical training in the following areas:

- Civil Rights

- Hydraulics

- Planning

- Structures

- Traffic engineering

- Environment

- Geotechnics

- Pavements

- Safety

- Construction and maintenance

- Design and traffic operations

- U.S. transportation policy

1.2.5 Technology Applications Program

TAP includes training and seminars provided by FHWA via Demonstration Projects, Application Projects, Test and Evaluation Projects, and Special Projects.

- **Demonstration Projects (DP):** Efforts to promote nationwide a proven material, process, method, equipment item, or other feature that FHWA has targeted for adoption by the highway community

- **Application Projects (AP):** Individual efforts to assess, refine, or disseminate an emerging technology. Such efforts may include contracts, regional or national seminars or workshops, specifications, notebooks or pamphlets, instructional guides, open houses, and focused

clearinghouses that are not part of demonstration or test and evaluation projects.

- **Test and Evaluation Projects (TE):** Efforts to evaluate innovative or emerging technologies that have been identified as having a great potential for use nationwide

- **Special Projects (SP):** Evaluation efforts of industry and the FHWA in conjunction with interested states to evaluate a material, process, method, or other feature. An effort begins with a technology sharing meeting, and progresses through a work plan and several control experiments (or operational tests) to a closeout evaluation. These special projects can lead to a demonstration, test and evaluation, or a combination of the two project types.

2. Organization and Management

2.1. Overview

We manage the research and technology transfer program to:

- *Provide the Department and local governments with the latest technology, materials, and procedures for conducting our business.* We achieve this through research in such areas as materials, geotechnics, structures, safety, traffic control, the environment, maintenance, marine vessels and planning.

- *Assist Department personnel with problem solving.* Examples of this type of support are: developing or evaluating design methods, hydraulic analysis, thermal analysis, reviewing plans and specifications, and analyzing failures. When appropriate, research staff performs literature searches to identify sources of information to solve a particular problem.

- *Provide a transportation-based statewide training program*

- *Provide education and technical assistance outreach to local governments and DOT&PF,* including classroom and hands-on training, information dissemination via newsletter and lending library, and act as an information referral resource.

We discuss each facet of the organization and management of the research program in detail below. Figure 2-1 shows the staff organization.
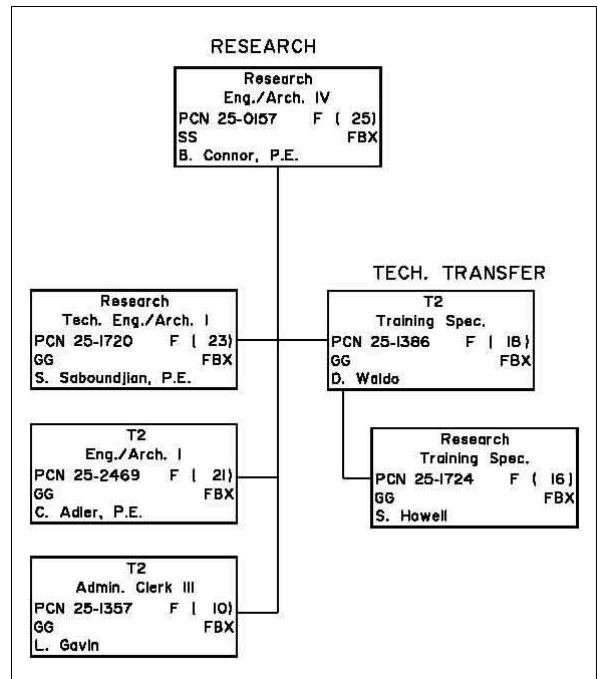
Figure 2-1
Staff Organization Chart

2.2. Research Advisory Board

The Research Advisory Board has the following duties and responsibilities:

- Establish ranking criteria for Research Needs Statements

- Prioritize Research Needs Statements that have been submitted to Statewide Research for consideration

- Promote statewide research activities and encourage the implementation of research results into Department activities

- Provide general oversight and guidance to the research program and make recommendations to the chief engineer

The board consists of nine voting members, or their designees, who vote on all Research Needs Statements:

- Chief Engineer, Statewide Design and Engineering Services (serves as chair of the Research Advisory Board)

- Deputy Commissioner of Highways and Public Facilities
- Deputy Commissioner/Director of Marine Operations, Alaska Marine Highway System
- Deputy Commissioner of Aviation
- Director, Division of Program Development
- Central Regional Director

- Northern Regional Director
- Southeast Regional Director
- FHWA representative

The board also includes 11 subject matter experts who vote only on research needs statements in their subject area:

Subject Area	Subject Matter Experts
Planning/Intelligent Transportation Systems	Director, Division of Program Development
Preconstruction /Design	Regional Preconstruction Engineer (rotating)
Environmental	Statewide Environmental Coordinator
Traffic & Safety	Statewide Traffic Engineer
Bridge/Structures	Statewide Bridge Engineer
Hydraulics/Hydrology	Statewide Hydraulic Engineer
Marine Highways	General Manager, Alaska Marine Highway System
Materials/Geotechnical	Statewide Materials Engineer
Construction	Regional Construction Engineer (rotating)
Maintenance & Operations	Statewide Maintenance & Operations Engineer
Administration/Policy/Commissioner's Office	Director, Division of Administrative Services

The chief engineer may also designate nonvoting board members. Executive board members and subject matter experts may delegate their board duties to persons familiar with and having broad authority over a range of issues within their subject area.

The board meets in the fall to review and rank Research Needs Statements for the current federal fiscal year and to conduct other business. The chair may call additional meetings as necessary. There must be a quorum (six members) present at a meeting for the board to take action.

For the project selection process, see Chapter 5.

2.3.   Technology Transfer Advisory Board

The Technology Transfer Advisory Board (T2AB) consists of 13 members appointed by the commissioner. Members serve terms of three years, with a third of the members appointed each year on a rotating basis. Membership is a cross-section of the local agencies served by the program and is made up of professionals from the state, local roads, and FHWA. The T2AB meets twice a year, at least once in person, to accomplish its activities.

The responsibilities of the T2AB are to:

- Guide the LTAP center in addressing local needs
- Develop the annual work plan
- Ensure the newsletter includes information to meet identified needs

T2AB members provide input on constituent needs, act as a sounding board for new ideas, and either provide ideas for or write newsletter articles. The board also acts as an advocate for the LTAP, and disseminates information to its own constituents.

2.4.   Chief Engineer (Statewide Design and Engineering Services)

The chief engineer has the following responsibilities in the RTT program:

- Provide supervision and direction to the RTT section
- Serve as chair of the Research Advisory Board

- Approve all RTT work programs before submission to the FHWA.

The chief engineer may delegate these responsibilities as permitted by the Department's delegations of authority.

2.5. Research Manager

The research manager has the following duties and responsibilities in the RTT program:

- Manage the day-to-day work of the Statewide Research and Technology Transfer sections, including:

    o Development of work plans

    o Assignment of projects to staff and project managers

    o Preparation of project budgets

    o Review and approval of changes in project scope and budgets

    o Approval of billings for payment based on work products received

- Prepare and administer the following budgets: research, Local Technical Assistance Program, Native Local Technical Assistance Program, Border Technology Exchange Program, and National Highway Institute

- Work with Department staff to create a research program that is useful, practical, and provides economical results

- Provide preliminary review of research needs statements

- Prepare the proposed research work program based on project rankings and direction from the Research Advisory Board and the director of Statewide Design and Engineering Services

- Ensure that research is completed according to work plans and within budgeted amounts

- Ensure contract compliance

- Review draft research results and acceptance of final work product

- Act as secretary to the Research Advisory Board

- Advise Research Advisory Board

- Act as primary point of contact for the research program with the FHWA and national research groups

- Act as the Department's representative to national research groups

- Act as contracting officer for the RTT program

- Ensure the Department's Research and Technology Transfer programs meet the requirements of the Code of Federal Regulations and the Federal Highway Administration

- Propose changes to Department policies and procedures based on research results

- Implement research results within the Department and throughout the state with local communities and the private sector

- Prepare and implement a Department-wide training program

- Respond to inquiries from the Legislature and the public as appropriate based on internal Department research or literature reviews

- Oversee outreach efforts of technology transfer staff to local communities

- Manage pooled fund studies

- Serve as secretary to the Research Advisory Board

2.6. Research Engineer/Project Manager

Research engineers have the following duties and responsibilities:

- Review Alaskan, national, and international transportation-related research for relevant and beneficial concepts

- Develop and execute statewide research implementation and training plans to change and improve Department specifications, policy, and practice related to the design, construction, maintenance, and management of the state's transportation infrastructure

- Develop and manage research projects, including principal investigator selection, budget preparation, and contract negotiation and management

- Prepare and evaluate Research Need Statements

- Perform engineering analysis and interpretation of research results, form conclusions, and prepare research reports

- Manage the Statewide Experimental Features in Highway Construction Program, including project development, budget preparation, and coordination of evaluation and implementation processes

- Coordinate DOT&PF's participation in the FHWA Transportation Pooled Fund (TPF) Research Program. Manage TPF research projects and financial commitments, and serve as technical and administrative liaison for DOT&PF. Disseminate and implement TPF research project results.

- Solicit, review, and evaluate research needs from DOT&PF employees, universities, and industry and develop those of highest merit for consideration by the Research Advisory Board

- Prepare budget requests and proposals for future research programs

- Assist in preparing the annual research work program, with proposals, work plans, and budgets for DOT&PF-performed research, and coordinate with FHWA staff to obtain approvals for the federally funded (SPR) research program

- Respond to inquiries from DOT&PF staff, legislators, and the public on transportation problems

- Serve on national committees working on cooperative studies of various transportation engineering problems

- Maintain a database of innovative practices and project features for reference and technology transfer. Promote the use of this database by Department staff.

2.7. Technology Transfer Center Manager

The Technology Transfer (T2) center manager is in charge of several outreach programs within DOT&PF and to other state, local, and federal agencies, providing state-of-the-art and state-of-the-practice transportation-related technology and information.

These include the Local Technical Assistance Program's (LTAP) T2 Program, the Native LTAP Program, the National Highway Institute (NHI) Program, and the Statewide Research Program.

The T2 center manager has the following duties and responsibilities:

- Ensure training is provided in a variety of forms: courses, workshops, seminars, conferences, hands-on sessions, demonstrations, one-on-one sessions, and via loan of training packages

- Seek out and procure appropriate transportation-related training and workshops

- Oversee and approve the development of training in-house, and the update, customizing, and modifying of existing workshops

- Coordinate the presentation of demonstration projects produced by FHWA and others

- Negotiate agreements with instructors and training providers; and approve agreements negotiated by the training coordinator

- Coordinate with the University of Alaska Fairbanks Conferences and Special Events personnel and other external sources to arrange for classroom space and equipment, course materials, and instructor travel arrangements

- Prepare course announcements and other promotional course materials

- Respond to requests for assistance and requests for transportation technology and information

- Provide a transportation information clearinghouse and referral service for all transportation workers in Alaska on a variety of transportation topics

- Provide a technical information service, consisting of a Web page and a library of transportation publications, journals, research reports, software, videos, interactive CDs, and CD-ROMs

- Ensure that new materials for the library are appropriate; and review existing materials for currency. Ensure that library materials are loaned following established policy; track lending activity

- Supervise newsletter scheduling, preparation, and production. Approve all articles and provide final editing. Work with the part-time student editor and the T2 Advisory Board to solicit articles, topics, and guest writers

- Approve new methods of newsletter preparation and production

- Provide editing of statewide research and other technical reports, and provide layman abstracts extracted from the report abstract or report content

- Coordinate with statewide research manager and the training coordinator to consult the client bases of the T2 and Native LTAP, NHI, and statewide research to identify and assess transportation-related training needs

- Evaluate training needs and determine the useful and cost-effective way to meet client needs

- Evaluate the LTAP/T2 Program's effectiveness and provide the APWA Clearinghouse and the FHWA with an annual summary. Schedule and coordinate semi-annual meetings with the T2 program's advisory board.

- Assist RTT in research implementation techniques and training methods during research project development and assist the research contractor in developing the appropriate tool(s), including but not limited to lesson plans, a video, or a demonstration activity

- Assist in developing long-term training schedules based on identified training needs

- Coordinate technology outreach to Alaskan high school students in partnership with the UAF College of Science, Math, and Engineering

- Establish and maintain a network of contacts with managers in local, state, federal highway agencies, other LTAP/T2 Centers, and with other organizations that have partnering agreements with the LTAP's National Association of Transportation Technology Transfer Centers

- Serve on appropriate national committees working on technology transfer and implementation

2.8. Training Coordinator

The training coordinator has the following duties and responsibilities:

- Seek out appropriate transportation-related training and workshops from other sources

- Work with Technology Transfer Center manager to develop training in-house, and customize existing workshops

- Contact Alaska specialty professionals and experts in the subject discipline or field to ensure appropriate customization. Training should incorporate sound engineering principles and maintenance practices for all aspects of highway design, construction, and maintenance.

- Consult T2 client base to identify transportation-related training needs, and to determine the most cost-effective and useful way to meet these needs

- Work with Technology Transfer Center manager to guide the inclusion of implementation techniques and training methods in research project development

- Assist the research contractor in development of the appropriate tool(s), including but not limited to lesson plans, a video, or demonstration

- Assist in developing need-based, long-term training schedules

- Procure training from a variety of sources: LTAP Resources catalog, National Highway Institute, Northwestern University, other LTAP centers, and other entities recognized in the industry for their expertise

- Coordinate presentation of demonstration projects produced by FHWA and others

- Design training plans and develop curricula for a variety of transportation-related training, and develop associated materials and classroom modules

- Select subjects and materials for training, review the sequence of the subject material, and schedule presentation in time modules

- Incorporate a variety of teaching methods to address adult learning needs

- Provide classroom instruction, including reviewing lesson outlines to ensure the material is current, complete, and in a logical sequence

- Conduct on-site training at local, state, and federal highway agency facilities, and at privately contracted sites

- Conduct on-site training in the field

- Establish and maintain a network of contacts with managers in local, state, and federal highway agencies to refine identified training needs

- Establish and maintain a network of peer contacts with other LTAP centers with the goal of using them as a training resource and a referral base

- Stay current with existing and developing technologies and with training principles and instructional techniques to ensure training remains appropriate. This includes using the Internet and reviewing publications, materials, training videos, technical videos, and new product videos.

- Track status of training in T2, NHI, and research implementation

- Administer the section's Web site

- Maintain a database of training materials

- Develop NHI course flyers

- Assist with coordinating the Western Alliance for Quality Transportation Construction/Technician Training Certification Program (WAQTC/TTCP)

- Assist the RTT center manager in developing the NHI work plan

2.9.   Principal Investigator

The principal investigator may be a DOT&PF or university employee, or a consultant. He or she has the following responsibilities:

- Must be familiar with the technical area being investigated, the underlying theory, and research techniques

- Must agree to directly manage the research work on a particular project

- Must possess technical competence in appropriate fields and be designated in the project proposal

This person should be the author or co-author of technical reports resulting from research. Co-principal investigators may also be designated in the project proposal.

2.10.   Technical Advisor

A technical advisor is a person with responsibilities, experience, knowledge, and/or interest in the technical field under investigation in a research project. The project manager nominates one or more technical advisors for each project; the research manager approves them. For SPR-funded projects, invite the FHWA to suggest a staff member to act as a technical advisor. For large projects, several technical advisors may be named, and may include representatives from the university and/or private industry. The technical advisor has the following duties:

- Work with the project manager and the principal investigator to develop the project proposal, to ensure useful research

- Attend project site visits, review conferences, and other meetings, and offer technical advice and constructive criticism on the project as needed

- Periodically review project work to compare the approach and progress made relative to the stated project objectives, and determine if the research is appropriate

- Review reports and products to ensure they meet the requirements outlined in the project proposal and provide results in a useful form for the Department's needs

- Work with the project manager to implement the research results

2.11.   Technical Committee

Whenever a research project is large enough to require involvement of more than two technical advisors to ensure successful research, a technical committee will be appointed. In such cases, the project manager, who chairs the committee, will submit to the research manager a proposed list of committee members. The research manager will make the necessary arrangements for members to serve on the technical committee. Each member of the technical committee is charged with the duties described under Section 2.11., Technical Advisor.

3.   Work Programs and Funding

3.1.   Research Work Program

The Research Work Program is the listing of all active research studies, along with the estimated costs and funding sources for each project.

Periodically it may be necessary to consider adding new projects to the Research Work Program without waiting for the annual selection procedure. An example is the extension of work from a recently completed study or critical issues on which the commissioner or other top management request immediate action. The chief engineer may make these changes to the Research Work Program.

The FHWA must concur if the added project is part of the SPR Work Program.

The research manager may make minor amendments to the work program, sending informational copies of the amended work program to the chief engineer and FHWA. Minor amendments change budgets for the approved work program by less than 10 percent of the total or $100,000, whichever is greater. The research manager may not increase the size of the program; a budget increase for one project must be matched by a budget decrease for another project.

3.1.1   Funding

The research manager is responsible for the financial management of the research program. He or she determines funding availability and prepares an annual proposed program budget for the director's approval. Once the director approves the program budget, the research manager implements the budget and keeps the board apprised of funding levels. This implementation includes assessing the need for changes to individual project budgets, tracking project expenditures, and ensuring that project funds are spent appropriately.

The research manager tracks projects to ensure that project managers keep their projects within established budgets, and provides monthly budget reports to the director and semi-annual reports to the board on the status of current projects and their budgets.

The research manager also prepares an annual report for submission to the FHWA containing summary information about each open research project. 23 CFR §420.117, Program monitoring and reporting, says:

> *"In accordance with 49 CFR §18.40, the STA shall monitor all activities, including those of its subrecipients, supported by FHWA planning and research funds to assure that the work is being managed and performed satisfactorily and that time schedules are being met.*
>
> *(b) (1) The STA shall submit performance and expenditures reports, including a report from each subrecipient, that contains as a minimum:*
>
> *(i) Comparison of actual performance with established goals;*
>
> *(ii) Progress in meeting schedules;*
>
> *(iii) Status of expenditures in a format compatible with the work program, including a comparison of budgeted (approved) amounts and actual costs incurred;*
>
> *(iv) Cost overruns or underruns;*
>
> *(v) Approved work program revisions; and*
>
> *(vi) Other pertinent supporting data."*

The research manager also maintains the required financial files for each project, and ensures the appropriate funding documents are prepared and submitted to the director and the Division of Program Development for funding action.

3.1.2   Modification of Project Scope or Budget

Submit all requests for changes in scope, schedule, cost or primary personnel for a research project in writing to the research manager. The request must fully document the reasons for the desired change(s). Modify the project proposal or agreement following the same procedure as for the original proposal or agreement. The director must approve major project changes.

3.2. Local Technical Assistance Program

The annual LTAP's T2 Center work plan includes activities anticipated during a calendar year, together with the funding resources for the year. The LTAP manager develops the work plan and budget as guided by the procedures in this manual, in the *FHWA Local Technical Assistance Program Field Manual FHWA-SA-96-043*, the LTAP Handbook, direction from the T2 Advisory Board, and direction from the division director. The director and FHWA must both approve the work plan before it is enacted.

3.2.1 Funding

LTAP funding comes from FHWA's national LTAP funding at a 50-50 match ratio. The LTAP manager is responsible for the financial management of the T2 center program. He or she determines funding availability and prepares an annual proposed work plan and budget for the director's and FHWA's approval. Upon approval, the manager implements the work plan. Implementation includes assessing the need for changes to the work plan, tracking expenditures, and ensuring that project funds are spent appropriately.

The LTAP manager also prepares an annual report for submission to the FHWA, using the profile format from the LTAP handbook provided by the American Public Works Association (APWA).

3.3. Border Technology Exchange Program

Alaska's BTEP is an exchange with the Yukon Government Transportation in the Yukon Territory, Canada.

3.3.1 Funding

Funding is 100 percent from FHWA, typically the International Programs Branch.

3.4. National Highway Institute Program

The training coordinator will assist the RTT manager in developing the annual NHI work plan, which is presented on a calendar year basis. Work plan development includes contacting directors and section chiefs to identify and establish training needs. The training coordinator is the primary contact with NHI, and is responsible for procuring courses, establishing presentation schedules with the NHI coordinator and

the instructor, and developing course flyers. The coordinator also is responsible for procuring an appropriate training location and securing an in-house local coordinator to receive and check shipped NHI training materials.

3.4.1 Funding

NHI funding is a portion of the annual SPR program. The program is funded on a federal fiscal year basis, and operates on a calendar year basis.

3.5. Technology Applications Program

3.5.1 Funding

DOT&PF may participate in projects that are funded with 100 percent federal funds made available under the FHWA's Technology Applications Program.

3.5.2 FHWA Solicitation and Project Development

FHWA solicits the state's interest in involvement in a project under one of the four program categories, primarily by letter. RTT forwards the solicitation to the appropriate DOT&PF division for a recommendation of interest. The interested division responds to RTT with the name of its assigned project director.

RTT responds to FHWA's solicitation, and FHWA notifies RTT if it has selected DOT&PF to conduct the project. FHWA often requests a proposal work plan prior to issuing funding. In some cases, the RTT provides the work plan to FHWA after DOT&PF receives the funding for the project.

If the project requires the involvement of a state-supported university, RTT sends out a request for competitive proposals to all institutions. In rare cases, FHWA requests a specific university in advance, and because the project is funded with 100 percent federal funds, RTT honors FHWA's request.

Once all agreements are executed, RTT sets up the project in DOT&PF's Financial Information Management System (FIMS) under a research account, which collects all project expenditures and targets the appropriate federal funding source for reimbursement.

3.5.3 Project Oversight

DOT&PF's project director has oversight over all technical aspects of the project, often serving as the

researcher as well if the project is conducted in-house. Reporting is required on a semiannual basis (unless the contract with FHWA requires otherwise), and research reports and deliverables are submitted by the researcher to RTT for coordination with FHWA as well as for project director review and approval.

3.5.4 Project Billing and Payment

Submit the billing for each 100 percent federally funded project as a separate bill to RTT. RTT ensures the project director reviews the billing and that it is paid by the appropriate DOT&PF finance section (FIN). The finance section is responsible for billing accumulated costs to FHWA for reimbursement. RTT notifies FIN when the project has been completed and accepted by FHWA so that a final bill can be sent to FHWA.

3.5.5 Project Records and Reports

RTT maintains a complete file on all 100 percent federally funded projects, and maintains a historical file of all previous projects. Reports produced under these projects are maintained in the RTT library.

4. National and International Activities

4.1.   General

The Statewide Research staff is the Department's liaison with national and international research programs. These programs include the specific groups and programs described in this chapter as well as others, such as the Strategic Highway Research Program (SHRP) and AASHTO's Standing Committee on Research.

4.2.   National Cooperative Highway Research Program

The Department supports and participates in the National Cooperative Highway Research Program (NCHRP), a joint program of AASHTO and FHWA. The Transportation Research Board (TRB) administers the program. NCHRP, established in 1962, provides a program of systematic, well-designed applied research. Program funding comes entirely from contributions from state transportation agencies. FHWA recommends contributions of 5.5 percent of each state's SPR allocation of federal highway funds. NCHRP contributions do not require the 20 percent in state matching funds common to other SPR-funded research activities.

NCHRP projects are developed in a two-stage, two-year process. In the first stage, NCHRP solicits ideas for research projects of a national scale from state representatives. In stage two, these projects are condensed and refined from more than 100 first-stage projects to 50 or more second-stage projects. Next, NCHRP solicits interest from national experts in the project area to participate in project panels. The panels develop project statements, solicit proposals, and select research agencies to perform the work. Finally, the participating states vote to select the projects that will be completed with the available funds.

The research manager is responsible for coordinating NCHRP project submissions and panel participation.

4.3.   Transportation Research Board

The TRB is a unit of the National Research Council. TRB's mission is to stimulate and coordinate transportation research activities, to publish research results of interest to states, and to conduct special research projects when appropriate. The Department supports the activities of TRB through annual contributions to the Transportation Research Information Service (TRIS) and to the NCHRP. The Department receives copies of all Transportation Research Record and NCHRP reports, literature search services, and waivers of registration fees for Department attendees at annual TRB meetings.

TRB maintains a selective distribution system for its publications. Statewide Research and the Transportation Library receive copies of all TRB publications. The Department's managers receive only those publications that relate to their respective areas of responsibility. The Technology Transfer staff annually reviews and revises the Department's TRB publication distribution list to ensure distribution to appropriate staff.

The research manager is the Department's permanent representative on the TRB.

4.4.   Transportation Research Information Services

TRIS is the Transportation Research Information Services database, a computerized information file maintained and operated by the TRB National Research Council. It is sponsored by FHWA, the Federal Transit Administration, National Highway Traffic Safety Administration, U.S. Department of Transportation, the 50 state highway and transportation departments, the District of Columbia and Puerto Rico, American Automobile Manufacturers Association, National Asphalt Pavement Association, U.S. Army Corps of Engineers, and Association of Railroads.

TRIS covers both U.S. and international research. It contains information on various modes and aspects of transportation, including planning, design, finance, construction, maintenance, equipment, traffic, operations, management, marketing, and other topics. TRIS contains more than 315,000 abstracts of completed research projects in progress.

Services available from TRIS include: literature searches, topical searches, and publications – *Transit Research Abstracts, Highway Safety Literature,* and quarterly *Highway Research Abstracts.*

TRIS is a free service for Alaska DOT&PF and all other states that are annual TRB sponsors. Sponsorship occurs via payment of annual membership dues.

The Statewide Research and Technology Transfer staff serves as contact points for this service, and provides literature searches to Department staff upon request. The research staff enters information about the Department's active and completed research into TRIS, as required by 23 CFR 420.207(a)(4).

4.5.   State Planning and Research Program

The State Planning and Research (SPR) Program is the mechanism for funding highway research and planning work. FHWA funds the program by dedicating 2 percent of the annual highway construction funds to SPR. A minimum of one-quarter of SPR funds must be spent on Research, Development, and Technology Transfer activities. SPR funds generally must be matched with state funds in the ratio of 80 percent federal to 20 percent state funds. Some programs funded by SPR do not require a state match. SPR projects must be managed in accordance with 23 CFR 420.

SPR is a federal funding program made up of two parts: planning and research. The research manager is responsible for the DOT&PF research program, and the director of the Division of Program Development is responsible for the planning program.

4.6.   Federal Highway Administration Direct Research Programs

The Department may participate in projects developed and funded directly by the FHWA, such as the Office of Technology Applications Demonstration Projects, Application Projects, Test and Evaluation Projects, and Special Projects. The research manager

recommends participation in the programs to the board. The Technology Transfer manager coordinates demonstration projects training and seminars for DOT&PF.

4.7.   Pooled Fund Studies

The Department may participate in pooled fund studies, in which resources from several states or other government agencies, universities, and/or industry sources are combined to support a single research effort. Contributions to such cooperative studies, if they have been approved by the FHWA as part of their national or regional Pooled Fund Study program, do not require the 20 percent in state matching funds common to other SPR-funded research activities. Proposals for participation in Pooled Fund Studies must come to the board for approval. The research manager coordinates nominations for Pooled Fund Studies.

4.8.   Experimental Features in Highway Construction

This program enables federal highway construction funds to be used for promising but unproven materials, methods, and techniques where such use of federal funds would not normally be allowed. To be eligible for the experimental features program, the work plan for the project must include an evaluation of the experimental feature upon completion of the work. The evaluation plan must be approved by the FHWA prior to or concurrent with the Plans, Specifications, and Estimate approval. If the experimental feature fails, repair or replacement costs are also eligible for federal-aid funds.

The Department supports use of this program to encourage innovation in highway construction in general, and specifically for full-scale demonstrations of concepts developed in the research program. Construction funding generally pays the costs of experimental features and their evaluations.

The Statewide Research staff assists Department staff in developing evaluation plans and coordinating program activities with the FHWA, and in fund evaluation activities that extend beyond the construction phase of a project, and compile and disseminate results.

4.9. Local Technical Assistance Program

DOT&PF's LTAP T2 Center is part of FHWA's national LTAP network of 57 T2 centers. This network of LTAP centers provides services, technical assistance, training, advice, and educational resources to meet the varied needs of local transportation work forces. There is one center in each state, plus Puerto Rico, and six regional centers serving American Indian tribal governments. While each LTAP T2 Center has the flexibility to tailor its own program, each must fulfill six basic program responsibilities:

- Publish a quarterly newsletter

- Serve as a clearinghouse for transportation information

- Maintain mailing lists of local, state, federal, and transportation responsibilities

- Conduct at least 10 training courses per year

- Provide information on new and existing technologies

- Perform a self-evaluation of the program

The nation's LTAP T2 centers, including Alaska, are members of the National Association of Technology Transfer Centers (NATTTC). The NATTTC is an assembly of LTAP T2 Centers, established to serve as a mechanism for centers to address issues with a unified voice, such as continued funding during each Surface Transportation Act. NATTTC facilitates communication and coordination among the association members and other government, academic, and private institutions and associations. Center directors and managers participate as regional representative members of the Executive Committee of the NATTTC, serving on rotation with other centers in their region.

5. Research Project Selection Procedures

5.1.   Solicitation of Research Needs Statements

Except as noted in Section 3.1, Statewide Research staff develops research projects from Research Needs Statements. The research manager solicits Research Needs Statements annually from Department staff. They are accepted, solicited or unsolicited, throughout the year and held until the Research Advisory Board ranks them at the annual board meeting.

Needs solicitations explain the research program and the needs identification process, schedule, and deadlines. The Research Needs Statement form is shown as Figure 5-1.

Statewide Research staff review the Research Needs Statements received from Department staff and other sources. They reject statements that are inconsistent with the mission of the Department or inappropriate for the funding sources available, and investigate problems for which solutions may already exist through literature searches or personal contacts. Statewide Research staff may expand or combine the remaining Research Needs Statements as appropriate and determine whether any Research Needs Statements from the prior year should be reconsidered for funding.

5.2.   Board Prioritization of Research Needs Statements

At least three weeks prior to the board meeting, the research manager distributes the compiled Research Needs Statements to the entire board. All board members are responsible for reviewing the statements prior to the board meeting.

At the Research Advisory Board meeting, subject matter experts have up to five minutes each to present each of the Research Need Statements in their subject area before the executive members of the board. At any time, the executive members may discuss, request clarification of, or remove from consideration

Research Need Statements. After hearing the presentations of all of the Research Need Statements in a subject area, the executive board members, along with the respective subject matter expert, sequentially rank the statement, according to the criteria in Section 5.3.

In addition to ranking the Research Needs Statements, the board may:

1. Add or remove Research Need Statements from board consideration

2. Alter Research Need Statements

3. Make recommendations to Statewide Research regarding scope, investigators, schedules, budgets, or other matters pertinent to the proposed research

5.3.   Ranking Criteria

The Research Advisory Board determines which Research Need Statements it will retain for ranking, and then ranks them according to the criteria in Figure 5-2.

The overall ranking of individual Research Needs Statements is the sum of the scores for the ten voting members of the board. In the absence of voting members, the ranking of individual Research Need Statements will be computed by multiplying the sum of the scores of individual research members by the weighting factor $(10/X)$, where X is the number of voting members present.

5.4.   Finalization of Work Program

The research manager includes the highest ranked Research Needs Statements as new projects in the annual research work program as allowed by funding levels. The research manager also recommends a project manager for each project to the chief engineer.

Figure 5-1
Research Needs Statement Form

Alaska DOT&PF Research and Technology Transfer
Research Needs Statement
FY 2004

Title:
Subject Area:
Priority Ranking (1, 2, 3,…):

Describe the problem to be solved.

Why does DOT&PF need to solve the problem?

What are the economic benefits?

How will the solution be implemented?

Why is this project innovative?

Matching funds?	Estimated cost to DOT&PF? $	**Estimated time to completion:**

Submitted by: **Date:**

Proposed Research Method:

Figure 5-2
Research Project Selection Criteria

STANDARDS	POINTS		
	(5)	(3)	(0)
Economic benefits following project completion Weight = 5	Supports significant new, identifiable, permanent economic opportunities or benefits statewide	Supports moderate new identifiable, permanent economic opportunities or benefits of regional or local scope	Supports minimal speculative or temporary economic opportunities or benefits or provides non-crucial benefits
Innovation Weight = 2	Project exhibits significant innovation, creativity or unique benefits.	Project exhibits moderate innovation, creativity or unique benefits	Project exhibits no innovation creativity or unique benefits
Potential for implementation Weight = 5	Almost certain to be implemented	May be implemented	Unlikely to be implemented
Current Department Need Weight = 5	Addresses a pressing statewide need.	Addresses a moderate statewide need or a regional need	No need
Chance of successful completion Weight = 5	Greater than 80%	80% to 70% = 4 70% to 60% = 3 60% to 50% = 1	Less than 50%
Other Funding Available Weight = 2	1 point for every 10% of other funding		
Cost of Project Weight = 1	Under $50k	$50k – $100k	Over $100k
Time to complete the Research Weight = 3	One year or less	2 years = 4 3 years = 3	more than 3 years

6. Research Project Procedures

6.1.   Proposal Preparation Requirements

Once a project manager has been assigned a research project, the manager first decides whether to do the project in-house or to outsource it. If it's outsourced, the manager will prepare a Request for Proposal (RFP). The technical advisor or technical committee will review and approve the RFP before the manager sends it out. The manager, in consultation with the technical advisor or committee, will solicit at least three proposals through the RFP process. The project manager and the technical advisor or the technical committee will review and score the responding proposals. Proposals may come from government, the academic community, or the private sector. The highest ranked proposal is forwarded to the research manager for review and approval. The manager then negotiates the final proposal, prepares the contract, and forwards it to the contracting officer for signature.

A principal investigator who has not completed prior research projects in a timely manner or has not produced acceptable products in the past is not eligible to participate in additional research projects until all prior research projects are completed or problems in previous work products are corrected.

6.2.   Research Project Reporting

Research reports are the primary record of the development, investigative procedures, and the findings in a project. Final reports are required for all research projects. Other reports described in this section may or may not be required as determined by the project manager and the research manager.

Reports must acknowledge sponsorship by the Department and other funding agencies, such as the FHWA for all SPR studies. All reports must contain a disclaimer stating that the information is the opinion of the author(s) and does not represent the views of the sponsoring agencies.

The purpose of reports is to monitor the progress of a project, maintain coordination between research staff

and project managers, and communicate the findings to the Department. Clear and concise communication is essential to:

- Ensure that readers understand the material

- Maintain administrative and financial records for documentation of contracts and agreements

- Ensure that the research work is consistent with the research study proposal, and that project changes are documented

- Provide timely disclosure of significant scientific or technical advancements and to identify problems that may require assistance from the Department or participating agency to resolve

- Provide final documentation of technical findings

- Promote implementation of study results

6.2.1   Progress Reports
The project manager submits semiannual progress reports to the research manager. These reports allow readers to quickly evaluate the progress, problems, and probable future direction of a project.

Progress reports should not exceed two pages. These reports are due April 30 and October 31.The initial progress report is submitted at the end of the first period in which the project has been active at least 30 days. The research manager submits copies of progress reports for SPR studies to FHWA.

6.2.2   Interim Project Report
The interim project report disseminates the findings of a distinct task in a research project. Generally, the need for an interim project report is anticipated and is included in the scope of work in the project proposal. If significant unexpected or early findings occur during the course of conducting research, amend the proposal to add an interim report to the scope of work.

The interim report format will vary depending on the information. Generally, it will follow the guidelines given in the following section for final reports, but may be abbreviated as the project manager deems appropriate.

6.2.3   *Final Report*

The final report is a major product of a research project, and the principal investigator is typically its author. It should be a complete record of the project, providing a history of the study and a thorough description of the objectives and research methods. Clearly state the conclusions and implementation recommendations in active voice. Also state the application of the findings, and when appropriate, identify further research needs. Inclusion of raw data is not normally required, but indicate its availability and location.

Submit the final report first in draft for Department review and acceptance.

Thoroughly review final reports prior to publication to ensure they are technically and grammatically correct, meet the goals of the proposal, and provide the best available information and conclusions in an understandable and usable format. More than one review and rewrite cycle may be required for complex projects. Project managers and technical advisors are responsible for reviewing and editing draft reports.

The project manager coordinates the report review assignments and schedule. The normal review and response time is 30 days. Written review comments must be transmitted to the authors within the 30-day review period. The principal investigator(s) must attempt to incorporate review recommendations into the report. If this is not possible, the principal investigator(s) may address the comments by separate correspondence.

Once the review process is complete, the principal investigator produces a clean original and an electronic version in a mutually agreed-upon format of the report for the research manager. Final reports for SPR studies must include a completed Federal Technical Report Documentation Page (Form 298) immediately inside the cover. A copy of this form and instructions are shown in Figure 6-1.

Figure 6-1
Technical Report Documentation Page

REPORT DOCUMENTATION PAGE	Form approved OMB No.

Public reporting for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestion for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-1833), Washington, DC 20503

1. AGENCY USE ONLY (LEAVE BLANK) FHWA-AK-RD-xx-xx	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED

4. TITLE AND SUBTITLE	5. FUNDING NUMBERS
6. AUTHOR(S)	

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) State of Alaska, Alaska Dept. of Transportation and Public Facilities Research and Technology Transfer 2301 Peger Rd Fairbanks, AK 99709-5399	10. SPONSORING/MONITORING AGENCY REPORT NUMBER FHWA-AK-RD-xx-xx

11. SUPPLENMENTARY NOTES

Performed in cooperation with …..

12a. DISTRIBUTION / AVAILABILITY STATEMENT No restrictions	12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

14. KEYWORDS :			15. NUMBER OF PAGES
			16. PRICE CODE N/A

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	N/A

STANDARD FORM 298 (Rev. 2-98) Prescribed by ANSI Std. 239-18 298-102

Final reports for other studies must include an abstract. If Research and Technology staff members are to do the printing and distribution, figures and graphs suitable for photographic reproduction and photographs ready for half-toning must be delivered with the clean original of the report.

6.3.　　Publication and Distribution

The Research and Technology Transfer staff may publish and distribute final research reports, or the university staff or consultants may do so as part of the project agreement. Occasionally studies may not reach meaningful conclusions, and reports on such studies may not justify full distribution. Limited report distributions require the concurrence of the funding agency (generally the FHWA). Distribution must occur, as a minimum, in accordance with the list in Table 6-1. Reports are also available on the DOT&PF Web page: www.dot.state.ak.us. Click on the following: *Inside the DOT&PF,* then *Research and Tech.*

6.4.　　Presentation of Findings

If the findings of a report are of widespread interest, the project manager or research manager may request presentation(s) of the report and findings. Presentations may take the form of seminars, training sessions, or workshops. Audiences may range from selected invited specialists to the public.

If a project proposer believes that the research results will be appropriate for general presentation, he or she should include the presentation in the original project proposal. Otherwise, presentations may be recommended as an implementation measure at the conclusion of a study (see Chapter 7).

Table 6-1
Mandatory Distribution List for Published Reports

Prepared in accordance with FHWA guidelines under 23 CFE Part 420 Subpart B

MAY SEND ELECTRONIC COPIES

Recipient	Address	#Copies
FHWA	FHWA Electronic Reading Room (+ 1 copy to Steve Boch) http://www.fhwa.dot.gov/pubstats.html	*1
FHWA	Velma Mackall, Technical Reference Center, Federal Highway Administration, Rm A200; 6300 Georgetown Pike; McLean VA 22101-2296	2
NTIS	National Technical Information Service – Jim Eggleston, 703-605-6156 input@ntis.gov	*1
TRB Lib	Transportation Research Board Library, GR314, ATTN: Barbara Post, 2101 Constitution Ave., NW; Washington, DC 20418 bpost@nas.edu	*1
UCB	University of California, TRISNET Repository; Institute of Transportation Studies Library, 412 McLaughlin Hall; Berkeley, CA 94720	3
NWU	Transportation Library, Northwestern University, ATTN: Roberto Sarmiento, 1935 Sheridan Road; Evanston IL 60208	3
TSC	Volpe National Transportation Systems Center, TRISNET Repository DTS-930, Kendall Square, Technical Reference Center, Cambridge MA 02142	1
DOTL	USDOT Library – Linda Cullen, 202-366-5727 library@ost.dot.gov	*1
ITS	Susan Slye, Intelligent Transportation Systems, Electronic Documents Library http://www.fhwa.dot.gov/itsweb/welcome.htm	*1
T-2 LIB	Technology Transfer (T2) Office, 2301 Peger Road Fairbanks, AK 99709	3
AUTH	Copy to each author	2+
DOT&PF	Alaska DOT&PF Research Advisory Board members	8
UAF	University of Alaska, Transportation Research Center Room 248 Duckering Bldg., Fairbanks, AK 99775-0660	1
LIB	Alaska State Library, Attn: Daniel Cornwall, Government Publications, PO Box 110571; Juneau AK 99811-0571	8

Minimum Print Total = 36

7. Research Implementation

7.1. General

The main goal of the Department's research program is to implement successful research results or incorporate them into standard practice through the research engineer.

The Research and Technology Transfer staff stays informed of research outside the Department and recommends implementation of others' research as warranted. In addition, the research engineer coordinates implementation of research results from:

- Experimental features built as part of construction projects

- Projects conducted by other State of Alaska agencies or local governments

- Projects conducted by other states, federal agencies, or foreign governments

- Projects conducted by the private sector, following all copyright and patent laws

Implementation should be considered from the inception of a project. Identify and contact potential users of the research results, and consider them for appointment as technical advisors. Potential users should be involved throughout the project.

7.2. Implementation Recommendations

Within three months of the conclusion of a research project (or earlier if preliminary results warrant), the project manager and technical advisor(s) prepare implementation recommendations and forward them to the research manager. These recommendations may be an endorsement of recommendations made in the project final report, if the recommendations include adequate implementation measures.

When considering implementation recommendations, the project manager and technical advisor(s) should ask and answer these questions:

- How and where can findings be applied within the Department?

- Will findings require the development of new procedures or new materials?

- Will findings require the development of new or modified equipment?

- Will findings require the revision of existing methods or the issuance of new specifications, standards, designs, or procedures?

- Will the implementation of the findings be economically justifiable to the Department?

- Will implementation of the findings improve service to the citizens of the State of Alaska?

Because not all research results suggest implementation measures, project managers and technical advisors may forward a recommendation of "no implementation" to the research manager. In this case, the research results should still be disseminated.

7.3. Implementation Techniques

There are a number of techniques available to implement new research findings. Here are a few examples:

- *Production and distribution of reports.* Reports have the advantage of reaching large numbers of people at a relatively low cost. However, due to the large volume of reports circulated today, it is difficult for practitioners to separate useful information. Therefore, the project manager must ensure that the information presented in a report is clear and concise. If long reports are required, the project manager should require an executive summary of the research results.

- *Seminars* provide a ready means to disseminate information to relatively large groups, and they provide two-way communication between the user and the researcher. Managers need not wait until the completion of a project to present seminars.

- *The Department's Alaska Transportation Technology Transfer Program (T2)* can help develop workshops to train people to use new techniques and products that have been developed through the Statewide Research program.

- T2 also circulates *Technology for Alaskan Transportation,* a newsletter with a distribution of

more than 2,000. It may be used to inform readers of the initiation of a project, developments, or results. It may also be used disseminate information about national or international research.

- The FHWA's *Experimental Features Program* allows the state to incorporate new ideas into a federally funded highway construction project. If the idea fails, FHWA will participate in the reconstruction of that feature. Where new equipment is required, a project to purchase and demonstrate the equipment may be appropriate.

- If newly developed techniques are difficult, the project manager may be required to *work directly with individuals* to demonstrate and teach them new procedures. While this may be time consuming, it may be one of the most effective means of implementation.

- *Suggest a change in Department policy and procedures.* The project manager must work with the appropriate Department staff to ensure that the change is made through the proper channels.

8. Program Evaluation

8.1. General
8.2. Project Evaluation
8.3. Evaluation of Implementation
8.4. External Program Evaluation (Peer Review)

8.1. General

The research manager and the Research Advisory Board regularly evaluate the program to improve its quality and effectiveness. Tools for evaluation include project progress reports, project managers' evaluations of researchers' work, monitoring implementation efforts, and peer review reports.

Statewide Research staff conducts semi-annual investigations of program effectiveness, including analyses of trends in meeting project schedules, budgets, and objectives; assessments of benefits; and comparison with program costs. The staff presents the results of these investigations to the director and the Research Advisory Board.

8.2. Project Evaluation

At the completion of a project, the project manager evaluates in writing the performance of the researchers, and sends a copy of the evaluation to the principal investigator. If the principal investigator rebuts the evaluation, the project manager must reconcile factual disputes before finalizing the evaluation. For Professional Services Agreements (PSA), the *Alaska PSA Manual* requirements apply.

8.3. Evaluation of Implementation

Statewide Research will monitor implementation efforts for three years following completion of a research project and document those efforts in the project file. Monitoring is not necessary if there was no recommended implementation action (that is, if research results were negative) and may be suspended sooner if implementation has reached a clear completion point, such as adoption of a new standard test method.

8.4. External Program Evaluation (Peer Review)

Statewide Research staff conducts peer reviews of the program periodically as required by 23 CFR 420.207(b). The most recent review was conducted in June of 2002.

Peer review teams consist of individuals from outside Alaska and include at least two members selected from the FHWA list of peer reviewers. Other members may be from the FHWA, universities, the Transportation Research Board, research units from other state departments of transportation, or the private sector.

Statewide Research staff assists the peer review team by providing information and documentation, and by paying for costs associated with the review, including team members' travel to Alaska. These expenses are entered as a line item in the SPR Work Program and are eligible for 100 percent federal funding. The peer review team provides the research manager with a written report, and he or she forwards a copy of the report to FHWA. If the research manager chooses to respond to the peer review report, he or she also sends a copy of the response to FHWA.

Statewide Research also assists other states by participating as members of peer review teams, if the staff can accommodate the work around scheduling and staffing constraints.

9. Manual Modification Procedures

## 9.1.	General

The research manager may suggest changes to this manual at any time. He or she must submit those changes to the director of Statewide Design and Engineering Services for endorsement before they are sent to the commissioner for approval.

After the commissioner approves changes, affected sections will be reprinted and distributed. If changes are extensive and major, the research manager may reprint the manual as a new edition.