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Project Information Form

Project Title:	Assessing the Feasibility of Autonomous Transit Vehicles as a First/Last Mile Public Transportation Solution
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Funding Source(s) and Amounts Provided (by each agency or organization):	U.S. Department of Transportation (USDOT)
Total Project Cost:	
Agency ID or Contract Number:	
Start and End Dates:	
Brief Description of Research Project:	Using Atlanta's MARTA rail system as a case study, this thesis will assess the feasibility of integrating autonomous transit vehicles (transit AVs) into the public transportation system as a first-mile and last-mile solution for riders. Numerous field-proven transit AVs are already on the market. The Navya Arma and Local Motors Olli are two such examples. These electric vehicles carry 8-15 people, operate at speeds up to 25 mph, and can run for 12-13 hours on a single charge. Their capabilities will only improve as technology advances. This thesis will examine a scenario in which a handful of transit AVs are based at each rail station and programmed to serve a 2-mile radius around the station. Riders within the service area would be able to summon the vehicles via a smartphone app. The AVs would pick-up and deliver passengers to or from the rail station, providing convenience and climate control but without the need for automobile ownership or on-site parking. During peak periods, the shuttles could pick-up multiple passengers, much like current private ridesharing services operate today. Such a system of transit AVs could significantly increase the catchment area and service population of rail infrastructure, improve mobility for transit-captive populations, and potentially increase transit ridership, increasing ROI for existing rail capital investments. The research will explore the economics of owning and operating AV shuttles to assess whether integrating AV service is compatible with MARTA's business plan. This thesis will also assess travel time differences between the proposed AV service, and other commute alternatives. The primary objectives will be to determine 1) whether AV shuttles would be cost

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	effective for MARTA, and 2) whether they would provide a time or productivity benefit for the public.
Describe Implementation of Research Outcomes (or why not implemented): Place any photos here	
Impacts/Benefits of Implementation (actual, not anticipated):	
Web Links • Reports • Project website	https://ncst.ucdavis.edu/graduate-student-research/ http://transportation.ce.gatech.edu/node/105