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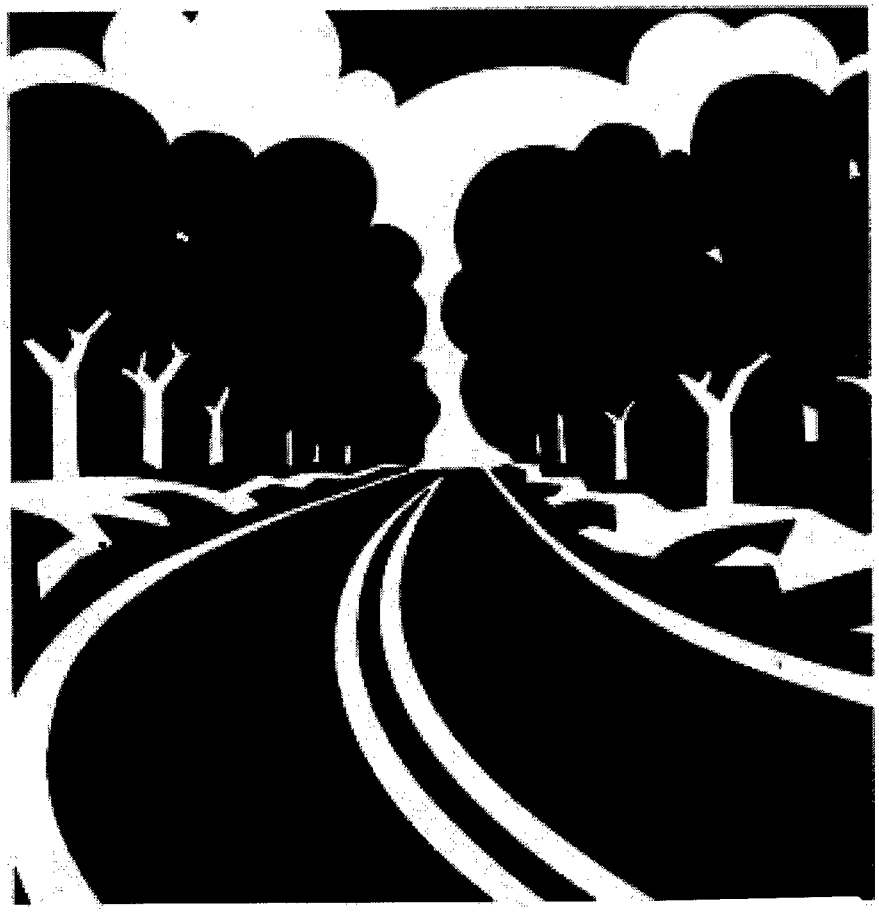

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16. Abstract

The FHWA Local Technical Assistance Program (LTAP) provides technology transfer products to local highway departments. One of the most valuable and well-received resources of the program, the LTAP (or T^2) centers, have proven themselves invaluable in developing innovative approaches to technology transfer and in coordinating Federal, State, local, and private industry resources.

The LTAP Field Manual is designed to provide a framework for technology transfer center operations within the broader context of the overall program. Its purpose is to present information and suggestions for designing efficient and comprehensive programs and activities. Although designed for all those involved in the LTAP, its primary audience is the FHWA field offices.

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LOCAL TECHNICAL ASSISTANCE PROGRAM FIELD MANUAL

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ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
APWA	American Public Works Association
ATSSA	American Traffic and Safety Services Association
BIA	Bureau of Indian Affairs (Department of the Interior)
BMS	Bridge Management System
CDL	Commercial Driver's License
DOT	Department of Transportation
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration (DOT)
FTA	Federal Transit Administration (DOT)
GIS	Geographical Information Systems
ICMA	International City Managers Association
ILD	Inductive Loop Detector
ISMA	International Municipal Signal Association
ISTEA	Intermodal Surface Transportation Efficiency Act (1991)
ITE	Institute of Transportation Engineers
LTAP	Local Technical Assistance Program
LVR	Low Volume Road
NACE	National Association of County Engineers
NAPA	National Asphalt Pavement Association
NATTTC	National Association of Transportation Technology Transfer Centers
NEPA	National Environmental Policy Act
NEPT	National Experimental Projects Tabulation
NHI	National Highway Institute (FHWA)
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration (DOT)
NICET	National Institute for the Certification of Engineering Technicians
OSHA	Occupational Safety and Health Administration
OTA	Office of Technology Applications (FHWA)
PMS	Pavement Management System
PONTIS	FHWA's Bridge Management System
QA/QC	Quality Assurance/Quality Control
RSMS	Road Surface Management System
RTAP	Rural Technical Assistance Program
SHA	State Highway Agency
SHRP	Strategic Highway Research Program
SIMS	Sign Inventory Management System
SMA	Stone Matrix Asphalt

SMS	Safety Management System
SP&R	State Planning and Research
TA	Technical Advisory (FHWA)
TP	Technical Panel (LTAP)
TRB	Transportation Research Board
TRC	Technical Review Committee (LTAP)
TRIS	Transportation Research Information System
TWG	Technical Working Group (SHRP)
T^2	Technology Transfer
WZS	Work Zone Safety
WZTC	Work Zone Traffic Control

1 OVERVIEW

LTAP Philosophy

The Local Technical Assistance Program (LTAP) is a national effort designed to improve access to highway, road, and street technology for local units of general purpose and tribal government. Local capabilities and needs differ, and it is the recognition and accommodation of this fact that has been primarily responsible for the program's success. Flexibility in the delivery of technology is a key to responding to the multitude of needs felt by a group as diverse as the some 37,000 local and tribal governments. The Federal Highway Administration's (FHWA) LTAP is, therefore, based on a policy that employs a national network of technology transfer centers established in partnership with the State highway agencies and staffed with personnel skilled in providing an interface with their respective local constituencies. The States, centers, FHWA regions, and divisions are granted a vast amount of autonomy to tailor products and methods produced at the national level to fit their individual situations, and the program has flourished under this approach. By exercising this flexibility, developing innovative approaches to achieving technical advancements, and coordinating Federal, State, local, and private industry resources, LTAP centers have proven themselves to be an invaluable and indispensable asset to the program.

Purpose of Manual

LTAP center operation is not, however, without structure. Certain minimum requirements, designed to provide balance and program cohesion, form the framework. The purpose of this manual is to present those requirements in a clear and concise manner and to provide the user with information and suggestions that may aid in designing an efficient, effective and comprehensive program.

Intended Audience

This manual is intended for all those involved in LTAP, but it is primarily directed toward the FHWA field offices. Its primary goal is to assist FHWA offices in designing and managing their technology transfer programs.

2 LTAP CENTERS

Introduction

LTAP might be described as a mini-transportation extension service. Its goal and purpose, like that of many other programs, is to spread technology. Yet LTAP differs from others because it focuses on the transfer of transportation technology pertaining specifically to rural, small urban (up to 1,000,000 population), and tribal governments.

The need for this service is clear. There are approximately 5.2 million km of rural highways in the United States, and a full 2.1 million km are gravel. In addition, the majority of the 325,000 rural bridges in this country are less than 6.1 m across. These arteries are often the primary transit routes in rural areas, and, as such, the local population depends upon them for its livelihood.

LTAP was designed to provide local highway agencies with improved access to the technological developments and advances to enable them to efficiently and effectively construct, operate, maintain, and ensure the safety of their rural roads, bridges and local streets. To carry out this task, a nationwide network of "technology transfer" centers (T^2 or LTAP centers) was established in cooperation with State highway agencies to provide the link to products and programs developed nationally and to interface with technology users in their local work environments.

At the program's inception, these centers were just one of 99 projects. They were intended to act as a distributor of the remaining LTAP products. Yet, since their establishment on a pilot basis in October 1982, the centers' role has grown to one of vital importance in the operation of the program. In 1996, there were 57 active T^2 centers, six of which were established to serve the needs of American Indian tribal governments.

Funding

The predecessor to LTAP, the Rural Technical Assistance Program (RTAP), was originally funded at $5 million per year through 1985. These funds were included annually as a "set aside" in the FHWA's budget request to Congress for General Operating and Expenses (GOE). The program, however, operated under greatly reduced budgets during the 1988-91 timeframe until the Intermodal Surface Transportation Efficiency Act (ISTEA) was passed in December 1991.

To make room in the annual budget for the increasing number of centers in the T^2 center project, the number of individual, general application projects declined. In addition, in order to extend the program coverage with the available dollars, a requirement that funds used in the T^2 center project be matched on a 50/50 basis was implemented in fiscal year (FY) 1987.

In 1991, the technology transfer program was renewed with the passage of ISTEA, which widened the scope to include urban areas with populations up to 1 million and promised funding at $6 million per year through 1997. This new "contract authority" funding was additive to that which continued to be available through the annual GOE appropriation. The program's widened scope caused it to change from the Rural Technical Assistance Program to the ***Local*** Technical Assistance Program.

Because the FHWA had, prior to the ISTEA, elected to use the majority of available funding to operate the T^2 centers, the development of needed training courses, manuals, and other national technology transfer materials and aids had not been maintained at a desirable level. The technology needs of local governments continued to grow. The passage of ISTEA helped bring about development of many needed products for local governments while still enabling centers to operate at comparable or increased funding levels.

The benefits of LTAP (and RTAP) are difficult to measure because these are often realized in the form of cost avoidance rather than direct cost savings. However, a brief effort conducted (see "RTAP — A Success Story," issued in 1990) in an attempt to identify and quantify the benefits of the RTAP suggested that direct cost savings in excess of $20 million were realized in FY 1988. Many of these savings will continue to be realized annually. A study conducted by Patsy Anderson of the Kentucky T^2 Center, in cooperation with the FHWA Office of Technology Applications (*LTAP Benefits and Accomplishments Study*, published in 1994), provides more basic information and insight into the accomplishments of the program.

The availability of the $6 million contract authority category allowed the establishment of a base level of funding for operation of the technology transfer centers. In calendar year 1992, States could request up to $100,000 each for basic center operations. This amount was increased to $110,000 in 1993. States and the centers continued to provide an equal amount. Except for 1994, the base level of funding was supplemented, to the extent possible, with money available through the annual GOE appropriations, thus allowing some response to the larger audience identified in the ISTEA. Through calendar year 1996, unlike base level funding, States and centers needed only to supply 20 cents for each supplemental dollar received. Based on advice received from some States and centers, supplemental funding made available in calendar 1997 also required an equivalent amount from local sources placing it on par with the base funding.

The States and centers have been creative in developing the local match. Some of these methods are briefly described below.

- **State Planning and Research (SP&R) program funds.** Two percent of the Federal-aid funds annually appropriated to States for construction are available for planning, research, and technology transfer activities. Of the 2 percent, at least 25 percent must be used for research, and technology transfer efforts. However, these funds have their own matching requirement of 20 percent State-only money. Still, many States draw from this category to provide the local match for operating the technology transfer centers. In fact, it is the most widely used source.

- **Funds appropriated by State legislatures.** In Kentucky, Montana, South Dakota, and Wyoming (there may be others), Departments of Transportation and local officials have worked with their respective legislatures to establish an annual appropriation to match the Federal LTAP funds. Generally, these are taken off the top of a State gas tax earmarked for counties and other local agencies. This is a fair source because a large number, if not all, of the potential LTAP product recipients contribute.

- **Section 402 Highway Safety Program funds.** Some centers have worked with their State's Governor's Highway Safety Representative to obtain funding for qualified training activities that have in turn been used to match LTAP funds. This requires, of course, development of annual programs that contain activities eligible for both sources of funding.

- **Miscellaneous private sources.** Some centers have been successful in obtaining limited contributions from non-public sources. This has occurred most frequently in those States where counties and municipalities have formed insurance cooperatives and where the centers could offer training that reduced the risk of claims, particularly tort liability.

- **Soft match.** In some instances where sufficient hard dollars have not been available to fully match LTAP funds, States and centers have elected to contribute staff time in the form of salaries and fringe benefits of regular center employees, and/or a part of the eligible overhead charges. In a few instances, other indirect costs related to LTAP center activities (e.g., office rent) small fees for courses and related expenses have been used.

All of the above local matching funds should be accounted for on an ongoing basis, including those from soft match sources, and expended dollar for dollar with those from the LTAP.

Federal LTAP funds are transferred to the States annually by the FHWA division offices, in accordance with individual State requests made in keeping with the above guidelines, using the

Federal-aid Project Agreement (Form PR-2) process. States, in turn, pass funding to the institutions housing their respective centers through agreements and other contractual type documents pertinent to their situations.

On occasion individual centers are selected through competition to develop a LTAP technical product for national use. When this occurs, Federal LTAP funds are made available to cover the entire cost whether provided to the appropriate State for the successful center's use or directly to the selected center through an FHWA contract or cooperative agreement.

The tribal LTAP centers are funded annually through cooperative agreements between their host institutions and the FHWA. LTAP funds used for operation of these centers are matched dollar for dollar by the Bureau of Indian Affairs.

The T^2 center project is authorized on an annual basis, beginning January 1 and ending December 31. Each center submits an annual work plan and budget that outlines planned efforts for each of at least the six required tasks, including a breakdown of the costs associated with these tasks. Two-year work plan submissions are acceptable, even encouraged, but because LTAP funds are made available on an annual basis, the fiscal documents have to be processed accordingly. Plans should provide for handling fluctuations in funding levels for various reasons, including inability to fully implement an anticipated activity. For purposes of uniformity in the administration of this program, a sample work plan and budget have been designed. A copy of that sample is included as appendix A and should be used as a guide for all annual LTAP center work plan and budget submissions.

Approval Authority

In 1989, the regional offices obtained authority to approve center work plans and budgets. In 1997, regional offices obtained authority to further delegate this approval to the division offices. To operate the LTAP centers, each region receives a lump sum allocation of LTAP dollars to distribute to its centers. The amount allocated is based on State requests and total program dollars available. As a result of this delegation of authority, the region and division offices' involvement is essential.

Mandatory Center Tasks

In order to qualify for Federal funding, centers ***must*** comply with the following basic requirements. As with all of their endeavors, however, centers are encouraged to take original, innovative approaches to carrying out these tasks. Centers are particularly encouraged to tailor their activities to their respective audiences. Additional center responsibilities are listed in chapter 3.

Task A—Compile and Maintain a Mailing List

Compile a mailing list that, at a minimum, includes all local government agencies with transportation responsibilities within the area to be serviced by the center.

All T^2 centers handle this task as a first order of business. A good mailing list should gain and maintain credibility by targeting mailings to those individuals with an interest in the materials being disseminated or the courses being offered. Periodic updates of the list are critical to credibility.

MANDATORY CENTER TASKS	
A.	Maintain a Mailing List.
B.	Publish a Quarterly Newsletter.
C.	Provide Technology Transfer Materials.
D.	Provide an Information Service.
E.	Conduct or Arrange Seminars and Training Sessions.
F.	Evaluate the Effectiveness of the Program.

Figure 1. Mandatory center tasks.

Task B—Publish a Quarterly Newsletter

Publish a quarterly newsletter that includes, at a minimum:

- A list of transportation-related technical materials (reports, studies, training packages, etc.) that have become available for distribution since the publication of the last newsletter. The name, address, and telephone number of the sponsor and/or distributor should appear after each entry.
- Course announcements, including the course title; a brief description; the dates offered; the sponsoring organization; and the name, address, and telephone number of the course coordinator if available.
- Announcements of meetings, conferences, seminars, and information that builds the State-wide network of information exchange.
- Other information related to technology transfer, especially in the areas of roads, bridges, and public transportation. (Be sure to solicit the advice of States, centers, and other related agencies to ensure accuracy and comprehensiveness of published articles.)
- A statement identifying the publication sponsors and funding agencies.

Task C—Provide Technology Transfer Materials

On a quarterly basis, provide local agencies with a list of pertinent, available materials and supply them with those items sponsored by the center. Centers should keep an inventory of the most popular items in order to facilitate material delivery. Popular materials should be packaged effectively to provide important information in a convenient manner. Pocket guides, posters, and fact sheets are examples of good packaging techniques. FHWA Headquarters will furnish technical and/or course materials for any item or course it sponsors while supplies last.

Task D—Provide an Information Service

Provide technical information services as requested using State highway agency, university, and/or FHWA staff. The service may include providing technical advice and guidance, a referral to

published materials, or many other forms as dictated by the nature of the request. Telephone calls, written correspondence, and personal interviews are all worthy of response. Many centers have found toll-free numbers, Electronic Bulletin Boards, and "Circuit Riders" to be effective methods of accomplishing this task.

It should be noted that the scope of this task is limited in nature. The assistance provided, especially that pertaining to the engineering field, should be limited to advice, guidance, and referrals. No engineering services beyond these functions should be offered, as they are more appropriately available through the private sector.

Task E—Conduct or Arrange Seminars and Training Sessions

Annually conduct or arrange for the presentation of a minimum of ***10 one- to two-day*** seminars and/or training sessions on topics of concern to local jurisdictions, e.g., street maintenance, management of public transit properties, traffic operations, and erosion control. Modest registration fees may be charged for the training activities to recover incidental costs, including costs for refreshments, meals, and meeting rooms.

This task is the heart of the program because, through it, technology is transferred directly to people. The classroom/workshop concept provides an opportunity for hands-on activities and also provides a good setting for individuals with similar responsibilities to interact and exchange pertinent information. Diversity in presentation, however, is a must. In some cases, other settings may be more conducive to instruction and interaction. Road shows and van programs have been well received in larger, more rural States, while other formats may be more suitable for urban settings. The audience must always be considered when determining the best training format. The common denominator of successful programs is that these provide presentations and interactions that instill a spirit of mutual interest, respect, and camaraderie while developing the target technical skills.

As training is by far the most effective means of technology transfer, it is essential that the topics selected be timely and pertinent. Centers should supply basic courses appropriate to the local labor force and gear programs to local needs. To do this successfully, centers should be guided by enthusiastic "advisory boards," which represent the State's local governments and have members ranging from county engineers and township road commissioners, to road and street foremen and superintendents. Tribal centers should also use similar boards or working groups with membership drawn from their constituencies in forming their annual work programs.

The advisory board or working group should hold at least two strategically timed meetings per year and should act as a resource committee to help the center ensure that its programs are truly responsive to the needs of its local constituents. The group may also prove valuable in assisting the center management in other work plan tasks as needed.

Task F—Evaluate Effectiveness of Program

In order to evaluate the effectiveness of the program and assist with national record keeping requirements, centers must submit the T^2 Center Profile to the T^2 Clearinghouse (appendix G) annually.

As part of this task, State centers are also required to submit the following information to the FHWA division offices for use in Washington:

- The number and type of organization (counties, cities, planning organizations) to which items were distributed.
- The number and kinds of technical information services provided and who provided these services.
- A description of the problems encountered in carrying out the tasks and proposed solutions.
- Recommendations for changes or modifications in approach to technology transfer for local transportation agencies.

Reporting requirements for tribal centers are similar and are enumerated in their respective contracts.

3 ASSIGNMENT OF RESPONSIBILITIES

Introduction

The list of LTAP office responsibilities that follows is not all-inclusive, but is intended to provide general guidelines regarding standard operational procedures. For further information, see figure 1 and appendix B: LTAP Products.

LTAP Centers

- Use Federal, State, local, and private industry resources and services to the fullest extent possible.
- Develop center work plans and budgets and submit these through the appropriate channels for approval.
- Obtain the necessary matching funds.
- Complete tasks as outlined in the approved work plan.
- Revise work plans if there are major changes in the center's expenditures or programs, and submit the revision through the appropriate channels for approval.
- Seek State highway agency endorsement and coordination, and request Washington Office approval, through appropriate channels, for any change in a center's managerial oversight, i.e., a change from university to State operation.
- Participate in national and regional conferences in order to leverage funding through networking and promote technology transfer.
- Keep abreast of new technology, including that from the Strategic Highway Research Program (SHRP) and in Intelligent Transportation Systems (ITS), and of improvements in technology transfer methods.
- Market the benefits of LTAP to generate additional participation in the program.
- Assist in the development of new LTAP products.

- Close out the previous year's LTAP by March 31 on an annual basis.

State DOTS or Highway Agencies

- Participate in the advisory board and provide support and lend technical assistance to centers to facilitate their program development.
- Facilitate work plan and budget submissions.
- Provide program support and/or matching funds or assist in obtaining these when necessary.
- Perform fiscal actions, as necessary, to facilitate the transfer of Federal funds.
- Monitor to ensure that the center complies with its approved annual work plan.
- Include LTAP center work plan in State Transportation Improvement Program/Plan (STIP).
- Participate in national and regional conferences in order to promote technology transfer.
- Assist in the development of new LTAP products.
- Close out the previous year's LTAP by March 31 on an annual basis.

FHWA Division Offices

- Provide technical assistance for center program development.
- Provide assistance by participating in an advisory board.
- Facilitate work plan and budget submissions; approve same where delegated authority exists.
- Allot the necessary Federal funds to the State in accordance with the approved funding request.
- Ensure that the necessary matching funds are provided and that Federal funds are reimbursed at the appropriate level.
- Participate in national and regional conferences in order to promote technology transfer.
- Keep centers apprised of relevant courses and technology. (National Highway Institute (NHI) courses are sometimes useful to the centers.)
- Assist in the development of new LTAP products.
- Monitor to ensure that the center complies with its approved annual work plan and performs the required six basic tasks.
- Close out the previous year's LTAP by March 31 on an annual basis. (A small percentage of LTAP Federal funds—usually less than 5 percent of the total LTAP funds—may be carried beyond December 31 to the next year's activity.)

FHWA Region Offices

- Provide technical assistance for center program development.
- Coordinate and distribute the LTAP regional fund allocation.
- Monitor to ensure that the center complies with its approved annual work plan and performs the required six basic tasks.
- Maintain program accountability from a regional perspective; ensure that regionally allocated dollars are obligated and expended and that unspent funds are returned to the Washington Office for redistribution.
- Coordinate and participate in regional and national meetings in order to promote technology transfer.
- Assist in the development of new LTAP products.
- Provide regional budget information for national budget requests.

Washington Office—LTAP Staff

- Provide overall program coordination and direction.
- Disseminate materials that outline program policies and provide guidance.
- Facilitate budget requests on a national and regional basis.
- Provide input and participate in national meeting programs and gatherings. (This responsibility includes field visits that provide feedback on field needs, problems, and opportunities related to the program.)
- Provide technical assistance for LTAP projects, center programs, and training initiatives.
- Provide program marketing efforts at the national level.
- Maintain program accountability from a national perspective. (This includes monitoring the obligation and expenditure of program dollars through the on-line Financial Management Information System and visits to technology transfer centers.)
- Initiate and manage national technical projects.
- Provide regional/division office training as required.
- Provide T^2 Clearinghouse with funding support, guidance, and direction as needed.

4 LTAP PARTNERS

Introduction

Many Federal, State, local, and private sector resources can be exploited to increase the overall effectiveness of LTAP. The following paragraphs contain brief descriptions of many of them. For a more comprehensive listing, please contact the National T² Center Clearinghouse.

Office of Technology Applications

The Office of Technology Applications (OTA) was established by the Federal Highway Administration (FHWA) to cover all areas of highway technology, including asphalt and concrete pavements, environment, structures, geotechnology, hydraulics, safety, motor carriers, traffic operations, and management. It incorporates both the Demonstration and Experimental Projects Programs and LTAP and is charged with LTAP and Strategic Highway Research Program (SHRP) product procurements and SHRP product implementation.

OTA's mission is the timely identification and assessment of innovative research results, technology, and products and to ensure that those determined to be useful are distributed in a timely and efficient manner.

OTA primarily focuses on:

- Demonstration Projects
- Application Projects
- Test and Evaluation Projects
- Special Projects
- Marketing

Cooperation between OTA and LTAP centers can bring new technology from the identification, assessment, and development stages to marketing, distribution, and implementation.

National Highway Institute

Courses developed and conducted by the National Highway Institute (NHI) Short Course Program often cover topics of interest to LTAP audiences. Notations are made for such courses in the *NHI Course Catalog*. Centers may sponsor any NHI course as part of their program provided they:

- Request courses from FHWA by submitting FHWA Form 153 through the appropriate channels.
- Ensure that the course is restructured, if necessary, so that the presentation is at an appropriate level for the LTAP audience.
- Agree to pay any required course fee.

- Agree to hold any particular NHI course a maximum of two times. (If a center would like to present a class at multiple locations or on an ongoing basis, it is expected to do so by adapting the course and providing its own instructors and materials.)

NHI course materials are available for any NHI courses presented by T² centers in accordance with the above-stated policy.

Clearinghouse

As the number and role of T² centers grew, FHWA and LTAP centers began to recognize the need for a nationwide transportation technology transfer clearinghouse. In 1985, FHWA contracted with the American Public Works Association (APWA) to develop, establish, and operate the National T² Center Clearinghouse. At one point funding was divided between the FHWA Washington Office and the T² centers. In 1992, however, the Washington Office, at the encouragement of the centers, agreed to fully fund the operation. The Clearinghouse has continued to expand services and matters, and its value to the program has increased dramatically over the years to the point where it is a key element.

By providing the following services, the T² Clearinghouse supports T² centers and other related agencies with a streamlined method for locating, accessing, and sharing training and technology transfer resources.

Compile and Maintain Mailing Lists

The Clearinghouse maintains a mailing list of recipients of Clearinghouse publications and updates it on a regular basis. This mailing list includes T² centers, State DOT contacts, FHWA contacts, Pan American Institute of Highways T² centers, editors of transportation-related publications, organizations representing transportation and rural interests, and a constituency of local leaders in the transportation and public works fields. The Clearinghouse will furnish copies of this list to FHWA offices and T² centers on request.

Publish Newsletters

The T² Clearinghouse publishes two newsletters, the *LTAP Journal* and *LTAP Network*. The *LTAP Journal* is published quarterly and is distributed to a wide audience. The *LTAP Journal* includes:

- News from T² centers across the country.
- Announcements of meetings, conferences, and seminars.
- Results and/or knowledge gained from national and regional T² meetings.
- News of transportation-related organizations and publications.
- News from FHWA.
- Other information related to technology transfer, especially in the areas of roads, bridges, and public transportation.

The *LTAP Network* is an informal newsletter that includes current, late-breaking news of interest to T² center personnel. This newsletter is distributed to T² centers, State DOT contacts, and

FHWA region, division, and headquarters technology transfer contacts only. The *LTAP Network* includes a section called "Resources Available from the T² Clearinghouse" that contains technology transfer resources available to T² centers. T² center, State, and FHWA staff are encouraged to contribute technology transfer resources, such as reports, manuals, course materials, and computer programs, to be shared among the LTAP network. T² center, State, and FHWA personnel are encouraged to submit articles and news about their activities to the T² Clearinghouse for inclusion in these publications.

Provide Technology Transfer Materials to T² Centers

The Video Library includes videotapes from T² centers, FHWA, States, private corporations, and other transportation-related sources. The videotapes are available for loan or purchase. The Clearinghouse certifies copyright clearance on all acquired videotapes. Tapes supplied by FHWA do not require this certification. Charges for videotapes cover the cost of publication and packaging. Videotapes may also be loaned for duplication by a center when significant quantities are desired. T² centers are urged to provide copies of videotapes they have produced to the Video Library. The T² Clearinghouse will also distribute T² center-produced materials to other T² centers.

Provide an Information Service for T² Centers

The Clearinghouse responds to requests for information from T² centers.

Update Catalog of T² Resources

The T² Clearinghouse prepares camera-ready copy for the *State and Local Highway Training and Technology Resources* catalog of highway-related training and technical materials geared to the needs of T² centers. The catalog is published yearly by FHWA. The T² Clearinghouse provides T² centers with a notebook version and updates. The catalog includes videotapes, publications, manuals, and other transportation-related training and technical materials. Sources for the materials in the catalog are T² centers, FHWA, State DOT contacts, transportation-related organizations, and the private sector. The catalog is also available on floppy disk. T² centers are encouraged to submit items they are willing to share with others.

Evaluate Effectiveness of Program

The Clearinghouse issues progress reports to FHWA on a semi-annual basis and presents progress reports to the T² Clearinghouse Advisory Committee at least twice a year.

Special Projects

The Clearinghouse also develops special projects. One of these is to prepare a camera-ready copy of a publication that presents individual profiles of T² centers, summarizes T² center activities and programs, and includes success stories contributed by T² centers. This publication is supplied to the host T² center in time for duplication and distribution at the National LTAP Conference.

Exhibits

Clearinghouse staff prepare promotional materials and help staff LTAP exhibits at national and regional conferences and meetings.

The Clearinghouse is guided by its advisory committee, which consists of members selected by T^2 centers in each of the nine FHWA regions. The advisory committee meets during the LTAP annual national conference and in conjunction with the Transportation Research Board's annual meeting. Members of the advisory committee are selected at the regional meetings.

Federal Transit Administration

In late 1986, Congress authorized the creation of a Rural Transit Assistance Program (RTAP) under section 18(h) of the Surface Transportation Act and appropriated $5 million for its first year of operation. The purpose of the Federal Transit Authority (FTA) RTAP is to establish a coordinated program of training, technical assistance, research, and other support services to improve the delivery of transit services in rural areas. The program has been funded at about the same level in subsequent years.

FTA allocates 85 percent of the annual RTAP appropriation to an RTAP State program and the remaining 15 percent to a national program. The RTAP State program provides funding directly to the States on a formula basis, according to a State's percentage of the nation's non-urbanized population, with a $50,000 minimum per State. The funds are available for a wide range of activities to meet each State's self-identified needs for training, technical assistance, and research. All 50 States have an FTA RTAP. A nine-member RTAP review board of State officials and rural operators provides guidance in the development of the national program. FHWA is represented as an ex-officio member. Currently, the national FTA RTAP offers the following products and services.

National Resource Center

The center is a full-service information and assistance clearinghouse on rural and specialized transportation issues, with more than 10,000 computerized entries on topics including human resources, transit funding, legislation, and regulations. Access to the Resource Center is through the RTAP Hotline, (800) 527-8279, or the RTAP TAP-IN electronic bulletin board, (202) 628-2537. Special publications include a core bibliography of 100 publications on rural and specialized transit, a directory of FTA-funded rural and specialized transit providers, a handbook for pooling community resources, and profiles of FTA's Section 18 and 16(b)(2) programs.

Training Resources

These resources include educational packages with workbooks, videotapes, and instructor guides on substance abuse awareness, understanding the capabilities and needs of special passengers, emergency procedures for rural transit drivers, roles and responsibilities of transit board members, dispatching, essential skills for trainers, public-private partnerships, and a special education package on RTAP, called "TAP into RTAP." A training resources catalog with listings of more than 100 training materials developed across the country for rural transit audiences and a comprehensive training skills workshop to improve instructors' skills and to give them information on available training resources are also available.

Technical Assistance Products

A peer-to-peer technical assistance network in which qualified peers give the benefit of their experience in a wide range of transit operation and management areas. Most assistance is given over the telephone and at conferences, but on-site visits are also arranged when needed. The FTA RTAP also provides *Technical Assistance Briefs*, which are four- to eight-page state-of-the-art discussions on topics of primary interest to the rural transit industry. Topics include volunteers; vehicle procurement; special policies for special passengers; alternative fuels; developing an in-house training program; measuring system performance; risk management, accessibility, and innovative funding strategies; and personnel policies. *Info Briefs* provide information on regulatory issues. Topics include state-wide transportation planning, transit funding, and drug- and alcohol-testing rules.

Special Publications

The Bulletin includes program updates, profiles of State programs, and descriptions of new technical assistance and training resources. Project reports have been prepared, including one on national trends in State RTAPs.

There are many parallels between the FTA RTAP and the FHWA LTAP. The technical information content and target audiences, however, are substantially different. Several LTAP centers have increased efficiency and economy by operating both programs from one office. In these cases, cooperation is encouraged. Before proposing such an arrangement, however, centers are cautioned that the programs, while related, are not the same. Centers must ensure that the arrangement does not cause undue staffing or other constraints, and thus compromise either LTAP or RTAP operations.

National Highway Traffic Safety Administration

The LTAP and its Technology Transfer Centers have long interacted with the National Highway Traffic Safety Administration (NHTSA) and its activities, particularly the Section 402 Highway Safety Program. Working with the Governors' Highway Safety Representatives, more than 20 of the technology transfer centers have provided related training and other technical assistance, some using most of the funds available to the State for these purposes.

The successful relationship between the centers and the 402 Highway Safety Program captured the attention of Congressional Appropriators resulting in the 1996 Department of Transportation Appropriations Bill that the centers should play an increased role in dealing with highway safety. Specifically mentioned were the Safe Communities initiative and the possibility of the centers delivering NHTSA-sponsored training courses. The NHTSA is also encouraged to provide to the centers various other publications designed to benefit State and local officials dealing with highway safety, including driver behavior challenges and their countermeasures. While not specifically mentioned, centers should also be alert to opportunities to equip local agencies to participate in safety management systems (SMS).

In short, coordination among the LTAP centers, the Governor's Highway Safety Representatives, and the NHTSA regional offices is encouraged and should be strengthened where it exists and initiation explored where cooperative efforts are not present.

Native American T² Centers

Section 6004 of the 1991 ISTEA called for the establishment of at least two centers to provide training and technical assistance in transportation planning, project selection, tourism, and recreation travel. In order to fulfill this requirement, FHWA joined forces with the Bureau of Indian Affairs (BIA) to establish six new Native American T² centers. These centers are designed to provide Native American Tribal Governments with training on intergovernmental transportation planning and project selection and also to provide them with guidance on the use of tourism and recreational travel for economic development purposes.

The establishment of these six 100 percent Federally funded technology transfer centers brought the total number of LTAP centers to 57. The six centers were established on a 5-year basis (one base year, plus four optional years), modeled on existing LTAP centers, and are subject to the same six basic tasks. Their audience, however, is different. In order to reach their constituency and meet their constituency's specific requirements, these centers take innovative approaches to technology transfer and training and tailor their methods to suit the experience, resources, and needs of the tribal governments.

The Intertribal Transportation Association, similar in design and purpose to the American Association of State Highway and Transportation Officials (AASHTO), will work closely with FHWA and BIA to identify needed products for use by the Native American Tribal Governments and the Native American T² centers.

McTrans and PC Trans

All microcomputer programs developed under LTAP with Federal funds (LTAP or SP&R) are public domain software that are available through the following two distribution centers (reasonable charges for documentation and technical support are allowed):

PC Trans
2011 Learned Hall
University of Kansas
Lawrence, KS 66045
Phone: (913) 864-5658
fax: (913) 864-3199
EBB: (913) 864-5058

McTrans
512 Weil Hall
University of Florida
Gainesville, FL 32611-2083
Phone: (904) 392-0378
fax: (904) 392-3224

FHWA field offices should identify worthwhile software packages and encourage developers to provide copies of the programs and documentation to the above listed microcomputer software distribution centers. To submit software to the distribution centers, obtain submission forms from HTV-10, complete the forms, and send these with the software and documentation directly to the centers. These two organizations publish and distribute software catalogs both in hard copy and electronically. Interested parties may add themselves to their mailing lists by contacting them directly at the addresses listed.

5 NETWORKING

Introduction

One of the established objectives of LTAP is to promote cooperation among Federal, State, local, and private sector organizations. The best way to ensure this cooperation is through networking.

Networking is a process that includes developing the contacts and resources necessary to administer the program efficiently. LTAP networking can be divided into a minimum of two layers. The first is networking among centers; the second is networking within the States. The goal of each of these is to promote technology transfer and, particularly, leveraging of resources. Networking between other agencies and groups is also encouraged.

Inter-center networking reduces duplication of effort, consolidates expertise, and promotes the development of efficient solutions to the challenges of technology transfer. Intrastate networking brings many of the same advantages, but also serves to promote LTAP's goal of bringing necessary technologies directly to local agencies. For the program to be successful, locals must be aware of the specific products available. Centers can contribute to this goal by networking with related State and local agencies, perhaps by engaging in cooperative referral services or otherwise ensuring that training and technology are available to local agencies.

There are many different types of networking. A few suggested methods are contained in the following paragraphs. The list is by no means exhaustive, and LTAP participants are encouraged to be innovative and original in their efforts.

Types of Networking

Seminars, Symposiums, and Conferences

Seminars and symposiums usually focus on a specific theme or topic. Conferences and conventions bring together experts from related fields to discuss areas of general interest to their professions. All of these gatherings provide excellent forums for enhancing existing expertise, exchanging information, and developing contacts.

National, Regional, and Professional Meetings

These meetings are gatherings organized for the specific purpose of exchanging ideas, technologies, successes, and failures with professionals who share similar interests. Not only do they promote the lively exchange of information, but they also formulate friendships, propagate pride, and provide a forum for establishing meaningful contacts. LTAP participants might also consider participation in educational, marketing, presentation, or other professional meetings related to LTAP functions.

Advisory Board Meetings

Each center should have an advisory board. When advisory board members are true representatives of local agencies and act to promote the interests of their constituents, rather than to promote their own personal agendas, these meetings provide a good sounding board for new ideas and topics. Thus, they help eliminate the need for unnecessary and often fruitless trial and error. These meetings also yield valuable input regarding constituent needs.

Expositions, Exhibits

State-of-the-art equipment, materials, resources, and technology can often be discovered by attending these sessions. Vendors and companies expend great effort to invent, develop, improve upon, and showcase their technologies. New products and technologies that can make technology transfer and training easier, faster, cheaper, and more efficient are often presented at these functions.

National Association of Transportation Technology Transfer Centers

Networking has always been the backbone of the T^2 center operation. Inter-center networking, however, has only recently been formalized by the establishment of the National Association of Transportation Technology Transfer Centers (NAT^3C). The NAT^3C's August 1992 Bylaws describe the Association as an assembly of the transportation technology transfer centers that receive partial funding from FHWA LTAP.

The Association's stated purpose is to serve as a mechanism to facilitate communication and coordination among T^2 centers and other government, academic, and private organizations with the goal of improving local governments' access to transportation technology. A minimum of two meetings are held each year: one at the Transportation Research Board Annual Meeting and one at the LTAP National Annual Meeting. The Association is led by an executive committee consisting of one elected representative from each FHWA region for staggered, two-year terms. (For a more detailed description of the NAT^3C, see appendix C: Historical Information.)

Newsletters

T^2 center and Clearinghouse newsletters can be valuable sources of information, including listings of available courses and course materials; State, regional, and national news; and pertinent, timely articles relevant to LTAP participants nationwide. Centers may reprint T^2 center or Clearinghouse articles of interest to their subscribers provided they credit both the article's original author and its publisher.

American Public Works Association (APWA) State and Local Resources and Training Guide

As the T^2 center network grew, a need developed to coordinate, consolidate, and share training and technology transfer resources. Thus, FHWA established the Technology Transfer Clearinghouse and charged its operation to APWA. The *State and Local Resources and Training Guide* is a listing of products that LTAP participants and users may find useful in their technology transfer efforts. The product category, title, type, source, contact, target audience, and a short description of the course is provided for each product. Updates are published annually.

Office of Technology Applications (OTA) Technology Applications Programs

This OTA publication lists demonstration, application, test and evaluation, and special projects sponsored by FHWA. Category, title, contact, technology transfer aids, and publications associated with these projects are included in this annual listing.

APPENDIX A SAMPLE T^2 CENTER WORK PLAN AND BUDGET

CONSOLIDATED WORK PLAN
WORK PLAN PERIOD: JANUARY 1 TO DECEMBER 31, 1996

STATE TECHNOLOGY TRANSFER CENTER
STATE UNIVERSITY

Submitted to:	Federal Highway Administration FHWA Division Office City, State 12345
Submitted by:	Program Director State Technology Transfer Center State University City, State 12345
Contact:	Program Coordinator State Technology Transfer Center State University City, State 12345 (202) 555-5555

SAMPLE T^2 CENTER WORK PLAN AND BUDGET

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PART I: APPROACH TO SATISFYING RURAL REQUIREMENTS

Introduction

The State Technology Transfer Center operates under the Center for Transportation Studies of the State University System. The center's 1996 activities will focus on performing the six basic tasks, tailoring the current program to accommodate small urban audiences, and completing several experimental projects (Task G). Activities will be categorized according to the their target audience, either rural or small urban, although overlap will exist on virtually all tasks. All activities will be developed and performed under the direction of the State Local Technical Assistance Program (LTAP) Center advisory board.

Advisory Board

The State LTAP T^2 Center advisory board is composed of local transportation agency personnel supervisors, State Department of Transportation personnel, public works directors, industry representatives, academic advisors, and a Federal Highway Administration (FHWA) regional representative. The board will meet three times in 1996 and will be facilitated by T^2 center personnel.

The first of these meetings will be held in April to evaluate the program's effectiveness and offer suggestions for the following year's program based upon these evaluations. An August meeting will focus on evaluating the current program and reviewing the next year's program activity plan. A November meeting will focus on refining the current program. (An estimated cost of $5,500 for advisory board activities is factored in to Task F.)

Brief descriptions of LTAP tasks to be performed in 1996 and the projected expenses for each task follow.

Task A—Compile and Maintain a Mailing List

- Continuously update and maintain the mailing list, which consists of more than 5,000 names. Updates include address corrections supplied by recipients and the U.S. Postal Service. The list will also be reviewed this (and every second) year to account for changes in recipient names/addresses brought about by retirements, job changes, and State elections.
- Create and sort database information into the following categories to facilitate targeted T^2 mailings:
  - County, city, or township
  - Population/size
  - Job type, i.e., public works, supervisor, operator, etc.
- Supply T^2 center sponsors with copies of the center mailing list.

Estimated Cost: $11,000 (5 percent)

Task B—Publish a Quarterly Newsletter

- Publish the quarterly newsletter, *Technology Transfer*.
- Print articles, excerpts, illustrations, and photographs of interest to the target audience.
- Include course and activity announcements, resources lists, product availability announcements, and State T^2 Center program updates.
- Improve the quality of the newsletter by replacing existing software with new, state-of-the-art software.

Estimated Cost: $22,000 (10 percent)

Task C—Distribute Technology Transfer Materials

- Identify existing T^2 center materials available for local transportation agency use.
- Supply local government and related agencies with technology transfer and training materials upon request. A major vehicle for this distribution will be our videotape lending library, which is currently lending approximately 70 titles per month. The availability of materials developed by FHWA, State Departments of Transportation (DOTs), research organizations, and professional associations will be announced in the center's quarterly newsletter.
- The center also plans to enter into a partnership with the State DOT Information Services Section and the Division of State Aid to acquire, summarize, lend, and distribute technology transfer publications and reports.

Estimated Cost: $16,500 (7.5 percent)

Task D—Provide an Information Service

- Provide local transportation agency and public works officials with technical assistance (advice, guidance, and referral services) regarding road construction, maintenance, and administrative issues.
- Market the State T^2 program by attending meetings and conferences and providing information on current technology transfer materials activities.
- Respond to telephone and written inquiries. This year the center plans to formalize the information service with an toll-free hotline number and 24-hour message center.

Estimated Cost: $22,000 (10 percent)

Task E—Provide Training Courses

- Conduct a minimum of 20 training sessions on 6 to 10 different topics around the State each year. (Nominal fees will be collected for full-day courses to cover refreshments and any food that is provided.)

- Identify and train new instructors for T² center courses. (Other courses will be taught by T² center staff instructors or carefully chosen consultants.)
- Have T² center personnel attend courses to provide administrative support and ensure the quality of the T² center courses and their instruction.

Estimated Cost: $110,000 (50 percent)

Task F–Evaluate the Effectiveness of the Program

- Distribute and review course evaluation forms.
- Convene advisory board meetings.
- Review advisory board comments and recommendations.
- Conduct staff meetings to evaluate program performance and coordinate program operations.
- Conduct a State-wide needs assessment. The results of this assessment will be compared with the current program, and the program will be adjusted accordingly.

Estimated Cost: $22,000 (10 percent, including 2.5 percent for advisory board activities)

Task G–Special Projects

- Develop a resource catalog containing all resources (courses, training materials, software programs, videotapes, etc.) currently available from the State T² Center for local agency use.
- Develop a metric conversion guide to assist local transportation agency officials in complying with new DOT policies regarding the use of metric measurements.
- Develop an instructor training guide for distribution at train-the-trainer courses.

Estimated Cost: $22,000 (10 percent)

PART II: APPROACH TO SATISFYING URBAN REQUIREMENTS

Introduction

The urban technology transfer effort represents a new emphasis as of calendar year 1995. The State T² Center program has traditionally provided some services to cities over 50,000 in population and has not excluded their participation from scheduled courses, seminars, and other projects. The Center has not, however, provided cities with services that purposefully target their needs.

In conjunction with the T² Center Advisory Board, the Center has designed an approach that will seek to bring rural and small urban audiences together, thus promoting cooperation rather than segmentation. With this in mind, the Center has chosen to modify its existing task functions whenever possible, rather than pursue an entirely different agenda for the urban audience. Only when needs are too widely divergent to allow for coordinated effort will individual projects be pursued.

The following programs/tasks will be modified to accommodate urban audiences.

Note: The following should be viewed with the understanding that supplemental funding made available varies from State to State based on the number of urban general purpose governments with populations between 50,000 and one million and the funds available annually for this purpose through 1997.

Task A–Compile and Maintain a Mailing List

Solicit additions to the current mailing list to add urban municipalities, city engineers, and other small urban transportation agency personnel.

Estimated Cost: $10,000 (10 percent)

Task B–Publish a Quarterly Newsletter

Expand our current newsletter length by 30 percent to allow for the publication of more articles of interest to small urban audiences without compromising service to rural audiences.

Estimated Cost: $20,000 (20 percent)

Task C–Distribute Technology Transfer Materials

Seek, acquire, and distribute publications, videotapes, and other informative materials suitable for small urban audiences.

Estimated Cost: $10,000 (10 percent)

Task D–Provide an Information Service

Work with various Statewide agencies to identify information and programming needs. Hire a Technical Assistance Engineer with a background in public works to offer technical assistance, but not engineering design services, to urban public works agencies.

Estimated Cost: $20,000 (20 percent)

Task E–Provide Training Courses

Continue to offer National Highway Institute (NHI) courses. Coordinate and collaborate with related agencies to develop, arrange, and conduct courses of interest to urban audiences. Develop, arrange, and present courses geared for engineers, as urbanized areas generally employ a much higher percentage of engineers than do rural agencies.

Estimated Cost: $25,000 (25 percent)

Task F—Evaluate the Effectiveness of the Program

Convene small panels of advisors to evaluate new courses and the overall effectiveness of the urban program. Expand advisory committee to include representatives of urban audiences.

Estimated Cost: $10,000 (10 percent)

Task G—Special Projects

Conduct a software exposition event where management systems, interactive training software, and computer databases with applicability to transportation agency functions will be displayed and demonstrated.

Estimated Cost: $5,000 (5 percent)

Table 1. Requested 1996 T² funds.

	FHWA/LTAP FUNDS ($)	LOCAL MATCHING FUNDS	TOTAL 1996 FUNDS
1996 BASE (50/50 MATCH)	110,000.00	110,000.00	220,000.00
1996 URBAN (80/20 MATCH)	80,000.00	20,000.00 *	100,000.00
TOTAL DIRECT FUNDS (60%)	114,000.00	78,000.00	192,000.00
TOTAL INDIRECT FUNDS (40%)	76,000.00	52,000.00	128,000.00
TOTAL CONTRIBUTION	190,000.00	130,000.00	320,000.00

*Beginning in 1997, this amount is also equal to the FHWA/LTAP Funds, i.e., 50/50 match.

Table 2. 1996 breakdown of costs by task—base/rural budget.

	SALARY/ FRINGES	CONSULT SVCS.	SUPPLIES	TRAVEL	EQUIP.	COMMUNIC.	OTHER SVCS.	SUBTOTAL	INDIRECT COSTS	TOTAL	PERCENT OF TOTAL
TOTAL	**76,500**	**10,375**	**11,225**	**10,475**	**6,800**	**13,325**	**3,300**	**132,000**	**88,000**	**220,000**	
Mailing	3,300	0	550	0	1,375	1,100	275	6,600	4,400	11,000	5 %
Publish Newsletter	7,500	0	1,100	550	1,200	2,300	550	13,200	8,800	22,000	10 %
Dist' T^2 Materials	4,950	0	1,650	0	413	2,475	412	9,900	6,600	16,500	7.5 %
Information Service	7,200	2,200	500	0	100	3,100	100	13,200	8,800	22,000	10 %
Courses & Seminars	42,000	6,250	5,500	8,000	2,750	500	1,000	66,000	44,000	110,000	50 %
Evaluate & Advise	4,950	825	825	825	412	1,650	413	9,900	6,600	16,500	7.5 %
Special Projects	6,600	1,100	1,100	1,100	550	2,200	550	13,200	8,800	22,000	10 %
Total Costs	**76,500**	**10,375**	**11,225**	**10,475**	**6,800**	**13,325**	**3,300**	**132,000**	**88,000**	**220,000**	**100 %**

Table 3. 1996 breakdown of costs by task—urban budget.

	SALARY/ FRINGES	CONSULT SVCS.	SUPPLIES	TRAVEL	EQUIP.	COMMUNIC.	OTHER SVCS.	SUBTOTAL	INDIRECT COSTS	TOTAL	PERCENT OF TOTAL
TOTAL	**34,750**	**2,500**	**2,500**	**6,250**	**2,250**	**9,750**	**2,000**	**60,000**	**40,000**	**100,000**	
Mailing	4,000	0	250	500	0	1,250	0	6,000	4,000	10,000	10 %
Publish Newsletter	7,000	0	750	750	0	2,500	1,000	12,000	8,000	20,000	20 %
Dist' T^2 Materials	4,000	0	0	0	500	1,500	0	6,000	4,000	10,000	10 %
Information Service	9,000	0	0	1,000	0	2,000	0	12,000	8,000	20,000	20 %
Courses & Seminars	8,000	2,000	500	2,000	1,000	500	1,000	15,000	10,000	25,000	25 %
Evaluate & Advise	2,000	500	250	1,250	0	2,000	0	6,000	4,000	10,000	10 %
Special Projects	750	0	750	750	750	0	0	3,000	2,000	5,000	5 %
Total Costs	**34,750**	**2,500**	**2,500**	**6,250**	**2,250**	**9,750**	**2,000**	**60,000**	**40,000**	**100,000**	**100 %**

APPENDIX B LTAP PRODUCTS

Introduction

In addition to the roles listed in chapter 3, the FHWA Washington Office is responsible for LTAP product procurement. This appendix is intended to provide guidance and insight into the administration of national projects. These projects are essential to the program because it is through their resulting products that valuable technology is transferred to local agencies via the T^2 center network.

Product development is a dynamic process that requires cooperation at all levels: Federal, State, local, and private sector. LTAP products must be developed for a diverse group of users, from small, technologically unsophisticated townships and counties to advanced, urbanized areas with populations up to one million.

Development of National Products

In order to effectively perform its product procurement function, the Washington Office:

- Formulates the annual program.
- Monitors budget implementation and processes changes to the approved program.
- Prepares project approval letters, transferring funds to the regional office for use by the division in the Federal-aid process.
- Monitors overall progress of the projects.
- Assists in major decisions affecting the projects.
- Provides guidance in determining the appropriate means of disseminating products. (This includes marketing products, if necessary, to promote their adoption in a timely manner.)
- Ensures that appropriate project close-out procedures are followed and that unspent funds are returned for redistribution.

Project Procurement Alternatives

During the implementation phase of LTAP project procurements, three alternate processes may be used:

1. Federal-aid Process
2. FHWA Contract Process
3. FHWA Field Office Purchase Order Process

The second alternative is used exclusively by the Washington Office. It is important to know, however, that all of these processes are available in LTAP product development. The selected alternative depends upon the available time frame, the estimated cost, the desired result, and available necessary technical expertise.

Preparation for Procurement

The first step that must be taken is to define the product requirements in a Statement of Work (SOW). The Washington Office develops SOWs in cooperation with technical experts, FHWA field personnel, and LTAP representatives. SOWs are used as the basis for requests for proposals (RFPs), which are published periodically. Contracts are awarded based on the merit of the proposals submitted in response to the RFPs.

Statements of Work specify for whom the product is intended and the approximate level of detail that would be suitable for that audience. The intended, or target, audience for LTAP technical projects is highway and transportation employees and elected officials of counties, towns, and cities with populations of less than one million. The education level of the target LTAP audience ranges from a high school diploma to advanced managerial and engineering degrees. Boundaries within this range or exceptions to it are determined during the development stage of the SOW in order to clarify the product requirements.

Experience to date has indicated that the most effective products are often those that teach technology applications instead of highly specific or sophisticated techniques. Products should always be geared to the current resources and needs of the target audience. Above all, LTAP products should be useful and readily available.

In addition to specifying the target audience, SOWs for training projects generally outline specifications for the following:

- A participant or user guide
- An instructor guide
- Visual aids
- Two pilot presentations
- Up to nine train-the-trainer presentations. It is expected that those developing the products (centers, State highway agencies, and others outside FHWA) make all presentations subsequent to an LTAP project's train-the-trainer presentation in their region.
- Sufficient copies of the training publications for all planned presentations
- A final report on the presentations

Federal-aid Process

The primary use of this process is to execute agreements with centers for the delivery of T^2 products and services to local highway agencies. The FHWA occasionally uses this process to engage center and State highway agency services to develop T^2 products under LTAP technical projects. In order to build strong resources in the T^2 centers, FHWA policy is to promote the maximum use of the centers in the development and delivery of LTAP projects.

FHWA Contract Process

When this process is used, the SOW is provided to FHWA's Office of Acquisition Management (OAM), which uses it to prepare an RFP package. The planned acquisition is advertised in the *Commerce Business Daily* and in other ways. Proposals received are evaluated by a technical panel, and a contract is eventually negotiated with the selected proposer by OAM.

FHWA Purchase Order Process

Purchase orders are used to obtain products or services that cost less than $50,000 (this may be raised at some date after 1997). To use the purchase order mechanism, FHWA must develop a Statement of Work and obtain a minimum of three price or price schedule quotations. Orders are placed with the lowest bidder.

Travel

Individual project review and program travel by FHWA personnel should be funded by the Washington Office. Exceptions to this policy are:

- Travel by FHWA staff other than the LTAP lead office. This may be funded by LTAP when staff services are required to help develop LTAP training courses.
- Instructor travel by the FHWA program office staff to assist in presenting LTAP training. This may be funded by the LTAP office on a case-by-case basis.
- Travel by T^2 center staff or technical project staff, which should be included in the project budget.

Project Completion

Regardless of the procurement method, upon completion, all training projects should call for the following provisions: an advisory board to include one or more T^2 center representative(s); a work schedule; a budget; and any required instructors.

The Washington Office is responsible for maintaining copies of the official records and project products. The initial distribution of the products to FHWA offices, State highway agencies, and T^2 centers is the responsibility of the LTAP and FHWA technical offices that participated in the project. The transmittal document, number of copies, etc., should be coordinated with the LTAP staff. ***A quality master copy of the training materials must be transferred to LTAP upon completion of the project.***

APPENDIX C HISTORICAL INFORMATION

Rural Technical Assistance Program: 1982 to 1992

In fiscal year 1982, the Department of Transportation and Related Agencies Appropriation Act (Public Law 97-102) made $5 million available for rural technical assistance. Congress instructed that the funding be used to provide technical assistance to help rural local governments provide roads that met the growing demands placed upon them by urban expansion and increased truck loads.

To further develop RTAP, in fiscal year 1983 Congress directed that the funding be used to develop a program and implementation schedule setting forth the special needs of rural transportation and identifying ways in which RTAP could meet these needs. This program was to be implemented under the provisions of 23 United States Code (U.S.C.) 104(a). FHWA was designated as the lead agency for the program because of its experience with rural roads and its network of division offices working directly with the States.

Initially, FHWA divided the available funds among 99 national projects, which usually took the form of training efforts, manuals, and other products designed to assist local highway agencies. The largest of these projects, however, was designed to ***deliver*** these products to targeted local transportation agencies through the performance of the six basic tasks (see chapter 2). This project, the FHWA's Technology Transfer (T^2) Center Program for Rural Transportation Agencies (RTAP centers), might easily be described as a kind of mini-transportation extension service, resembling, in many respects, the U.S. Department of Agriculture's Extension Service. The project was first implemented in calendar year 1982 with the establishment of 10 pilot centers. This was done in cooperation with the State highway agencies.

As RTAP developed, the number and type of "National Technical Projects" varied, but the T^2 center project proved essential to the operation of the program. The centers' role as a vehicle for the distribution of products grew to include the transfer of other existing technologies, and the centers developed increasingly innovative means to accomplish this goal.

In 1986, an administrative decision changed the level of T^2 center Federal funding from 100 percent to 50 percent. This arrangement had two advantages. First, it enabled RTAP to continue to establish new centers. Second, it enabled State highway agencies to become more actively involved in and to lend their support to the T^2 centers and RTAP in a more meaningful way. States quickly demonstrated their enthusiasm by coordinating efforts with the centers, matching (and in some cases exceeding) Federal funds and often even housing RTAP centers. Thus, the program partnership between FHWA and State agencies was strengthened.

The original intent of RTAP was to:

- Assist rural agencies in developing and expanding their expertise in roads and transportation areas.
- Improve rural agencies' access to existing highway technology.

- Assist rural agencies with improvements in roads and bridges and with programs designed to improve or expedite passenger and/or freight transport.
- Promote effective networking and cooperation among Federal, State, local, and T^2 center organizations.
- Assist rural agencies in dealing effectively with specific road-related problems.

From its inception in 1982, RTAP grew to be a program consisting of more than 87 individual projects in 1989. These projects included developing and delivering training efforts, manuals, computer programs, videotapes, and other tools designed to assist local highway agencies. The T^2 centers continued to operate according to the six basic tasks and to deliver products to local customers. At the close of calendar year 1990, there were 46 RTAP centers with requests for still more.

LTAP Centers: 1991 to Present

In fiscal year 1991, the passage of the Intermodal Surface Transportation Efficiency Act of 1991 changed RTAP forever. In addition to the program's previous functions, RTAP was now to provide training, technical assistance, and technology transfer services to cities with populations up to one million (previously 50,000) and to Native American tribal governments. The Native American tribal government T^2 centers were also given the responsibility of providing assistance with transportation planning and with the promotion of economic development through travel and tourism. To reflect its expanded function, the name of RTAP was changed to Local Technical Assistance Program (LTAP) in 1991. The T^2 center network continued to expand under the new name. A center was eventually located in each State and Puerto Rico. The addition of six centers for Native American Tribal Governments brought the center total to 57 in 1996.

Clearinghouse

Since 1982, FHWA and State highway agencies have established 57 T^2 centers, mostly in universities, to provide technical information and training to local transportation agencies. In 1985 the T^2 Clearinghouse was established due in large part to the need for a central service for exchanging highway technical information among centers.

The FHWA endorsed the establishment and operation of the Clearinghouse by a national organization and chose the American Public Works Association (APWA) to do so. The selection was based on the APWA's broad constituency of State, county, town, and city agencies and its appreciation for the level of effort necessary to meet the growing need for the exchange of highway training and other technical information at a national level.

An advisory board was established consisting of members selected by T^2 centers in each of nine FHWA regions, some of whom represented State highway agency T^2 centers. The T^2 Clearinghouse Advisory Committee met at the 1989 RTAP National Conference in Big Sky, Montana, and drafted a resolution concerning the funding and elements of a new multi-year contract for the operation of the T^2 Clearinghouse. The committee proposed that the T^2 Clearinghouse be funded

in the first year of the new contract (March 1990 to February 1991) with $800 coming from each T^2 center and FHWA contributing $40,000—approximately half of the budget. This resolution was presented to the RTAP center representatives present at the national meeting and was passed unanimously. The resolution also proposed that the T^2 Clearinghouse perform the following functions:

- Continue to expand the videotape library by acquiring additional videotapes and copyright clearance for public domain, non-public domain, and recently released videotapes.
- Inform centers of the videotapes' availability, and provide the centers with copies.
- Publish a bimonthly newsletter and "Hot News" flyers containing timely news of interest to T^2 centers.
- Continue the T^2 center profiles prepared for the RTAP annual national meeting.
- Produce a yearly directory of training resources, and update it as needed in the bimonthly newsletter. (The FHWA would continue to provide printing for the directory.)

The Clearinghouse continues to perform exceptionally well under the guidance of the Advisory Board, although in 1992, at the requests of the centers, FHWA began again to totally fund its operation directly from the Washington office.

APPENDIX D GLOSSARY

Terms and Key Phrases

Advisory Board—A group of State and local roads professionals, including a representative of the county or city engineering association or its equivalent, who meet on a regular basis to develop and guide the LTAP center program to address its State's local needs. This committee should include FHWA division and State LTAP contacts as appropriate and should represent a cross section of the local agencies served by the program. Committee members should not promote their own agendas, but rather those of the State, locality, or sector they are selected to represent. It is recommended that new members be regularly rotated onto the committee.

Budget—The documents submitted annually through the Federal-aid process that specifically define the proposed LTAP center tasks and budget requirements, including the source of required matching funds and any carry over funds from the previous calendar year. A sample work plan and budget are included in appendix A of this manual.

Federal-Aid Process—The process by which Federal funding for the project is made available. In all cases, the project agreement for funding is between the State highway agency and FHWA.

Fiscal Documents—The official documents required to obligate and monitor the expenditure of Federal dollars. Examples of these include PR 1240 or its equivalent, PR2 and PR2(A). These documents are now executed and closed on an annual basis subject to approval of a work plan and budget and the completion of the work.

Information Service—A service staffed by an experienced highway practitioner who responds to questions and requests for technical information, often referring inquirers to sources of information and technical expertise, including private sector sources.

Joint Projects—Technical projects that are conducted between two or more LTAP centers. These projects are approved by the region(s) and division(s) as part of the work plan process and are contained in the center's work plan.

Local Agencies—The rural subdivisions within a State, such as counties, small urban areas under one million in population, towns, and other forms of local general purpose government. Also included for the purposes of this program are American Tribal Governments for Indian Nations, National Parks, National Forests, and local area offices of the Bureau of Indian Affairs and the Bureau of Land Management. If State employees are responsible for local transportation facilities in their State, then those employees are included in the State center's target audience.

Local Match—Local funds committed annually for LTAP at a 50 percent or greater ratio. Local funds can consist of a combination of one or more of the following (in order of preference):

- State highway agency appropriated funds
- State legislated local funds
- Other Federal funds (SP&R, 402, etc.)

Local Technical Assistance Program—The successor to the Rural Technical Assistance Program, LTAP incorporates all previous rural technical assistance activities and programs, as well as several additional functions brought about by ISTEA. In addition to its many rural technical assistance functions, LTAP is responsible for providing technical assistance to urban areas with populations up to one million; providing Native American Tribal Governments with assistance in transportation planning, road construction, and maintenance; and encouraging economic growth on tribal reservations by promoting travel and tourism.

LTAP Center—An LTAP T^2 center is an organizational unit of an educational institution or State highway agency established to transfer technology to local transportation agencies and Native American Tribal Governments.

LTAP Center Lead Office—The LTAP center lead office is directly responsible for LTAP projects. In the cases of T^2 center or Federal-aid technical projects, the division serves as the lead office. For contracted technical projects, the Contracting Officer's Technical Representative (COTR) is the lead office.

LTAP Funds—Federal funds appropriated annually for LTAP. LTAP T^2 center funds are matched at a level of 50 percent; local funds are matched at an 80 percent level; LTAP product development and technical projects are funded on a 100 percent level.

Rural Technical Assistance Program (RTAP)—A Federal program instituted in 1982 to aid rural local agencies in meeting the growing demands placed on rural roads. The program consisted of technical projects that developed training and other materials for the centers and local agencies, distributed these products to local agencies, and offered financial assistance to States willing to provide a channel for training and materials to local agencies. The program was amended in 1990 and became the Local Technical Assistance Program. (For more information, see appendix C.)

Technical Projects—LTAP projects established to develop technical manuals, handbooks, training courses and materials, videotapes, microcomputer programs, and other services and materials for use by rural local agencies.

Technology Transfer (T^2)—The process of improving existing methods, products, and applications through training and information exchange.

Work Plan—The documents submitted annually that describe a center's proposed approach to performing the six basic tasks and any special projects. (Refer to sample in appendix A.)

APPENDIX E LTAP OFFICES

State LTAP Centers

Alabama: Alabama Technology Transfer Center, Department of Civil Engineering, Harbert Engineering Center, Auburn University, Auburn, AL 36849-5337 telephone: (334) 844-4320, fax: (334) 844-6290, e-mail: tsqjmc@eng.aubum.edu

Alaska: Alaska Transportation Technology Transfer Program, 2301 Peger Road, Fairbanks, AK 99709-5399 telephone: (907) 451-5320, fax: (907) 451-2313, e-mail: Sharon_McLeod-Everette@jhqnov.dot.state.ak.us, Jim_Bennett@jhqnov.dot.state.ak.us, Susan_Earp@jhqnov.dot.state.ak.us

Arizona: Arizona Technology Transfer Center, 1130 North 22nd Avenue, Phoenix, AZ 85009-3716 telephone: (602) 255-8712, fax: (602) 256-7648, e-mail: a1294@atrc.dot.state.az.us

Arkansas: Arkansas LTAP, P. O. Box 2261, Little Rock, AR 72203 telephone: (501) 569-2249, fax: (501) 569-2476, in-state phone: (800) 344-1285, e-mail: rta@engr.uark.edu

California: University of California Technology Transfer Program, ITS Extension Programs, Richmond Field Station, 1355 South 46th Street, Building 452, Richmond, CA 94804-4603 telephone: (510) 231-9590, fax: (510)231-9591, e-mail: abennett@uclink.berkeley.edu, ccortely@library.berkeley.edu

Colorado: Colorado Transportation Information Program, Colorado State University, Engineering Research Center, Room A325, Ft. Collins, CO 80523 telephone: (800) 262-7623, in-state phone: (303) 491-8648, e-mail: erctranspo@vines.colostate.edu

Connecticut: Technology Transfer Center, University of Connecticut, 179 Middle Turnpike U-202, Storrs, CT 06269-5202 telephone: (860) 486-5400, fax: (860) 486-2399

Delaware: Delaware DOT T² Center, P. O. Box 778, Dover, DE 19903 telephone: (302) 739-3167, fax: (302) 739-2251, e-mail: lklepner@smtp.dot.state.de.us

Florida: Florida Technology Transfer Center, P.O. Box 116585, 512 Weil Hall, University of Florida, Gainesville, FL 32611-6585 telephone: (352) 392-0378, fax: (352) 392-3224, in-state phone: Suncom: 622-0378, national number: (800) 226-1013 mess., e-mail: uftrc@nervm.nerdc.ufl.edu

Georgia: Georgia Department of Transportation Technology Transfer Center, No. 2 Capitol Square, Room 301, Atlanta, GA 30334-1002 telephone: (404) 656-5364, fax: (404) 656-3507, in-state phone: (800) 869-1040, e-mail: smith_rick@dot.state.ga.us

Hawaii: Hawaii Local Technical Assistance Program, 2800 Woodlawn Drive, Suite 280, Honolulu, HI 96822 telephone: (808) 539-3837; (800) 220-5827 (Neighbor Islands), fax: (808) 539-3842; (800) 787-5827, e-mail: huizingh@hawaii.edu

Idaho: At the time of publication, the Idaho Center was being transferred to a State University, as yet unnamed at press time.

Illinois: Illinois Technology Transfer Center, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Room 205, Springfield, IL 62764 telephone: (217) 785-5048, fax: (217) 785-7296

Indiana: Highway Extension and Research Project for Indiana Counties and Cities (HERPICC), Purdue University, 1284 Civil Engineering Building, West Lafayette, IN 47907-1284 telephone: (317) 494-2164, fax: (317) 496-1176, in-state phone: (800) 428-7639, e-mail: stocksic@ecn.purdue.edu

Iowa: Center for Transportation Research and Education, Iowa State University, ISU Research Park, 2625 North Loop, Suite 2100, Ames, IA 50010-8615 telephone: (515) 294-8103, fax: (515) 294-0467, e-mail: desmith@iastate.edu

Kansas: Kansas University Transportation Center, 2011 Learned Hall, Lawrence, KS 66045 telephone: (913) 864-5658, fax: (913) 864-3199, in-state phone: (800) 248-0350, e-mail: raymoore@kuhub.cc.ukans.edu (Ray Moore), weaver@kuhub.cc.ukans.edu (Pat Weaver), givechi@kuhub.cc.ukans.edu (Mehrdad Givechi), lmharris@falcon.cc.ukans.edu (Lisa Harris)

Kentucky: Kentucky Transportation Center, 140 Civil Engineering, Kentucky Transportation Center Building, University of Kentucky, Lexington, KY 40506-0281 telephone: (606) 257-4513, fax: (606) 257-1815, in-state phone: (800) 432-0719, e-mail: bitnetktc@ukcc

Louisiana: Louisiana LTAP T² Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808-4443 telephone: (504) 767-9117, fax: (504) 767-9156, in-state phone: (800) 256-1567, e-mail: laltap@crc.ltrc.lsu.edu

Maine: Maine Local Roads Center, Technical Services Division, Maine DOT - Sta. 16, Augusta, ME 04333-0016 telephone: (207) 287-2152, fax: (207) 287-8757, e-mail: usrehjhh@ibmmail.com

Maryland: Maryland Transportation Technology Transfer Center, Department of Civil Engineering, University of Maryland, College Park, MD 20742 telephone: (301) 405-2009, fax: (301) 405-2585, e-mail: ttc@eng.umd.edu

Massachusetts: Baystate Roads Program, 2140 Marston Hall, University of Massachusetts, Amherst, MA 01003 telephone: (413) 545-2604, fax: (413) 545-2840, in-state phone: (800) 374-7623, e-mail: ahmadjia@ultranet.com

Michigan: Local Technical Assistance Program, TTTC - 205 Dillman Hall, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931-1295 telephone: (906) 487-2102, fax: (906) 487-3409, e-mail: tlmcninc@mtu.edu

Minnesota: Minnesota Technology Transfer Program, Center for Transportation Studies, 511 Washington Avenue, SE, Suite 200, Minneapolis, MN 55455 telephone: (612) 625-5829 or (612) 625-8049, fax: (612) 625-6381, e-mail: trend001@maroon.tc.umn.edu or donah007@maroon.tc.umn.edu

Mississippi: Mississippi Center for Technology Transfer, Jackson State University, 1400 J.R. Lynch Street, P. O. Box 18125, Jackson, MS 39217-0625 telephone: (601) 968-2339, fax: (601) 973-3703, in-state phone: (800) 634-4651, e-mail: tsquare@ccaix.jsms.edu

Missouri: Technology Transfer Assistance Program, Missouri Highway & Transportation Department, P. O. Box 270, Jefferson City, MO 65102 telephone: (314) 751-0852, fax: (314) 526-2819

Montana: Local Technical Assistance Program, Montana State University, 202 Cobleigh Hall, Bozeman, MT 59717-0390 telephone: (800) 541-6671, fax: (406) 994-6105, e-mail: zce7002@msu.oscs.montana.edu

Nebraska: Nebraska Technology Transfer Center, University of Nebraska-Lincoln, P. O. Box 880560, Lincoln, NE 68588-0560 telephone: (402) 472-5748, fax: (402) 472-0685, In-state phone: (800) 332-0265, e-mail: billbow@unlinfo.unl.edu

Nevada: Nevada Transportation T^2 Center, College of Engineering/257, University of Nevada - Reno, Reno, NV 89557 telephone: (702) 784-1433, fax: (702) 784-1429, e-mail: maria@unr.edu

New Hampshire: Technology Transfer Center, 33 College Road-Kingsbury Hall, University of New Hampshire, Durham, NH 03824-3591 telephone: (603) 862-2826, fax: (603) 862-2364, in-state phone: (800) 423-0060, e-mail: kldr@christa.unh.edu

New Jersey: Rutgers R^2T^2 Center, P. O. Box 5079, Center for Government Services, 33 Livingston Avenue, New Brunswick, NJ 08903-5079 telephone: (908) 932-3640, ext. 627, fax: (908) 932-3586, e-mail: knezek@aesop.rutgers.edu

New Mexico: New Mexico LTAP Center, P. O. Box 1149, Bldg. T-2, 1350 Alta Vista Street, Santa Fe, NM 87504-1149 telephone: (505) 827-5281, fax: (505) 827-3202, in-state phone: (800) 523-3028

New York: Cornell Local Roads Program, 416 Riley-Robb Hall, Ithaca, NY 14853-5701 telephone: (607) 255-8033, fax: (607) 255-4080, e-mail: Center: clrp@cornell.edu, Assistant Director: amr9@cornell.edu

North Carolina: Institute for Transportation Research and Education, North Carolina LTAP Program, North Carolina State University, Campus Box 8601, Raleigh, NC 27695 telephone: (919) 878-8080, fax: (919) 878-8129, e-mail: wmv@unity.ncsu.edu or kpm@unity.ncsu.edu

North Dakota: North Dakota Transportation Technology Transfer Center, Civil/Industrial Engineering Building, Room 201H, North Dakota State University, Fargo, ND 58105 telephone: (800) 726-4143 - Fargo Office Only, Fargo Office: (701) 231-7051, Bismarck Office: (701) 328-2658, fax: (701) 231-7195 - Fargo Office Only, e-mail: danderse@badlands.nodak.edu

Ohio: Ohio Transportation Technology Transfer Center, The Ohio State University, Department of Civil Engineering, 470 Hitchcock Hall, 2070 Neil Ave., Columbus, OH 43210-1275 telephone: (614) 292-2871, (614) 292-7556, fax: (614) 292-3780, in-state phone: (800) 552-6891, e-mail: swelsh@magnus.acs.ohio-state.edu, tantrim@magnus.acs.ohio-state.edu

Oklahoma: Center for Local Government Technology, 308 CITD, Oklahoma State University, Stillwater, OK 74078 telephone: (405) 744-6049, fax: (405) 744-7268, e-mail: padenj@okway.okstate.edu

Oregon: Oregon Technology Transfer Center, 2950 State Street, Room 103, Salem, OR 97310-0784 telephone: (503) 986-2854, fax: (503) 986-2844, in-state phone: (800) 544-7134

Pennsylvania: LTAP - The Pennsylvania Local Road Program, Penn State Eastgate Center, 1010 North 7th Street, Suite 304, Harrisburg, PA 17102-1410 telephone: (717) 772-1972, fax: (717) 772-1998, in-state phone: (800) FOR-LTAP (367-5827), e-mail: wjp4@psu.edu

Puerto Rico: Puerto Rico Transportation Technology Transfer Center, Civil Engineering Department, University of Puerto Rico at Mayagüez, Mayagüez, PR 00681-5000 telephone: (809) 834-6385, fax: (809) 265-5695, e-mail: t2pr1@rmce02.upr.clu.edu.

Rhode Island: Rhode Island Technology Transfer Center, Department of Administration, Division of Planning, One Capitol Hill, Providence, RI 02908-5872 telephone: (401) 277-1235, fax: (401) 277-2083

South Carolina: Transportation Technology Transfer Service, Department of Civil Engineering, Clemson University, Clemson, SC 29634-0911 telephone: (803) 656-3000, fax: (803) 656-2670, e-mail: t3s@eng.clemson.edu

South Dakota: South Dakota Transportation Technology Transfer Service, P.O. Box 2220, HH 302 - SDSU, Brookings, SD 57007 telephone: (800) 422-0129, fax: (605) 688-5880, in-state phone: (605) 688-4185, e-mail: grants@msmail.sdstate.edu

Tennessee: Tennessee Transportation Assistance Program, 600 Henley Street, Suite 309, Knoxville, TN 37996-4133 telephone: (423) 974-5255, fax: (423) 974-3889, in-state phone: (800) 252-ROAD

Texas: Texas Local Technical Assistance Program, TTD, Texas Engineering Extension Service, TAMU System, College Station, TX 77843-8000 telephone: (409) 845-2966, fax: (409) 862-4768, in-state phone: (800) 824-7303, e-mail: trchism@teexnet.tamu.edu, trali@teextnet.tamu.edu, trshaw@teexnet.tamu.edu, trburch@teexnet.tamu.edu, trevans@teexnet.tamu.edu

Utah: Utah Transportation Technology Transfer Center, Department of Civil & Environmental Engineering, Utah State University, Logan, UT 84322-4111 telephone: (801) 797-2289, fax: (801) 797-1185, in-state phone: (800) 822-8878, e-mail: utaht2@lab.cee.usu.edu

Vermont: Vermont Local Roads, Saint Michael's College, Colchester, VT 05439 telephone: (802) 654-2652, fax: (802) 654-2555, in-state phone: (800) 462-6555, e-mail: lambert@smcvax.smcvt.edu

Virginia: Virginia Transportation Technology Transfer Center, 530 Edgemont Road, Charlottesville, VA 22903 telephone: (804) 293-1966, fax: (804) 293-1429

Washington: Northwest T^2 Center (WA), WSDOT-TransAid, P.O. Box 47390, Olympia, WA 98504-7390 telephone: (360) 705-7390, fax: (360) 705-6822, in-state phone: (800) 973-4496

West Virginia: West Virginia Transportation Technology Transfer Center, Dept. of Civil Engineering, West Virginia University, P. O. Box 6103, Morgantown, WV 26506 telephone: (304) 293-3031, ext. 629, fax: (304) 293-7109, e-mail: blanken@faculty.coe.wvu.edu

Wisconsin: Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Room 725A, Madison, WI 53706 telephone: (608) 262-0422, fax: (608) 263-3160, in-state phone: (800) 442-4615, e-mail: donald@engr.wisc.edu

Wyoming: Wyoming Technology Transfer Center, Department of Civil Engineering, P.O. Box 3295, Laramie, WY 82071-3295 telephone: (800) 231-2815, fax: (307) 766-6784, in-state phone: (307) 766-6743, e-mail: tsquared@uwyo.edu, wilsonem@uwyo.edu, calvert@uwyo.edu

Native American Tribal Government T^2 Centers

Tribal LTAP Center, D-Q University, 33250 County Road 31, Davis, CA 95616 telephone: (916)758-0470, fax: (916)758-4891, mail: P.O. Box 409, Davis, CA 95617-0409

Technology Transfer & Training (T^3) Program for Native Americans, Colorado State University, Engineering Research Center, Ft. Collins, CO 80523 telephone: (800) 262-7623, fax: (303) 491-8671, e-mail: erctranspo@vines.colostate.edu

Tribal Technical Assistance Program, TTTC - 207 Dillamn Hall, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931-1295 telephone: (906) 487-3164, fax: (906) 487-3409, e-mail: refulton@mtu.edu

Native American Technology Transfer Center, Montana State University, 202 Cobleigh Hall, Bozeman, MT 59717-0390 telephone: (800) 541-6671, fax: (406) 994-6105, e-mail: zce7002@msu.oscs.montana.edu

Oklahoma: Center for Local Government Technology, 308 CITD, Oklahoma State University, Stillwater, OK 74078 telephone: (405) 744-6049, fax: (405) 744-7268, e-mail: padenj@okway.okstate.edu

Northwest Tribal LTAP Center, MS 50, 526 5th Street, Cheney, WA 99004-2431 telephone: (509) 359-2290, fax: (509) 359-4348

FHWA Division Offices

Alaska: LTAP Coordinator, Federal Highway Administration, P.O. Box 21648, Juneau, AK 99802-1648

Alabama: LTAP Coordinator, Federal Highway Administration, 500 Eastern Boulevard, Suite 200, Montgomery, AL 36117-2018

Arkansas: LTAP Coordinator, Federal Highway Administration, Federal Office Building, Room 3128, 700 West Capitol Avenue, Little Rock, AR 72201-3298

Arizona: LTAP Coordinator, Federal Highway Adminstration, 234 North Central Avenue, Suite 330, Phoenix, AZ 85004

California: LTAP Coordinator, Federal Highway Administration, P.O. Box 1915, Sacramento, CA 95812-1915

Colorado: LTAP Coordinator, Federal Highway Administration, 555 Zang Street, Room 250, Denver, CO 80228

Connecticut: LTAP Coordinator, Federal Highway Administration, Ribicoff Federal Building, 450 Main Street, Room 635, Hartford, CT 06103-3002

Delaware: LTAP Coordinator, Federal Highway Administration, 300 South New Street, Room 2101, Dover, DE 19901-6726

Florida: LTAP Coordinator, Federal Highway Administration, 227 North Bronough Street, Room 2015, Tallahassee, FL 32301

Georgia: LTAP Coordinator, Federal Highway Administration, 1720 Peachtree Road NW, Suite 300, Atlanta, GA 30367

Hawaii: LTAP Coordinator, Federal Highway Administration, P.O. Box 50206, Honolulu, HI 96850

Iowa: LTAP Coordinator, Federal Highway Administration, P.O. Box 627, Ames, IA 50010

Idaho: LTAP Coordinator, Federal Highway Administration, 3050 Lakeharbor Lane, Suite 126, Boise, ID 83703

Illinois: LTAP Coordinator, Federal Highway Administration, 3250 Executive Park Drive, Springfield, IL 62705

Indiana: LTAP Coordinator, Federal Highway Administration, 575 North Pennsylvania Street, Room 254, Indianapolis, IN 46204

Kansas: LTAP Coordinator, Federal Highway Administration, 3300 SW Topeka Blvd., Suite 1, Topeka, KS 66611-2237

Kentucky: LTAP Coordinator, Federal Highway Administration, P.O. Box 536, Frankfort, KY 40602

Louisiana: LTAP Coordinator, Federal Highway Administration, P.O. Box 3929, Baton Rouge, LA 70821

Massachusetts: LTAP Coordinator, Federal Highway Administration, 55 Broadway, 10th Floor, Cambridge, MA 02142

Maryland: LTAP Coordinator, Federal Highway Administration, The Rotunda, Suite 220, 711 West 40th Street, Baltimore, MD 21211

Maine: LTAP Coordinator, Federal Highway Administration, Edmund S. Muskie Federal Building, 40 West Avenue, Room 614, Augusta, ME 04330

Michigan: LTAP Coordinator, Federal Highway Administration, Federal Building, Room 211, 315 West Allegan Street, Lansing, MI 48933

Minnesota: LTAP Coordinator, Federal Highway Administration, Metro Square Building, Suite 490, Seventh and Robert Streets, St. Paul, MN 55101

Missouri: LTAP Coordinator, Federal Highway Administration, P.O. Box 1787, Jefferson City, MO 65102

Mississippi: LTAP Coordinator, Federal Highway Administration, 666 North Street, Suite 105, Jackson, MS 39202-3199

Montana: LTAP Coordinator, Federal Highway Administration, Federal Office Building, 301 South Park, Drawer 10056, Helena, MT 59626-0056

North Carolina: LTAP Coordinator, Federal Highway Administration, 310 New Bern Avenue, Suite 410, Raleigh, NC 27611

North Dakota: LTAP Coordinator, Federal Highway Administration, 1471 Interstate Loop, Bismark, ND 58501-0567

Nebraska: LTAP Coordinator, Federal Highway Administration, Federal Building, Room 220, 100 Centennial Mall North, Lincoln, NE 68508-3851

New Hampshire: LTAP Coordinator, Federal Highway Administration, Federal Building, Room 204, 279 Pleasant Street, Concord, NH 03301-2509

New Jersey: LTAP Coordinator, Federal Highway Administration, Suburban Square Building, Second Floor, 25 Scotch Road, Trenton, NJ 08628-0602

New York: LTAP Coordinator, Federal Highway Administration, Leo O'Brien Building, 9th Floor, Clinton Avenue and North Pearl Street, Albany, NY 12207

Ohio: LTAP Coordinator, Federal Highway Administration, 200 North High Street, Room 328, Columbus, OH 43215

Oklahoma: LTAP Coordinator, Federal Highway Administration, Room 454, 200 NW Fifth Street, Oklahoma City, OK 73102

Oregon: LTAP Coordinator, Federal Highway Administration, Equitable Center, Suite 100, 530 Center Street, NE, Salem, OR 97301

Rhode Island: LTAP Coordinator, Federal Highway Administration, Fifth Floor, 380 Westminster Mall, Providence, RI 02903

South Carolina: LTAP Coordinator, Federal Highway Administration, Strom Thrumond Federal Building, 1835 Assembly Suite 758, Columbia, SC 29201

South Dakota: LTAP Coordinator, Federal Highway Administration, Federal Office Building, Room 337, P.O. Box 700, Pierre, SD 57501

Tennessee: LTAP Coordinator, Federal Highway Administration, 249 Cumberland Bend Drive, Nashville, TN 37228

Texas: LTAP Coordinator, Federal Highway Administration, 300 East Eighth Street, Room 826, Austin, TX 78701

Utah: LTAP Coordinator, Federal Highway Administration, 2520 West 4700 South, Suite 9A, Salt Lake City, UT 84118

Virginia: LTAP Coordinator, Federal Highway Administration, P.O. Box 10045, Richmond, VA 23240

Vermont: LTAP Coordinator, Federal Highway Administration, P.O. Box 568, Montpelier, VT 05601

Washington: LTAP Coordinator, Federal Highway Administration, Suite 501, Evergreen Plaza, 711 South Capitol Way, Olympia, WA 98501

Wisconsin: LTAP Coordinator, Federal Highway Administration, 4502 Vernon Boulevard, Madison, WI 53705-4905

West Virginia: LTAP Coordinator, Federal Highway Administration, 550 Eagan Street, Suite 300, Charleston, WV 25301

Wyoming: LTAP Coordinator, Federal Highway Administration, 1916 Evans Avenue, Cheyenne, WY 82001-3764

FHWA Regional Offices

Region 1: LTAP Coordinator, Science and Technology Program Manager, US DOT, FHWA Region 1, Room 719, Leo O'Brien Building, Clinton Avenue and North Pearl Street, Albany, NY 12207 (518) 472-4253

Region 2: There is no FHWA Region 2.

Region 3: LTAP Coordinator, T^2 Coordinator, FHWA Region 3 (HPP-03.2), 10 South Howard Street, Suite 4000, Baltimore, MD 21201 (410) 962-0080

Region 4: LTAP Coordinator, T^2 & Materials Engineer, FHWA (HPP-04), Suite 200, 1720 Peachtree Road NW, Atlanta, GA 30367 (404) 347-4499

Region 5: LTAP Coordinator, T^2 Engineer, US DOT/FHWA, 18209 Dixie Highway, Homewood, IL 60430-2294 (708) 206-3221

Region 6: LTAP Coordinator, Research and T^2 Engineer, FHWA (HRP-06), 819 Taylor Street, Room 8A00, Fort Worth, TX 76102 (817) 334-4377

Region 7: LTAP Coordinator, Research and Technology Transfer Engineer, FHWA (HST-07), P.O. Box 49715, Kansas City, MO 64141 (816) 926-7955

Region 8: LTAP Coordinator, Federal Highway Administration, 555 Zang Street, Lakewood, CO 80228 (303) 969-6712

Region 9: LTAP Coordinator, Research and T^2 Engineer, FHWA (HNG-09), 211 Main Street, Suite 1100, San Fransisco, CA 94105 (415) 744-2628

Region 10: LTAP Coordinator, Regional Research and T^2 Engineer, FHWA (HPP-010), KOIN Center, Suite 600, 222 SW Columbia Street, Portland, OR 97201 (503) 326-2061

*****The T^2 Clearinghouse will supply updated lists upon request.*****

T2 Clearinghouse, American Public Works Association
1301 Pennsylvania Avenue, NW, Suite 501
Washington, DC 20004
telephone: (202) 347-7267, fax: (202) 737-9153
e-mail: lpogue@intergate.dot.gov

APPENDIX F
T^2 CLEARINGHOUSE T^2 CENTER PROFILE
LTAP T^2 CENTER ANNUAL REPORT/PROFILE

Under "telephone" write the phone number for your center that can be used by anyone (in-state or out of state). If your center has a national 800 number, write it here. If your center has a toll-free or reduced fee number for in-state calls **only**, write that number under "In-state phone."

LTAP T^2 Center Name:
Mailing Address:
Telephone:
Fax:
In-state phone:
e-mail:
Web Site:
Year LTAP Center established:

Identify Financial Partners: Check all financial partners that funded your LTAP operations this calendar year.

___ FHWA LTAP ___ State DOT ___ University ___ Self-generated (course fees)

___ Other (list)_____

Staff: List your LTAP Center staff by name, position and percent of time they work for your center's LTAP operations.

Name	Title	% time LTAP

Task A - Compile and Maintain a Mailing List: List the total number of contacts on your LTAP mailing list. Then list the total number of local government contacts. These may include cities, counties, towns, townships, etc.

Total number of contacts on LTAP mailing list: _____

Total number of local government contacts on LTAP mailing list: _____

Describe any new or different activities, major accomplishments, such as updates, addition of new contacts, improvements, etc.:

Task B - Publish a Quarterly Newsletter: Provide the number of editions of your LTAP Center's newsletter that you distributed. For example, if your center put out four editions of the newsletter, put "4" in the blank.

Total number of editions distributed: (number of times newsletter published)_____

Describe new or different activities, major accomplishments, special articles/features/ editions, etc. in:

Task C - Provide Technology Transfer: Provide the total number of publications, videotapes, software and other materials your center distributed and/or loaned. Do not count your newsletter unless it was distributed in response to requests for information. Also, list the total number of times your center provided technical assistance, in the field and from the office.

Total number of materials distributed/loaned by type:

_____ Publications _____ Videotapes _____ Software

Other:_____

Total number of times technical assistance provided:

_____ Field assistance _____ Office assistance

Describe new or different activities, major accomplishments, etc:

Task D - Conduct Training Programs: List the titles of the LTAP training programs your center conducted. For each title, provide the number of hours of instruction for one training program, the number of times your center conducted that training program, the total number of people who attended the program(s) and the code for the type of training.

Title of course	hours of instruction	# of presentations	attendance	Type of training*
(example) SHRP Products Roadshow	4	5	100	R

* Codes:
R - Roadshow/van/circuit rider program (shorter than regular training courses, often at the agency's location)
W - Workshop/seminar/course (scheduled training, often one day or longer)
D - Demonstration training in which there are actual demonstrations
C - Compact Disc-Interactive (CD-I) **T - Teleconference** **O - Other (please identify)**

Task D - Conduct Training Programs (continued):

Describe new or different activities, major accomplishments, etc:

Task E - Evaluation of Program Effectiveness:

Check the method(s) of evaluation used by your T² Center:

___ Workshop evaluations ___ Survey in newsletter
___ Phone survey ___ Evaluation by outside organization
___ Other (please describe)_____
Briefly describe changes/improvements in your program as a result of your evaluation:

Special Projects: Describe any special projects not categorized under the tasks listed above.

Success stories from customers: Include letters received, workshop evaluations, results of center evaluations, stories submitted to newsletters, etc. For successful programs include title of program, why it was developed, description of program, impact of program and outcomes.

Return to
T² Clearinghouse, American Public Works Association
1301 Pennsylvania Avenue NW, Suite 501, Washington, DC 20004
fax (202) 737-9153
or e-mail to lpogue@intergate.dot.gov