

March 2, 2018

K. Jane Williams
Deputy Administrator
Federal Transit Administration
US Department of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Re: Research Program: Automated Transit Buses (Docket No. FTA-2017-0024) –
Attachment #1, Pages 3-4, and;
Removing Barriers to Transit Bus Automation (Docket No. FTA-2017-0025) –
Attachment #2, Pages 5-6

Dear Deputy Administrator Williams:

The American Association of State Highway and Transportation Officials (AASHTO) is pleased to provide comments on the Federal Transit Administration's (FTA) Request for Comments (RFC) on Automated Transit Buses (Docket Number FTA-2017-0024) and Removing Barriers to Transit Bus Automation (Docket No. FTA-2017-0025), published in the Federal Register on January 18, 2018. Representing all 50 states, the District of Columbia, and Puerto Rico, AASHTO serves as a liaison between state departments of transportation (state DOTs) and the federal government.

AASHTO strongly supports a multimodal approach—including public transportation and transit—to assist its member state departments of transportation solve the transportation challenges facing communities throughout our nation. In fact, AASHTO's membership work every day with local transit providers to provide vital public transportation services in small urban and rural communities. The state DOTs remain fully committed to serving these communities, and especially people with disabilities and seniors who need mobility assistance.

Our top priority is the safety of our nation's transportation systems. For public transportation, our small urban and rural transportation systems are among the safest in the country. AASHTO is very proud of the superb safety record of its state DOT members and their local public transportation providers. AASHTO supports US Department of Transportation's focus on safety as noted in its FY 2018-2022 Strategic Plan, and recommends considering safety ramifications before approving any technology—including automated transit buses—to operate in the right-of-way of any community.

To respond to the RFCs, AASHTO sought the advice and insight of its member state DOT transit offices. All policies and positions are developed through AASHTO's committee/council structure and a consensus building process of the membership. Attached is a synthesis of responses from interested members.

Overall, AASHTO members are hopeful that FTA's interest in automated transit bus research and removing barriers to their implementation can lead to further innovation. Through this effort, we truly hope to avoid federal regulations or legislation that would limit a state and local governments' efforts to test and demonstrate these automated transit vehicles. With proper federal guidance states can create a regulatory climate to encourage this type of innovation and as a result these technologies will have a greater chance of success.

Currently, several states provide a positive regulatory environment for the testing and initial deployment of these automated technologies. In the near future, AASHTO believes more states will be accepting of automated technology testing and deployment. State departments of transportation, however will be looking to FTA and the automated transit vehicle industry to become reliable partners, providing much needed funding for these technological innovations while supporting states on the public infrastructure and business models necessary to accommodate them in our states and local communities.

AASHTO looks forward to working with FTA and the U.S. Department of Transportation on the implementation of automated transit buses and we appreciate the opportunity to provide these comments. If you would like to discuss the issues raised in this letter, please contact Shayne Gill, AASHTO's Program Director for Multimodal Transportation at (202) 624-3630 or via e-mail at sgill@AASHTO.org.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Schroer', with a long horizontal flourish extending to the right.

John Schroer
President, American Association of State Highway and Transportation Officials
Commissioner, Tennessee Department of Transportation

Enclosure

Attachment #1 - FTA Questions
Research Program: Automated Transit Buses
(Docket No. FTA-2017-0024)

A. What transit bus automation and supplemental technologies currently exist, and/or are being developed? Are there any ADAS, inclusive of automated actuation (e.g., as in an automated emergency braking application), currently available or soon to be available in the market? If so, please specify or describe these new systems and products.

- AASHTO is aware that collision warning and automated braking systems are currently being tested in Washington State. One of Washington State Department of Transportation's local transit providers, Pierce Transit, has tested these systems.
- In addition, on the University of Michigan Campus and along the Las Vegas strip, more advanced technologies, like the geo-fenced Navya shuttles, are being tested.
- AASHTO is hopeful that these advanced transit technologies can be further developed and eventually deployed to help make public transportation safer and more efficient.

B. What light-duty and commercial vehicle automation technologies currently on the market or in development could be transferred or applied to transit buses?

- While transit systems present several unique challenges, including passenger onboarding and securing wheelchair bound passengers, AASHTO understands that a full range of automated driving systems (ADS) is under development for commercial and light-duty applications and that this technology truly has a place in the future of public transportation. The automation technologies under development include ADS dedicated vehicles, automated braking, object detection, lane assist, adaptive cruise control, and other features. However, we are currently unaware if these technologies are currently integrated or in the process of being integrated into public transit bus fleets anywhere in the country.
- AASHTO encourages further discussions with the automated vehicle industry and academic partners about when and how each of these systems can be integrated into public bus fleets. More importantly, these discussions need to prioritize the safety of our rural and small urban transit systems, above all else, as well as consider the cost of integration imposed upon the public transportation providers.
- It should be noted that automated vehicles (not commercial transit vehicles) could play an integral role in rural public transit, providing feeder services in rural areas to bring passengers to predetermined bus pickup points and drastically reducing the cost of providing transit service to rural areas.

C. Are there any new business models or processes that may arise in response to or may accommodate transit bus automation, including, but not limited to, cross-organizational data management and exchange? If so, please specify or describe these new potential business models or processes.

- To improve rural transit service through transit bus automation, AASHTO suggests any new process focus on the following:
 - First/last mile connectivity to transit hubs using smaller automated transit buses;
 - De-centralization of transit stops to allow riders along the route to use mobile technology to hail rides from anywhere along a route, as opposed to designated transit stops; and
 - Greater opportunities to partner with mobility providers such as Transportation Network Companies.
 - Taking “Safety first” approach before automated transit buses or any autonomous vehicle is approved to operate in the right-of-way of any community.

Attachment #2 - FTA Questions
Removing Barriers to Transit Bus Automation
(Docket No. FTA-2017-0025)

A. Are there existing FTA statutes, regulations, or policies that may present a challenge or barrier to the development, demonstration, deployment, or evaluation of automated transit buses? If so, please specify or describe these challenges, and provide proposed resolution, if possible.

- AASHTO believes that public transportation must remain safe, accessible and affordable and that is a high priority. For people with physical disabilities and seniors who need mobility assistance, accessibility of public transportation is especially necessary.
- In terms of challenges or barriers, if the intent of a public transportation agency is to eventually launch level 4 or 5 automated buses (without any operator or assistant on board), then passengers with disabilities and seniors who require mobility assistance would be at a severe disadvantage. Local public transportation providers would still be required to provide mobility assistance to passengers with disabilities on their buses and would likely require an operator and/or assistant onboard to help secure them safely, potentially negating any cost-saving benefits of achieving level 4 or 5 automation on transit vehicles.
- AASHTO supports the goals of the Americans with Disabilities Act (ADA) and encourages FTA to further consider the role of local public transportation providers, their compliance with the ADA and their efforts to maintain a transit system that is safe, fully accessible and affordable for those who need it most.
- AASHTO would recommend additional research on the topic of anchoring wheelchairs in automated transit vehicles. The Michigan Council on Future Mobility looked into a possible student competition on designing such features. The Michigan Council's effort, coupled with the permissiveness of Michigan's laws on automated vehicle testing are examples of state level leadership. FTA should be encourage this kind of innovation.

B. Are there other Federal statutes, regulations, or policies (e.g., Federal Motor Vehicle Safety Standards, etc.) that may present a challenge or barrier to the development, demonstration, deployment, or evaluation of automated transit buses? If so, please specify or describe these challenges, and provide proposed resolution, if possible.

- At this point, state departments of transportation and its local public transportation providers have received little guidance regarding how public infrastructure can accommodate the development of automated driving systems, especially automated transit buses.
- In coordination with the automated driving systems industry, the U.S. Department of Transportation (USDOT) and FTA should provide a nationwide policy framework for automated public transit. Such a framework would give state departments of transportation and local public transportation providers a better sense of the infrastructure and capital requirements, as well as operations and maintenance of an automated transit fleet.

- Lastly, as with current public transit, funding (the lack thereof) remains a fundamental challenge to providing public local transportation services (rail, buses, paratransit, etc.) in every community. To successfully implement a system of automated transit buses in communities around the country, state departments of transportation and local public transportation providers will look to USDOT and FTA, through Congress, for a greater financial commitment with this transition.

C. Are there any specific regulatory barriers related to small business that DOT/FTA should consider, specifically those that may help facilitate small business participation in this emerging technology?

- AASHTO supports efforts by the USDOT and FTA to reduce barriers to small business and provide greater opportunities for the private sector to facilitate this emerging technology.
- At this time, we are unaware of any specific regulatory barriers related to USDOT/FTA's facilitating small business's participation.

D. Are there other regulatory, policy, or legislative challenges or barriers not otherwise specified above, which may impede development, demonstration, deployment, or evaluation of automated transit buses? If so, please specify or describe these challenges, and provide proposed resolution, if possible.

- Liability remains a significant issue for state DOTs and local public transportation agencies. With the arrival of automated vehicle technology, liability could become an even greater issue, especially given the potential of state DOTs and their local public transportation providers become involved in lawsuits involving driverless transit vehicles. Needless to say, liability is one major issue that needs to be discussed and worked out before state DOTs and their local public transportation providers can comfortably engage in this mode shift.
- While not regulatory, policy, or legislative, state DOTs are concerned about the lack of knowledge and expertise about how to implement a fully autonomous transit system and the challenge it could present at the state and local level. State DOTs and local transit providers will be challenged regarding how to permit, operate, and/or maintain these systems and this could become a barrier to the deployment of automated transit buses. Significant resources will required to train the workforce to oversee and/or operate these systems.
- Overall, AASHTO is hopeful that the benefits from the automation will outweigh the costs. However, public transportation agencies are supposed to serve all people in all communities, especially those communities without access to other modes of transportation. Significant concern still exists that many of the communities our members serve will be left behind as resources are consumed for infrastructure and capital requirements related to these technologies and their deployment will occur in more economically advantaged areas.
- These rapid technological changes will place new strains on businesses, unions, and government at all levels and across many domains. These issues must be navigated delicately, and the associated economic and societal risks explored comprehensively, to ensure they are doing the most good with the least harm.