



GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF CONTRACT ADMINISTRATION

NOTICE OF PROJECT CLOSEOUT

Closeout Notice Date 05/04/92

Project No. E-20-603 \_\_\_\_\_ Center No. 10/24-6-R7064-OA0\_  
Project Director MOSKALUK M J \_\_\_\_\_ School/Lab CIVIL ENGR \_\_\_\_\_  
Sponsor US DEPT OF TRANSPORTATION/FED HIGHWAY ADMIN \_\_\_\_\_  
Contract/Grant No. P04-00-575 \_\_\_\_\_ Contract Entity GTRC  
Prime Contract No. \_\_\_\_\_  
Title RTAP-TECHNOLOGY TRANSFER CENTERS ACCOMPLISHMENTS REPORT: REWRITE \_\_\_\_\_  
Effective Completion Date 910103 (Performance) 910103 (Reports)

Closeout Actions Required:	Y/N	Date Submitted
Final Invoice or Copy of Final Invoice	Y	_____
Final Report of Inventions and/or Subcontracts	N	_____
Government Property Inventory & Related Certificate	N	_____
Classified Material Certificate	N	_____
Release and Assignment	N	_____
Other _____	N	_____
Comments _____		

Subproject Under Main Project No. \_\_\_\_\_

Continues Project No. \_\_\_\_\_

Distribution Required:

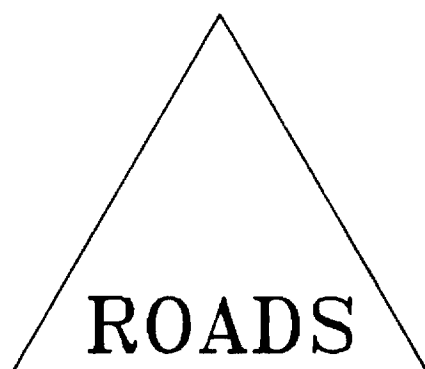
Project Director	Y
Administrative Network Representative	Y
GTRI Accounting/Grants and Contracts	Y
Procurement/Supply Services	Y
Research Property Management	Y
Research Security Services	N
Reports Coordinator (OCA)	Y
GTRC	Y
Project File	Y
Other _____	N
_____	N

**R** *URAL*

**T** *ECHNICAL*

**A** *SSISTANCE*

**P** *ROGRAM*



## RTAP PROGRAM SAVINGS

Over \$24 million in annual reported saving have resulted from the RTAP Program. Using the 1990 Federal funded amount of \$3.3 million with an equal state match, that is a 266 percent return on investment or a benefit cost ratio of 3.7. However, this is not the whole story. In addition, there are numerous indirect benefits which are attributable to the Program, but at best, difficult to assess and assign dollar amounts.

### Benefits = 3.7 Costs

In 1989, there were two FHWA surveys which requested three success stories from each RTAP Center. The above dollar saving resulted by combining the success stories from these surveys. FHWA believes that these savings represent only a small fraction of the total dollar amount that is accrued annually as a

result of the RTAP Program.

A summary, by area, of identified annual dollar savings is presented below:

#### **PAVEMENT/ROAD SURFACE:**

#### **ANNUAL SAVINGS**

**\$13,069,000** --

Since the Centers focus the majority of the workshops, newsletter articles, and free publications in this area, it is not surprising that this area has the highest savings. Given the extent of the rural road system, benefits accrued quickly. For example, a local agency can implement a pavement management system received from a RTAP Center and annually save \$40 thousand. Based on information gathered at a RTAP workshop, a county engineer switch from asphalt cement to an emulsified asphalt. In the first year, this county saved \$100 thousand.

#### **MISCELLANEOUS: ANNUAL SAVINGS \$5,617,000** --

The RTAP Program can share technology in

all areas related to transportation. It is a dynamic program designed to react rapidly to user needs (local transportation agencies).

A \$100 thousand savings was realized when a Center furnished cities, counties and indian agencies a Data Management System. The local agencies indicated that the dollar savings were realized from increased efficiency. An RTAP Center acted as a broker to a local agency by informing them about joint purchase agreements with the state. It is estimated that this particular local agency saved \$40,000 thousand.

#### **MAINTENANCE: ANNUAL SAVINGS \$610,000** --

Maintenance is an activity that all local agencies must perform. Preventive maintenance is stressed by the RTAP Program. Dollars are often wasted if maintenance is not performed regularly.

Numerous local agencies have been trained in the correct and efficient operation of a motor grader. By using proper grading techniques, a rural community can save \$50 thousand in material and personnel costs.

A grid roller can be used for the breakdown of native aggregate for use on unpaved roadways. An annual material cost savings of over \$50 thousand can be realized by a rural community. Proper use of a grid roller in demonstrated in a videotape "The Idea Store."

Several maintenance management and equipment management workshops have been conducted. Two examples are Maintenance Management and Equipment Maintenance Management. It is estimated that a local agency can realize a savings of 6-15 percent in the annual maintenance budget and 6-13 percent of total equipment costs as a result of implementing these maintenance techniques.

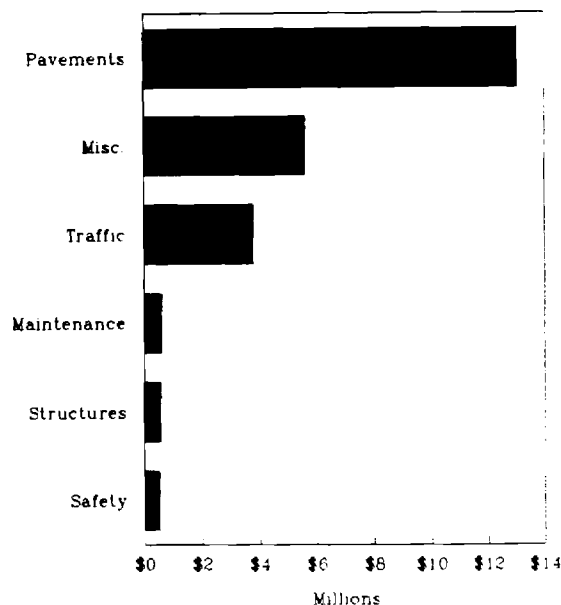
**STRUCTURE: ANNUAL SAVINGS \$571,000** -- Local agencies have responsibility for 467,000 bridges on local road systems. RTAP Centers have conducted several workshops on bridge inspection and maintenance. From the inspection courses, it is believed that many local agencies now have the confidence and ability to do bridge inspection.

Working with an RTAP Center, a local agency was able to defer or prevented the spending of \$5 million on the replacement of 45 bridges. These timber bridges were reconfigured so that maximum load limits were restored or increased.

From information obtained in a RTAP newsletter, a county engineer indicated that he built 15 rural road bridges using discarded railroad cars. He estimated that his county saved over \$350 thousand in combined material and labor costs.

**SAFETY: ANNUAL SAVINGS \$510,000** -- Many of the saving that occur in this area show up in the form of accident prevented or reduced conflicts. For example, a county was dismissed as a litigant in an accident lawsuit because of the proper use of traffic control devices. They learned these techniques in a workshop put on by a RTAP Center.

Annual Savings



# RTAP PROGRAM BENEFITS

Benefits are those positive results accruing from the implementation of a program, such as the RTAP Program, which can not be assigned a dollar value. The RTAP Centers have reported numerous examples of Program benefits. A description of some these benefits is given below.

Based on information obtained from a RTAP workshop on "Work-zone Traffic Control", a town in Wyoming has purchased needed work-zone traffic control devices. With the assistance of the Center, the town has also constructed a trailer to store and tow the devices to the construction site. The town recognizes the benefits from the improve safety for the town employees, traveling public, and their reduced liability exposure.

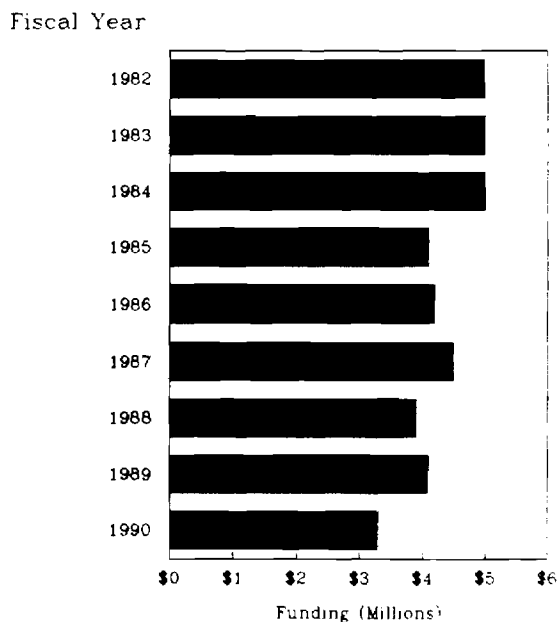
The Indiana RTAP Center has developed a microcomputer program "ROADS" to assist in highway maintenance. Recently, the Center has begun a newsletter, "Keystrokes" for distribution to ROADS users. Many local agencies in Indiana have reported increased management efficiency from the use of ROADS.

In New Hampshire, the RTAP Center holds an annual road show for public works employees. Over 400 people attended the show in 1990.

Visitors to the show can experience a variety of hands-on and real life demonstrations packed into one day. This type of networking provides an excellent opportunity to share ideas and gather information.

Microcomputer assistance is an ever increasing effort for the Kansas RTAP Center. Benefits are accrued to local agencies through workshops, newsletter articles, and phone conversations.

### RTAP Funding



# RTAP PROJECT SUMMARY

The RTAP Program is made up of the development and distribution of transportation related materials. It is obvious that there is no need for a distribution system if there are no products to deliver. The following is a brief discussion of these efforts.

## NATIONAL PROJECTS (PRODUCT DEVELOPMENT)

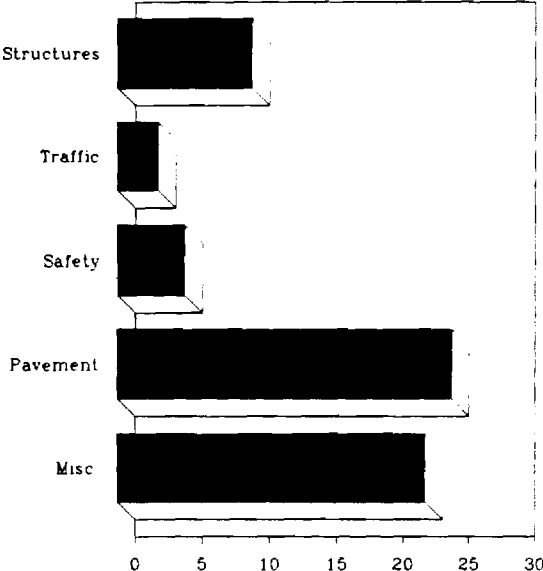
Since 1982, the RTAP Program has grown to a program with over 87 projects. These projects include the development of training guides, technology manuals, computer programs, videotapes, and other tools to assist local highway agencies. Some of these exceptional projects which are of interest and benefit to local agencies are:

**STRUCTURES** -- Ten projects dealing with

the inspection and maintenance of bridge structures were completed. Included in this effort is a workshop on the "Rehabilitation of Existing Bridges".

**TRAFFIC** -- Three projects were completed in the

National Projects



traffic operations area. Included in this effort is the development of workshops on "Low-Cost Operational and Safety Improvements for Two-Lane Roads".

**SAFETY** -- Five roadway safety projects were completed. Two of the workshops that were

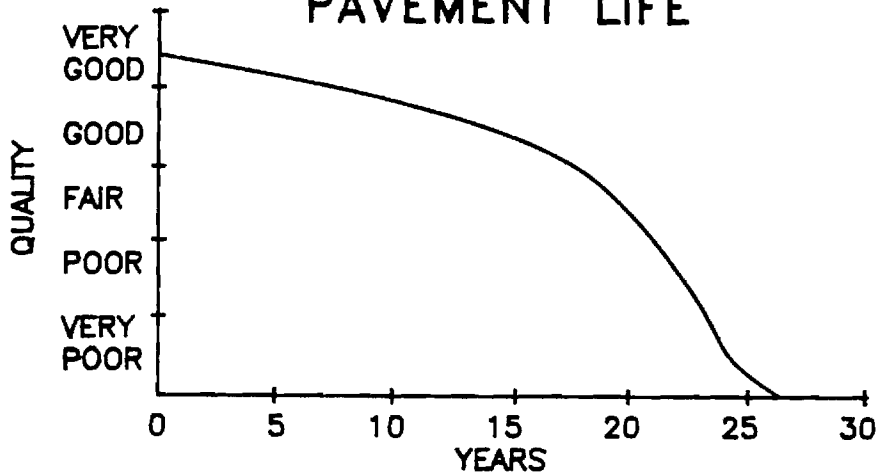
developed include "Local Highway Safety Improvement Programs" and Local Highway Safety Engineering Studies for Local Roads and Streets".

**PAVEMENT** -- Twenty-five pavement and pavement management projects were accomplished.

This large number of projects includes a wide range of effort, such as the development of a seminar on "Road Surface Management for Local Units of Governments" and the development of an interactive videodisc for "Pavement Surface Repair Techniques".

**MISCELLANEOUS** -- Twenty three projects were completed in a variety of roadway related areas. Some of the projects include the updating and expansion of the National Association of County Engineers Action and Training Guides, translation of

## PAVEMENT LIFE



transportation related materials into Spanish, and the development of a management workshop covering the functional areas of planning, design, construction, and maintenance of roadways.

A review of this summary indicates the broad range of projects undertaken by the RTAP Program. All the projects which have been developed are aimed at providing the local transportation agency access to existing technology. In addition, all technology products

which were developed have been distributed to the local agencies via technical manuals and workshops by the RTAP Centers. This combined approach is extremely effective because it allows each Center to use the material. Only a minimum of effort is required by a Center to tailor a manual or a workshop guide for their specific needs.

### TECHNOLOGY PRODUCT DISTRIBUTION (RTAP CENTERS)

The FHWA RTAP Center program can be described as a mini-

transportation extension service similar to the U.S. Department of Agriculture Extension Service. Most of the Centers are located on a university campus and have formed a partnership with the state highway agency. Other Centers are operated directly by the state highway agency. A significant advantage of the RTAP Program is the encouragement of Center flexibility and the use of creative resourcefulness by the Centers to accommodate and satisfy specific state and local agency needs. In total there are 49 Centers.

The Centers are permitted a great deal of creativity. All of the Centers fulfill six major task which are listed below:

- o Task A: Compile and Maintain a Mailing List -- the mailing list shall as a minimum include all local government agencies with transportation



responsibilities within the area serviced by the Center.

o Task B: Publish a Quarterly Newsletter -- Publish and distribute a quarterly newsletter for all agencies on the mailing list.

o Task C: Provide Technology Transfer Materials -- Provide items, i.e. training materials, manual, videos, etc., listed in the quarterly newsletter as requested by the local agency. Distribute, on an availability basis, selected technical materials and

t r a i n i n g packages.

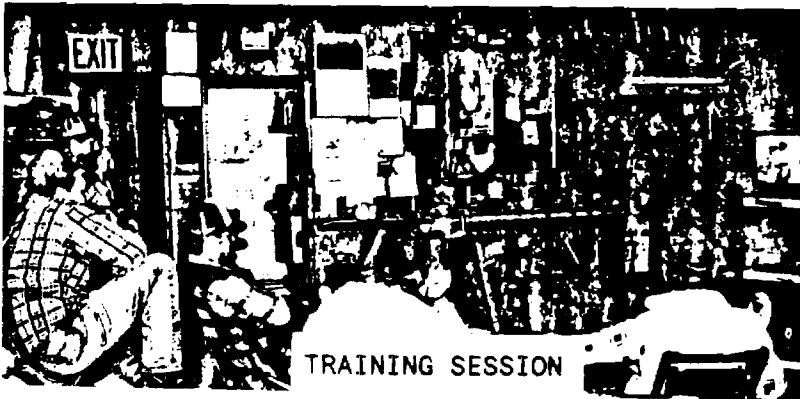
o Task D: Provide Information Service -- Provide technical information services as requested using all available technical sources such as the state highway agency, university staff, and FHWA staff. This information may be in the form of advice, suggested published material, or referral to other agency sources. These services can be handled by telephone, letter, or personal contact.

o Task E: Conduct or Arrange Seminars and/or

Training Sessions -- Annually conduct or arrange 10, 1 to 2 day seminars or training sessions covering such transportation topics as street maintenance, t r a f f i c operations, management of p u b l i c transportation, erosion, etc.

o Task F: Evaluate Effectiveness of the RTAP Program -- Develop and implement an evaluation plan based on the objectives of the program.

The RTAP Centers are extremely effective because they have opened numerous channels of communication at all levels. Further, the local agencies have learned that the Centers are a central-credible source of information. A phone call from a local agency to its RTAP Center can put into motion a massive resource for assistance.



# THE RTAP PROGRAM

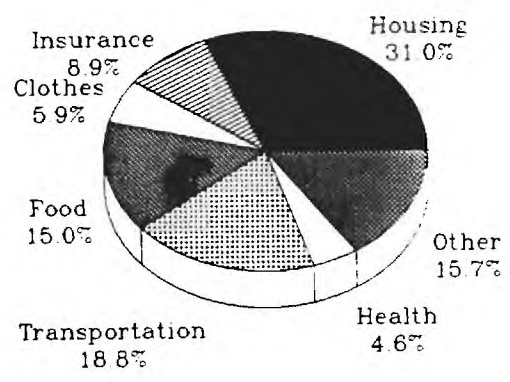
A transportation system is the life blood of a community. It is a must that the continuing deterioration of the system be reversed so that efficient commerce be maintained. The goal of a community is effectively rehabilitated its transportation system in an environment of limited resources. This is especially true when approximately 19 percent of consumer spending is spent on transportation. One of the most effective ways of accomplishing this task is share information with all levels of involvement. The FHWA Rural Technical Assistance Program (RTAP) of technology transfer to local governmental agencies is an extremely productive practice considering that there are 398,329 miles of rural roads.

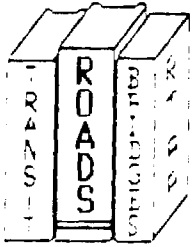
In fiscal year 1982, \$5 million were made available for rural technical assistance. The Department of Transportation was directed to use these funds to meet the growing demands placed on rural roads. These demands are a result of increased urban sprawl, and the increased size and weight of trucks carrying goods from farm to market. FHWA was designated as the lead agency because of its experience with rural roads and its network of Division Offices.

Initially, FHWA divided the available

dollars into both the development of products that would assist local agencies and a methodology for the delivery of these products. The products that were developed included training efforts, technical manuals and other products that would help local agencies. The primary delivery methodology is known as the Technology Transfer Program for local transportation agencies. This method which is designated as the RTAP Center Program has the objective of distributing the developed products to

### Consumer Spending





## TRAINING GUIDES

local agencies. Funding for the Center program is provided through the Federal-aid process which necessitates State support and involvement. for this reason, the RTAP Center program is considered a partnership between the FHWA and the State Highway agency.

Objectives of the RTAP Program are:

- o Provide rural local agencies access to existing highway technology.
- o Assist rural local agencies to develop and expand their expertise in roads and transportation areas.

- o Assist rural local agencies to improve roads and bridges, and to enhance programs for the movement of passengers and freight.
- o Assist rural local agencies to deal effectively with specific road related problems.
- o Promote effective networking and cooperation among Federal, State, local and Center organizations.

From its beginning, RTAP has grown to a program of over 87 individual projects. These projects include training efforts, manuals, computer programs, videotapes, and other tools to assist local highway agencies. The RTAP Centers deliver the product to the local highway agencies. In recent years, FHWA has chosen to expand the RTAP Center to 49 and currently spends the majority of available funds on these Centers.



# RTAP PROGRAM NETWORKING

Networking is one of the many objectives of the RTAP Program. It is essential to the Program because networking can reduce duplication of effort, and it is the key factor in the distribution of technical materials to local transportation agencies.

There are many ways that networking can be accomplished between the Federal, state and local agencies. The range of opportunities includes friends communicating via phone, writing and occasional visit to an international gathering. A few of the networking methods used in the RTAP Program are described:

- o Seminars and Symposiums -- an excellent opportunity for individuals to gather and share ideas and technologies.
- o National, Regional, and Professional Meetings -- organized

gatherings for the exchange of ideas (failure and successes), and technologies. Often, the exchange of ideas is continuous and on a grand scale.

- o Advisory Committee Meetings -- often an advisory committee of professional/lay representatives is convened to discuss a particular aspect. This mixture of participants encourages the exchange of a broad range of ideas.

- o Expositions and Exhibits -- these gatherings offer the opportunity to share ideas and quickly gather information on a wide range of new equipment.

- o Newsletters -- Sharing ideas and information via the RTAP Center newsletters is an excellent and efficient way of networking. These newsletters can be used to report state and regional news, present pertinent

articles, announce the availability of technical materials, workshops and seminars. Each quarter, the RTAP Centers distribute over 40,000 newsletters.

- o Clearinghouse -- established in 1985 by APWA for the FHWA and the RTAP Centers, the Clearinghouse provides a systematic network to share information and technologies. Information can be easily obtained from the Clearinghouse via phone or electronic mail. APWA's broad based membership of states, counties, towns, and cities provides an far-reaching resource for collecting, incorporating, and distributing information. FHWA considers the APWA Clearinghouse an effective network and continues to support this effort.

Networking is important and it has been stressed by FHWA since the beginning of the RTAP Program.

**ROAD  
CLOSED**

In Vermont, the RTAP Center established the Roads Scholar program. By attending ten one day seminars in the ten design core areas, participants in the program receive a certificate, a special coffee mug and other recognition. Some of the benefits achieved are increased pride in workmanship, goals to conquer, idea sharing among peers, and participation in a workshop environment.

From information obtained from the RTAP Center, a town implemented a pavement recycling process. Overall benefits from this project are saved dollars and saved natural resources.

A significant benefit of the RTAP program is the enhancing of the relationships through the partnership of Federal, State, local, and University agencies. This relationship provides direct access between

the highway profession and the engineering student. A northeastern university reports that as a result of the RTAP Center on campus an increased number of graduating students join a highway employer.

The RTAP Center in Georgia furnished a Georgia county information about dust control for unsurfaced roads. Based on this information the county engineer won commission approval and has implemented a dust control program. Benefits accrued from this program are improved public relations and reduced motor grading operations.

In Maine, the RTAP Center hired an experienced heavy equipment operator. His 44 years of experience is the key factor in providing excellent training sessions for local agencies. Benefits realized from this project are improved operator skills which

translate into improve efficiency and effectiveness as well as dollar savings.

For each of these success stories, a hundred more can be told. The RTAP Program, through its Centers, have conducted over 1,100 training sessions with approximately 40,000 participants. A lot of technology has been transferred. When the dollar saving and benefits are considered together and compared to the RTAP Program funding, it is quickly apparent that the RTAP Program is extremely successful and beneficial to local transportation agencies.



## RTAP CENTERS

### ALABAMA

Auburn University  
(205) 844-4370

### ALASKA

University of Alaska-Fairbanks  
(907) 474-7733

### ARIZONA

Arizona State University  
(602) 965-2744

### ARKANSAS

Technology Transfer Program  
(501) 569-2249

### CALIFORNIA

University of California,  
Berkeley (415) 231-9590

### COLORADO

Colorado State University  
(303) 491-8648

### CONNECTICUT

University of Connecticut  
(203) 486-5400

### DELAWARE

Delaware DOT  
(302) 736-4570

### FLORIDA

University of Florida  
(904) 392-0378

### GEORGIA

Georgia DOT  
(404) 656-5364

### IDAHO

Idaho DOT  
(208) 334-8271

### INDIANA

Purdue University  
(317) 494-2164

### IOWA

Iowa State University  
(515) 294-8815

### KANSAS

Kansas University  
(913) 864-5658

### KENTUCKY

University of Kentucky  
(606) 257-4513

### LOUISIANA

Technology Transfer Program  
(504) 767-9118

### MAINE

Maine DOT  
(207) 289-2151

### MARYLAND

University of Maryland  
(301) 454-2438

### MASSACHUSETTS

University of Massachusetts  
(413) 545-2604

### MICHIGAN

Michigan Technological  
University (906) 487-2102

### MINNESOTA

North Dakota State University  
(701) 237-7246

### MISSISSIPPI

Jackson State University  
(601) 968-2339

### MISSOURI

Missouri DOT  
(314) 751-0852

### MONTANA

Montana State University  
(406) 994-6100

**NEBRASKA**

University of Nebraska-Lincoln  
(402) 472-2844

**NEW HAMPSHIRE**

University of New Hampshire  
(603) 862-4348

**NEW JERSEY**

Rutgers University  
(201) 932-5074

**NEW MEXICO**

New Mexico DOT  
(505) 827-5216

**NEW YORK**

Cornell University  
(607) 255-8033

**NORTH CAROLINA**

University of North Carolina  
(919) 787-8233

**NORTH DAKOTA**

North Dakota State University  
(701) 237-7246

**OHIO**

Ohio State University  
(614) 292-2871

**OKLAHOMA**

Oklahoma State University  
(405) 744-6049

**OREGON**

Technology Transfer Center  
(503) 378-3421

**PENNSYLVANIA**

Pennsylvania Local Roads  
Program (814) 863-1008

**PUERTO RICO**

University of Puerto Rico  
(809) 834-6385

**SOUTH CAROLINA**

Clemson University  
(803) 656-3000

**SOUTH DAKOTA**

South Dakota State University  
(605)688-5601

**TENNESSEE**

University of Tennessee  
(615) 974-5225

**TEXAS**

Texas A&M University  
(409) 845-4369

**UTAH**

Utah State University  
(801) 750-2933

**VERMONT**

St. Michael's College  
(802) 655-2000

**VIRGINIA**

Technology Transfer Center  
(804) 293-1965

**WASHINGTON**

Washington DOT  
(206) 753-0143

**WEST VIRGINIA**

West Virginia University  
(304) 293-4550

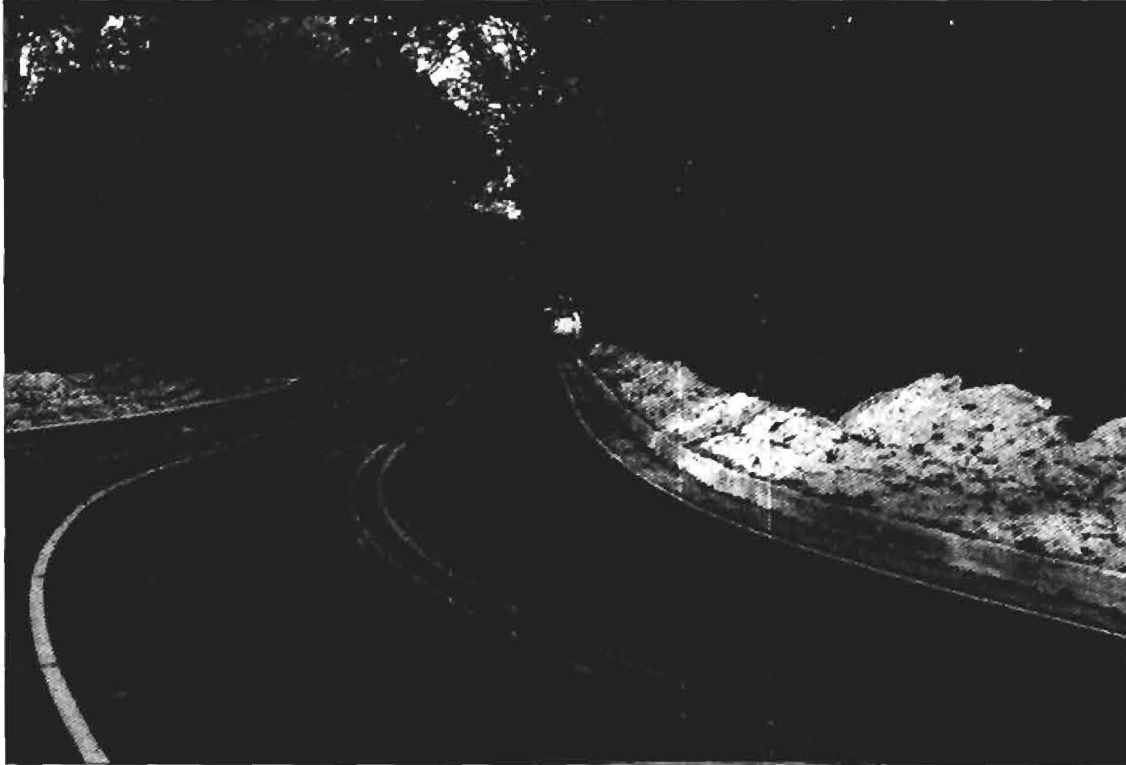
**WISCONSIN**

University of Wisconsin-  
Madison (608) 262-7988

**WYOMING**

University of Wyoming  
(307) 766-6743

E20-603



# RTAP

THE RURAL TECHNICAL ASSISTANCE PROGRAM

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REACHING RURAL AMERICA  
WITH INNOVATIVE TECHNOLOGY





**A MESSAGE FROM  
FEDERAL HIGHWAY  
ADMINISTRATOR  
THOMAS D. LARSON**

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In rural America, our Nation's roads and bridges play a vital role in our transportation system. They link farms, small communities and busy urban centers — supporting and enhancing both commerce and quality of life for everyone. The Rural Technical Assistance Program (RTAP) is a dynamic activity that helps to ensure the continued vitality of that critical linkage by providing technology and technical assistance to communities all across our Nation.

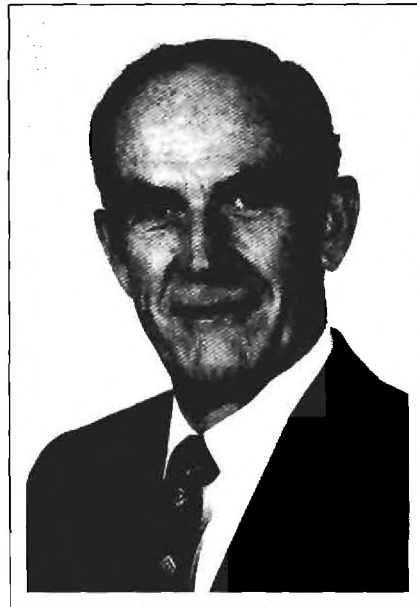
Increased traffic from urban sprawl and larger, heavier trucks carrying goods from farm to marketplace intensify the demands on rural roads. Many areas of our country depend on these essential transportation arteries, which include 3.2 million miles of rural roads and 325,000 bridges. They assure the connectivity necessary to move people, goods, and services to jobs, to homes, to markets.

From the beginning, the concept of RTAP was to provide local highway agencies with improved access to new technologies for the construction, operation, maintenance, and safety of rural roads and local streets. To carry out the concept, a nationwide network of "technology transfer" Centers was established in cooperation with the State highway agencies. These Centers now operate efficient and effective programs for local communities in their States.

*The Rural Technical Assistance Program . . .  
“translates state-of-the-art technologies in roads, bridges and public transportation for use by local and county highway and transportation personnel.”*

**Innovation**

*American Association of  
State Highway and Transportation  
Officials*



*Federal Highway Administrator  
Thomas D. Larson*

One of the highest priorities we have set for the future of the Federal Highway Administration is a greatly accelerated program in research, development, and technological innovation. Through the network of Technology Transfer Centers, we will be continuing our efforts for rapid deployment of innovative technology throughout rural America.

A spirit of cooperation has evolved among the States, universities, local highway agencies, and the Federal Highway Administration which contributes to the success of the RTAP. I look forward to our continued participation in the coming years.



## THE RURAL TECHNICAL ASSISTANCE PROGRAM

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### Office Of Technology Applications

Established in 1981, the Rural Technical Assistance Program provides for local highway agencies' improved access to highway technology to meet the growing demands placed on rural roads, bridges, and public transportation. This is accomplished through a national network of technology transfer centers established in cooperation with State Departments of Transportation. The centers enable the local agencies to improve their transportation network by:

- Increasing rural transportation expertise at the State and local levels;
- Providing a channel for materials prepared at the national level for local use;
- Promoting the effective use of research findings and innovations for improving transportation in rural areas;
- Meeting the needs of transportation personnel in local areas with tailored resource materials.

RTAP and other FHWA technology exchange activities are now under the direction of the Associate Administrator for Safety and Systems Applications' Office of Technology Applications.

#### RTAP TECHNOLOGY TRANSFER CENTERS

Through Federal-aid agreements, the RTAP has established a nationwide system of 50 Centers, some of which are located in universities, with others in State highway agencies. These centers provide information, advice, and training in highway technology to more than 37,000 local agencies.

Originally established as one of more than 100 RTAP funded projects, the Centers have proven to be effective as a:

- Mechanism for transferring highway technology to rural transportation officials;
- Means of improving the flow of technical information among the FHWA, State Departments of Transportation, universities, and rural transportation officials;

- Way of encouraging the use of new, cost-effective technology by rural transportation officials;
- Structure for sharing successful technology transfer methods from one center with other Centers in the RTAP network.

Technical assistance is provided to rural transportation agencies by a variety of methods, such as on-site demonstrations, microcomputer software development, training workshops, user manuals, and studies in specialized topics.

Each center develops a mix of technology transfer tools and information to most effectively address the needs of the local highway community. Innovative activities are developed to meet specific local requirements:

- Traveling vans taking training and technology "on the road" to deliver training to local agencies "right in their back yard";
- Satellite training classes to reach a maximum of trainees with minimal training costs;
- Translation of manuals and videos into Spanish to improve communication of vital information on technology and procedures.

In the technology transfer network, each center can serve as both a source and a recipient of information. The Technology Transfer Clearinghouse, operated under contract to the FHWA by the American Public Works Association, links the centers with information and technology available from other sources. A number of services are provided by the clearinghouse:

- A newsletter for sharing information
- A catalog of training and technology development resources
- Information services
- A video library
- Special projects



*Technology Transfer Centers provide "hands-on" training to local highway personnel.*



*RTAP exhibits, like this one at the 1991 Transportation Research Board Conference, highlight the successes of technology transfer projects.*



*The FHWA Report Distribution Center sends technical materials to the T2 Centers. The APWA Technology Transfer Clearinghouse links the Centers through its newsletter, catalogs of technical reports and videos, and other information services.*



## **RTAP: NETWORK OF SUCCESS**

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- INFORMATION SERVICES
- TRAINING
- NETWORKING

The RTAP has initiated cost-effective technology transfer projects and activities through its Centers. The successful system blends the innovative ideas from each unique Center, tailoring projects and training opportunities to the needs of the communities which it serves.

### **Some Examples Of RTAP Center Successes**

#### **TIMBER BRIDGE FUNDAMENTALS**

A videotape produced by the Pennsylvania Technology Transfer Center and distributed throughout the United States highlights Pennsylvania's success with timber bridges. Because timber bridge construction is less costly than alternatives, Pennsylvania has estimated an annual savings of \$10 million through application of this technology.

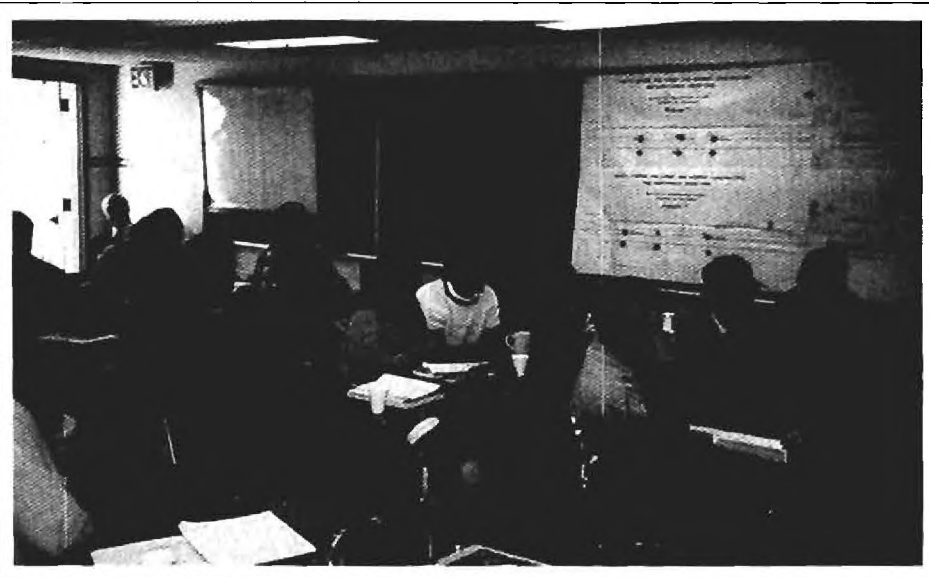
#### **COMMERCIAL DRIVERS LICENSE (CDL)**

By April 1992, commercial vehicle drivers nationwide must pass a test on CDL regulations and safety rules and acquire a commercial drivers license. Many of these drivers, particularly those working for local agencies in rural areas, may not be aware that this new law applies to them and fail, costing them their licenses. RTAP Centers have taken a very active role in educating these drivers, providing training materials to the State Departments of Motor Vehicles, and providing RTAP-developed videotapes for training sessions.

In Kentucky, for example, personalized training and study sessions for CDL applicants has resulted in an increase in the CDL test passage rate from 76 to 92 percent. By recognizing common problems in taking the test, the Kentucky Transportation Center addressed the needs of these drivers and assisted local communities to comply with the new CDL regulations.

*“Training offered in the Bridge Inspection and Rating, and Bridge Rehabilitation workshops could save the replacement of at least one bridge per year by early detection and being able to repair versus replace. Our average cost of replacement is \$90,000, saving us \$270,000 over a 3-year period.”*

*George P. Sugars  
Public Works Director  
Reno County, Kansas*



*Customized training courses meet specific needs in the highway community.*



*Using innovative timber bridge technology can result in significant cost savings.*



## RTAP PAYS OFF

### RTAP Center Funding

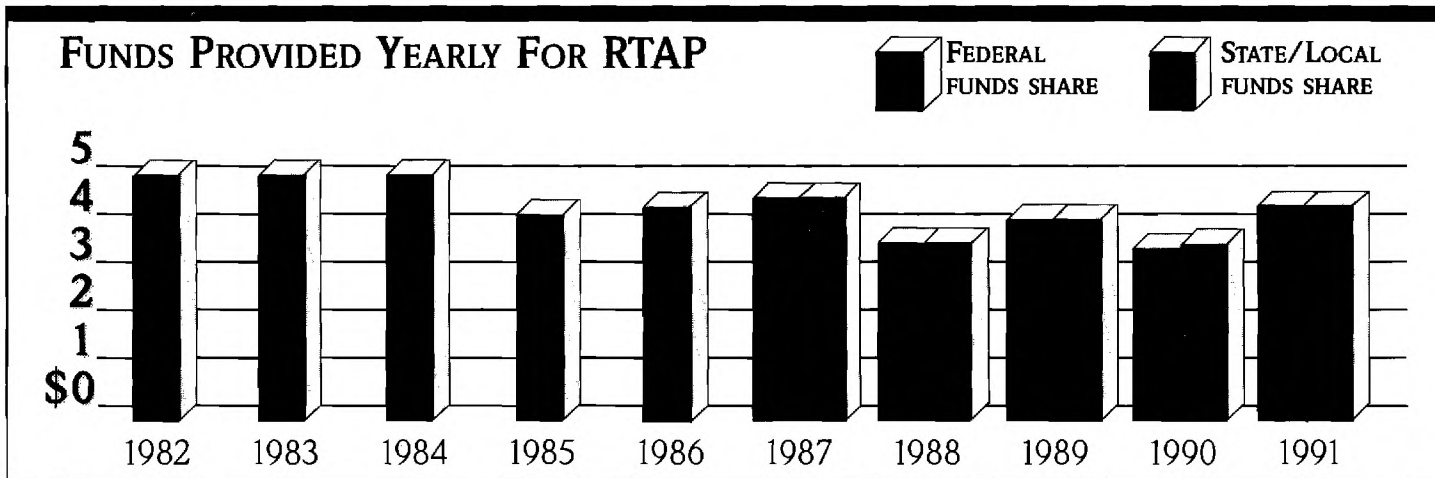
Funding for the Centers is provided through the Federal-aid process, which requires support and involvement from State highway agencies. The funding for the Centers comes from Federal RTAP funds, State DOTs, universities, local agencies, and finances designated by State legislation.

This new authorization includes an emphasis on intergovernmental transportation planning for American Indian tribal governments, through training and technical assistance. Tourism and recreational travel are highlighted tools for developing economic prosperity in rural America.

The new legislation offers opportunities for the RTAP partnerships to expand and enhance local government access to transportation technologies in the future.

### A Bright Future For RTAP

The new Intermodal Surface Transportation Efficiency Act of 1991 provides authority to expand this successful program into urban areas as resources become available through 1997.



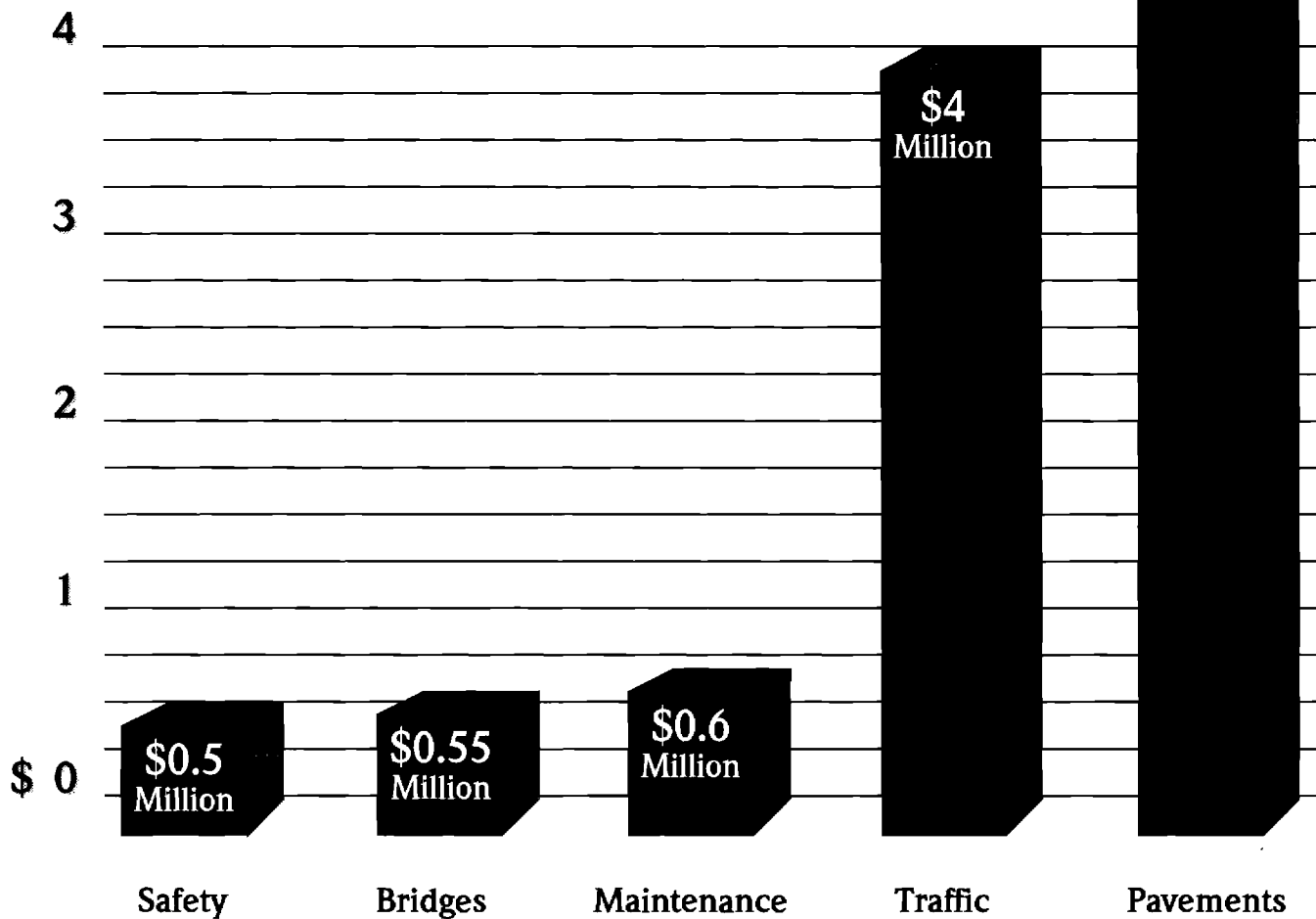
DOLLARS SHOWN IN MILLIONS

## RTAP Savings

In 1990 the RTAP Centers provided more than 1,000 training courses to nearly 40,000 participants throughout the highway community. Networking and sharing among RTAP Centers has spread innovative training methods and new technologies, resulting in efficiencies in time, effort, and money. In addition, rural communities learn different approaches to manage their transportation problems, enabling them to meet new challenges more effectively.

**\$13  
Million**

**TYPICAL RTAP PROJECT SAVINGS (IN ONE YEAR)\***



\* Estimated savings realized by rural transportation agencies from RTAP services (submitted as record before the U.S. House of Representatives FY 1991 Appropriations Hearings).





## RTAP CENTER LOCATIONS

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**For more information  
on RTAP,  
contact your local  
FHWA office.**

**Alabama** - Alabama Technology Transfer Program (AT<sup>2</sup>P), Auburn University (205) 844-4370

**Alaska** - Alaska Transportation Technology Transfer Program, University of Alaska, Fairbanks (907) 474-2484

**Arizona** - Center for Advanced Research in Transportation, Arizona State University (602)965-2744

**Arkansas** - Arkansas Technology Transfer Program, Arkansas Highway and Transportation Department (501) 569-2249

**California** - Institute for Transportation Studies Extension, University of California, Berkeley (415) 231-9590

**Colorado** - Colorado Transportation Information Center, Colorado State University (303) 491-8648

**Connecticut** - Connecticut Transportation Institute, U-37-TI, University of Connecticut (203) 486-5400

**Delaware** - Transportation Planning, DelDOT T<sup>2</sup> Center, Department of Transportation (302) 739-4570

**Florida** - Florida Technology Transfer (T<sup>2</sup>) Center, University of Florida (904) 392-0378

**Georgia** - Georgia Department of Transportation, Rural Technical Assistance Program (404) 656-5364

**Hawaii** - Hawaii RTAP Center, University of Hawaii (808) 956-5097

**Idaho** - Idaho Technology Transfer Center, Idaho Transportation Department (208) 334-8271

**Illinois** - Illinois T<sup>2</sup> Center, Illinois Department of Transportation (217) 785-5179

**Indiana** - Highway Extension and Research Project for Indiana Counties and Cities (HERPICC), Purdue University (317) 494-2164

**Iowa** - Iowa Transportation Center, Iowa State University (515) 294-5642

**Kansas** - Kansas Technology Transfer Program for Rural Transportation, University of Kansas (913) 864-5658

**Kentucky** - Kentucky Transportation Center, University of Kentucky (606) 257-4513

**Louisiana** - RTAP, Technology Transfer Program, Louisiana Department of Transportation and Development (504) 767-9117

**Maine** - Maine Local Roads Center, Maine Department of Transportation (207) 289-2151

**Maryland** - Technology Transfer Center, University of Maryland at College Park (301) 405-2009

**Massachusetts** - Baystate Roads Program, University of Massachusetts (413) 545-2604

**Michigan** - Transportation Technology Transfer Center, Michigan Technological University (906) 487-2102

**Minnesota** - see North Dakota

**Mississippi** - Mississippi Center for Technology Transfer, Jackson State University (601) 968-2339

**Missouri** - Technology Transfer Assistance Program, Missouri Highway and Transportation Department (314) 751-0852

**Montana** - Montana Rural Technical Assistance Program, Montana State University (406) 994-6100

**Nebraska** - Nebraska Technology Transfer Center, University of Nebraska (402) 472-5748

**New Hampshire** - New Hampshire Technology Transfer Center, University of New Hampshire (603) 862-2826

**New Jersey** - Rutgers Road Technology Transfer (R<sup>2</sup>T<sup>2</sup>) Center, Rutgers University (908) 932-5074

**New Mexico** - New Mexico Technology Transfer Program, New Mexico State Highway and Transportation Department (505) 827-5216

**New York** - Cornell Local Roads Program, Cornell University (607) 255-8033

**Nevada** - Nevada Technology Transfer Center, University of Nevada, Reno (702) 784-6925

**North Carolina** - Technology Transfer Program at UNC-ITRE, University of North Carolina Institute for Transportation Research and Education (919) 878-8080

**North Dakota** - ND/MN Transportation Transfer Center, North Dakota State University (701) 237-7051 (also serves Minnesota)

**Ohio** - Ohio State Technology Transfer Center, Ohio State University (614) 292-2871

**Oklahoma** - Center for Local Government Technology, Oklahoma State University (405) 744-6049

**Oregon** - Oregon Technology Transfer Center, Oregon Department of Transportation (503) 378-3421

**Pennsylvania** - RTAP - The Pennsylvania Local Roads Program, Pennsylvania State University (717) 787-1964

**Puerto Rico** - Puerto Rico Transportation Technology Transfer Center, University of Puerto Rico (809) 834-6385

**Rhode Island** - Rhode Island Technology Transfer Center, Department of Administration (401) 277-1235

**South Carolina** - Transportation Technology Transfer Service, Clemson University (803) 656-3000

**South Dakota** - South Dakota Transportation Technology Transfer Service (T<sup>3</sup>S), South Dakota State University (605) 688-5601

**Tennessee** - Tennessee Transportation Assistance Program, University of Tennessee-Knoxville (615) 974-5255

**Texas** - Texas Transportation Technology Transfer Program, The Texas A&M University (409) 845-2989

**Utah** - Utah T<sup>2</sup> Center, Utah State University (801) 750-2933

**Vermont** - Vermont Local Roads Program, Saint Michael's College (802) 654-2652

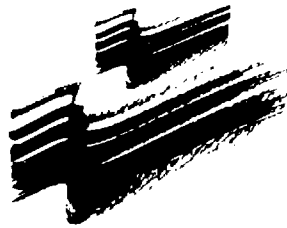
**Virginia** - Virginia Transportation Technology Transfer Center, Virginia Transportation Research Council (804) 293-1966

**Washington** - Northwest T<sup>2</sup> Center, Washington Department of Transportation (206) 753-0143

**West Virginia** - West Virginia Technology Transfer Program, West Virginia University (304) 293-3031 ext. 629

**Wisconsin** - Transportation Information Center, University of Wisconsin (608) 262-7988

**Wyoming** - Wyoming Technology Transfer Center, University of Wyoming (307) 766-6743



*Moving America  
Into the 21st Century*



U.S. Department  
of Transportation

**Federal Highway  
Administration**



Innovation Through Partnerships