CM² Cooperative Mobility for Competitive Megaregions	**UTC Project Information – Cooperative Mobility for Competitive Megaregions (CM²)**
Project Title	Assessing Electric Vehicle's Impact on Megaregion Expansion: Spatial Analysis of Beijing's Metropolitan Growth Based on Mobility Data
University	University of Pennsylvania
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Funding Source(s) and Amounts Provided (by each agency or organization)	U.S. Department of Transportation: $30,000 University of Pennsylvania (match): 27,564 Other (match):
Total Project Cost	$57,564
Agency ID or Contract Number	
Start and End Dates	2/1/2021-7/30/2022
Brief Description of Research Project	Electric vehicles (EVs) have been growing in large metropolises across the world, with fundamental impacts on the spatial structure of megaregions. The purpose of this research is to examine how EV mobility influences urbanization as well as the network of metropolitan transportation. This macro-scale question has to do with the micro-scale changes of urban physical environment associated with people's travel patterns and lifestyles. One important dimension of it links to the estimation of EV demand of charging infrastructure. We propose a novel data-driven method to map the spatial-temporal patterns of EVs drivers' trips and their charging demands. This integrated GIS-based approach allows us to quantify the attributes of driver behaviors from spatial and temporal dimensions, and to examine their impacts on transformation of urban forms, with ultimate goal to inform city planners in their decisions about PCS deployment in a metropolitan region. This research aims to fill the gaps by quantifying and connecting multiple elements in this dynamic and reveal the way in which the emerging patterns of EV mobility, driven by emerging transportation technologies, influences the choices of travel mode, supports the global transition toward clean-energy transportation, and achieves sustainable metropolitan transportation network.

Describe Implementation of Research Outcomes (or why not implemented)	Project has not begun yet, so no implementation.
Impacts/Benefits of Implementation (actual, not anticipated)	Project has not begun yet, so no impacts have been realized.
Web Links (to reports, project website, etc.)	