

EMERGING TRENDS

“Public transit does more than move people, it shapes the future of communities. Our industry brings together innovation and technology that can improve lives and provide a crucial component to resolving many economic and environmental challenges.”

- APTA President and CEO Paul P. Skoutelas

ELECTRIFICATION

- With sustainability as the major driver, more than 21% of fleet vehicles are hybrid-electric and public transit agencies are integrating more zero-emission buses into their fleets. Zero emission buses have no tailpipe emissions and options include both battery electric and fuel cell electric technology.
- Existing and future fleet electrification commitments by transit agencies could lead to 75% of transit buses being zero-emission by 2040. As transit agencies set targets for zero emission fleets, continued support from federal and state governments will ensure that the technology further proliferates.
- The energy grid is ready for battery electric bus fleets today, and electricity generation continues to transition toward renewable sources, but the infrastructure needed to provide electricity to a given location is highly site-specific and transit agencies with zero emission commitments are engaged in careful planning for their long-term fleet energy needs.
- Successful fleet electrification will require close collaboration between transit agencies and stakeholders like the electric utilities and infrastructure providers.

AUTONOMOUS TECHNOLOGY

- Automated vehicle technologies can range from simple systems, such as driver assistance applications, to fully automated systems that do not require a human driver.
- Transit agencies and their partners are adopting and deploying different levels of automated technology into their fleets to improve service. Multiple cities across the U.S. are piloting automated vehicle services using small, low speed shuttles.
- In 2020, it was announced that a demonstration project with level 4 AV, or full autonomy with the ability for an operator onboard to control the vehicle if needed, in three 40-foot battery-electric heavy-duty transit buses is planned on public roads to gather data.

CONTACTLESS TECHNOLOGY

- Approximately a quarter of U.S. public transit systems have adopted open payment technologies and we can expect that the pandemic will continue to accelerate its adoption. Open payment technologies accept contactless debit/credit cards and mobile phone payments as well as digital smart cards. Already, nearly half of transit systems (47%) offer digital smart cards in 2020.
- Transit agencies are also exploring advanced technology in contactless counters to capture ridership data.

DEDICATED SPACES, MOBILITY SERVICES AND PROJECTS

- Transit agencies are collaborating with stakeholders to establish innovative public/private pilot projects to reduce the distance between a traveler's origin/destination and a transit station/stop, commonly referred to as the first/last mile.
- Transit agencies are implementing microtransit solutions that improve the rider's experience by operating small-scale, on-demand public transit services that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling.
- Since 2008, total rail directional route miles have increased 31% for light rail and streetcars and 13% for commuter and hybrid rail.
- Although buses mainly operate in mixed traffic, they also operate on 5,030 miles of exclusive and controlled right-of-way roadway miles. Of this 1,206 miles are exclusive fixed-guideway, right-of-way roadways where only transit can operate, such as busways or dedicated bus lanes. These dedicated busways are part of the growing trend toward deploying bus rapid transit (BRT), which provides a high-quality rapid transit experience, often with bus priority or dedicated lanes; more frequent service; enhanced stations; and offboard fare collection.