

18 August 2022

Dr. Steven Cliff
Administrator of National Highway Traffic Safety Administration
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Administrator Cliff and NHTSA Staff,

My name is Dr. William Riggs, and I am a professor at the University of San Francisco's (USF's) School of Management, as well as the Director of the USF Autonomous Vehicles and the City Initiative, where I focus on the areas of autonomy, smart transportation, and urban development.

In addition to my academic roles, I also have two decades of experience working as an urban planner, policy maker, economist, and engineer. I have had the pleasure of not just advancing scholarship on these topics and policy areas, but also speaking to the potential benefits and impacts of transportation innovation and urban design in multiple national media outlets — including the *Economist*, *Wall Street Journal*, *Washington Post*, and the *Atlantic*. As a global expert and thought leader in the areas of autonomy, smart transportation, and urban development, I find myself in a unique position to speak to the many potential benefits that electric, autonomous and shared vehicles can unlock for our society.

I am therefore writing to NHTSA to express my support for GM and Cruise's request for temporary exemptions for the Cruise Origin, and to offer some direct findings from primary research that I have conducted with Cruise on the mobility impacts of AV service in San Francisco via our Research Rider Program.¹ I believe the results from this work can offer first-hand data that may be helpful to NHTSA as it deliberates on the GM-Cruise exemption request. Furthermore, these results could offer valuable context to NHTSA around the questions raised for public comment concerning ADS-equipped vehicles, transportation accessibility and equity, the environmental effects of these vehicles, and the overall safety of today's transportation system.

Advances in transportation technology offer clear opportunities to reshape cities and improve the socio-economic health of cities and residents. Scholarship has shown that autonomous vehicles could reduce collisions, increase traffic network efficiency, provide safer transportation options for the public, and increase freedom of movement for millions who are underserved

¹ Riggs, William and Schrage, Niel and Shukla, Shivani, The Trip Characteristics of Pilot Autonomous Vehicle Rider Program: Revealing Late Night Service Needs & and Desired Increases in Service Quality, Reliability & Safety (August 1, 2022). Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4195380

today – whether they be those with disabilities² or those who live in locations where they have few transit and personal mobility options. When deployed with these policy goals in mind, autonomous vehicles may encourage more sustainable travel while decreasing our reliance on the personal automobile-dominated built environment.

Our research findings with Cruise indicate that these outcomes are possible. When given an option in a Cruise AV during the hours of 10:30pm-5:00am when transit service is less prevalent, test riders gained a new found mobility option to engage in travel related social/ recreation, shopping/errands or work. Our results indicate the bulk of this travel was already occurring, with 76% of reported travel by AV riders being replacement trips from rideshare and transit (mode substitution). This suggests that the vast majority of AV trips may not represent induced demand but an opportunity to address network efficiency—filling time (e.g. access to transportation during overnight hours) or distance network gaps (e.g. last mile connectivity or service deserts).

While the research we conducted as part of the Research Rider program were in a limited ODD, and via service offered on Cruise's current Chevrolet Bolt platform rather than the Origin, there is little doubt that the Cruise Origin (particularly in a broader service area) could achieve even more impactful outcomes due to its design as a purpose-built, all-electric, and shared vehicle platform. Our results show that these purpose built vehicles can serve to compliant and supplement existing transit service—particularly as feeders for core / high-capacity transit lines.

This petition has taken an important step towards sustainable travel and a critical transportation transition. I respectfully urge the NHTSA to move forward with GM and Cruise's request for temporary exemptions, and would be happy to provide further context on the exciting results that we were able to generate as a result of the availability of Cruise's AV service in San Francisco.

Respectfully submitted,



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² Riggs, W., & Pande, A. (2021). Gaps and Opportunities in Accessibility Policy for Autonomous Vehicles (No. 2106). Mineta Transportation Institute. <https://transweb.sjsu.edu/research/2106-Accessibility-Policy-Autonomous-Vehicles>