

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, 2021) Quarter 2 (April 1 – June 30, 2021) X Quarter 3 (July 1 – September 30, 2021) Quarter 4 (October 4 – December 31, 2021)	
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: 12/31/2021	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
\$850,000	\$197,591.95	

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$44,041.81	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:

- Coordinated with states regarding new (or interim) Board representative. Melissa Clark replaced Steve Hancock (retired).
- Confirmed Alicia Stevens as Alaska's voting member.
- Managed Aurora email list. In some cases, states requested multiple individuals be included in Aurora-related correspondence.
- Continued tracking state commitments.
- Facilitated discussions via auroraboard@iastate.edu, including precipitation sensor specifications, equipment parts list and compatibility chart, etc.
- Collected and assimilated member submissions of equipment parts list and compatibility chart.
- Provided program management in terms of projects and program budgets.
- Updated Aurora website content.
- Addressed Friends of Aurora inquiry from Campbell Scientific, Inc.
- Prepared Aurora update presentation for SICOP Annual meeting (July 8, 2021).
- Attended (virtually) TRB Road Weather Committee Meeting (July 28, 2021).
- Prepared Aurora update presentation for Road Weather Stakeholder Meeting (August 4-5, 2021).
- Attended (virtually) Road Weather Stakeholder Meeting (August 4-5, 2021).
- Coordinated regarding future eNews, including timing, content and mailing list. [Aurora eNews Summer 2021](#) was distributed on September 13, 2021.
- Per request from Wisconsin, provided Friends of Aurora list.
- Per request from Arizona, provided information on RWIS station counts for Iowa and Minnesota.
- Per request from Alaska, coordinated with Iowa DOT to address change of contact on pooledfund@iengineering.com.
- Per request from SOH Wind Engineering, solicited input from Aurora regarding roadside wind measuring equipment (anemometer) calibrations.
- Per request from Illinois, shared information about possible contacts for a mobile RWIS questionnaire.
- Spring 2021 project selection
 - Based on project voting, solicited clarification from top vote getters and shared with the Board for re-voting.
 - Facilitated re-voting, including tallying.
 - Projects selected for funding included:
 - Automated Winter Road Surface Condition Monitoring and Estimation using RWIS and Fleet Dash Cameras - Optimal RWIS Sensor Density and Location - Phase IV (University of Alberta)
 - Automated Extraction of Weather Variables from Imagery (NCAR)
 - Coordinated researchers of selected project to prepare and submit formal proposal and budget.
- Regarding the previously approved project idea of "Integration of Connected Vehicle and RWIS Technologies".

- Prepared request for proposal for a white paper.
- Prepared list of qualified researchers. This list is still a work in progress, given changes in employment.
- Updated Friends of Aurora list.
- Planned Fall 2021 meeting. (See Facilitate Meetings and Conference Calls)

Facilitate Meetings and Conference Calls:

- Held virtual meeting with new California representative, Melissa Clark, on September 22, 2021 to introduce her to Aurora and address her questions.
- Facilitated or participated in all project-related meetings, including:
 - Aurora Roadway Friction Modeling Project - Friction Results – August 10, 2021.
- Planning the fall meeting, including:
 - Identifying available dates
 - Nature of meeting, e.g. in-person, virtual, hybrid, given Board input. Multiple iterations occurred.
 - Venue selection and contract negotiations, including addressing changes in anticipated in-person attendance.
 - Agenda preparation, including lining of speakers and possible field trips
 - Arranging travel for Board members attending in-person, including utilizing flight credits from the spring 2020 meeting that went entirely virtual.
 - Coordination with SICOP representative
 - Hosted Board member 60-Minute monthly conference calls on the following dates.
 - July 8, 2021
 - Project Idea Update
 - Project Update
 - Other Action Items - Aurora Storm Simulator, Fall Meeting
 - August 12, 2021
 - Project Ideas – Top 3 & Outstanding Votes
 - Fall Meeting
 - Project Updates
 - Other Action Items - Aurora Storm Simulator
 - September 9, 2021
 - Questionnaire: Evaluating the Benefits of Implementing Mobile Road Weather Information Sensors
 - Fall Meeting
 - Project Teams
 - Project Update
 - Anemometer Calibration – Current Practices
 - RWIS Equipment Parts List and Compatibility Chart
 - Other Action Items

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

- Arranged travel for Board members attending Fall 2021 in-person, including utilizing flight credits from the spring 2020 meeting that went entirely virtual.
- Selected venue for Fall 2021 meeting and negotiated contract.

Project-Specific Activities:

- Tracked project status and prepared a summary for recently completed and active projects.
- Distributed quarterly reports and invoices for project team approval.
- Upon approval, submitted invoices to the Iowa DOT for payment.
- 2020-02 “Roadway Ice/snow Detection using a Novel Infrared Thermography Technology”.
TPF Program Standard Quarterly Reporting Format

- Distributed quarterly report to project team.
- 2020-03 Roadway Friction Modeling
 - Obtained revised budget, scope and timeline.
 - Per Board request, solicited clarification on two overdue task items.
 - Distributed quarterly reports and invoices.
 - Scheduled and facilitated Friction Results meeting on August 10, 2021.

Anticipated work next quarter:

Program Administrative Activities:

- Continue Aurora website updates.
- Manage budget.
- Track new solicitation contributions.
- Update the Aurora Charter, Work Plan and Associate Members, as needed.
- Request formal project proposals upon project idea re-voting results.
- Finalize vendor list and distribute RFP for “Integration of Connected Vehicle and RWIS Technologies”.

Facilitate Meetings and Conference Calls:

- Continue monthly Board meeting calls to generate research ideas, discuss important issues and have vendor presentations.
- Finalize Fall 2021 meeting plans
- Hold Fall 2021 meeting

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

- Process travel reimbursement and meeting expenses associated with the Fall 2021 meeting.

Project-Specific Activities:

- Track project status and timelines.
- Request quarterly reports from research teams.
- Distribute project materials/updates and invoices (for approval) to project teams.
- Schedule and host project meetings.
- Maintain list of project champions and team members.
- 2020-02 “Roadway Ice/snow Detection using a Novel Infrared Thermography Technology”.
 - Continue to receive and distribute project updates.
 - Coordinate updates, if necessary.
- 2020-03 Roadway Friction Modeling
 - Facilitate project activities as needed.
 - Coordinate updates, if necessary.
- Get new projects under contract and hold kick-off meetings.

Significant Results:

- Planned Fall 2021 meeting.
- Continued monthly Board meeting calls.

- Communicated with new Aurora representatives.
- Facilitated selection of projects for 2021 funding.
- Obtained and distributed project ideas.
- Held several project-related meetings.
- Prepared and distributed [Aurora eNews Summer 2021](#).

Circumstance affecting project or budget: