### 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.

<table>
<thead>
<tr>
<th>Transportation Pooled Fund Program Project #</th>
<th>Transportation Pooled Fund Program - Report Period:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPR-3(042)</td>
<td>Quarter 1 (January 1 – March 31, 2014)</td>
</tr>
<tr>
<td></td>
<td>Quarter 2 (April 1, 2013 – June 30, 2014)</td>
</tr>
<tr>
<td></td>
<td>X Quarter 3 (July 1 – September 30, 2014)</td>
</tr>
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<td></td>
<td>Quarter 4 (October 1 – December 31, 2014)</td>
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<table>
<thead>
<tr>
<th>Project Title: Aurora Program</th>
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<tr>
<th>Project Manager: Tina Greenfield</th>
<th>Phone: 515-233-7746</th>
<th>E-mail: <a href="mailto:tina.greenfield@dot.iowa.gov">tina.greenfield@dot.iowa.gov</a></th>
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<tr>
<th>Project Investigator: Neal Hawkins</th>
<th>Phone: 515-294-7733</th>
<th>E-mail: <a href="mailto:hawkins@iastate.edu">hawkins@iastate.edu</a></th>
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<thead>
<tr>
<th>Lead Agency Project ID:</th>
<th>Other Project ID (i.e., contract #):</th>
<th>Project Start Date:</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1996 - Ongoing Pooled Fund</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Original Project End Date:</th>
<th>Current Project End Date:</th>
<th>Number of Extensions:</th>
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<tbody>
<tr>
<td>Ongoing Pooled Fund</td>
<td>Ongoing</td>
<td></td>
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**Project schedule status:**

- X On schedule
- □ On revised schedule
- □ Ahead of schedule
- □ Behind schedule

**Overall Project Statistics:**

<table>
<thead>
<tr>
<th>Total Project Budget</th>
<th>Total Cost to Date for Project</th>
<th>Total Percentage of Work Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,711,314</td>
<td>$4,446,358</td>
<td>Ongoing Pooled Fund</td>
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</table>

**Quarterly Project Statistics:**

<table>
<thead>
<tr>
<th>Total Project Expenses This Quarter</th>
<th>Total Amount of Funds Expended This Quarter</th>
<th>Percentage of Work Completed This Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15,372</td>
<td>N/A</td>
<td>Ongoing Pooled Fund</td>
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</table>
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.):

Program Administrative Activities:
- Closed out accounting for the 2013 national winter maintenance peer exchange.
- Worked out final details of program financial records, both income and expenditures from 1997-2013 or SPR-3(042)
- Forwarded and responded to various emails and miscellaneous requests to board members, FHWA, and others.
- Maintained and updated the RWIS Knowledge Base website and the program website.

Facilitate Meetings and Conference Calls:
- Facilitated ongoing project updates, tracked progress on project schedules, and facilitated several correspondences.
- Facilitated the August board web meeting and project discussions.
- Drafted minutes for board call and meeting.
- Made final arrangements for the fall meeting in New York.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:
- Coordinated travel plans for the New York meeting.
- Finalized contract with the hotel in Ithaca, New York coordinated events.

Project-Specific Activities:
- Updated several project status reports and summarized them for the board meetings and the pooled fund website quarterly report.
- Communicated with project teams concerning project schedules, deadlines, and progress.
- Distributed various project materials for ongoing projects.

Outreach and Membership:
- Worked with members to update the TPF website and payment records.
- Discussed new potential membership with board and invited a few new agencies to the fall on-site meeting, including Nevada.

Anticipated work next quarter:

Program Administrative Activities:
- Develop meeting and call agendas for November web meeting and upcoming spring meeting.
- Facilitate administrative and project calls as needed.
- Update the main program website and maintain the new RWIS Knowledge Base website.
- Distribute specific Aurora project documents to the board and individual project team members.
- Continue to rectify financial information with Iowa DOT and prepare for close-out.

Facilitate Meetings and Conference Calls:
- Facilitate and document web meetings.
- Facilitate project correspondence and status reports.
- Produce materials and presentations for the on-site meeting and calls.

Processing Travel Requests, Travel Reimbursements, and Meeting Expenses:
- Coordinate reimbursements for October 2014 meeting in New York.
Project-Specific Activities:
- Facilitate discussions with each research project team.
- Track project status with champions and team members.
- Track project timelines and distribute project materials.
- Update project status reports.

Outreach and Membership:
- Review membership status and contact SP&R representatives from member agencies when necessary.
- Draft fall e-news content.

Significant Results:

To date, 57 research projects have been completed. Good progress has been made on several on-going research efforts in the past quarter. All ongoing projects will also be reviewed to maintain funding during the last on-site meeting.

Circumstance affecting project or budget:

A project status report detailing individual Aurora research efforts is available. These ongoing research projects are:

- 2007-01: RWIS Equipment Monitoring System, Phase 2 ($135,000) = discontinued
- 2007-04: Development of a Freezing Drizzle Algorithm ($85,000) = completed
- 2007-05: Multiple-Use ITS Data Collection Sites ($15,000) = completed
- 2008-01: National Road Weather Testing Program ($5,000) = completed
- 2008-03: MDSS Demonstration in Ontario ($25,000 in-kind) = completed
- 2009-01: Summary and Comparison of Sensors ($5,000) = 95% complete
- 2009-04: Road Weather Education Enhancements ($20,000) = completed
- 2009-05: Further Development of PPAES ($83,000) = completed
- 2010-01: Enhancements of AI/RWIS CBT ($50,000) = completed
- 2010-02: Mobile-Weather Data Collection Guidelines ($5,000) = completed
- 2010-03: Development of Models for Standards ($120,000) = 95% complete
- 2010-04: RWIS Sensor Density Grid ($100,000) = 55% complete
- 2010-05: Determining RPU and Sensor Failure ($5,000) = discontinued
- 2011-02: RWIS Training Tool ($265,000) = 30% complete
- 2011-03: Instruction for Migrating to Open RWIS ($5,000) = completed
- 2011-04: Study of MDSS Costs ($5,000) = completed
- 2011-05: Funding Sources Identification ($5,000) = completed
- 2012-01: Validate Accuracy of Pavement Predictions, Phase 1 ($30,000) = 5% complete
- 2012-02: Winter Severity Index, Phase 2 ($5,000) = completed
- 2012-03: Cameras and Operational Impacts of Remote Conditions ($25,000) = completed
- 2012-04: Communicating and Publicizing Info ($30,000) = 5% complete
- 2012-05: Seasonal Weight Restrictions Demo, Phase 1 ($80,000) = 20% complete
- 2013-01: Fourth Peer Exchange ($35,000) = completed
- 2013-02: Transition of Clarus to MADIS ($5,000 pending available funds) = 80% complete
- 2013-03: Improving Estimations of Traffic Speeds for Performance ($130,000) = 5% complete
- 2013-04: Quantifying Salt Concentration, Phase 1 ($35,000) = 10% complete
- 2013-05: Knowledge Base Management/Marketing ($10,000 pending available funds) = 10% complete
- 2013-06: Make Winter Severity Index Available to All ($30,000) = 55% complete
- 2014-01: Seasonal Weight Restrictions Demo, Phase 2 ($200,000) = 0% complete
- 2014-02: Quantifying Salt Concentration, Phase 2 ($115,000) = 0% complete
- 2014-03: Validate Accuracy of Pavement Predictions, Phase 2 ($105,000) = 0% complete