The Michigan Mobility Transformation Center (MTC) is a public/private partnership that will build and operate a new system of mobility and, by 2022, prove its commercial viability. MTC is launching three pillar projects: Connected Ann Arbor, Connected Southeastern Michigan, and Automated Ann Arbor. A PowerPoint file introducing the scope of the MTC projects can be found here: https://drive.google.com/a/umich.edu/file/d/0B8hDw1J31GUOOFBBeFJGMmUzcjg/view?usp=sharing. These three pillars will ensure the University of Michigan creates and maintains world-leading research capabilities, technologies, policies, platforms and living laboratories for vehicle connectivity and automation serving society’s needs for the movement of people and freight.

Key MTC resources include (i) the Mobility Transformation Facility designed to enable connected and automated vehicle research and development to be commissioned around July 2015; and (ii) Collections of field naturalistic driving data. Overall funding for MTC’s activities is coming from industry and government sources, as well as direct investment by a range of U-M units. MTC has created a Leadership Circle, with fourteen founding members who have pledged financial support, including MTC’s development of the three pillar projects, and the conduct of a pooled research program. This RFP, the second released by MTC, is therefore funded in large part by the membership fees from the LC companies. Projects selected for this RFP are expected to develop key mobility system concepts and technologies that support the goals, and leverage the resources, of MTC. The project PIs are encouraged to work closely with researchers from these LC companies to develop their research project concept, and during the execution of the projects.

**MTC Research Topics**

MTC will consider a wide array of research topics, including but not limited to

- Automation
- Business models
- Congestion management and reduction
- Connectivity
- Cybersecurity
- Data Analytics
- Energy
More specifically, the LC members of MTC have indicated that the following areas are of highest value to them:

For **Connected Vehicles/Infrastructure**: Day one value, Supporting infrastructure, and Public-private business model.

For **Automated Vehicles**: Robust technology, Liability, and Customer acceptance.

For **Cross-cutting areas**: Cybersecurity, Data analytics, Consumer behavior, Standards and infrastructure design.

The following are research questions that are of high interest to the founding member companies of MTC’s Leadership Circle:

- What applications beyond safety bring day one value to the road users and stakeholders?
- Reliable measure to quantify the benefits and acceptance of vehicle connectivity
- What is the business model of infrastructure deployment?
- How will a full scale Security Credential Management System (SCMS) function?
- How do we certify new and additional connected and automated vehicle applications and hardware?
- What role does the built infrastructure play in a connected and automated environment and specifically what upgrades or updates would be required?
- The capabilities of cloud and non-cloud enabled automation.
- What specific value does V2X bring to an automated vehicle?
- What are the specific cybersecurity risks/needs of automated vehicles and the infrastructure?
- What any changes if any are required to our legal system to maximize the value to connected and automated vehicles?
- How will fault be assessed in Automated Vehicle (AV) crashes?
- Review of existing standards, efforts and gaps in automated and connected vehicles.
Program Structure

• MTC strongly encourages proposals to be led by multiple University of Michigan PIs, and ideally from multiple units (departments and research groups). Both Tenured/Tenure track faculty and research faculty (research scientists and research professors) are eligible to apply.

• The proposal must include clear elaboration on how the research activities support one or more MTC pillars, address one or more of the LC’s high-priority research questions (see above) and/or MTC’s research goals, and how the team plans to leverage MTC resources.

• Teams are encouraged, but not required, to include non-university participants, especially researchers from the LC companies. However, funds will be dispersed only to Michigan faculty.

• Projects with total funding up to $200,000 will be considered.

• Projects are encouraged to request MTF usage time, at no direct cost to the project.

• Projects with a final demonstration phase to showcase the research results are highly encouraged.

Total funding available for this round of competition is about $1.6M.

Proposal Evaluation

The proposals will be reviewed and evaluated by MTC faculty council members and selected additional reviewers. The review criteria include:

• Rigor and innovation of the proposed research.
• How well the project supports and complements the vision, deployment pillars and leading research questions of MTC.
• Quality of the proposing team, including external partners.
• Potential for external funding.

Proposal Deadlines

Proposals for this round of funding are due January 31st, 2015. The decision is expected to be made before March 10 for start date as early as May 1.

Proposal Structure
• **Coversheet**: obtain signatures on the attached coversheet and include as the first component of the PDF file

• **Project Summary**: follow the format shown on page 5 of this document

• **Proposal narrative**:
  - **Introduction**: no more than 1 page
  - **Technical approach**: no more than 4 pages
  - **Key innovation and relevance to MTC pillars**: no more than 1 page
  - **Plan for collaboration and attracting external funding**: no more than 1 page

• **Itemized Budget and budget justification**: no more than 2 pages total

• **Short bios of the PIs**: no more than 2 pages for each member

Please send your proposal in the form of a single PDF file to Vicki Waters at (watersvg@umich.edu).
## Project Summary (1 page)

<table>
<thead>
<tr>
<th>Project Title</th>
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<tbody>
<tr>
<td>Principa l Investigators (List 2)</td>
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<tr>
<td>Most relevant MTC research thrusts (choose all applicable)</td>
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- [ ] Connected vehicles and infrastructure
- [ ] Automated vehicles
- [ ] Cross-cutting technology (e.g., Cybersecurity, data analytics)
- [ ] Cross-cutting non-technology (e.g., Social, Policy, Legal, urban planning, business model)
- [ ] MTC pillar development

| Total budget |  |
| Project start/end dates |  |
| Objectives |  |
| Approach |  |
| Main project outcome |  |