

## *Trends in Public Transportation Vehicle Fleets*

Transit agencies are constantly investing in vehicles and technologies that make the transit experience better for riders. Low-floor buses that make it easier and more comfortable for passengers to get on and off are becoming the norm. Public transportation agencies are moving away from traditional diesel engines to vehicles powered by hybrid engines and compressed natural gas that burn less fuel and produce fewer emissions. New technologies are making passenger rides and waiting time more enjoyable. Wireless internet service is being enabled on buses and trains so patrons can access the internet and make their transit time productive. Recent APTA surveys and the vehicle report results show that more agencies are installing vehicle location systems and setting up the backend infrastructure to provide real time arrival information to customers, reducing wait times.

The following are some of the new technologies that public transportation agencies are implementing as reported in the *2013 APTA Public Transportation Vehicle Database*.

### **Alternate Fuels**

As of 2013, 40.4% of the US bus fleet is powered by alternate fuels. The portion of alternate fuel vehicles has been rising rapidly – in 2004 only 13.3% of the transit bus fleet was alternate powered, and in 1992 only 2% of the bus fleet ran on alternative fuels. Natural gas vehicles, hybrids, and biodiesel are the most common alternate fuels for transit buses. Natural gas vehicles comprise 20% of the bus fleet, hybrids 13.2%, and biodiesel 7%. Sixty-one APTA member agencies have hybrid buses in their fleets, and hybrids make up 11% of the vehicles on order at transit agencies. The New York MTA has the largest fleet of hybrid buses, with over 1600 vehicles. Washington Metrobus and King County DOT both have large hybrid fleets of over 600 buses each. Seventeen U.S. bus agencies (13% of responding agencies) have 100% alternate fuel fleets.

### **Vehicle Age**

The transit bus fleet is getting newer. The financial situation at transit agencies has improved, funds from the American Recovery and Reinvestment Act helped transit agencies update their bus fleets. The bus fleet improved from an average age of 8 years in 2011 to 7.8 years in 2013. Commuter rail cars improved from an average age of 18.2 to 17 years. Heavy Rail aged from 20.2 to 20.5 years. The light rail vehicle fleet aged from 16.6 years to 17.8 years. Light rail especially will be in flux – many new systems will see their cars age and some new systems will come on line and add fleets of new vehicles.

## WiFi

More transit agencies are adding wireless internet service to their vehicles to serve customers. Millennials especially are interested in filling their time on transit with using mobile devices online and spending productive time doing work on computers. The percentage of buses with WiFi access has increased from 0.5% in 2008, to 1.1% in 2010, to 3.8% in 2013. Interest in WiFi access is increasing among the public and transit agencies are following this trend. In 2008, only 0.5% of commuter rail cars had WiFi; by 2010, 7.5% of commuter rail cars had WiFi access, and in 2013, 13.1% of commuter rail cars now have this technology. On heavy rail, Miami Metrorail has equipped all of its vehicles with WiFi technology, and BART is running a pilot program on 15 vehicles. Santa Clara VTA is the only light rail system with in-vehicle WiFi service.

## Electrical Outlets

65.5% of commuter rail cars have electrical outlets for passengers as of 2013, a large increase from 2009 when only 14.4% of cars had electrical outlets. 2.7% of buses have electrical outlets, an increase from the 1.6% of buses that had outlets in 2009. On longer trips, outlets help passengers power a laptop to do work or charge a mobile device.

## Automated Stop Announcements

55.6% of buses have automated stop announcement technology as of 2013. This is a 10 percentage point increase since 2008, when 45.3% of buses had automated stop announcements. The percentage of commuter rail cars with this technology has also increased from 31.5% in 2008 to 44% in 2013. Over this period, heavy rail agencies have also added this technology, increasing the adoption rate from 37.5% to 49.6%. 82.8% of light rail vehicles have automated stop announcements, an increase from 53.3% in 2008. Automated stop announcements provide clear broadcasts of stops along transit lines, which is important for all passengers but especially those unfamiliar with the transit system and passengers with visual impairments.

## Automatic Vehicle Location

GPS and Automated Vehicle Locator (AVL) systems allow transit agencies to track their vehicles and provide public information on their location and expected arrival times at stops. The percentage of agencies utilizing this technology has been increasing for the past few years. In 2013, 70.9% of buses have AVL systems, an increase from 59.1% in 2008. Forty-two agencies have AVL systems on at least 95% of their buses. AVL systems are equipped on 66.9% of light rail vehicles, up from 51.6% of vehicles in 2008. Heavy Rail vehicles usually use track circuitry or signaling systems to provide vehicle location information and arrival times.

The *APTA Public Transportation Vehicle Database* is published annually for the benefit of APTA members and the public. Information on APTA member agencies in the United States is provided directly by the agencies. The data on Canadian transit agencies was provided by the Canadian Urban Transit Association (CUTA). The report may be downloaded from the APTA website at

<http://www.apta.com/resources/statistics/Pages/OtherAPTASTatistics.aspx>.

## Acknowledgements

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### For More Information

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Matthew Dickens  
Policy Analyst  
Policy Development and Research  
202.496.4817 | [mdickens@apta.com](mailto:mdickens@apta.com)

### For General Information

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**Policy Development and Research**  
Darnell Grisby, Director  
202.496.4887 | [dgrisby@apta.com](mailto:dgrisby@apta.com)  
[www.apta.com/resources/statistics](http://www.apta.com/resources/statistics)

**The APTA Policy Department**  
Art Guzzetti, Vice President-Policy  
202.496.4814 | [aguzzetti@apta.com](mailto:aguzzetti@apta.com)

## The American Public Transportation Association (APTA)

The American Public Transportation Association (APTA) is a nonprofit international association of 1,500 public and private sector organizations, 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. More than 90 percent of the people using public transportation in the United States and Canada ride APTA member systems.

## APTA Vision Statement

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APTA is the leading force in advancing public transportation.