SJSU SAN JOSÉ STATE UNIVERSITY

CSUTC California State University Transportation Consortium

CSU Transportation Research & Workforce Development Request for Proposals

Background

California's Road Repair and Accountability Act of 2017 (SB 1) is a comprehensive transportation funding package designed to address a wide range of transportation-related needs across California. As part of SB 1, annual appropriations of up to $2 million are made available to the California State University (CSU) for the purpose of conducting transportation research and transportation-related workforce education, training and development. The Mineta Transportation Institute (MTI) at San José State University (SJSU) leads the California State University Transportation Consortium (CSUTC). CSUTC comprises MTI/SJSU along with partners CSU Chico, CSU Fresno, and CSU Long Beach.

As part of the CSUTC comprehensive research portfolio, MTI/SJSU manages a CSU-wide competitive request for proposals to identify research projects aligned with SB 1 priorities.

General Proposal Information

Who can apply? This research funding opportunity is available to faculty (permanent or temporary) at any California State University campus. Commercial organizations, non-profits, and other universities may not respond to this RFP. The Principal Investigator(s) must be CSU faculty; non-CSU personnel may participate on research teams but funding should be limited. Questions about budgets should be directed to Dr. Hilary Nixon (hilary.nixon@sjsu.edu). All proposals must include funding for CSU students. Proposals submitted by CSU campuses other than SJSU will be required to submit a subrecipient commitment form. **A researcher can submit up to two proposals as PI, but a maximum of one proposal will be funded. A researcher can serve as a team member on two other proposals.** Prior on-time performance and responsiveness to MTI communications in a previously-funded project will be considered during the evaluation process.

Project funding. Proposal budgets, including indirect/F&A/overhead expenses (limited to 15%), must not exceed $75,000. Applicants must use the budget template provided. The anticipated period of performance is 12 months. Approximately 10 awards will be issued through this competitive selection process.

Deadline. The deadline to apply to this funding opportunity is **11:59 p.m. (Pacific) on Friday, January 24, 2025**. All submissions must be submitted through Calstate InfoReady: https://calstate .infoready4.com/

UPDATED Submittal Deadline:

January 24, 2025

RFP Guidelines, Subrecipient Commitment Form, Proposal and Budget Template available at: https://calstate.infoready4.com/

MTI CONTACT:

Dr. Hilary Nixon
MTI Deputy Executive Director
hilary.nixon@sjsu.edu
408-924-7564

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ALL AWARDS ARE SUBJECT TO THE AVAILABILITY OF APPROPRIATED FUNDS

MTI MINETA TRANSPORTATION INSTITUTE

(search for CSU Transportation Research and Workforce Development RFP). For questions specifically about using InfoReady, please contact support@infoready.com.

Proposal review. Proposals will be reviewed by an external, independent, third-party review committee using the evaluation criteria listed below. No CSU-affiliated faculty or staff will serve as reviewers. The committee will make the final decision regarding projects selected for funding.

Distribution of funds. The authorized contracting entity for SJSU, the SJSU Research Foundation, will award funds for approved proposals. The Principal Investigator will be required to submit monthly progress reports to MTI as a condition of payment.

◆ Targeted Research Needs and SB1 High Priority Research Areas

CSUTC works with stakeholders to identify priority research needs that align with SB 1. Proposals must address one of the eight targeted research needs listed **or** fall within one of the SB1 high priority research areas listed below after the targeted research needs on page 5. Proposals that respond to a targeted research need will receive a 10% scoring bonus during evaluation. See the full list of evaluation and scoring criteria at the end of this document.

Targeted Research Needs

For questions about targeted research needs or to obtain contact information to request the required stakeholder letter of support, please contact Dr. Hilary Nixon (hilary.nixon@sjsu.edu).

1. ***Analysis of SB434 Data: Themes, Outcomes, and Recommendations.*** California's Senate Bill 434 (approved October 2023) requires the top 10 transit agencies in the state to publish and make publicly available on their internet websites all survey data collected pursuant to the bill (99178 Public Utilities Code). This data is due to be available on or before December 31, 2024. Research is needed to analyze this data regarding rider experiences with harassment on or at transit systems to identify themes, outcomes, and recommendations to help define the scope of the problem and develop solutions to increase safety on transit. The Legislature is interested in analysis of the qualitative and quantitative data published from all 10 agencies, including cross-cutting analysis across agencies, and safety recommendations based on the findings.

   Research need submitted by California State Senate Transportation Committee.

2. ***Assessing the Co-benefits of Housing and Transportation Investments in "Prohousing" Designated Jurisdictions***. Housing and transportation are closely linked, significantly impacting accessibility, sustainability, health, and economic opportunities for households. Together, housing and transportation account for the largest share of households' expenses and are key contributors to high rates of vehicle miles traveled (VMT) and greenhouse gas emissions (GHG). Research is needed to investigate transportation planning and investments in jurisdictions designated as "Prohousing" aimed at maximizing the co-benefits of housing and transportation. How effectively have participating jurisdictions coordinated their housing and transportation investments – enhancing transit, bike, and pedestrian accessibility while increasing residential density? By identifying common themes among these jurisdictions, researchers can develop various typologies of local governments,

highlighting the connections between their housing and transportation strategies. The lessons learned would aid in the implementation of local and regional policies to achieve the state's transportation, housing, and climate goals (e.g., reducing GHG/ VMT and increasing access to location-efficient affordable housing). In addition, this research will help state agencies understand the effectiveness of local/ regional policies that aim to improve the co-benefits of housing and transportation to reduce GHG and VMT, as well as improve housing and transportation costs. The lessons learned from this study would inform future implementation of Sustainable Communities Strategies, Regional Housing Needs Allocations, and local housing and transportation alignment to help achieve statewide transportation, housing, and climate goals.

Research need submitted by the California Department of Housing and Community Development

3. ***Complete Streets and Public Transit: In Both Adopted Policies and Actual Projects, What is Being Done and What More is Needed?*** Complete streets policies and projects are increasingly the focus of urban transportation planning. However, many projects do not provide any benefits to public transit on these same public streets, and in some cases, result in disadvantages. Given the importance of transit as an environmentally sustainable transport mode that is essential to provide access jobs and schools for all socio-economic groups and a crucial element for healthy cities, an assessment of whether and how public transit is considered in the Complete Streets framework is warranted. Research is needed to determine the state of the practice of Complete Streets policies and projects in California with respect to public transit: do adopted Complete Streets policies of cities and counties—the acknowledgement that public streets must serve more than the private auto—also consider the needs of public transit on these same public streets? In addition, the research should identify whether and how complete streets projects have incorporated public transit elements to improve transit service to make transit more attractive to existing and potential passengers and identify specific improvements in Complete Streets policies to ensure public transit is also included.

   Research need submitted by San Francisco Municipal Transportation Agency

4. ***Evaluating the Safety Impact of Parking Enforcement Technology.*** In the information age a variety of technologies, including app-only payment options and automated or mobile parking enforcement cameras, are growing in ubiquity. Local jurisdictions have approached the legislature asking for authorization to use or require these new technologies. The proponents of such technology often make claims about improvements in enforcement rates and revenue increases – but does this increase in efficiency actually result in safer streets? Does greater enforcement lead to changes in behavior patterns creating more compliant parking, or does it just increase the number of violations cited? Research is needed to consider the safety impact of these technologies, not just the potential revenue impact.

   Research need submitted by the California State Senate Transportation Committee

5. ***Evaluation of the Effectiveness of Anchor Locations for Microtransit.*** Research evaluating the effectiveness of anchor locations for microtransit is essential to ensure these services are accessible, efficient, and meet the needs of the community. Anchor locations, or key pick-up and drop-off points, significantly influence microtransit's usability by determining how easily riders can

access the service and reach popular destinations. Effective anchor locations can reduce wait times, improve route efficiency, and enhance overall rider satisfaction, while poorly placed locations may lead to underutilized services, increased operational costs, and limited reach to target populations. Research is needed to assess factors like travel patterns, population density, and proximity to essential services to inform optimal anchor point placements. Evaluating the effectiveness of these anchor locations can provide insights for designing responsive microtransit systems that support equitable access, reduce transportation barriers, and address gaps in traditional transit networks, especially in underserved or transit-poor areas.

Research need submitted by TriDelta Transit

6. ***Infill TOD as a Climate Strategy: Existing VMT Revenue Models and Lessons for California.*** As SB 743 implementation matures and evolves, greater attention is being paid to how VMT mitigation funds are being used. Due to the state's urgent housing needs and the recent infill housing Executive Order EO N-2-24, there is a growing interest in directing VMT mitigation revenues towards affordable infill and transit-oriented development (TOD) housing. To ensure these revenues provide sufficient funding for the high costs of housing production, it is likely necessary to pool and exchange them at regional or statewide scales. Research is needed to assess the implementation of existing transportation mitigation exchanges that support transit-oriented infill housing (and affordable housing in particular), including models from other states and countries. The goal is to identify and learn from other VMT revenue efforts to fund infill and transit oriented development to both address pent up housing demand and capture the climate benefits of smart and sustainable land use. These findings could help to increase the capacity of the state, MPOs, and local agencies to facilitate the production of affordable housing by aligning housing and transportation policies to reduce infill development costs, increase access to location-efficient affordable housing, and maximize VMT reduction benefits. The study would complement the work of the Interagency Task Force on Mitigation Banks, consisting of members from CalSTA, BCSH, CalTrans, and HCD as described in EO-N-2-24 that is exploring the development of a Statewide VMT Mitigation Bank.

   Research need submitted by the California Department of Housing and Community Development

7. ***Preparing Today's Workforce for Tomorrow's Power.*** Hydrogen fuel-cell technologies provide a zero-emission solution for long-range transit buses in the future. Unlike battery-electric buses, which are incompatible with long-range transit routes due to range and storage capacity challenges, fuel-cell buses refuel just as fast as gasoline vehicles and provide longer ranges to accommodate lengthy bus routes. While hydrogen fuel-cell buses provide a more compatible drivetrain for long-range applications, the technology is still emerging and the related workforce is even more nascent. Given these reasons, it is critical that leaders in California transit develop targeted workforce development opportunities to update the knowledge, skills, and abilities of the professionals who will operate and maintain those vehicles in the future. The implementation of hydrogen fuel-cell powered buses will require successful workforce needs assessments, targeted curriculum and training programs, and workforce strategies to recruit, retain, and upskill the emerging hydrogen workforce. Such needs assessments, curriculum, and workforce programs will require new levels of collaboration with original equipment manufacturers, institutions of learning, and governmental agencies.

Research need submitted by Tri-Delta Transit

8. ***Studying Extreme Weather Event Impacts for Transit-Reliant Unhoused Populations.*** Homeless populations tend to cluster in areas where they can access essential services, meet basic needs, find income opportunities, and access resources like food and safety. In urban settings, these areas often coincide with central business districts. A study in Portland found that there is a notable spatial correlation between types of land use, transit stations, and the locations of encampments. Additionally, non-auto travel, such as walking or biking to transit, increases individuals' exposure to extreme weather conditions like high and low temperatures. Research is needed to understand the barriers that prevent unhoused individuals from effectively accessing the Santa Clara Valley Transportation Authority (VTA) transit system and to explore how extreme weather events exacerbate mobility challenges for this population.

   Research need submitted by Collaborating Agencies' Disaster Relief Effort

   Proposals responding to this research need could also suggest another geographic region for study, but would need to identify a suitable external advisor.

9. ***Workforce Impacts in an Era of Connected and Autonomous Transportation Technology.*** The transportation sector is rich with innovation and new approaches to mobility – including the use of connected and autonomous transportation technology. Alongside enthusiasm for these innovations has been concern of their impact on the current workforce and the potential for displacement. Prior research has looked at the skills needed in this growing field, but there has yet to be an analysis that projects the jobs that the connected and automated transportation sector could produce. Research is needed that examines and quantifies the emerging workforce opportunities in the connected and automated transportation sector in California. Recognizing this transition will occur over many years, this research will help to plot opportunities for transitions for the current workforce as well as identify the workforce needs of the future. The end product of this research could be a model that forecasts workforce needs of the future and the potential economic impact of this industry and its workforce in California.

   Research need submitted by Contra Costa Transportation Authority.

General SB1 High-priority Research Areas

Proposals are also welcome that fall within one or more of the following high-priority research areas. No scoring bonus is provided for projects that fall within this general list of research areas.

- Congestion relief, including traffic management systems
- Trade corridor enhancements
- Improved transit and rail
- Pedestrian and cyclist safety
- Maintenance/rehabilitation of road and bridge infrastructure

◆ Proposal Contents

Using the provided template, applicants must respond to the following questions:

1. **Project Goal**.
   Briefly state the overall goal of this project in 1-2 sentences.

2. **Project Background**.
   Describe (approx. 500-750 words) the background problem/issue the proposed project will address and provide a brief review of the academic and/or professional literature that demonstrates your knowledge of past work in the field. Include references (citations can be listed at the end of the section or at the end of the entire proposal – they do not count towards the overall word count). **Applicants are expected to clearly indicate how their project expands upon existing knowledge in the field**. All applicants should carefully review academic databases and research sites such as TRID (Transportation Research Integrated Database, trid.trb.org) to ensure that the proposed project does not duplicate existing research but rather contributes to existing knowledge in the field.

3. **Research Question/Project Objective**.
   Concisely state your proposed research question or project objective (1-2 sentences).

4. **Project Methods**.
   Describe (<1000 words) how the project objectives will be accomplished. Provide a detailed description of your proposed methods in a manner than can be understood by a wide range of transportation experts. Applicants should describe data collection procedures, including any likely challenges associated with gathering the necessary data, and clearly describe the methods that will be used to analyze the data.

5. **Project Tasks/Timeline**.
   List specific project tasks and anticipated timeline for completion (e.g. Task 2: Develop survey and submit to campus Institutional Review Board – Months 2-3). Project duration is a maximum of 12 months and the timeline should account for quarterly meetings with an external advisor. **The task list should end with the submittal of a draft report prepared according to MTI formatting guidelines due 30 days prior to the end of the award period. All project reports will be peer reviewed and authors will be expected to respond accordingly to peer review comments when submitting a final report to MTI for publication.**

6. **Technology Transfer Plan.**
   Describe (<250 words) how the results of this project will be disseminated. Journal articles and conference presentations are valued, but also describe what efforts will be made to ensure that the results are made widely available beyond the academic community. **All authors will be required to participate in ongoing technology transfer tracking after completion of the project.**

7. **Benefits to Californians/External Support for Project**.
   Describe (approx. 250-350 words) how the results of this project will benefit Californians and how practitioners might apply the anticipated results. Please describe what existing interest there

is from transportation professionals in California for the proposed research. **All proposals must include a letter from an external agency/organization/professional that indicates interest in the project and willingness to serve as an informal advisor. The external advisor should be an industry professional and not an academic. For proposals responding to a targeted research need listed in this RFP, the letter must come from the organization who submitted the research need (please contact Dr. Hilary Nixon, hilary.nixon@sjsu.edu, MTI Deputy Executive Director, for more information).** The advisor should be willing to informally review project progress once a quarter during the period of performance and offer advice to the research team as well as review the final draft report. Modest financial compensation for the informal advisor can be included in the project budget (<$500).

8. **Research Team Qualification**.
   Describe (approx. 250 words per team member) the research team's relevant skills and experiences that will help ensure success. Applicants should describe the role and responsibilities of each team member.

9. **Budget Justification**.
   Provide a budget justification. No capital expenditures (>$5,000) or international travel expenses are allowed. No computer equipment such as desktop computer, laptop, printer, tablets, etc. will be allowed. General attendance at conferences is not an allowable expense. Student involvement is a requirement and should be explained.

10. **Prior CSUTC-funded Project.**
    If the PI or co-PI has received prior CSUTC funding, please provide the title of the project(s) and briefly summarize how that project (or projects) has led to improvements in the transportation system for Californians, if that work has been leveraged to obtain any additional external funding to support ongoing research, and how the research team disseminated the results of the research.

◆ Items Required for Submission

The following items will be required for submission to InfoReady

1. Proposal, using the template available at Calstate InfoReady
2. Project Budget using template available at Calstate InfoReady
3. Letter of support from external advisor documenting interest in the project and willingness to serve as an informal external advisor. This advisor should not be an academic, but rather an industry professional/representative who can speak to the broader usefulness or applicability of the proposed research. The letter should indicate the advisor's willingness to meet with the research team at least quarterly and to review the final draft report. **For proposals responding to a targeted research need listed in this RFP, the letter of support must come from the organization who submitted the research need.**
4. Subrecipient commitment form for all proposals submitted from non-SJSU campuses
5. Two-page CVs for research team members (not students).

Evaluation Criteria

The criteria and process for evaluating proposals is as follows:

Criteria	Rating Scale	% of Final Score (Weighting)
1. Does the proposal address a specific targeted research need?	Yes/No	Proposals that meet a targeted research need will receive a 10% bonus on their total score.
2. Does the proposal present a clear and concise understanding of the problem and project objectives? Is the research question clearly stated?	0 to 10	25%
3. Are the research methods appropriate for the proposed research? Is the approach to data collection and data analysis clearly explained? Does the proposed methodology address the ability to collect and analyze the data according to sound methodological practices?	0 to 10	35%
4. Are the proposed tasks achievable in the proposed timeline and budget?	0 to 10	10%
5. Are the technology transfer activities likely to achieve broad and appropriate dissemination of the research results and are the benefits to Californians and transportation practitioners clearly described?	0 to 10	10%
6. Is the research meeting a specific need in the transportation industry that will benefit Californians? Does the proposal clearly articulate that need and is the project likely to be successful in meeting that need? Does the letter from the external advisor suggest a strong interest in this project?	0 to 10	10%
7. Are the experiences and qualifications of the research team sufficient to ensure project success? Have they successfully completed similar/relevant research projects?	0 to 10	10%

Review committee members will be asked to comment on the strengths and weaknesses of each proposal and rate each proposal using the criteria and process described above. **In addition, if the PI or co-PI received prior CSUTC funding, on-time performance and responsiveness to MTI communications with that project will be considered in the evaluation.**

◆ MTI Contact

For questions about this RFP, please contact:

Dr. Hilary Nixon
Deputy Executive Director
hilary.nixon@sjsu.edu
408-924-7564