NTC Program Progress Performance Report (PPPR) Information Form

For P.I.’s Use

On a semi-annual basis the NTC sponsored P.I. must report Program Progress Performance Report (PPPR) using the format specified in this PPPR Information Form. The form must be submitted electronically to the corresponding NTC Associate Director by 9/16/2016.

Cover Period: 4/01/2016 – 9/30/2016

<table>
<thead>
<tr>
<th>NTC Funded Project Information (Round/Year 2, 2015-2016)</th>
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<tbody>
<tr>
<td><strong>University Name</strong></td>
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<tr>
<td><strong>Project Title</strong></td>
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<tr>
<td><strong>Principal Investigator</strong></td>
</tr>
<tr>
<td><strong>PI Contact Information</strong></td>
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The form includes the following six parts:

- Part I – Accomplishments: What was done? What was learned?
- Part II – Products: What has the program produced?
- Part III – Participants & Collaborating Organizations: Who has been involved?
- Part IV – Impact: What is the impact of the program? How has it contributed to transportation education, research and technology transfer?
- Part V – Changes/Problems

*Supplementary documents/materials can be attached to this form with the submission.*
Part I – Accomplishments: What was done? What was learned?

The information provided in this section allows the OST-R grants official to assess whether satisfactory progress has been made during the reporting period.

<table>
<thead>
<tr>
<th>Reporting Period</th>
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1. What are the major goals of the program?

The National UTC aims to promote strategic transportation policies, investment, and decisions that bring lasting and equitable economic benefits to the U.S. and its citizens. The Center is concerned with the integrated operations and planning of all modes serving the nation’s passenger and freight transportation system, including the institutional issues associated with their management and investments. A balanced multi-modal approach will be used that considers freight and passenger travel mobility, reliability, and sustainability, as well as system operations during periods of both recurring and non-recurring incidents, including response to major emergencies. The modes in this theme include highway, transit, rail, and inter-modal interfaces including ports, terminals and airports. In particular, the center focuses on research, education, and technology transfer activities that can lead to (1) Freight efficiency for domestic shipping and for our international land, air, and sea ports; (2) Highway congestion mitigation with multi-modal strategies; and (3) Smart investments in intercity passenger travel facilities such as high speed rail. Major center activities are as following:

- **Advanced & Applied Research Promoting Economic Competitiveness:**
  Our research activities are multimodal/intermodal and multidisciplinary in scope, with the aims of addressing nationally and regionally significant transportation issues pertinent to economic competitiveness and providing practice-ready solutions.

- **Education, Workforce Development, Technology Transfer, & Diversity**
  The consortium is committed to providing high-quality transportation education and workforce development programs for a broad and diverse audience. Center’s efforts will support the development of a critical transportation knowledge base and a transportation workforce that is prepared to design, deploy, operate, and maintain the complex transportation systems of the future.
2. What was accomplished under these goals?

- The following research efforts were accomplished
  - Continued to select Study Locations for NC and Louisiana
  - Assemble Crash Rate Data for Study Locations
  - Assemble Existing and Collect New Probe Based Data
  - Assemble Archived Triangle Area Side Fire Radar Data
  - Identify High Acceleration and High Jerk Locations from Probe Data
  - Apply GHR Macroscopic Model to Side-Fire Radar Data and Derive the Resulting Reaction Time
  - Evaluate Correlation Between Crash Rates, Acceleration, and Reaction Time
  - Compare Crash Rate Prediction using Microscopic Data Analysis and Macroscopic Reaction Time Estimation with Highway Safety Manual Predictions
  - Develop Recommendations for Application and Further Research

3. How have the results been disseminated?

- No results were disseminated during the reporting period.

4. What do you plan to do during the next reporting period to accomplish the goals? (10/1/2014 – 3/10/2016)

- Research will continue to completion on the tasks described above
- The project final report will be completed
### Part II – Products: What has the program produced?

Publications are the characteristic product of research projects funded by the UTC Program. OST-R may evaluate what the publications demonstrate about the excellence and significance of the research and the efficacy with which the results are being communicated to colleagues, potential users, and the public, not the number of publications. Many research projects (though not all) develop significant products other than publications. OST-R may assess and report both publications and other products to Congress, communities of interest, and the public.

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<tr>
<td>1. Journal publications:</td>
<td>No peer reviewed journal papers were submitted or published during the reporting period.</td>
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<tr>
<td>2. Books or other non-periodical, one-time publications</td>
<td>No books or other non-periodical, one-time publications were submitted or published during the reporting period.</td>
</tr>
<tr>
<td>3. Other publications, conference papers and presentations</td>
<td>No other publications, conference papers and presentations were submitted, published or presented during the reporting period.</td>
</tr>
<tr>
<td>4. Website(s) or other Internet site(s)</td>
<td>No web site is planned for the project.</td>
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<tr>
<td>5. Technologies or techniques</td>
<td>No technologies or techniques that have yet resulted from the research activities.</td>
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<tr>
<td>6. Outreach activities</td>
<td>No outreach activities were conducted during the reporting period.</td>
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<td>7. Courses and workshops</td>
<td>No courses or workshops were held during the reporting period.</td>
</tr>
<tr>
<td>8. Inventions, patent applications, and/or licenses</td>
<td>No inventions, patent applications, and/or licenses were developed or applied for during the reporting period.</td>
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<td>9. Other products</td>
<td>No other products were developed during the reporting period.</td>
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<tr>
<td><strong>1. What organizations have been involved as partners?</strong></td>
<td>No partner organizations have been involved in the project.</td>
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<tr>
<td><strong>2. Have other collaborators or contacts been involved?</strong></td>
<td>No other collaborators or contacts were involved during the reporting period.</td>
</tr>
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**Part IV – Impact: What is the impact of the program? How has it contributed to transportation education, research and technology transfer?**

DOT uses this information to assess how the research and education programs:

- increase the body of knowledge and techniques;
- enlarge the pool of people trained to develop that knowledge and techniques or
- put it to use; and,
- improve the physical, institutional, and information resources that enable those people to get their training and perform their functions.

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<tr>
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<tr>
<td>1. What is the impact on the development of the principal discipline(s) of the program?</td>
<td>Too early to report on impact to the principal discipline.</td>
</tr>
<tr>
<td>2. What is the impact on other disciplines?</td>
<td>Too early to report on impact to other disciplines.</td>
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<tr>
<td>3. What is the impact on the development of transportation workforce development?</td>
<td>Too early to report on impact on the development of transportation workforce.</td>
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<td>4. What is the impact on physical, institutional, and information resources at the university or other partner institutions?</td>
<td>Too early to report on impact on physical, institutional, and information resources at the university or other partner institutions.</td>
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<tr>
<td>5. What is the impact on technology transfer?</td>
<td>Too early to report on impact on technology transfer.</td>
</tr>
<tr>
<td>6. What is the impact on society beyond science and technology?</td>
<td>Too early to report on impact on society beyond science and technology.</td>
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<tr>
<td>7. Additional impacts</td>
<td>No additional impact to report at this time.</td>
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</table>
### Part V – Changes/Problems

If not previously reported in writing to OST-R through other mechanisms, provide the following additional information or state, “Nothing to Report, if applicable:

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<td><strong>2. Actual or anticipated problems or delays and actions or plans to resolve them</strong></td>
<td>The high resolution data proved to be more challenging than anticipated in terms of data reduction and correlation with other data sources. Therefore, the project team has determined that an extension in the project performance period is needed. The project PI’s will request an extension through August 15, 2016.</td>
</tr>
<tr>
<td><strong>3. Changes that have a significant impact on expenditures</strong></td>
<td>Nothing to Report.</td>
</tr>
<tr>
<td><strong>4. Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards</strong></td>
<td>Nothing to Report.</td>
</tr>
<tr>
<td><strong>5. Change of primary performance site location from that originally proposed</strong></td>
<td>Nothing to Report.</td>
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</table>