Research Proposal Template and Guidelines

Center for Transformative Infrastructure Preservation and Sustainability,   
Region 8 University Transportation Center

*Revised: 4/6/2025*

CTIPS proposals will be submitted online. Before completing the online form, fill out the proposal template *(attached below)*. Do NOT attempt to re-create the template, as that may lead to the back-end formatting being lost. You will be asked to upload the completed template and be required to provide the following information:

|  |  |
| --- | --- |
| Abstract | In paragraph format, provide a brief and objective summary (limited to 450 words) of the project. |
| Marketing Photo | Upload a photo *(NOT a diagram, graph, logo, illustration, figure, or bio photo)* that is pertinent to the project. Photos should be high-resolution and we must have permission to publish them. Note that photos copied from websites are typically low resolution and cannot be used without permission. |
| Data Management Plan | The data management plan for CTIPS is posted online ([view data management plan](https://www.ctips.org/resources/researchers.php)). The plan describes our strategies for developing, describing, and archiving digital data sets resulting from DOT-funded research to facilitate public access and sharing of data resources.  If your project requires an additional or a different data management plan (including those from other funders), you will be asked to upload your plan. |
| Potential Peer Reviewers | Provide the complete contact information of at least three persons who are qualified to review and critically assess the proposal, including the person’s name, position title, organization, and email address. Peer reviewers cannot have conflicts of interests, such as possibly benefiting, personally or professionally, from the proposed project. Peer reviewers may include professionals at federal, state, metropolitan, or local agencies, as well as university and private-sector researchers. At least three completed reviews are required for a proposal to move forward in the assessment process. Consequently, submitting more than three names may expedite the time frame for approval in the event of one or more nonresponsive reviewers.  Make sure peer reviewers are aware that they will receive a request to review the proposal. The request will come from “ndsu‑qualtrics@qualtrics-survey.com” and indicate the proposal title and the name/email of the main project contact.  For select projects *(e.g., those conducted for your state’s DOT),* that have already been peer-reviewed *(by DOT personnel)*, indicate the organization/committee that peer-reviewed the proposal. Include organization name, committee name, and provide information (name, title, and email) for at least 3 people who performed the peer review from that committee. |
| Subject Areas | Select 1 to 4 categories *(listed in the online proposal form)* that best describe the research project. |

Once submitted through the online form, your proposal will be routed to your university director for an initial approval and then CTIPS will verify that the proposal meets the grant deliverables and reporting requirements before it is sent to peer reviewers. Peer review responses will be emailed to you, your university director, and CTIPS as they are completed. Once enough peer reviews are completed, your university directory will decide whether to fund the project. You and CTIPS will be notified of the final decision and, if funded, a project number will be assigned.

USDOT Strategic Goals

The research priorities, objectives, and strategies described in this [RD&T Strategic Plan FY 2022-2026](https://www.transportation.gov/rdtstrategicplan) support and are aligned with strategic goals of the U.S. Department of Transportation (USDOT), as established in the [USDOT Strategic Plan for FY 2022-2026](https://www.transportation.gov/mission/us-dot-strategic-plan-fy-2022-2026). The strategic goals are as follows:

* **Safety** – Make our transportation system safer for all people. Advance a future without transportation-related serious injuries and fatalities.
* **Economic Strength and Global Competitiveness** – Grow an inclusive and sustainable economy. Invest in our transportation system to provide American workers and businesses reliable and efficient access to resources, markets, and good-paying jobs.
* **Transformation** – Design for the future. Invest in purpose-driven research and innovation to meet the challenges of the present and modernize a transportation system of the future that serves everyone today, and in the decades to come.

CTIPS Regional Center Proposal

The CTIPS Regional Center Proposal on Preserving the Existing Transportation System listed four “Proposed Research Activities” on pages 6-11. You are required to indicate where your proposal best fits within those activities. The CTIPS Regional Center Proposal can be obtained through your university director.

Institutional Review Requirements

If the proposed project involves surveys or observations of human or animal subjects that would trigger institutional reviews, it is the proposer’s responsibility to ensure that these university review requirements are met. An assurance may be requested if the project is selected for funding.

*Proposal template starts on next page*

*Please delete pages 1 to 3 before uploading the template to the online submission process.*



# Project Title *(limit to 20 words)*

*CTIPS-###*

*Approved #/#/####*

Provide a title above that is descriptive of the project and includes key terms. Titles are to be written in title case and limited to 20 words.

## University

List CTIPS universities involved in the proposed project. It is highly encouraged to collaborate with other universities in the consortium (CTIPS) on project proposals.

Example:

University of Utah

United Tribes Technical College

## Principal Investigators

If the project is a multi-university proposal, list a principal investigator from each university. For each PI, include name, ORCID number, university affiliation, title, email address, and phone number. Example:

Jane Doe, Ph.D.

Professor

Dept. of Civil and Environmental Engineering

University of Utah

Phone: (999) 999-9999

Email: jane.doe@utah.edu

ORCID: 0000-0000-0000-0000

***Note:*** the online form will also ask for a short bio paragraph (limited to 50 words), link to university bio (if available), and high-resolution photo for each PI. That information should not be included here.

## Research Needs

Provide a statement of the important issues and problems that give rise to the need for the project, including a brief literature review (if appropriate) that summarizes the state of knowledge in the subject area and identifies the knowledge gaps the project seeks to fill. It must be clear from the description that there are compelling needs for the study and it will address issues of national and regional importance.

## Research Objectives

Provide a clear statement of the research objectives, including any hypotheses to be tested. At least some of the objectives must be measurable—i.e., at the conclusion of the project, it must be possible to ascertain whether the stated objectives have been achieved.

***Note:*** the online form will ask for a list of individual project objectives to be addressed. Each list item (aka objective) is limited to 30 words.

## Research Methods

Provide a sufficient description so that reviewers can assess the appropriateness of the research approach and methods and the quality and reliability of data, including descriptions of any mathematical, statistical, operations research, and simulation techniques to be used, as well as surveys, lab tests, and field data.

## Relevance to Strategic Goals

Select one (1) USDOT strategic goal (Safety; Economic Strength and Global Competitiveness; Transformation) that is primarily addressed by the proposed project. You also have the option to select one (1) secondary strategic goal related to the project.

Describe how the project and expected outcomes/impacts relate to the selected goal(s). Also, describe how the project engages in breakthrough, advanced, or transformative research.

***Note:*** Please do not reference the CTIPS Regional Center Proposal here. That information is collected in the online submission form and is for internal use only.

## Educational Benefits

Describe how students will be involved in the project and any expected classroom or instructional uses of procedures, examples, or discoveries derived from the project. If not applicable, state Not Applicable below Educational Benefits.

## Outputs through Technology Transfer

Describe the results of the work performed including new research, technology or process that the project will produce. Outputs could include processes and methods; data, hardware, software, and databases; invention disclosures, patent filings, inventions, etc. Also describe any new partnerships outside of CTIPS that will be established through the project.

Provide a technology transfer (T2) plan for your project. Describe the process you will use for transferring your findings/outputs to other researchers, professionals and practitioners. The goal should be further development, commercialization, and practical applications from the results of your research. Ultimately, technology transfer should sustain economic growth and improve efficiency, safety, and/or cost effectiveness through the development and commercialization of new technologies and practices.

Technology transfer may occur through (but is not limited to): peer-reviewed research reports, peer-reviewed journal articles, peer-reviewed conference papers, newsletters, workshops, webinars, web pages, social media, YouTube clips, seminars, the CTIPS website, your university/department website, and other distance learning events.

CTIPS T2 programs will primarily utilize three forms of engaging clients and disseminating research results: (1) virtual delivery via live webinars, recorded online modules, videoconferences; (2) in-person seminars or presentations; (3) conferences or workshops that organize related T2 topics into day-long or multi-day events.

Please list how you intend to fulfill this requirement and remember to report your technology transfer activities in the SAPR (Semi-Annual Progress Report) for this project.

## Expected Outcomes and Impacts

Provide a description of the expected outcomes in terms of potential findings and impacts, including advances in modeling, practices, and procedures and implications for future research. Describe the application of the output and any changes this output has or will make to the transportation system, or its regulatory, legislative, or policy framework, including a description of products or patents, or a change in practice, or instances of research results informing policy decisions. Discuss how this research output will positively impact the transportation system in terms of safety, reliability, durability, costs, etc. Describe any tangible products beyond the research report, including prototype software, equipment, guidebooks, or instructional manuals that may emanate from the project. Journal papers, other publications, and presentations are not sufficient to show impact.

## Work Plan

Provide a description of the major tasks or steps in the project, along with an expected timeline. The tasks should be numbered with an expected completion date assigned to each one. Instead of calendar dates, the timeline should be expressed in months from the starting date. Typically, a work plan includes steps such as the completion (and testing) of questionnaires, lab tests, field tests or data collection efforts, input or focus group meetings, and critical steps such as the initial runs and calibrations of models. A draft report and other milestone events should be included, as well as a technology transfer plan that includes a research seminar via the Transportation Learning Network (TLN) and/or plans to collaborate with an LTAP or TTAP center (if appropriate). If the research is basic in nature, other dissemination methods may be substituted for the TLN, LTAP, or TTAP distribution channels.

## Project Cost

Total Project Costs: $

CTIPS Funds Requested: $

Matching Funds: $

Source of Matching Funds: Include organization/university name

(if match comes from multiple organizations/universities, list the match amount provided by each)

List all agencies expected to contribute funds or in-kind resources to the project. CTIPS projects require at least a dollar-for-dollar match. Note that other federal funds (e.g., federal funds other than UTC funds) cannot be used as match, except for state planning and research funds and LTAP funds, which are eligible under exclusionary provisions of the authorizing legislation. The definition of “non-federal funds” is based on the original source of funds.

## References

List the major references cited in the proposal and other seminal work in the field. If no references, this section can be removed.