

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(290)	Transportation Pooled Fund Program - Report Period: Quarter 1 (January 1 – March 31, 2019) Quarter 2 (April 1 – June 30, 2019) ✕ Quarter 3 (July 1 – September 30, 2019) ✕ Quarter 4 (October 1 – December 31, 2019)	
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: RT 0034	Other Project ID (i.e., contract #): Addendum 156	Project Start Date: January 1, 2013
Original Project End Date: May 31, 2019	Current Project End Date: – December 31, 2019	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
\$2,150,000	\$839,281.71	

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$71,720.42	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:

- Addressed all board correspondence, administrative items resulting from the Fall 2019 meeting.
- Provided program management in terms of projects and program budgets.
- Planned the Fall 2019 pre-meeting (including financial and contract) and meeting details.
- Began planning Spring 2020 meeting.
- Participated in planning calls for the 2020 International Road Weather and Winter Maintenance Conference.
- Communicated with agencies regarding Aurora membership and information, including Nebraska, Nevada.
- Communicated with existing agencies regarding Aurora membership. Delaware will not participate in 2020.
- Coordinated with states regarding new (or interim) Board representatives, including Maine, Alaska, Colorado and Washington.
- Maine became an Aurora member.
- Facilitated review and voting of proposed project, "Invasive and Non-Invasive Sensing: Assessing Agreement between Measurement Systems"
- Shared information regarding the Aurora Pooled Fund regarding budget, accomplishments, projects, etc. This information was used by agencies to justify continued participation.
- Provided quarterly project reports upon request.
- Managed Aurora Board email list.
- Coordinated with Iowa DOT SPR Research Engineer regarding state participation in the new pooled fund, TPF-5(435).
- Participated in conference call with CIMA+ (new FOA member) and distributed company information to Board.
- Renewed the aurora-program.org domain.
- Updated website content and continued working on protected content access.
- Submitted proposal to Iowa DOT for 2020 administrative support.
- Provided a description of Aurora for SICOP, specifically <https://sicop.transportation.org/roster-of-agencies/>

Facilitate Meetings and Conference Calls:

- Held Fall 2019 meeting on October 8 – 10 at Embassy Suites Downtown Convention Center, Tampa, FL.
- Facilitated discussions via auroraboard@iastate.edu.
- Hosted Board member 60-Minute monthly conference calls on:
 - October 10 – no call due to Fall 2019 meeting.
 - November 14 - (Fall Board Mtg, Research Updates, New Projects)
 - December 12 – no call, as agreed during November call

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

- Processed Fall 2019 meeting reimbursements.
- Paid all Fall 2019 meeting hotel-related expenses.

Project-Specific Activities:

- Tracked project status and prepared a summary for recently completed, active, and all prospective new projects.
- 2018-01 RWIS Life Cycle Cost Analysis
 - Distributed invoices to project team for review and approval.
 - Initiated a no cost extension (3/31/2020).
 - Distributed draft Task 3 and 4 memos for review.
- 2018-02 Non-Invasive Sensors
 - Coordinated with procurement agent.
 - Addressed issues regarding equipment costs, including negotiating cost through the procurement agent, and additional equipment needs, e.g. RPUs.
 - Finalized RPU quantities.
 - Investigated pole needs and requested information and quotes.
 - Finalized pole quantities.
 - Tracked distribution of equipment.
 - Initiated project to update firmware. Specifically, Ice Sight is a road condition sensor. High Sierra is the vendor. Such sensors require a remote processing unit (RPU). Several vendors manufacture RPUs, but not all RPUs can work with data from all sensors (or vendor specific sensors). The objective of this project is to write a firmware update that will allow the Lufft unit can work with the High Sierra sensor. This is a preferred solution for some states, as they may have an existing network of Lufft units and may be limited to which they may use. This represents an alternative to purchasing a High Sierra RPU for each Ice Sight sensor at a cost of ~\$5,000 each. The firmware update is applicable/transferable to anyone with an Ice Sight sensor and Lufft unit.
- 2016-03 Optimal RWIS Sensor Density and Location – Phase II
 - Initiated a no cost extension.
 - Facilitated final project update webinar on November 6, 2019.
 - Distributed draft report for review.
- 2014-01 Demonstration and Inter-comparison of Seasonal Weight Restriction Models, Phase II
 - Obtained a new scope of work and budget for FROST Associates.
 - Facilitated project call on November 14, 2019.
 - Initiated a new contract with FROST Associates.
- Pending projects.
 - Economic Impacts of Atmospheric Rivers in the Transportation Sector: Methodology and Preliminary Case Studies
 - Initiated contracting.
 - Optimal RWIS Sensor Density and Location - Phase III: Continuous Mapping of Winter Road Surface Conditions via Big Data and Deep Learning
 - Initiated contracting.
- Roadway Ice/snow Detection Using a Novel Infrared Thermography Technology
 - Distributed draft proposal and budget.
 - Obtained votes from Board regarding funding in 2020. The proposed project was ultimately approved for funding.
- Continued work associated with assuming control and management of the RWIS training tool (<http://aurorabase.iteris.com/login/?destination=/>), including monthly billing.

Anticipated work next quarter:

Program Administrative Activities:

- Continue planning Spring 2020 meeting, including finalizing venue.
- Continue Aurora website updates.
- Follow up with states, about possible membership.
- Manage budget.
- Track new solicitation contributions.
- Participate in planning calls for 2020 International Road weather and Winter Maintenance Conference & Peer Exchange.

Facilitate Meetings and Conference Calls:

- Continue monthly Board meeting calls to generate research ideas and discuss important issues.
- Facilitate project correspondence and status reports.
- Continue planning efforts for the Spring 2020 meeting.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:

- Begin scheduling Board member flights for Spring 2020 meeting.

Project-Specific Activities:

- Pending new projects being under contract, schedule kickoff meetings.
- Process invoices for “Invasive and Non-Invasive Sensing: Assessing Agreement between Measurement Systems”.
- Expand list of prospective projects and develop scopes of work.
- Project updates for each project and research team.
- Track project status with champions and team members.
- Track project timelines and distribute project materials.

Significant Results:

- Held Fall 2019 meeting in Tampa, Florida
- Processed all Board member reimbursements for Fall 2019 travel expenses.
- Paid all hotel-related expenses associated with the Fall 2019 meeting.
- Provided Fall 2019 meeting minutes.
- Continued monthly Board meeting calls.
- Initiated no cost extensions on “RWIS Life Cycle Cost Analysis” and “RWIS Sensor Density and Location, Phase 2”.
- Initiated new contract for “Seasonal Weight Restrictions Demonstration, Phase 2”.
- Distributed “RWIS Life Cycle Cost Analysis” Task 3 and 4 draft memos for review.
- Distributed “RWIS Sensor Density and Location, Phase 2” draft report for review.
- Continued “Invasive and Non-Invasive Sensing: Assessing Agreement between Measurement Systems” project, including non-invasive sensor and ancillary equipment procurement as well as funding of a firmware update.
- Obtained Board approval to fund an additional project “Roadway Ice/snow Detection Using a Novel Infrared Thermography Technology” in 2020.
- Communicated with potential members.

Circumstance affecting project or budget:

TPF Program Standard Quarterly Reporting Format

