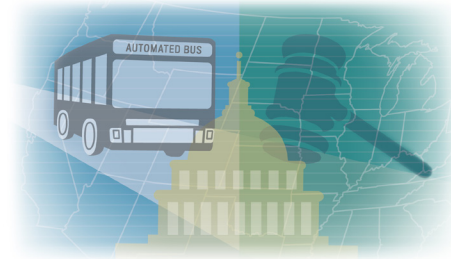




U.S. Department of Transportation
Federal Transit Administration



Transit Bus Automation State and Local Policy Scan

Background

To support the development and deployment of automated transit bus services, the Federal Transit Administration (FTA) has created a five-year Strategic Transit Automation Research (STAR) Plan that outlines FTA's research agenda on automation technologies. Part of the STAR Plan's program of research is understanding non-technical barriers and challenges that may prevent transit agencies from investing in automation.

Objectives

Although transit bus automation capabilities are rapidly advancing, several non-technical barriers and challenges may prevent or discourage transit agencies from investing in emerging technologies, including laws, regulations, or policies, at the Federal, State, or local level and institutional issues or longstanding practices. This report documents the results of research and stakeholder interviews on State and local policies, with a focus on those that may pose challenges to, or require revision in light of, the deployment of transit bus automation technologies by US transit agencies. Through this process, insight was also gained on State- and local-level perspectives regarding barriers and challenges that are relevant at the Federal level. The results presented in the report analyze representative examples in a range of contexts.

Findings and Conclusions

Existing State and local legislation and regulations regarding automated vehicles are diverse but generally do not explicitly consider transit applications; many challenges States face when deploying advanced technologies are “soft barriers”—institutional, structural, attitudinal, or political—rather than legal or regulatory.

State and local issues were not seen as major barriers relative to Federal issues, which could be due, in part, to the need to use Federal funding to implement projects, a lack of first-hand experience with automation technologies, or the degree of control an agency has in addressing each issue. Existing State and local legislation and regulations regarding automated vehicles are diverse but generally do not explicitly consider transit applications. The extent to which legislation facilitates or impedes the deployment of automated vehicles varies widely by state, and it is likely that approaches will continue to evolve over the coming years. Transit agencies vary in their plans and priorities regarding automation, which influences their overall approach to potential policy barriers.

Through stakeholder interviews and analysis of input received via an FTA Request for Comments, it was found that many challenges States face when deploying advanced technologies are “soft barriers”—institutional, structural, attitudinal, or political—rather than legal or regulatory. These barriers include:

- **Workforce, training, and labor:** The impact of automated vehicles on professional drivers is unclear, which is particularly acute in the transit industry, where human operators take on many additional non-driving responsibilities. Transit bus automation will likely result in new and modified job categories and the creation of new positions to support the operation and maintenance of advanced technology systems.
- **Market readiness and product availability:** There may be a mismatch between research and development activity in the automation industry, which has concentrated on smaller vehicles such as automated shuttles and the need of many agencies for full-size buses. Agencies may opt to pursue more proven improvements to vehicles and service while waiting for the automated vehicle market to further mature.
- **Business case:** Making the business case for automation depends, in part, on alignment with agency goals. For some agencies, automation may not be seen as a solution to key challenges, which could limit the agency's motivation to pursue automation in the early phase.
- **Risk aversion:** Transit agencies have a highly public role, and many may be hesitant to invest in a risky and potentially controversial technology solution. Agencies may prefer to focus on more traditional improvements to their services rather than taking on the risks of an early adopter.
- **Limited resources:** Introducing a new vehicle and operational model can have ripple effects throughout an agency. The difficulty of making such changes may be so significant as to discourage early adoption.
- **Data access, management, storage, and sharing:** It is increasingly common for State and local agencies to form partnerships with private transportation service entities, often with the public agency receiving access to data in exchange for permission to operate on public roadways. The collection and use of data has been a concern for private manufacturers and public agencies alike, but a clear framework for these issues has not been established.
- **Fare payment:** In many transit systems, operators are responsible for managing fare payment. Agencies may need to implement new technologies to ensure proper revenue collection in situations where a human operator is not present.

Potential mitigations to these challenges could include assessing opportunities to address identified Federal barriers, encouraging an active dialogue among key stakeholders, and leveraging planned research and programs to better address issues at all levels of government.

Benefits

This report may be used as a resource for identifying and addressing potential barriers to the deployment of automated transit bus technologies. Multiple audiences may benefit, including transit agencies, State and local transportation departments, and other organizations interested in automated transit bus testing and implementation.

Project Information

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This research project was conducted by the John A. Volpe National Transportation Systems Center. For more information, contact FTA Project Managers Danyell Diggs at (202) 366-1077 or Danyell.Diggs@dot.gov or Steven Mortensen at (202) 493-0459 or Steven.Mortensen@dot.gov. All research reports can be found at <https://www.transit.dot.gov/about/research-innovation>.