

EXPO AT A GLANCE

“APTA’S EXPO is the premier event of the \$80 billion public transportation industry, featuring the latest innovations and cutting-edge technologies. As the public transportation industry convenes at EXPO, industry leaders will be working together to continue addressing the pandemic and highlighting the many facets that make public transportation a crucial part of the solution to our nation’s economic, energy, and environmental challenges.”

- APTA President and CEO Paul P. Skoutelas

EXPO FAST FACTS:

- 8,000+ attendees expected
- 700+ global exhibitors
- 208 first time exhibitors
- 260,500 net square feet

EXPO HOURS:

Monday, November 8
10:30 a.m. - 5:00 p.m.

Tuesday, November 9
9:00 a.m. - 4:30 p.m.

Wednesday, November 10
9:00 a.m. - 3:00 p.m.

MEDIA CENTER HOURS: (Room 207 A&B)

Sunday, November 7
1:00 p.m. - 4:00 p.m.

Monday, November 8
7:00 a.m. - 5:00 p.m.

Tuesday, November 9
9:00 a.m. - 5:00 p.m.

Wednesday, November 10
9:00 a.m. - 2:00 p.m.

OVERVIEW

The 2021 American Public Transportation Association’s (APTA) TRANSform Conference and EXPO, “Connect to What’s New and What’s Next,” takes place at the Orange County Convention Center in Orlando, Florida. The Central Florida Regional Transportation Authority, also known as LYNX, is the host for both events, which is attended by public transportation professionals from managers and board members to system operators, policymakers, and other public transit industry stakeholders.

ABOUT EXPO

EXPO 2021 is the largest public transportation expo in the world and features a full range of the latest public transportation products, services, and technologies that enhance passengers’ experiences, as well as enable public transit systems to operate more efficiently. Exhibitors showcase solutions for every aspect of public transit from procurement to maintenance, engineering to operations – all from the public transit industry’s leading manufacturers.

EXPO Highlights Tour:

Monday, November 8, 1:00 p.m. - 2:00 p.m.

“On the Horizon: Planning for Post-Pandemic Travel” Press Conference:

Tuesday, November 9, 11:30 a.m. - 12:30 p.m.

Orange County Convention Center (OCCC), West Building - Room 208 C (Level 2)

ABOUT APTA’S TRANSFORM CONFERENCE

The 2021 TRANSform Conference, formerly known as APTA’s Annual Meeting, is a premier public transportation industry event, which includes educational sessions, technical tours, and forums on a wide range of topics including federal funding, public-private partnerships, technology, sustainability, safety, workforce development, and mobility.

For a look at the APTA TRANSform sessions, please visit:

www.apta.com/mc/annual/program/Pages/default.aspx

ABOUT APTA

The American Public Transportation Association (APTA) is a nonprofit international association of 1,500 public- and private-sector organizations which represent a \$80 billion industry that directly employs 448,000 people and supports millions of private sector jobs. APTA members are engaged in the areas of bus, paratransit, light rail, commuter rail, subways, waterborne services, and intercity and high-speed passenger rail. This includes: transit systems; planning, design, construction, and finance firms; product and service providers; academic institutions; transit associations and state departments of transportation. APTA is the only association in North America that represents all modes of public transportation. APTA members serve the public interest by providing safe, efficient and economical transit services and products. www.apta.com



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ECONOMIC IMPACTS

“Public transportation is poised to play a crucial role in our nation’s economic recovery from the global pandemic. Investment in public transportation drives growth, attracts development, and creates transit-oriented communities. Predictable, long-term investment in public transportation is critical to our nation’s future global competitiveness.”

- APTA President and CEO Paul P. Skoutelas

INVESTMENT IN PUBLIC TRANSPORTATION

- Public transportation is a \$80 billion industry. In 2019, passengers traveled 56.1 billion miles.
- Every \$1 billion invested in public transportation supports and creates more than 50,000 jobs and \$382 million in tax revenue.
- Every \$1 invested in public transportation generates approximately \$5 in economic returns.
- Every \$10 million in operating investment yields \$32 million in increased business sales.
- Nearly 6,800 organizations provide public transportation in the United States.
- An estimated \$43.1 billion of public transit expenditures flow into the private sector.
- 45% of Americans have no access to public transportation.
- Public transit operations are funded by a combination of fares, agency earnings, and financial investment from state, local and federal governments.

PROVIDING ACCESS TO JOBS

- An estimated \$39 billion of public transit expenditures flow into the private sector.
- More than 448,000 people directly employed by public transit agencies and received \$31.5 billion in compensation in 2020. Public transit also supports millions of private sector jobs.
- 87% of public transit trips directly benefit local economies, either providing job access or connecting people to retail and recreational venues.
- 71% of public transportation riders across the country are employed and 7% are students.
- Most transit user households (77%) include one or more working persons.
- In fact, 21% of U.S. households that earn at least \$100,000 per year ride public transportation.
- 13% of U.S. households have incomes of less than \$15,000, but among transit-using households, the comparable figure is 21%.

INCREASING PERSONAL SAVINGS

- An individual in a two-person household can save an average of nearly \$10,000 per year by taking public transportation instead of driving and by living with one less car.
- The average household spends 16 cents of every dollar on transportation, and 93% of this goes to buying, maintaining, and operating cars, the largest expenditure after housing.
- Home values were up to 24% higher near public transportation than in other areas. Hotels in cities with direct rail access to airports raise 11% more revenue per room than hotels in those cities without.
- 89% of transit riders are in the most economically active age group - ages 25-64, compared with 53% of the U.S. population.
- Millennials consider public transportation the best option for digital socializing and among the best for connecting with communities.

RIDERSHIP

- Public transportation is available in every state and Americans took 9.9 billion trips on public transportation in 2019.
- More than two-thirds of riders walk to their stop or station.
- Quarterly report of transit passenger ridership for U.S. and Canadian transit agencies show an 85% growth in passenger trips in second quarter of 2021 (1,125,319) vs. 2020 (606,947).

SAFETY & SECURITY

PUBLIC TRANSIT SECURITY

- With people traveling 56.1 billion miles per year on public transportation, public transit employees often are first responders. Consequently, public transit agencies are interconnected with emergency and law enforcement responders and conduct emergency drills.
- Public transit remains a target for terrorist plots across the globe. Many public transit agencies have both detailed response plans and use a variety of deployment strategies, tactics and technologies to deter potential attacks.
- The use of security cameras continues to increase with 84% of buses equipped in 2020, compared to 53% in 2010. Similarly, 55% of rail stations had security cameras as of 2018.
- From 2000 to 2018, rail stations also increased the use of electronic devices for communicating with passengers with 79% of rail stations using public address systems, 70% using vehicle arrival displays, 47% installing informational displays, and 21% with available Wi-Fi.
- From investing in security software and safety technologies to developing emergency preparedness plans, federal funding for public transit security is essential as the needs outweigh the resources that public transit systems can provide.

“Amid ever evolving threats, our industry continues to make great advances in technology and remains committed to the security of passengers, employees, and our communities.”

- APTA President and CEO Paul P. Skoutelas

CYBERSECURITY

- As control and management systems become increasingly dependent on information technology, cyberattacks pose a serious threat all public transit agencies. Transit systems must be proactive and approach cybersecurity risks with holistic solutions and a strategy for key areas of IT and OT infrastructure: operations, people, and facilities.
- Cyber threats may not all be software attacks; the physical manipulation of the system is of real concern, too.
- Cyber threats and vulnerabilities not only put public transit systems and the lives of passengers at risk, but also put systems at risk of data breaches, especially as 47% of agencies now use digital smart cards and 25% are adopting open payment technologies to collect passenger fares.

PERSONS WHO ARE HOMELESS

- People who experience homelessness often rely on public transit conveyances or facilities as shelter. Given its impact on ridership and regional expansion, 68% of agencies believed that transit agencies should play a role in respectfully offering support and minimizing impacts to transit employees and the traveling public.
- Agencies have developed important partnerships with public safety, social service agencies, mental health experts, advocates and others to approach this issue in a more positive way. 54% of agencies have police/security staff that are certified with crisis intervention training and 87% have trained their front-line employees how to deal with persons experiencing homelessness, mental health or addiction.
- Homelessness is an issue that impacts all transit agencies but is most often more visible at larger agencies in cities with large unsheltered populations.

HUMAN TRAFFICKING AWARENESS

- As many as 24.9 million men, women and children are held against their will and trafficked. As part of the Federal Transit Administration's Human Trafficking Awareness and Public Safety Initiative, the \$5.4 million was awarded in 2020 for public transit projects that combat human trafficking and improve safety on public transit.
- APTA, as part of the USDOT's Transportation Leaders Against Human Trafficking Initiative, works to combat human trafficking and provide resources on training and counter-trafficking strategies as well as training and public awareness materials.

SAFETY & SECURITY

SAFER COMMUNITIES

- Public transportation is available in every state across America and provides nearly 10 billion trips each year. There are also more than 5,600 transit passenger stations in the U.S. As of August 10, 2021, more than 700 large bus and rail transit agencies certified they have comprehensive agency safety plans in place.
- Cities with more than 40 annual public transit trips per person have half the traffic fatality rate of those with fewer than 20 trips per person.
- In 2018, there were 134x more fatalities on highways (35,935) than on transit.
- Public transit is 10x safer than travel by car.
- Travelers reduce their crash risk by more than 90% by taking public transit instead of driving.
- Public transit provides a safe alternative for high-risk and vulnerable road users, such as inexperienced teen drivers, seniors seeking mobility, and impaired and distracted drivers.
- Urban teens take 5x as many public transit trips and have half the per capita auto death rate.
- Nationwide, there is an \$105 billion backlog of state of good repair needs. Addressing this backlog is directly tied to maintaining the safest public transit network possible.
- APTA regularly conducts voluntary safety audits for public transit systems that seek objective analysis of the implementation of their safety programs. Educational safety programs are conducted for public transportation employees at all levels.
- APTA regularly conducts safety-related peer reviews as well to enhance safety on public transportation systems throughout the United States and Canada.

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POSITIVE TRAIN CONTROL

- Traveling by commuter and intercity rail is 18x safer than traveling by automobile. Between 2000 and 2017, commuter rail safely operated 8.2 billion trips and 194 billion passenger miles.
- Congressionally mandated positive train control (PTC) is a safety technology for monitoring and controlling train movements. PTC relies on a wireless network of data exchanged between vehicles and on-track equipment, and then distributed to data centers for analysis.
- Reflecting an investment of more than \$4 billion, 100% of commuter railroads are PTC certified and met the December 31, 2020 deadline.

ADVANCED TECHNOLOGIES

- More autonomous safety features are being introduced to bus transit vehicles. In 2020, 348 buses were reported as equipped with collision warning/mitigation, lane-keeping assist, and pedestrian/bicyclist detection.
- Moving beyond scheduled maintenance, predictive software now monitors and analyzes sensor data of public transit vehicles in real-time with advanced algorithms to identify issues early and get the right repairs made before incidents occur and vehicles go out of service.
- Right-of-way worker protection technologies have been adopted across rail transit systems to protect workers in the right of way, who work along the track and conduct inspections.
- Bus and rail collision avoidance systems have been implemented at many transit properties and utilize RADAR and LIDAR technology so that buses/trains do not collide with cars and pedestrians in right of way.

EMERGENCY PREPAREDNESS & PANDEMIC RESPONSE

“From a global pandemic to natural disasters and terrorist attacks, public transportation works hand-in-hand with emergency responders and government agencies to keep essential personnel and emergency rescue and relief teams in motion. During the pandemic, agencies across the nation worked tirelessly to ensure that no one was left behind needing transportation. In times of crisis, public transportation employees continue to prove their abilities to adapt to the swiftly changing needs of their communities.”

- APTA President and CEO Paul P. Skoutelas

EMERGENCY PREPAREDNESS

- Public transit agencies historically have served a critical role during emergency response by providing mobility and evacuation before, during, and after disasters.
- To help those in harm's way, public transportation often maintains service during crises when it is safe to operate; helps with mass evacuations people from threatened areas; rescues vulnerable populations and people with disabilities; and transports emergency personnel during times of fires, floods, hurricanes, windstorms, and winter storms.
- The Federal Emergency Management Agency (FEMA) and FTA have emergency preparedness resources for public transit agencies in the event of a major accident, terrorist attack, or manmade or natural disaster.

RELIEF AND REBUILDING

- Following disasters such as hurricanes, public transit systems often face difficult hurdles to resume full service due to power outages, extreme temperatures, fuel shortages, closed roads, and limited phone service.
- With affordable housing and vehicles often destroyed following disasters, the role of public transportation is essential to maintain access to essential needs and jobs.
- Robust public transit helps neighborhoods recover faster from disasters as people still can get around despite potentially not having electricity, gas or losing a vehicle.

INDUSTRY RESPONSE TO COVID-19

- Public transit agencies felt the impacts of the COVID-19 pandemic immediately as ridership dropped due to dramatic increases in telecommuting and many people staying home. At the onset of COVID-19, some agencies reported ridership decreases in excess of 70%.
- APTA created a COVID-19 Resource Hub with the latest official guidance, tools, and global best practices, in addition to creating a Health & Safety Commitments program to help transit systems protect workers and passengers and restore public confidence in using transit.
- Many agencies worked to redeploy services to critical routes for essential travel to jobs, grocery stores, medical facilities, among other locations, eliminated fares and split shifts to provide social distancing for employees. Some agencies also shifted vehicles and employees to drive meals and groceries to members of the community unable to travel.
- Agencies worked to provide protection for employees and riders. While the federal government began requiring riders to wear masks on transit in January 2021, more than 85% of agencies already were requiring masks by July 2020. Agencies implemented new procedures for cleaning and disinfecting (APTA produced the preeminent white paper on this topic), purchased personal protective equipment (PPE), and explored advances in sterilization products and air filtration systems designed to disinfect air and surfaces. More than half also developed a recovery plan that included new safety precautions for riders and employees (APTA also published a white paper on this topic of a recovery & restoration checklist).
- Transit agencies stepped up to support the vaccine rollout, with many offering free rides to vaccination sites and coordinating with hospitals and medical centers to offer transport to vulnerable individuals. Some agencies also turned their facilities into mass vaccination sites.
- As of September 2021, public transit agencies have obligated 98 percent of CARES Act funding. Transit agencies have also obligated more than one-half of CRRSAA funds and one-quarter of ARP funds. According to a recent APTA survey, one-half of responding agencies (51 percent) expect to exhaust all their COVID-19 relief funds by January 2023 and the vast majority of agencies (82 percent) expect to expend all their funds within the following year.



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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.

SUSTAINABILITY IMPACT

“The public transportation industry is committed to sustainable practices and continuously explores innovative solutions to further improve its impact on the environment. Public transit not only produces green jobs, but also plays a critical role in helping our country remain a leader in combating climate change and reducing carbon emissions.”

- APTA President and CEO Paul P. Skoutelas

PROVIDING INNOVATIVE ENERGY SOLUTIONS

- Public transportation saved the United States the equivalent of 6 billion gallons of gasoline annually.
- Public transportation is leading the way in the use of alternative-powered vehicles to improve fuel economy incorporating dual-powered, electric and hybrid vehicles into fleets.
- Public transit agencies are integrating environmentally-friendly buses into their fleets. In 2020, 30% of public transit buses run on Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG), and 18% of buses are hybrid vehicles.
- Public transit continues to invest in innovative clean technologies and fuels, including biofuels, hydrogen fuel cells, and hybrid vehicles. 55% of U.S. public transportation buses were using alternative fuels or hybrid technology.
- Public transportation systems are investing in propulsion technologies in rail to capture and harness wasted energy to help power transit systems.
- Some public transit systems are electrifying their commuter rail lines to replace diesel trains with electric trains.

ENVIRONMENTAL BENEFITS

- Transportation represents 29% of greenhouse gas emissions in the U.S. As cities seek to meet climate goals, transportation emission reductions are essential.
- Public transportation saves 63 million metric tons of carbon dioxide (CO₂) annually - equivalent of taking 16 coal power plants offline for a year.
- A typical trip on public transit emits 55% fewer greenhouse gas emissions than driving or ride hailing alone.
- An electric bus emits 62% fewer emissions than an average diesel bus. Electricity was 29% less carbon-intensive in 2018 than 2005, on average in the U.S.
- Public transportation vehicle emitted 10% less CO₂ per passenger mile in 2018 than in 2008.

THE POWER OF INDIVIDUAL ACTION

- Emissions per passenger mile in 2018 were 26% lower than in 2005.
- All forms of public transportation use less space to move more people. This translates into a smaller environmental footprint, leaving space for neighborhoods and communities to thrive.
- Communities served by public transportation avoided 148 billion miles of personal vehicle travel in 2018 through transportation efficiency and land use efficiency savings. Transit vehicles traveled 4.7 billion miles in 2018, and the average transit vehicle had 12 passengers.