

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: Quarter 1 (January 1 – March 31, 2024) Quarter 2 (April 1 – June 30, 2024) X Quarter 3 (July 1 – September 30, 2024) Quarter 4 (October 4 – December 31, 2024)	
Project Title: Aurora Program – Addendum 731			
Project Manager: Tina Greenfield		Phone: 515-233-7746	E-mail: tina.greenfield@dot.iowa.gov
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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: 12/31/2024		Number of Extensions:

Project schedule status:

☒ 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
\$2,425,000	\$1,754,038	

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$224,262	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:

Reviewed financial details particularly related to publication costs.

Managed the Aurora website, including updating news, events, current projects, completed projects, pictures and Friends of Aurora. An ongoing task is to finalize the RFP and specifications page.

Managed the Aurora email list. This included changing and updating representatives and alternates.

Addressed question from private vendor regarding distributing product costs to the Aurora Board.

Added LSM Analytics to Friends of Aurora (FOA) and shared information with the Board.

Added Nira Dynamics to FOA and shared information with the Board.

Prepared Aurora update for "National Winter Maintenance and Road Weather Briefing – 2024". This also included sitting in on the presentation with AASHTO and sharing the presentation with the Board.

Distributed information about Adaptive Route Optimization (ARO) webinar.

Addressed various funding and expenditure questions from California with assistance from the Iowa DOT.

Added Vizzion to FOA and shared information.

Prepared Aurora update presentation for FHWA RWMP Stakeholder meeting.

Distributed Skyline Nav AI Overview presentation and information to the Board following presentation at monthly meeting.

Attended (virtually) AKR40 Mid-Year meeting on behalf of Aurora.

Tracked commitments for new pooled fund cycle.

Facilitate Meetings and Conference Calls:

A primary meeting-related activity this quarter was organizing the Fall 2025 Meeting in Madison, Wisconsin. This included contracting with venue, preparing the agenda, arranging field trips and presentations, assisting with Board travel arrangements, reaching out to FOA, planning joint meeting with FOA, preparing FOA registration website and addressing questions by FOA.

Planning also continued for the Spring 2025 meeting in Anchorage, Alaska. This included evaluating several venues and meeting date options. A venue was selected, but because the next phase of the pooled fund is not yet active, a formal contract could not be initiated. However, the venue agreed to hold the dates (May 13 – 15, 2025) without a formal contract.

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

July 11, 2024. Topics included: Fall Meeting, Spring Meeting, New Pooled Fund Solicitation, Grant Opportunities, Project Updates, Friends of Aurora Update, Presentation by Daryl Herzmann (Iowa Environmental Mesonet)

August 9, 2024. Topics included: Fall Meeting (including draft agenda), Spring Meeting, 2024 National Briefing on Winter Maintenance and Road Weather, New Pooled Fund Solicitation, Distribution of Remaining Funds, Project Updates, Presentation by Justin Mahlberg (LSM Analytics, new FOA), Presentation by Kanwar Singh (Skyline Nav AI)

September 12, 2024. Topics included: Fall Meeting, New Aurora Pooled Fund Solicitation, Presentation by Vizzion (new FOA)

Shared monthly meeting invitation with alternate member state representatives.

Coordinated various project-related meetings.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:
Processed any remaining expenses for Spring 2024 meeting.

Arranged member travel for Fall 2024 meeting.

Project-Specific Activities:
Addressed project invoices, coordinated project-related meetings.

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

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.

Clarified/confirmed receipt of project deliverables with Iowa DOT.

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

- Received draft final report.
- Shared report with project team for review and feedback.
- Scheduled final project presentation for Fall 2024 meeting.
- Submitted project report to publication for review, editing and tech transfer creation. Formal publication is anticipated next quarter.

2022-08 Integration of Connected Vehicle and RWIS Technologies [InTrans]

- The project report was published last quarter.

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

- Project update was completed last quarter.

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

- Final report and tech transfer were published.
<https://aurora-program.org/research/completed/assessment-of-connected-vehicle-friction-measurement-data-on-dot-winter-maintenance-use-cases/>

TPF Program Standard Quarterly Reporting Format

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

- Submitted project report to publication for review, editing and tech transfer creation.
- Final report and tech transfer were published.
<https://aurora-program.org/research/completed/road-weather-management-using-connected-vehicle-technology/>

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

- Scheduled project update presentation for Fall 2024 meeting.

2023-04 Standardized Framework for Winter Weather Road Condition Indices

- Distributed Task 2 survey to project team for review and feedback.
- Addressed question from research team regarding CAV-based slip data
- Scheduled project update presentation for Fall 2024 meeting.

2024-01 Roadway Friction Forecasting using Stationary and Mobile Friction Data

- This project was selected during the Spring 2024 meeting.
- The contract with Iowa DOT was signed.
- Scheduled project kickoff meeting for Fall 2024 meeting.

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 2025 Peer Exchange.

Manage Friends of Aurora.

Distribute grant opportunities.

Finalize RFP and specifications webpage.

Facilitate Meetings and Conference Calls:

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

Hold Fall 2024 meeting.

Continue preparing for Spring 2025 meeting.

Schedule and host project meetings for existing and new projects.

Invite Friends of Aurora presentations during monthly meetings.

Coordinate with Clear Roads and AASHTO regarding 2025 Peer Exchange.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

Process travel reimbursement requests and venue expenses for Fall 2024 meeting, if needed.

Contract with Spring 2025 venue, when possible.

Project-Specific Activities:

Schedule and host project meetings for 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.
- Publish final report and t2.

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

- Track project progress.
- Hold project update meeting as necessary.
- Obtain draft final report.

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

- Project is complete.

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

- Project is complete.

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

- Track project progress.
- Hold project update meeting as necessary.

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

- Track project progress.
- Hold project update meeting as necessary.

2024-01 Roadway Friction Forecasting using Stationary and Mobile Friction Data [NCAR]

- Track project progress.
- Hold project update meeting as necessary.

Significant Results:

“2024-01 Roadway Friction Forecasting using Stationary and Mobile Friction Data” was under contract.

Finalized plans for Fall 2024 meeting, including joint meeting with FOA, and secured (unofficially) a venue for Spring 2025 meeting.

Investigated publication costs.

Continued monthly Board meeting calls.

Added to Friends of Aurora membership.

Published reports for two projects and received draft final report for one project.

Circumstance affecting project or budget:

Recent meeting and publication expenses.