

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Iowa Department of Transportation

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # TPF-5 (435)		Transportation Pooled Fund Program - Report Period: X Quarter 1 (January 1 – March 31) Quarter 2 (April 1 – June 30) Quarter 3 (July 1 – September 30) Quarter 4 (October 4 – December 31)	
Project Title: Aurora Program			
Project Manager: Tina Greenfield		Phone: 515-233-7746	E-mail: tina.greenfield@dot.iowa.gov
Project Investigator: Zach Hans		Phone: 515-294-8103	E-mail: zhans@iastate.edu
Lead Agency Project ID:	Other Project ID (i.e., contract #): Addendum 731	Project Start Date: January 1, 2020	
Original Project End Date: December 31, 2021	Current Project End Date: 12/31/2023	Number of Extensions:	

Project schedule status:

X On schedule On revised schedule Ahead of schedule Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Total Percentage of Work Completed
\$2,240,056	\$1,333,524	

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$	N/A	

Project Description:

The Aurora Program is a consortium of public agencies focused on collaborative research, evaluation, and deployment of technologies for detailed road weather monitoring and forecasting. Members seek to implement advanced road weather information systems (RWIS) that fully integrate state-of-the-art roadway and weather forecasting technologies with coordinated, multi-agency weather monitoring infrastructures; ultimately lessening adverse impacts of inclement weather.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.). These efforts are identified below.

Program Administrative Activities:

A primary administrative activity this quarter was the 2024 idea solicitation, including development, distribution, addressing questions from researchers, organizing and archiving the submitted ideas (29 were submitted), preparing and distributing a Qualtrics idea interest survey form Aurora members. Early next quarter, the survey results will be summarized, and the Board will select which ideas to request a full proposal. Projects will be selected during the Spring 2024 Board meeting, following brief presentations.

Reviewed financial details particularly related to meeting costs and available funding for research.

Managed the Aurora website, including developing several RFP and specifications pages for Board review, updating news, meetings, current projects and pictures. Board members who submitted documents for the RFP and specifications page were asked to confirm that the documents were not draft and may be made publicly available. Upon receiving confirmation, the page will go live.

Managed the Aurora email list. This included changing the Illinois DOT representative and the alternate representative from the Michigan DOT.

Held an introductory call with the new representative from the Illinois DOT.

At the request of the FHWA Road Weather Management (RWM) Program Manager, provided a summary of Aurora accomplishments over the last ten years for inclusion in the national road weather summary for the FHWA International Programs office.

Participated in the "Weather Severity Index Working Group" meeting and provided Aurora updates. This working group was created as part of Aurora project "Ongoing Issues with Winter Weather Severity Indices".

Facilitated getting the membership invoice to the Utah DOT.

At request of Clear Roads, distributed survey supporting [CR 23-01 Development of a Public Service Announcement Library](#), seeking information on existing winter maintenance and operations Public Service Announcement (PSA) and future PSA topics of interest.

Addressed inquiries regarding Friends of Aurora from Climavision and SRF. Invited Climavision and Vue Robotics to make presentations at a monthly Aurora meeting. Introductory information regarding Climavision and SRF will be shared with the Board when received.

Addressed question from Friend of Aurora regarding possible Iowa representation at 2024 Severe Storms and Doppler Radar Conference.

Facilitate Meetings and Conference Calls:

A primary meeting-related activity this quarter was organizing the Spring 2024 Meeting in Boulder, Colorado, including preparing and updating the agenda (e.g. field trips, industry meetings, project updates, etc.), contracting with the venue and arranging member travel.

Hosted Board member 60-Minute monthly conference calls on the following dates and requested topics from Board.

January 11, 2024. Topics included Board leadership, spring meeting planning, ENTERPRISE Pooled Fund Study Project Idea "Documenting Current RWIS Technologies", idea solicitation, project kick-off meeting for "Standardized Framework for Winter Weather Road Condition Indices", RFP/specifications repository.

February 8, 2024. Topics included new representative from Illinois DOT, spring meeting, monthly meeting time, idea solicitation, Kansas DOT sensor observations, project discussion for CAV Road Weather Management (including WSP).

March 14, 2024. Topics included spring meeting, Nira workshop, idea solicitation, fall meeting, Friends of Aurora presentations (Vue Robotics, Climavision)

At request of a Board representative, and confirmation from Board, moved the monthly meeting time.

At the request of a Board representative, invited the vice chair of the relatively new Transportation Avalanche Research Pool Fund (TARP) to the April 2024 meeting. He is interested in how Aurora meetings are structured.

Continued investigating travel options, costs and possible venues for Fall 2024 meeting in Alaska.

As noted previously, reviewed financial details of on-site meetings in 2023.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

Processed travel requests for Spring 2024 meetings, including booking flights and coordinating on special travel circumstances.

Established contract with Spring 2024 meeting.

Project-Specific Activities:

Provided project team lists, addressed project invoices, coordinated kick off meetings.

Tracked project status and prepared a summary for recently completed and active projects.

Distributed quarterly reports to project teams and requested reports from researchers if/when not provided.

Reviewed and approved invoices and submitted to the Iowa DOT for payment.

2020-02 Roadway Ice/snow Detection using a Novel Infrared Thermography Technology [University of Utah]

- Publications edited draft project report, prepared t2 and shared with research team for final feedback.
- Followed up with researcher regarding report feedback and images.
- Published final report and t2.

2021-05 Optimal RWIS Sensor Density and Location Ph IV [University of Alberta]

2022-07 Evaluation of Spring Load Restriction Removal Protocols

- Publications edited draft project report and t2 and shared with research team. Research team provided feedback.
- Published final report and t2.
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2022-08 Integration of Connected Vehicle and RWIS Technologies [InTrans]

- Processed no cost extension.
- Distributed draft final white paper to project team.
- Shared team feedback with researcher.
- Distributed updated, draft final white paper (addressing feedback) to project team. We are currently waiting on feedback.

2022-10 Automating Variable Speed Limits Using Weather, Traffic, and Friction Data [NCAR, WTI, Rutgers]

- Distributed draft survey results "Variable Speed Limits and Weather"
- Coordinated with research team regarding plan for aforementioned survey with respect to project deliverables.

2023-01 Real User Friction for Winter Maintenance Operation and Evaluation [Nira Dynamics]

- At the request of Nira, InTrans met with Nira to discuss the project.
- Coordinated with Nira regarding final project presentation at Spring 2024 meeting, limited to only the research team.
- Addressed request for workshop in conjunction with Spring 2024 meeting. InTrans conveyed that the workshop would need to be an entirely separate event.

2023-03 Road Weather Management using Connected Vehicle technology [WSP]

- Distributed Task 1 Initial Research document.
- Coordinated with WSP regarding stakeholder meeting.
- The initial stakeholder meeting was held during a monthly Aurora meeting. The follow up may occur at the Spring 2024 meeting.

2023-02 An Intelligent Human-Centric Communication System for Adverse Weather and Road Conditions [University of Iowa]

2023-04 Standardized Framework for Winter Weather Road Condition Indices

- Held kick-off meeting during monthly meeting.
- Distributed survey to Aurora, Clear Roads and AASHTO representative.

Anticipated work next quarter:

Program Administrative Activities:

Continue Aurora website updates.

Manage budget.

Update the Aurora Charter, Work Plan and Associate Members, as needed.

Address requests, as needed.

Coordinate with Clear Roads regarding possible 2025 Peer Exchange.

Share idea interest results, facilitate request for full proposals and facilitate selection of projects at Spring 2024 meeting.

Facilitate Meetings and Conference Calls:

Continue monthly Board meeting calls to generate research ideas, discuss important issues and have vendor presentations.

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Continue preparing for Spring 2024 meeting and hold Spring 2024 meeting.

Schedule and host project meetings for existing and new projects.

Invite Friends of Aurora presentations during monthly meetings.

Plan for Fall 2024 conference, including investigating venues and anticipated meeting travel costs.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

Book flights for Spring 2024 meeting.

Process travel reimbursement requests.

Process meeting venue expenses.

Estimate anticipated Fall 2024 onsite meeting costs.

Project-Specific Activities:

Schedule and host project meetings for existing and new projects.

Track project status and timelines.

Request quarterly reports from research teams.

Distribute project materials/updates to project teams.

Maintain list of project champions and team members.

For all current projects:

- Facilitate project activities as needed.
- Continue to receive and distribute project updates.
- Coordinate updates, if necessary.
- Review invoices.
- Edit and publish pertinent final reports and t2.

2021-05 Optimal RWIS Sensor Density and Location Ph IV

- Hold final project meeting.
- Obtain draft final report and distribute it to project team for review.
- Have publications group edit draft project report and t2 and share with research team for feedback.

2022-10 Automating Variable Speed Limits Using Weather, Traffic, and Friction Data

- Track project progress.
- Hold project update during Spring 2024 meeting.

2022-08 Integration of Connected Vehicle and RWIS Technologies

- Track project progress.
- Schedule a project update meeting.
- Obtain draft final report and distribute it to project team for review.
- Have publications group edit draft project report and t2 and share with research team for feedback.

2023-01 Real User Friction for Winter Maintenance Operation and Evaluation [Nira Dynamics]

- Hold final project update during Spring 2024 meeting.

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2023-03 Road Weather Management using Connected Vehicle technology [WSP]

- Hold project update and stakeholder input during Spring 2024 meeting.
- Coordinate no cost extension.

2023-02 An Intelligent Human-Centric Communication System for Adverse Weather and Road Conditions [University of Iowa]

- Schedule project update meeting.

2023-04 Standardized Framework for Winter Weather Road Condition Indices [Iowa State University]

- Track progress.

Significant Results:

2024 idea solicitation, including development, distribution, addressing questions from researchers, organizing and archiving the submitted ideas (29 were submitted), preparing and distributing a Qualtrics idea interest survey form Aurora members.

Planned Spring 2024 meeting, including venue evaluation, selection and contracting and preparing agenda.

Investigated meeting expenses and available budget for research.

Continued monthly Board meeting calls.

Added to Friends of Aurora membership.

Began new projects.

Had two project reports published.

Circumstance affecting project or budget:

Recent meeting expenses.