

Aurora Pooled Fund

2025 Project Idea Solicitation

The [Aurora Pooled Fund Program \[TPF-5\(543\)\]](#) is a partnership of State Departments of Transportation (DOT) that collaborate on research, development, deployment, and advocacy of road weather information systems (RWIS) to improve the efficiency, safety, and reliability of highway transportation.

Aurora is soliciting research project ideas for the 2025 project funding cycle. Project ideas may be submitted for either broad topic areas or specific areas of interest for this funding cycle, as listed below.

Broad Topic Areas

- Weather data and related information dissemination protocols and technologies
- Road weather decision support systems
- Weather modeling and analysis methods, validation, and techniques
- RWIS equipment evaluations, standards, and architecture
- Innovative road condition monitoring and performance measures

Topic Areas for the 2025 Funding Cycle

- **Importance of RWIS:** Safety impacts, return on investment, and benefits, including applications in other domains.
- **Advancements in RWIS Technology:** Applications of portable, mini, modular, mobile, and virtual RWIS solutions.
- **Sensor Performance and Quality Assurance:** Accuracy, reliability, and validation of RWIS sensor data.
- **RWIS Data Sharing Strategies:** Best practices for exchanging data with local agencies, industry, and stakeholders.
- **Integration of Non-RWIS Data Sources:** Enhancing road weather analysis with additional data streams.
- **Forecast-Based Action Planning:** Developing proactive response strategies based on predictive analytics.
- **Micro-Level Forecasting:** Applications and benefits for localized road weather management.
- **Forecast Confidence and Decision-Making:** Impacts on road weather preparedness and operations.
- **Effective Motorist Communication:** Strategies for delivering targeted spatial and temporal weather alerts (e.g., flooding, rain, fog, smoke, dust, wind, ice, snow, frost).

- **Impacts of Weather-Related Road Closures and Travel Restriction Practices:** Effects on alternate routes and transportation networks. Comparisons among state DOT policies and implementations specific to travel disruptions.
- **Connected and Autonomous Vehicle (CAV) Data:** Emerging applications in road weather management.
- **Predictive Strategies for Road Weather Applications:** Enhancing prediction, response, and operational strategies using advanced computing techniques.
- **Chain Use Policies and Impacts:** Evaluating chain warrants, enforcement, and effects on road safety.

Idea Submission

The provided form, “Aurora Project Idea Description 2025”, is required for your idea submission(s). Please limit the project idea discussion to one page. All ideas are due to Zachary Hans (zhans@iastate.edu) by **Friday, February 21, 2025**.

Researchers, companies, and agencies may submit up to two ideas; however, one must be designated as the primary submission for prioritized review. Aurora projects typically last one to two years and vary in funding, with recent projects ranging from \$40,000 to over \$200,000. Aurora does not fund the development of proprietary processes or products.

Timeline

By mid-March, the Aurora Board will review and rank all submissions. In some cases, submitted research ideas may be incorporated into open proposal requests (RFPs). Researchers with highly ranked ideas may be invited to submit formal proposals. Each idea advancing to the formal proposal stage will be eligible for a five-minute virtual presentation. The virtual presentation will be made to the Board during their Spring 2025 Board Meeting (anticipate May 7th, 2025). Funding decisions are expected in May 2025.

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Proposed Idea / Problem Statement Title

- Proposal Contact:** Author, Agency, Email, Phone Number
- Date:** Date the proposed project idea description was submitted.
- Project Area:** Identify the topic(s) that your project idea best fits:
- Decision Support Systems
 - Weather Modeling and Analysis
 - Standards and Architecture
 - Equipment Evaluation
 - Information Dissemination Technologies
 - Road Condition Monitoring
 - Other (Please specify)
- Problem Statement:** Describe the issue(s) that lead to the identification of this research topic and the importance/urgency of the topic, as well as a short and concise statement of the specific problem to be addressed.
- Research Objective:** Clearly describe the project objective(s).
- Research Approach:** Describe the approach you recommend for conducting the research.
- Deliverables:** Describe the anticipated deliverables and how Aurora Pooled Fund members would use, implement, or benefit from them.
- Participants:** Identify public and private agencies or organizations that may be involved in the research.
- Duration:** Estimate the duration of the proposed research project.
- Requested Funding:** Estimate the project cost, considering an allowable 26% indirect cost, and provide the total project cost and specific funding requested from Aurora, if different. Aurora's funding is limited, so identification of other sources of funding is encouraged.
- Acknowledgment:** Provide a statement confirming the proposed work does not request Aurora funding to develop proprietary processes or products.