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THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION



Victoria F. Sheehan  
Commissioner

William Cass, P.E.  
Assistant Commissioner

His Excellency, Governor Christopher T. Sununu  
and the Honorable Council  
State House  
Concord, New Hampshire 03301

Bureau of Planning and Community Assistance  
November 6, 2017

**REQUESTED ACTION**

Authorize, the Department of Transportation to enter into a **sole source**, Project Agreement with the University of New Hampshire, Civil Engineering Department, Durham, New Hampshire (Vendor #177867) to administer the Local Technical Assistance Program (LTAP) for a fee not to exceed \$1,005,953. This Agreement will become effective from January 1, 2018 through December 31, 2019. 100% Federal funds.

Funding is available as follows through FY 2018 and FY 2019, and is contingent upon the availability and continued appropriations of funds for FY 2020, with the ability to adjust encumbrances between State Fiscal Years through the Budget Office if needed and justified:

	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>TOTALS</u>
04-96-96-962515-2945 Municipal Aid - Federal				
072-500575 Grants to Non-Profits-Federal	\$77,500.00	\$155,000.00	\$77,500.00	\$310,000.00
04-96-96-962515-2944 SPR Planning funds				
072-500575 Grants to Non-Profits-Federal	\$173,988.00	\$347,977.00	\$173,988.00	\$695,953.00
<b>Totals</b>	<b>\$251,488.00</b>	<b>\$502,977.00</b>	<b>\$251,488.00</b>	<b>\$1,005,953.00</b>

**EXPLANATION**

The Department requests this **sole source** contract because the T2 Center operates the primary continuing education program in the state for local road managers, crews, and public officials. The T2 Center has been successfully and effectively providing continuing education program in the state for over 20 years, the Department feels a sole source contract is justified.

The Department established a Technology Transfer Center (T2 Center), under the Federal Highway Administration's (FHWA) Local Technical Assistance Program (LTAP), effective August 18, 1986. The University has approved the proposed Cooperative Project Agreement, and its Civil Engineering Department will administer the program.

The program is 100% federally funded with 50% Federal LTAP funds (\$310,000) and 50% Federal SPR Planning funds (\$310,000). The LTAP funding is being supplemented with additional SPR Planning funds (\$385,953) for special projects targeting municipal asset inventories, infrastructure maintenance, and improvement management.

The use of Turnpike Toll Credits for this project was approved by the Capital Budget Overview Committee on June 21, 2017. This project funding is 80% Federal funds and 20% State match. Turnpike Toll Credit is being utilized for match requirements, effectively using 100% Federal funds.

The purpose of the Program and these specific LTAP funds is to provide technical assistance to local communities and organizations throughout the State. To foster safe, efficient, environmentally sound local roads and bridges in New Hampshire, the T2 Center is a resource to increase town officials', road managers', and highway crews' knowledge of technology and management through education and training including conducting seminars throughout the state, developing and providing public works management software, publishing of a quarterly newsletter, providing of technical assistance, other means of technology transfer at the University, and conducting special research projects. The asset inventory effort will offer training, technical support, and workshops to local municipalities/highway departments to develop GIS data layers to support transportation infrastructure maintenance and asset management strategies.

In addition to material provided in workshops, the T2 Center provides technical and management information over its website, through distribution of newsletters, publications, and software. Its Road Scholar Program recognizes managers and crew members for workshop participation. The T2 Center contributes to the public works community by operating PWNetserv, an electronic email tool, enabling NH public works officials to discuss common issues. The T2 Center staff coordinates the Public Works Mutual Aid Program, enabling cities and towns to assist each other during large-scale emergencies. The T2 Center has developed public works management software for roads, drainage, signs, and municipal equipment. As part of the calendar year 2008-09 contract, LTAP undertook a significant upgrade and expansion of its public works management systems by integrating a geographic information system (GIS) platform. The T2 Center further expanded this effort as part of the calendar year 2014-15 and 2016-17 contracts by offering and expanding a Statewide Asset Data Exchange Service (SADES) to municipalities, Regional Planning Commissions, and State agencies to provide standardize data collection elements and methodology, provide training, and provide centralized storage and distribution for roadway asset data including sidewalks/curb ramps, culverts, and pavement condition. Based on the success of the program they are also expanding SADES to include a Municipal Bridge module and enhance their municipal Forecasting tool, which assess pavement condition data, identifies repair strategies, and develops budgets.

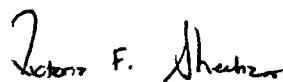
This Agreement has been approved by the Attorney General as to form and execution. The Department has verified that the necessary funds are available.

Copies of the fully executed Agreement are on file at the Secretary of State's Office and the Department of Administrative Services. Subsequent to Governor and Council approval, the Agreement will be on file at the Department of Transportation.

Expenses incurred will be charged against the designated project account number and reimbursement for costs shall be borne by the above-listed funds in the total amount of \$1,005,953 in accordance with Federal Aid program requirements.

Your approval of this submission is respectfully requested.

Sincerely,



Victoria F. Sheehan  
Commissioner

**COOPERATIVE PROJECT AGREEMENT**

between the

**STATE OF NEW HAMPSHIRE, Department of Transportation**

and the

**University of New Hampshire** of the UNIVERSITY SYSTEM OF NEW HAMPSHIRE

A. This Cooperative Project Agreement (hereinafter "Project Agreement") is entered into by the State of New Hampshire, **Department of Transportation**, (hereinafter "State"), and the University System of New Hampshire, acting through **University of New Hampshire**, (hereinafter "Campus"), for the purpose of undertaking a project of mutual interest. This Cooperative Project shall be carried out under the terms and conditions of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, except as may be modified herein.

B. This Project Agreement and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approve this Project Agreement ("Effective date") and shall end on **12/31/19**. If the provision of services by Campus precedes the Effective date, all services performed by Campus shall be performed at the sole risk of Campus and in the event that this Project Agreement does not become effective, State shall be under no obligation to pay Campus for costs incurred or services performed; however, if this Project Agreement becomes effective, all costs incurred prior to the Effective date that would otherwise be allowable shall be paid under the terms of this Project Agreement.

C. The work to be performed under the terms of this Project Agreement is described in the proposal identified below and attached to this document as Exhibit A, the content of which is incorporated herein as a part of this Project Agreement.

Project Title: **Technology Transfer Center – Local Technical Assistance Program 2018-2019**

D. The Following Individuals are designated as Project Administrators. These Project Administrators shall be responsible for the business aspects of this Project Agreement and all invoices, payments, project amendments and related correspondence shall be directed to the individuals so designated.

**State Project Administrator**

Name: Bill Watson  
Address: NH Department of Transportation  
Bureau of Planning & Community Asst  
7 Hazen Drive  
Concord, NH 03301  
Phone: 603-271-3344

**Campus Project Administrator**

Name: Karen Rooney  
Address: University of New Hampshire  
Sponsored Programs Administration  
51 College Rd  
Durham, NH 03824  
Phone: 603-862-5412

E. The Following Individuals are designated as Project Directors. These Project Directors shall be responsible for the technical leadership and conduct of the project. All progress reports, completion reports and related correspondence shall be directed to the individuals so designated.

**State Project Director**

Name: Bill Watson  
Address: NH Department of Transportation  
Bureau of Planning & Community Asst  
7 Hazen Drive  
Concord, NH 03301  
Phone: 603-271-3344

**Campus Project Director**

Name: Erin Bell  
Address: University of New Hampshire  
Civil and Environmental Engineering  
Kingsbury Hall, Room W183  
Durham, NH 03824  
Phone: 603-862-3850

F. Total State funds in the amount of **\$1,005,953** have been allotted and are available for payment of allowable costs incurred under this Project Agreement. State will not reimburse Campus for costs exceeding the amount specified in this paragraph.

Check if applicable

Campus will cost-share \_\_\_\_\_ % of total costs during the term of this Project Agreement.

Federal funds paid to Campus under this Project Agreement are from Grant/Contract/Cooperative Agreement No. **A004(715)** from **Federal Highway Administration** under CFDA# **20.205**. Federal regulations required to be passed through to Campus as part of this Project Agreement, and in accordance with the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, are attached to this document as Exhibit B, the content of which is incorporated herein as a part of this Project Agreement.

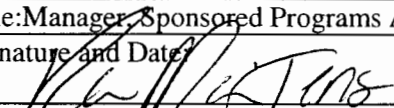
G. Check if applicable

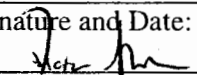
Article(s) \_\_\_\_\_ of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002 is/are hereby amended to read:

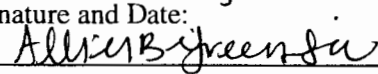
H.  State has chosen **not to take** possession of equipment purchased under this Project Agreement.  
 State has chosen **to take** possession of equipment purchased under this Project Agreement and will issue instructions for the disposition of such equipment within 90 days of the Project Agreement's end-date. Any expenses incurred by Campus in carrying out State's requested disposition will be fully reimbursed by State.

This Project Agreement and the Master Agreement constitute the entire agreement between State and Campus regarding this Cooperative Project, and supersede and replace any previously existing arrangements, oral or written; all changes herein must be made by written amendment and executed for the parties by their authorized officials.

IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Department of Transportation** have executed this Project Agreement.

**By An Authorized Official of:**  
**University of New Hampshire**  
Name: Karen M. Jensen  
Title: Manager, Sponsored Programs Administration  
Signature and Date:  10/30/17

**By An Authorized Official of:**  
**Department of Transportation**  
Name: Victoria F. Sheehan  
Title: Commissioner  
Signature and Date:  11/1/17

**By An Authorized Official of:** the New Hampshire Office of the Attorney General  
Name: Allison B Greenstein  
Title: Attorney  
Signature and Date:  12/4/17

**By An Authorized Official of:** the New Hampshire Governor & Executive Council  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Signature and Date: \_\_\_\_\_

Campus Authorized Official K5  
Date 10/30/17

**EXHIBIT A**  
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## EXHIBIT A

- A. Project Title:** Technology Transfer Center – Local Technical Assistance Program 2018-2019
- B. Project Period:** Written Notice to Proceed from NHDOT – 12/31/19
- C. Objectives:** To continue the University of New Hampshire Technology Transfer Center (T2 Center). The T2 Center has provided Local Technical Assistance (LTAP) service since 1986, to New Hampshire cities and towns. To foster safe, efficient, environmentally sound transportation systems to New Hampshire, the T2 Center is a resource to increase town officials', road managers', and highway crews' knowledge of evolving technology and management practices through education and training, a quarterly newsletter, technical assistance, and other means of technology transfer. It will also perform special projects to address and assist municipalities in upgrading local transportation infrastructures.
- D. Scope of Work:**

### 1. Local Technical Assistance Program

UNH T<sup>2</sup> hosts the Local Technical Assistance Program (LTAP) which provides several key components / services to the municipalities and other state agencies in New Hampshire:

- Workshops and demonstrations
  - Annual Training
  - Private Workshops
  - FHWA Every Day Counts Initiative
  - Certification Programs
  - Development of Workshops
  - NHDOT Training
  - Roads Scholar Program
- Technical support for municipal public works agencies throughout the State
  - Site Visits
- Newsletter – *Road Business*
- Facilitation of Transportation partnerships
- Marketing and Information services
- LTAP Administration and planning
- Facilitation of special projects

### Workshops

**Annual Training:** UNH T<sup>2</sup> will arrange and conduct a minimum of eighty (80) instructional and/or informational workshops annually, for a total of one hundred and sixty (160) during the contract period (“Annual Training”). The majority of these workshops will be conducted during two training sessions

each year, one during the spring and one during the fall. All of the workshops fall into one of the following categories: technical, supervisory, safety, or environmental.

There are several core workshop topics that will be offered each workshop period with additional workshop topics selected based upon previous workshop evaluations, needs assessment surveys, evaluation of information requests, meetings with road agents and public works directors, and communications with national, state, and local stakeholders. A minimum of two (2) new workshops will be developed during the two-year contract period. What workshops will be developed will be determined by a review of received requests, Advisory Board recommendations, and/or topics suggested by the NHDOT and NH municipalities.

General details regarding all workshops:

- Workshops will be advertised using the UNH T<sup>2</sup> website, Road Business newsletter, listservs, social media sites, printed calendars, and US mail.
- Scheduling and registration for each workshop will be managed by UNH T<sup>2</sup>. This will include but not be limited to obtaining qualified instructors, securing a venue, arranging for refreshments, logging registered attendees, and crediting all payments. All necessary materials will be prepared, reviewed, and reproduced prior to each workshop.
- UNH T<sup>2</sup> representative(s) will be present at each training session to function as a workshop facilitator. The instructor may also be the workshop facilitator if they are a staff member of UNH T<sup>2</sup>.
- Most workshops begin at 8:30 am and conclude at 2:00 pm (5 contact hours) and last for one (1) day. However, there are workshops that do not conform to this model; some have shorter hours of attendance and some last more than one day. The length of the workshop and how many days are required are clearly noted on the various calendars listing the workshops and the workshop flyers.
- One Roads Scholar Program Hour is given for each hour spent at a workshop.
- Evaluations will be conducted at the end of each workshop relative to the instructor(s) performance, content and structure and topic relevance. Participants will be asked to suggest potential new training topics. Post-processed data analytics are reviewed annually and the effectiveness of the specific workshops are evaluated with respect to the changing needs of municipal officials.
- Refreshments and/or catered meals are provided for the first day of all workshops lasting longer than three (3) hours. If a workshop is less than three (3) hours or is the second day of a given workshop, refreshments and/or catering will generally not be provided. This will be noted clearly on the workshop flyer and calendar listing. Program fees are used to cover these expenses.

**Private Workshops:** Workshops are generally open to the public, but private sessions can be requested by any New Hampshire municipality and/or the State provided they have a minimum number of participants (generally 10). UNH T<sup>2</sup> staff will help secure a location and an instructor. Private workshops are charged at the same rate as public workshops and will depend on whether food is being provided or not, and if not, a reduced fee may be available. It should be noted that if there is a conflict between holding a private workshop versus one for the public, the UNH T<sup>2</sup> will always give the public workshop priority.

**FHWA Every Day Counts Initiative:** UNH T<sup>2</sup> staff will facilitate workshops under the Every Day Counts (“EDC”) program sponsored by the FHWA. This may be substituted with other FHWA programs as necessary to meet future initiatives. UNH T<sup>2</sup> staff will facilitate other FHWA sponsored workshops during the contract period as the need arises.

**Certification Workshops:** UNH T<sup>2</sup> will continue to work with stakeholders to conduct certification workshops and track certified individuals in partnership with existing NHDES sponsored certifications. For each certification workshop, UNH T<sup>2</sup> LTAP staff have assisted in preparing a re-certification program. The re-certification programs (“Refreshers”) are as part of its normal workshop periods.

- **Flagger Certification:** UNH T<sup>2</sup> will remain an active member of the American Traffic Safety Services Association (“ATSSA”) by providing nationally recognized certification trainings through ATSSA at least three (3) times a year. UNH T<sup>2</sup> will maintain an ATSSA Certified Instructor on staff to provide core and refresher courses.
- **NHDES Related Certification Programs:** Developed in partnership with local road agents, the NHDOT, the NH Department of Environmental Services (NHDES), and the NH legislature, UNH T<sup>2</sup> staff have developed two (2) certification courses:
  - **Green SnowPro Training:** This certification provides commercial providers who have taken an approved course and passed the associated exam with decreased liability for incidents relating to the amount of salt spread by the provider during the winter months. They must keep records of the amount of salt used and submit a quarterly report to the NHDES.

This Program is also available to State and municipal providers, although under the law the certification does not provide the decreased liability to these providers. However, it does serve as an incentive/stimulus for all road operators to use less salt during the winter months.

- **NH Culvert Maintainer Certification:** This certification program allows State and municipal maintainers who have taken an approved course and passed the associated exam to perform routine maintenance on culverts 48 inches in diameter without first filing any paperwork with the NHDES. In place of prior notice, a spreadsheet of work performed will be submitted to NHDES quarterly. Anticipated timesavings for municipal and state officials using the new streamlined post-construction notification process in place of prior to the routine roadway notification system is significant.

**Development of Workshops:** UNH T<sup>2</sup> staff will work with Federal and State programs and agencies, and programs within UNH, to develop new workshops. The following are some of the organizations, agencies and programs the UNH T<sup>2</sup> staff will be working with during this contract period regarding potential topics for new workshops:

- Other LTAP Centers, especially those in the Northeast
- Other related grant programs within UNH and UNH T<sup>2</sup>

The LTAP will develop a minimum of two new workshops during the contract period. New workshop topics are determined by a review of; received requests, Advisory Board recommendations, and NHDOT suggested topics. Some new workshop topics under



consideration include coastal adaption options at the municipal level, green infrastructure options for storm water management and risk-based protocol for flooded pavement use post-extreme weather events.

UNH T<sup>2</sup> will evaluate and pilot various methods of online training to determine which are suitable for use in New Hampshire.

**NHDOT Training:** UNH T<sup>2</sup> has a special arrangement with the NHDOT regarding workshops. Within the NHDOT, this is overseen by the Bureau of Human Resources Training Coordinator (Training Coordinator). Workshop information and offerings are to be distributed across all NHDOT departments and/or Districts. The details are as follows:

- At each workshop held in a classroom, three (3) seats will be reserved for participants from NHDOT and will be provided at no charge. The Training Coordinator will approve all participants. If there are additional participants from the NHDOT who wish to attend beyond these 3, UNH T<sup>2</sup> staff will contact the Training Coordinator, indicating whether there is room in the workshop and what the cost would be. The Training Coordinator and UNH T<sup>2</sup> staff will determine if additional participants can attend, and whether a cost will be assessed.
- At a workshop that is only “hands-on” instruction, seats will be made available to NHDOT personnel on a case by case basis. If a participant from the NHDOT wishes to attend, UNH T<sup>2</sup> staff will contact the Training Coordinator, indicating whether there is room in the workshop and what the normal cost of attendance would be. The Training Coordinator and UNH T<sup>2</sup> staff will determine if the participant can attend and whether a cost will be assessed. It should be noted that this category includes two-day workshops where the first day is classroom instruction and the second day is hands-on instruction (i.e., Grader Workshop).
- UNH T<sup>2</sup> will provide up to ten (10) workshop days per year to the NHDOT as private workshops specifically slated for NHDOT employees, for a total of twenty (20) days during the contract period. These are in addition to the Annual Training discussed in the earlier. Further details include:
  - Each day of a workshop counts as a “workshop day”. A two (2) day workshop would count as two (2) private NHDOT workshop days. It should be noted that Grader and Backhoe, which consist of one day in the classroom and a second day with hands-on activities, will count as five days. This is due to the amount of time instructor must be available to cover participant related site visits.
  - If a NHDOT Department or District wishes to hold a private workshop day, they can contact either UNH T<sup>2</sup> staff or the NHDOT Training Coordinator. The Training Coordinator and the UNH T<sup>2</sup> staff will determine if the workshop can be held and whether a cost will be assessed.
  - The UNH T<sup>2</sup> Program Manager will decide on the date of the workshop after having discussed the scheduling with the Training Coordinator and the requesting Department/District. The date will be decided based upon the requested dates, the instructor’s availability and the UNH T<sup>2</sup> calendar.
  - The number of participants in a workshop will be limited by the number of seats available at the workshop location and the instructor’s limit on participants.

- There will be no cost to the NHDOT for these workshop days, unless the UNH T<sup>2</sup> must provide materials above and beyond normal printing costs (i.e. for Flagger Certification an ATSSA packet must be provided to each participant).
- Catering and/or refreshments will not be provided at these twenty (20) workshop days unless it is specifically arranged for and approved by the Training Coordinator.
- It is intended that these workshop days be held in a local office, shed, or other classroom space to be provided by the NHDOT.

**Road Scholar Program:** Currently there are approximately 750 transportation professionals actively enrolled in the T<sup>2</sup> Roads Scholar Program with nearly 1,500 individuals who have achieved Roads Scholar Level 1 or higher since the Program's inception in 1988. UNH T<sup>2</sup> will recognize participants' personal development through the nationally recognized Roads Scholar Program. Road Scholars are recognized in 6 levels of achievement as shown in Table 1 Road Scholar Achievement Levels.

To adapt to national trends and local requests it is anticipated that UNH T<sup>2</sup> will expand the Road Scholar Program to include specialized achievement levels, through the use of more rigorous, extended contact hour training courses. Changes will be approved by NHDOT prior to implementation.

UNH T<sup>2</sup> will manage and maintain a database of all the individuals who have taken a workshop since it began in 1986. This includes all information regarding past and future workshops (date, location, etc.), and maintaining an electronic archive of the paper rosters from each workshop. The database includes contact information for each individual, the workshops each individual has taken, and an awards database containing information who has achieved which Roads Scholar Level and when they were given the award.

Every year, UNH T<sup>2</sup> will publish a *Roads Scholar Directory*, which includes all of the currently active participants in the Roads Scholar Program. This means that the individual listed has taken a workshop during the past 3 years. The *Roads Scholar Directory* includes the award level each individual has achieved, a listing of the current UNH T<sup>2</sup> staff, UNH T<sup>2</sup> Advisory Board members, workshop instructors and the workshops offered during the previous calendar year. The *Roads Scholar Directory* is distributed through US mail to the newsletter distribution list and is available online at the UNH T<sup>2</sup> website.

In conjunction with the Advisory Board, UNH T<sup>2</sup> shall designate the recognition awards to be given to individuals at the various Road Scholar Achievement Levels. UNH T<sup>2</sup> staff shall maintain a supply of each gift.

At least once a year, the LTAP will organize a Master Roads Scholar celebration, generally a luncheon, to honor all of the individuals who have achieved the rank of Master Roads Scholar and present them with their award. It is expected that higher levels will be presented to the individuals at the Workshops or the celebrations.

Table 1 Road Scholar Achievement Levels

Achievement Level	Requirements
Advanced Master Roads Scholar	200 Hours plus achieved prior level
Master Roads Scholar II	150 Hours, plus be a Safety Champion and achieved prior level
Master Roads Scholar	100 Hours plus achieved prior level
Senior Roads Scholar	75 Hours plus achieved prior level
Roads Scholar Level 2	50 Hours of training including: 10 hours in the Safety category 20 hours in the Technical category 5 hours in the Supervisory category 5 hours in the Environmental category ** plus achieved prior level
Roads Scholar Level 1	25 Hours
Safety Champion	20 Hours in the Safety category

**Online Learning:**

- The LTAP intends to continue their project, which is evaluating various methods of online training to determine which ones are potentially suitable for use in New Hampshire. This effort will include investigation into the feasibility of partnering with local public libraries and community college through the state. Currently the LTAP posts a list of available webinars on their website and the information is updated obtained as new seminars are announced. LTAP staff monitors many federal, regional, State and local agencies for webinars that might be relevant and of interest to the State and/or municipalities.

**Technical Support**

UNH T<sup>2</sup> technical staff is available Monday-Friday from 8:30AM through 5:00PM by phone, fax, email, and walk-in for technical support inquiries. Technical support is most often related to public works construction, computer software/hardware, management, policy, and best practices. Technical support inquiries are tracked using incident tracking software to ensure timely response and resolution to support calls. UNH T<sup>2</sup> technical staff will add a “Frequently Asked Question” Section to the UNH T<sup>2</sup> website.

Technical support tasks are evolving to meet the changing needs of local transportation officials. Specific technical support alternatives may be modified during the course of the contract with the concurrence of NHDOT to better address transportation issues in New Hampshire. In past years, it has been necessary to convene special information sessions to address statewide technical support topics including new legislation, certifications, or natural disaster response.

**Site Visits:** Municipalities may request a Site Visit and a UNH T<sup>2</sup> staff member will travel to the municipality and assist with their request. Site visits are only made when the issue cannot be dealt with over the web conference, phone or email, due to the cost of travel. However, the UNH T<sup>2</sup> staff is willing

to do site visits as needed. In the past, site visits have been made for help with equipment, computer support, and issues regarding roads and their repaving, although this list is not exclusive.

## 2. Transportation Partnerships and Facilitations

**UNH T<sup>2</sup> Advisory Board:** UNH T<sup>2</sup> organizes and facilitates the meeting of the UNH T<sup>2</sup> Advisory Board, members are detailed in Table 2 UNH T<sup>2</sup> Advisory Board Members with suggested new member slot shown in *italics*. Role of this board is to provide feedback to UNH T<sup>2</sup> on current program and planned future programs, such as new workshops, means of delivery and special projects. The UNH T<sup>2</sup> Advisory board meeting will be held quarterly, twice a year in live meetings and twice a year via conference calls/web-based meetings. Additional advisory board meetings will be added, if needed.

Table 2 UNH T<sup>2</sup> Advisory Board Members

Name	Position	Stakeholder Group Represented
Glenn Davison	Civil Engineer, Division of Project Development	NHDOT
Vacant	Vacant	NHDOT
Yamilee Volcy	Engineering & Operations Supervisor, NH Division	FHWA
Martha Drukker	Associate Engineer, City of Concord	NH Public Works Association
Dave Danielson	President, Foresee Advocacy NH State Representative (2010 to date)	NH Public Works Association
Richard Lee	Director Public Works, Town of New London	NH Road Agents Association
Vacant		NH Public Works Mutual Aid
		<i>Research/UNH</i>
<i>T<sup>2</sup> Director</i>		<i>T<sup>2</sup> Director</i>
		<i>At Large/ RPC</i>

**Facilitation:** The UNH T<sup>2</sup> staff will provide facilitation services to communicate state issues to municipal transportation officials, discussion of timely issues between municipal agencies and to express municipal concerns to state agencies.

**State Agencies:** The UNH T<sup>2</sup> staff will maintain working relationships with state agencies including: the NHDOT, the NHDES, and the NH Department of Safety. The UNH T<sup>2</sup> staff is continually working to streamline processes and interactions with these groups and local transportation officials to create efficiencies for all involved.

**NH Public Works Association (NHPWA):** Under the current Bylaws of the NH Public Works Association the T<sup>2</sup> Director or their designee is a voting member of the Board of Directors of the NHPWA.

The UNH T<sup>2</sup> staff provides the following additional services to the NHPWA:

- Manages and maintains their website (t2.unh.edu/nhpwa)
- Takes minutes at Board meetings, types them up and distributes them to the Board members
- Maintains an online archive of Board meeting minutes
- Compiles and produces two NHPWA newsletters a year
- Maintains two Google groups email lists for their Board of Directors and Members
- Assists with all events held by the NHPWA

**NH Public Works Mutual Aid (NHPWMA):** Under the current Agreement for the NH Public Works Mutual Aid the LTAP Program Manager or their designee is an ex officio, or non-voting member, of the Board of Directors of the NHPWMA.

The staff provides the following additional services to the NHPWMA:

- Manages and maintains their website (t2.unh.edu/nhpwa)
- Takes minutes at Board meetings, types them up and distributes them to the Board members
- Maintains an online archive of Board meeting minutes
- Maintains two Google groups email lists for their Board of Directors and Members
- Assists with all events held by the NHPWMA

**State Transportation Innovation Council (STIC):** The UNH T<sup>2</sup> currently holds a seat on the State Transportation Innovation Council for the T<sup>2</sup> Director or their designee.

**National LTAP Association (NLTAPA):** The UNH T<sup>2</sup> is a member of the National LTAP Association, one of eight (8) states in the Northeast Region. The staff of the UNH T<sup>2</sup> is active on regional and national workgroups and committees. The T<sup>2</sup> Director, who manages LTAP Program, currently holds an appointed position on the national Executive Committee. The UNH T<sup>2</sup> staff attends the Regional meeting, the national business meeting and the national annual meeting.

**Other Partnerships:** The UNH T<sup>2</sup> staff will maintain the existing partnerships with organizations pertaining to transportation and infrastructure. Current established organizational partnerships beyond those discussed above include: the Transportation Research Board, American Public Works Association, NH Driving Towards Zero, NH Salt Symposium, National Association of County Engineers, and Construction Career Days. For all of these partnerships, UNH T<sup>2</sup> staff participates in meetings, attend conferences, and volunteer as time permits.

## Marketing and Information Services

**Marketing:** It is important that the public, municipalities, State agencies and other organizations be aware of the services provided by LTAP via UNH T<sup>2</sup>. UNH T<sup>2</sup> is an exhibitor at various events and conferences, including but not limited to, the NH Emergency Management Conference, NHMA Conference, Municipal Plow Rally and the Mountain of Demonstrations.

In addition to maintaining a current brochure UNH T<sup>2</sup> has other several other ways in which it markets the services it provides.

- **Maintenance of Websites and Social Media:** UNH T<sup>2</sup> manages and maintains the general UNH T<sup>2</sup> website (t2.unh.edu), which includes a library, many archives and upcoming information on Workshops. In addition, UNH T<sup>2</sup> maintains a Facebook, Twitter, and YouTube channel, which are updated on a regular basis with relevant transportation information.

- **Newsletter:** UNH T<sup>2</sup> will publish the quarterly *Road Business* newsletter that shall at a minimum consist of: one cover article on a current transportation issue (appropriate research article), one major technical article on a relevant public works technique or issue, one minor non-technical informational topic, announcements section, and a knowledge retention device (i.e. crossword).

UNH T<sup>2</sup> will and distribute the newsletter though email and US Mail to all designated persons on the current distribution list. The 2016 distribution list consists of approximately 275 hard copy subscribers and approximately 850 electronic subscribers. Electronic copies of *Road Business* will also be posted on the UNH T<sup>2</sup> website and LTAP Facebook page.

- **Maintenance of a LTAP Library:** The UNH T<sup>2</sup> staff keeps abreast of technologies applicable to maintenance and repair of local transportation assets, and to the regulations governing such activities. UNH T<sup>2</sup> staff will identify the needs of local agencies for technical information through personal contact, the workshops offered, *Road Business* newsletter, and formal surveys. In response to the needs identified, the UNH T<sup>2</sup> staff will search for relevant information and generate in written, web, or video format materials to help address the needs.
- **NH Public Works Mutual Aid Database:** In partnership with NHPWMA, the UNH T<sup>2</sup> staff maintains a database of mutual aid equipment and contact information for active members. UNH T<sup>2</sup> promotes municipal participation in the NHPWMA program to improve the disaster preparedness of local transportation agencies. During emergencies the mutual aid database is used in conjunction with electronic mailing lists to enable local transportation officials to obtain the equipment necessary to respond to disasters. Mutual aid can be used to perform routine maintenance, which requires equipment not currently owned by or available to an agency. Mutual aid agreements are federally recognized for insurance and reimbursement purposes.
- **Email Lists and ListSers:** The UNH T<sup>2</sup> staff maintains numerous electronic mailing lists (Google Groups) and ListSers, which include individuals from the State and/or municipalities responsible for local roads. This group of individuals include but is not limited to; road managers, road agents, municipal engineers, mayors, city/town councils, Boards of Selectmen, town managers, town administrators, State transportation officials, Regional Planning Commissions, appropriate federal agency personnel, private contractors and engineers, transportation related personnel in colleges and universities, and private citizens who request inclusion.

These electronic mailing lists provide a forum to circulate announcements, inquiries, information on new technologies and current legislation. Local transportations officials use the electronic mailing lists as a means to get advice or answers to questions they have encountered in their towns. Local and State transportation officials frequently provide responses to the specific questions by sharing their valuable knowledge with their peers.

The LTAP maintains the Google Groups and ListServ as shown on Table 3 Google Groups and ListServ.

Table 3 Google Groups and ListServ

Google Group Name	Purpose
NH LTAP Advisory Committee	Primary email group for the Advisory Committee of the NH LTAP
NH Public Works Association Board	Primary email group for the NH Public Works Association Board of Directors
NH Public Works Mutual Aid Board	Primary email group for the NH Public Works Mutual Aid Board of Directors
NH Salt Symposium	Primary email group for the Planning Committee of the NH Salt Symposium
UNH LISTSERV	Purpose
Pw.net	Serves ~850 local and state government employees, private sector employees, and anyone interested and/or related to transportation and public works in NH.

**Technical Article Portal:**

To increase the accessibility of transportation related technical information; LTAP staff will create a technical article portal that will be hosted on the UNH T<sup>2</sup> website. The portal will serve as a resource for the LTAP audience to access technical information from current editions of Road Business and other technical publications. It will have full search capabilities. During the duration of the contract all archived technical articles from previous editions of Road Business will be included. This process has been adopted by several other LTAP centers including Massachusetts.

**Program Administration**

**FWHA Reports:** At the end of each calendar year, UNH T<sup>2</sup> will gather the information required and/or requested by the FHWA and submit the reports to the FHWA Office of Innovative Program Delivery, Center for Local-Aid Support, in a format to be will provided by FHWA.

**LTAP Reports:** Prior to the end of each calendar year, UNH T<sup>2</sup> will prepare a management plan for the coming year and present it to the Advisory Board for their review, comments and questions. After the beginning of the year, UNH T<sup>2</sup> will prepare an Annual Report for the prior calendar year, including any reports that are submitted to FHWA, and present this report to the Advisory Board for their review, comments and questions.

**Coordination with University of New Hampshire:** UNH T<sup>2</sup> will continue to work with the administration and other personnel at the University of New Hampshire for matters related to UNH T<sup>2</sup>, including but not limited to: overhead (physical location, offices, etc.), personnel, financial policies, and oversight of program and contracts. UNH T<sup>2</sup> will expand this coordination to UNH faculty related to cutting-edge transportation related topics that would be of interest/concern to LTAP stakeholders. This coordination will result in articles for the *Road Business* newsletter, technical papers for the Technical Article Portal, new workshops or webinars and potential special projects.

**Professional Development:** In an effort to further their education and training, the UNH T<sup>2</sup> staff plans to attend the conferences and events as shown in Table 4 Professional Development. All of events listed include training as part of their agenda. It should be noted that many of these events are put on by LTAP Partners, or are used by UNH T<sup>2</sup> as a marketing opportunity. Therefore, the costs for supplies and travel will split between partnerships, marketing, and professional development. The T<sup>2</sup> Director will attend all meetings, but it is recommended that all of the staff be invited to attend.

Table 4 Professional Development

Conference / Event	How Often
NLTAPA National Business Meeting	Once a year in January
NHPWA Technical Meeting	Once a year in March
ACEC NH Conference	Once a year in April
NLTAPA Regional Meeting	Once a year in May
NHPWA Annual Meeting	Once a year in May
Mountain of Demonstrations	Once year in May
Emergency Preparedness Conf.	Once a year in June
NLTAPA Annual Meeting	Once a year in July
Northeast Transportation Safety Conference	Every other year in September
NH Salt Symposium	Once a year in September
Every Day Counts Summit	Every other year in the Fall
NHMA Conference	Once a year in November
APWA Regional Meetings	Quarterly
APWA Snow & Ice Conference	Every year in May
AASHTO Meetings	<i>As scheduled</i>

### 3. Special Project: Municipal Bridge Management System (BRIDGE)

UNH T<sup>2</sup> is consistently adapting technology transfer alternatives to effectively respond to New Hampshire's transportation official's needs. The need for infrastructure improvements are identified and can be promptly assessed using the asset inventories included in these services. To that end UNH T<sup>2</sup> is actively engaged in the following activities related to the Municipal Bridge Management System (BRIDGE).

UNH T<sup>2</sup> has created a system to provide the NHDOT with a municipal bridge rating system (BRIDGE) that uses existing AASHTOWARE Bridge Management (BrM™), formerly Pontis, data. UNH T<sup>2</sup> will continue to support BRIDGE and use BrM™ data that will enable people to determine the condition of a bridge, estimate high-level repair costs, and display this data on a map hosted by ArcOnline for all users to view, query and filter, as needed.

UNH T<sup>2</sup> has created a maintenance tracking system for municipal bridge and will continue to maintain this system in support of effective and efficient maintenance of municipal bridges. During this contract, UNH T<sup>2</sup> will expand BRIDGE to allow for the inclusion of element-level condition rating along with repair and preservation cost estimating. UNH T<sup>2</sup> will work closely with NHDOT to identify high-impact repair strategies for each condition state and element type. This information will be provided to municipal bridge owners in a user-friendly format.



## Program Development

The variation in formats and quality of municipal bridge inventory and funding request for the NHDOT municipal bridge aid complicates the objective rating and prioritizing of municipal bridge projects. To mitigate this issue, UNH T<sup>2</sup> has established a working group of local and regional public works official. This working group has developed a standard methodology and format for reporting bridge conditions and recommended repair strategies. The resulting methodology is to facilitate ranking of municipal bridge repair projects using an Excel® spreadsheet template for capture, analysis and ranking.

There are three priorities for the contract related to BRIDGE.

**Priority #1:** Present bridge condition rating from BrM™ (formerly Pontis) in an easily understandable format for use at the municipal bridge management level

1. Translate necessary BrM™ data into SADES for municipal bridge managers
2. Continue to meet with NHDOT and municipal officials to develop core criteria for bridge condition assessment to assign a rating and repair scheme and high-level repair cost estimate based on condition rating.
3. Combine BrM™ data with importance factors for municipal priority rating
4. Refine ArcOnline data viewer for the BrM™ data.

**Priority #2:** Categorization of Maintenance Needs

1. Survey potential user to determine level of interest in this tool and needs for such a tool.
2. Develop a probability-based algorithm to support maintenance decision and prioritize requests for bridge structures based on BrM data and municipal criticality information
3. Prepare a red-yellow-green categorization of maintenance needs and potential impact of structural condition.
4. Develop a list of possible repair activities for each bridge element and recommended repairs with largest probability of positive impact with respect to element rating.

**Priority #3:** Cost estimating at the bridge element level

1. Meet with the NHDOT to critical bridge elements for rating-based repair cost estimation
2. Prepare a data layer in SADES to access condition ratings at the element level
3. Develop a list of possible repair activities for each bridge element and recommended repairs with respect to element rating.
4. Pilot the BRIDGE Element-level program
5. Refine the BRIDGE data layer in SADES and the data collection method
6. Refine the repair cost estimates for each element-level repair with the respect to condition rating.

A list of relevant bridge components was developed with the objective of minimal collection time and maximize information related to condition.

These bridge elements include

- NHDOT Bridge No.
- Roadway Carried/Crossed

- Load Rating
- Bridge Geometry including span, width, height
- Road Surface Material
- Bridge Repair History, if known
- Structural Condition Rating of the Deck, Superstructure and Substructure
- Expected Traffic Volumes including ADT and ADTT
- Expected Future Lifespan
- Proposed future repair and cost estimate
- Importance Factors
  - Criticality to Police/Fire and Other Emergency Responder
  - Emergency Evacuation Route designation
  - School Bus Route Designation
  - Distance to alternative routes/ detour

#### Outreach Activities for Implementation

##### **Municipal Training Program**

UNH T<sup>2</sup> has prepared a training program to instruct municipal and regional public works officials on how to work with recommended and approved data collection procedures, and the use of the BRIDGE spreadsheet for submission to the NHDOT for ranking.

##### **NHDOT BRIDGE Support Program**

UNH T<sup>2</sup> has prepared a training program to support the use of the BRIDGE spreadsheet for ranking and resource allocation.

#### **4. Special Project: SADES Maintenance Program**

The SADES Maintenance Program (SADES) includes several individual projects including supports for the RSMS program, the Pedestrian crossing/ADA Compliance and guardrail inventory. This proposal only includes activities related to the maintenance of the SADES program, associated data collection and integration, and training session for SADES and RSMS as requested.

Tasks related to SADES maintenance include the following:

##### **1. Monitor online access and security**

- a. Periodically monitor logins for all SADES services
- b. Ensure only authorized users are making edits
- c. Track edits of the software
- d. Provide status/progress reports to NHDOT
  - i. Rate of data being added into all SADES layers
  - ii. Quantity of data each collectors are adding
- e. Hours based on approximately 1 hour per week for SADES Project Manager

##### **1.2. High level monitoring of data quality**

- a. Monitor data on a regular basis to ensure data fits the following general requirements:
  - i. Fully complete assessments

- ii. Generally accurate data
- iii. No major missing partsPro
- iv. Accurate geometry of data points

b. Hours based on under 1 hour per week for SADES Project Manager

### **1.3. Manage ArcOnline accounts/usernames**

- a. Daily task to ensure all user accounts/licenses are performing properly
- b. Tracking log-in dates and managing group privileges
- c. Adding and removing users to the SADES organizational account
- d. Hours based on under 1 hour per week for SADES Project Manager

### **1.4. ArcOnline Backups**

- a. To conduct daily backups of all ArcOnline layers via Create Replica
  - i. Less than 1 hour per day for SADES Project Manager during collection season

### **1.5. Learning and Implementation of enhancements**

- a. Learn new ESRI features via updates that occur approx. every 3 months
- b. Includes new updates in ArcMap, ArcOnline, and ArcCollector
- c. Implement new features that best fit SADES in coordination with NHDOT staff
  - i. Both for existing data sets as well as future asset classes
- d. Hours based on:
  - i. 5 hours for Research Associate per update
  - ii. 10 hours for SADES Project Manager per update

## **2. Community/RPC Relations**

- a. Respond to RPC's questions and troubleshooting issues via phone, email, and site visits
- b. Facilitate updates to ArcGIS software modules based on feedback from collectors
- c. General SADES inquiries on a daily basis
- d. Hours based on under 1 hour per week for SADES Project Manager

### **2.2. Outreach/Website Support and Development**

- a. Creating conference presentations and documentation
- b. Writing articles for publication
- c. Attending conferences to present SADES concept
- d. Continue updating and developing new features on the SADES website
- e. Hours based on under 1 hour per week for SADES Project Manager

## **3. Module Development**

- a. Work with NHDOT staff to develop plans for future SADES work
- b. This includes attending meetings at NHDOT to discuss these matters
- c. Hours based on approximately 1 hour per week for SADES Project Manager and less than 1 hour per week for the Research Associate.

## **4. Training**

### **4.1. Scheduling**

- a. Working with RPC's, NHDOT, and other partners to schedule meetings and trainings

### **4.2. RSMS Training**

- a. Provide training on RSMS for RPC and municipalities on a limited, by request basis.

### **4.3. Stream Crossing Training and Support**

- a. Provide any and all interested state partners full training on the SADES Culvert Assessment module

- b. Includes hours for 15 training sessions each year
  - i. 4 hours preparation and 6 hours of training each session
- c. Support for the partners as they collect throughout the collection season
  - i. Via phone call, email, or site visits
  - ii. ~12 hours of support per agency trained each year

**4.4. Pedestrian Infrastructure Training and Support**

- a. Provide any and all interested state partners full training on the SADES Pedestrian Infrastructure module
- b. Includes hours for 9 training sessions each year
  - i. 4 hours preparation and 6 hours of training each session
- c. Support for the partners as they collect throughout the collection season
  - i. Via phone call, email, or site visits
  - ii. ~4 hours of support per agency trained each year

**4.5.** Hours based on approximately 2 hour per week average for SADES Project Manager and approximately 2 hours per week average for the Research Associate.

**E. Deliverables Schedule:**

- 1. Local Technical Assistance Program and**
- 2. Transportation Partnerships and Facilitations**

The scope of work detailed for the LTAP will be delivered mainly by the UNH T<sup>2</sup> staff with additional support from contracts workshop instructors. Table 5 details the list of UNH T<sup>2</sup> personnel included in this proposal. The personnel is divided into two categories: (1) workshops, including scheduling, registration, venue, delivery and travel associated with all workshops and (2) outreach activities which includes all other LTAP activities.

The details of each task category is included in the Scope of Work description. The following is a list of the Deliverables / Tasks contemplated under this Contract Proposal. Each Deliverable / Each Deliverable / Task listed in

Table 6 UNH Technology Transfer Center Deliverables / Tasks is defined more fully with relevant details in the Scope of Work section of this document.

Table 5 UNH Technology Transfer Center Personnel Related to LTAP Activities

Position Title	Description	Effort	Duties
UNH T <sup>2</sup> Principal Investigator	UNH Faculty Member	As needed	Financial management and supervision of all UNH T <sup>2</sup> programs and interaction with NHDOT/FHWA.
Workshops			
UNH CO-PI	Robert Henry	1 week	Support T <sup>2</sup> Director related to financial reporting and compliance, budgeting for workshops and registration management
UNH T <sup>2</sup> Director	Director of all programs under UNH T <sup>2</sup>	18 hours/week	Oversight of all T2 activities, budgetary compliance, required reporting, integration with synergistic outreach activities
Senior Training Instructor	Experience Transportation Professional	20 hours/ week	Offer approximately 60% of the workshops, provides technical support through the year.
Training Coordinator	Office Support Staff	40 hours/week	Plan and facilitate all workshops, manage the marketing and information services, manage, the social media aspects of the LTAP, collect the course and instructor surveys for each workshop and maintain the workshop database
Outreach Activities			
UNH T <sup>2</sup> Director	Director of all programs under UNH T <sup>2</sup>	18 hours/week	Lead LTAP outreach and engagement efforts, operational management of LTAP activities, coordinate transportation partnerships, manage technical support activities, supervise Office Support staff, and attend meetings and conferences as required.
Program Assistant	Office Support Staff	20 hours/week	Support workshop and technical support activities, and all other facets of the LTAP
Student Worker	Undergraduate UNH students	20 hr /wk for 2 UG per AY and 1 UG per summer	Support all UNH T <sup>2</sup> activities as needed under the direct supervision of the UNH T <sup>2</sup> staff

Table 6 UNH Technology Transfer Center Deliverables / Tasks

<b>Workshops</b>	
*	Annual Training
*	Private Workshops
*	FHWA Every Day Counts Initiative
*	Certification Workshops
*	Development of Workshops
*	NHDOT Training
*	Roads Scholar Program
*	Online Learning
<b>Technical Support</b>	
*	Response to Inquiries
*	Site Visits
<b>Transportation Partnerships and Facilitations</b>	
*	UNH T <sup>2</sup> Advisory Board
*	Facilitations
*	State Agencies
*	NH Public Works Association
*	NH Public Works Mutual Aid
*	State Transportation Innovation Council
*	National LTAP Association
*	Other Partnerships
<b>Marketing &amp; Information Services</b>	
*	Marketing
*	Maintenance of Websites & Social Media
*	Newsletter
*	Maintenance of Library
*	NH Public Works Mutual Aid Database
*	Email Lists and ListServ
*	Technical Article Portal
<b>Program Administration</b>	
	FHWA Reports
	LTAP Reports
	Coordinate with UNH
	Professional Development

### 3. Special Project: Municipal Bridge Management System (BRIDGE)

The scope of work detailed for the BRIDGE project will be delivered by program manager and research associate with support as needed from the principal investigator. Table 7 details the list of UNH T2 personnel included in this proposal.

Table 7 UNH Technology Transfer Center Personnel related to BRIDGE Activities

Position Title	Description	Effort	Duties
Principal Investigator	UNH Faculty Member	As needed	Financial management of UNH T <sup>2</sup> , interaction with NHDOT/FHWA, supervision of UNH T <sup>2</sup> staff and programs
UNH T <sup>2</sup> Director	Director of all programs under UNH T <sup>2</sup>	2 hours/week	Oversight of BRIDGE activities, budgetary compliance, required reporting, integration with synergistic research activities
Project Manager	Manager	10 hours/week	Support BRIDGE development and lead outreach and training activities including workshop schedule and delivery.
Research Associate	Ricardo Medina	3 weeks/year	Work with the Principal Investigator to develop this program

The details of each task category are included the scope of work description. The following is a list of the Deliverables / Tasks contemplated under this Contract Proposal related to BRIDGE. Each Deliverable / Each Deliverable / Task listed in Table 8 UNH BRIDGE Deliverables / Tasks is defined more fully with relevant details in the Scope of Work section of this document.

Table 8 UNH BRIDGE Deliverables / Tasks

<b>Program Development</b>	
*	BrM™ translation to SADES for use with BRIDGE
*	Bridge Maintenance Tracking System
*	Repair/Maintenance Cost Estimate Input into BRIDGE
<b>Outreach and Training</b>	
*	Training Sessions
*	Instructional and Reference Online Manuals

### 4. Special Project: SADES Maintenance Program

The scope of work detailed for the SADES-M will be delivered and program manager and graduate student. Table 9 UNH Technology Transfer Center Personnel related to SADES-M Activities details the list of UNH T2 personnel included in this proposal.

Table 9 UNH Technology Transfer Center Personnel related to SADES-M Activities

Position Title	Description	Effort	Duties
Principal Investigator	UNH Faculty Member	As needed	Financial management of all UNH T <sup>2</sup> programs, interaction with NHDOT/FHWA, supervision of UNH T <sup>2</sup> staff
UNH T <sup>2</sup> Director	Director of all program under UNH T <sup>2</sup>	2 hours/week	Oversight of SADES maintenance activities, budgetary compliance, required reporting, integration with synergistic research and outreach activities
Project Manager	Manager	10 hours/week	Lead SADES development and outreach activities including workshop schedule and delivery for SADES and RSMS.
Research Associate	Erin Bell	1 week/year	Work with the Principal Investigator to develop this program

The details of each task category are included the scope of work description. The following is a list of the Deliverables / Tasks contemplated under this Contract Proposal related to SADES. Each Deliverable / Each Deliverable / Task listed in Table 10 UNH SADES-M Deliverables / Tasks is defined more fully with relevant details in the Scope of Work section of this document.

Table 10 UNH SADES-M Deliverables / Tasks

<b>Program Development</b>	
*	SADES program Maintenance including software updates
*	Coordination with NHDOT and RPC for workshop needs and additional feature desired.
*	Repair/Maintenance of SADES to support future tasks needed by the NHDOT and RPC
<b>Outreach and Training</b>	
*	Training Sessions
*	Instructional and Reference Online Manuals



## **F. Budget and Invoicing Instructions:**

The LTAP-related services that will be provided by the UNH-T<sup>2</sup> are divided into two categories for budget development: Workshops and Outreach Services.

### ***Salaries & Wages and Fringe Benefits:***

The UNH-T<sup>2</sup> director's salary is divided between all three components (LTAP, BRIDGE and SADES Maintenance), as noted in the personal sections (Tables 5, 7 and 9). The salaries and fringe benefits of both the Training Coordinator and Senior Instructor are entirely included in the LTAP workshops component. The salary and fringe benefits of the program assistant position are included in the LTAP activities component (Table 5). The salaries and fringe benefits related to BRIDGE and SADES Maintenance are consistent with Tables 7 and 9.

Summer salary for Professor Robert Henry is include in the LTAP-Workshops components for approximately one week. Professor Henry is currently the financial manager for the LTAP program at UNH so this effort will be related to transitioning control to a new director and continued support for the workshop organization.

Summer salary for Professor Ricardo Medina is include in the BRIDGE component for approximately three weeks. Professor Medina is lead the intellectual development of the BRIDGE program to provide local bridge managers with a data-informed decision-making tool. He will work with The T2 director and BRIDGE program manager to develop the BRIDGE program and transition it to practice.

Summer salary for Professor Erin Bell is include in the SADES Maintenance component for approximately one week. Professor Bell is principal investigator for the T2 Center proposal and will support this component to ensure that SADES remains operational including software renewals so that additional SADES task will be able proceed without delay and that there will be uninterrupted use by stakeholders.

### ***Travel:***

The travel funds for LTAP Workshops will support travel for UNH T<sup>2</sup> staff and outside instructors to workshops. The travel funds allocated for LTAP Outreach Services is meant to support UNH T2 staff travel to State, regional and national LTAP meetings, partnership meetings, stakeholder meetings, and municipalities for technical supports. The travel funds allocated to BRIDGE will support travel to BRIDGE trainings and SADES travel funds will support travel for SADES Maintenance trainings. The travel funds for both BRIDGE and SADES Maintenance will cover meetings with NHDOT and other program stakeholders for review and revisions of the program tasks.

### ***Supplies and Services:***

The supplies and services funds for LTAP Workshops will support handouts and materials needed for workshops. The supplies and services funds allocated for LTAP Outreach Services is meant to support the publication of Road Scholar, minutes for stakeholder meetings, computer support services for the T<sup>2</sup> website and other needs related to LTAP outreach activities. The supplies and services funds allocated to BRIDGE will support materials for BRIDGE trainings and SADES supplies and services funds will support the required computer licenses and hosting fees for SADES and materials needed for SADES Maintenance trainings. A major component of these funds will be used to renewal that license for ESRI® to ensure continued operation of SADES.

### ***Program income:***

The program income generated by the LTAP workshops will be used to fund the breakfast and lunches served at LTAP workshops and certification courses and therefore are not included in the budget request component of this proposal. These funds will also be used to offset unforeseen expenses related to LTAP activities. UNH expects to generate program income during period of award and will account for it using the Additive Method.

Program income is estimated at ~\$60,000/year based on previous years. Using the Federal per diem rates for New Hampshire, the allowance for breakfast and lunch is approximately ~\$30/person. Assuming that the average attendance is 20 people, the total cost for food is expected to be approximately \$50,000 annually. Program income is also available for additional specialty workshops that are not included in this proposal, if funds are available.

In the budget table below, LTAP Workshop category is only concerned with events related purely to the two workshop sessions offered each year of the proposal. These funds will support workshop organization, printed material, instructor compensation, room fees, and T2 staff travel to the workshops. There is also support for computer services needs to hold the workshops, including a laptop.

In the budget table below, LTAP Outreach Services category is concerned with outreach services provided by the T<sup>2</sup> Center, not including the workshops. These funds will support the T<sup>2</sup> personnel related to newsletters production, website maintenance, technical support to municipalities, organization, travel and registration for professional development events for T<sup>2</sup> staff and management multiple professional associations. There is also support for computer services needs to support these efforts including desktop computers for the T<sup>2</sup> staff.

***Invoicing:***

Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less frequently than quarterly. Invoices will be based on actual project expenses incurred during the invoicing period, and shall show current and cumulative expenses by major cost categories, and shall document cumulative cost sharing through the end of the invoicing period. State will pay Campus within 30 days of receipt of each invoice. Campus will submit its final invoice not later than 75 days after the Project Period end date.

Year 1	Salaries & Wages	Fringe Benefits	Travel	Supplies & Services	F&A	Total
LTAP Workshops	\$91,212	\$36,782	\$15,000	\$50,000	\$67,548	\$260,541
LTAP Outreach Services	\$52,200	\$17,832	\$6,500	\$10,000	\$30,286	\$116,818
BRIDGE	\$26,229	\$7,758	\$2,000	\$2,500	\$13,470	\$51,958
SADES Maintenance	\$19,910	\$7,265	\$5,000	\$18,500	\$17,736	\$68,411
Total Sponsor Request	\$189,551	\$69,637	\$28,500	\$81,000	\$129,040	\$497,728
Program Income*						\$60,000

Year 2	Salaries & Wages	Fringe Benefits	Travel	Supplies & Services	F&A	Total
LTAP Workshops	\$93,948	\$37,885	\$15,000	\$50,000	\$68,892	\$265,725
LTAP Outreach Services	\$53,766	\$18,367	\$6,500	\$10,000	\$31,022	\$119,654
BRIDGE	\$27,017	\$7,990	\$2,000	\$2,500	\$13,827	\$53,334
SADES Maintenance	\$20,507	\$7,483	\$5,000	\$18,500	\$18,021	\$69,511
Total Sponsor Request	\$195,238	\$71,725	\$28,500	\$81,000	\$131,762	\$508,225
Program Income*						\$60,000

Total	Salaries	Fringe	Travel	Supplies	F&A	Total
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	<b>&amp; Wages</b>	<b>Benefits</b>		<b>&amp; Services</b>		
<b>LTAP Workshops</b>	\$ 185,161	\$ 74,666	\$30,000	\$ 100,000	\$136,439	<b>\$ 526,266</b>
<b>LTAP Outreach Services</b>	\$ 105,966	\$36,199	\$13,000	\$ 20,000	\$ 61,308	<b>\$ 236,473</b>
<b>BRIDGE</b>	\$ 53,246	\$ 15,748	\$ 4,000	\$ 5,000	\$ 27,298	<b>\$105,292</b>
<b>SADES Maintenance</b>	\$ 40,747	\$ 14,417	\$10,000	\$ 37,000	\$ 35,758	<b>\$137,922</b>
<b>Total Sponsor Request</b>	\$385,120	\$141,030	\$57,000	\$162,000	\$260,803	<b>\$1,005,953</b>
<b>Program Income*</b>						\$120,000
<b>Total Project Cost</b>						\$1,125,953

**Program Income\*** - estimated amount to be earned during the project period, to be accounted for using the additive method, and for use towards project related expenses. This estimated amount is provided for convenience and is proposed to cover expenses not presented in the line amounts in this budget. UNH does not budget for expenses that are proposed to be paid with potential by program income.

**EXHIBIT B**

This Project Agreement is funded under a Grant/Contract/Cooperative Agreement to State from the Federal sponsor specified in Project Agreement article F. All applicable requirements, regulations, provisions, terms and conditions of this Federal Grant/Contract/Cooperative Agreement are hereby adopted in full force and effect to the relationship between State and Campus, except that wherever such requirements, regulations, provisions and terms and conditions differ for INSTITUTIONS OF HIGHER EDUCATION, the appropriate requirements should be substituted (e.g., OMB Circulars A-21 and A-110, rather than OMB Circulars A-87 and A-102). References to Contractor or Recipient in the Federal language will be taken to mean Campus; references to the Government or Federal Awarding Agency will be taken to mean Government/Federal Awarding Agency or State or both, as appropriate.

Special Federal provisions are listed here:  None or **Uniform Guidance issued by the Office of Management and Budget (OMB) in lieu of Circulars listed in paragraph above. .**