

Trolley Display Building Tour Collection

Pittsburgh 101 – Horse car

- First street railway vehicles—adapted from omnibuses, horse drawn carriages that provided mass transit in cities. The horsecar put the omnibus on rails, making them easier for the animals to pull, and allowed cities to grow beyond normal walking distance (an hour's walk, 3-4 miles).
- Most major U.S. cities had horsecar lines by the 1850s. No. 101 likely dates to the 1870s, just prior to introduction of the first practical electric railways.

Pittsburgh 3487 – Early Double-truck Trolley; High-floor car

- Represents early two-truck cars; large, but still mostly wood except for plate steel sheathing added later to appear modern & safe.
- Cars like it were purchased because the city pushed for more capacity.
- It is called a high-floor car, so called since Pittsburgh hills called for larger-than-average motors, requiring bigger trucks and a high floor to clear them.
- Built 1905

Pittsburgh 4145 & M200 (ex-4140) –High-floor car

- These are the same basic style as 3487 but are all steel, making a sturdier, lighter car that cost less to run and could still pull trailers for more capacity.
- High floor cars made boarding very difficult due to the high step, leading to their replacement.
- Eventually became work cars. M200 remains in this form; past owners restored 4145 as a passenger car. The two illustrate common reuse and adaptation.
- Both cars built in 1911
- **Cincinnati #2227** built in 1919, features the same early, two-truck body style as 3487, 4145, and M200. It is the only complete streetcar left from Cincinnati.

Pittsburgh 3756 & 4398 – Low-floor city and interurban cars

- Low-floor cars were designed to be more user friendly and popular than the high floor cars by making boarding easier. The first low-floor cars were trailers pulled by high-floor cars. The trailers usually filled up first, so the company bought new ones with motors.
- Smaller motors and trucks were made powerful enough for the hills, a lighter body, and an aisle that sloped toward the center doors.
- Because they were easier to board, they reduced the amount of time that each stop took, thus making each trip faster and reducing labor costs.
- Known as “safety cars” due to additional safety features including a deadman
- 4398 built in 1917
- 3756 built in 1925

Rio De Janeiro 1758 – Open Car or Picnic Cars

- Companies sought to earn fares in off-peak hours. Many built amusement parks to earn weekend fares, serving them with open-air cars in the summer.
- While open cars disappeared in the late 1920s in U.S. cities due to safety concerns, Brazil used open cars into the 1960s.
- Built in 1911

Jersey Shore 3 and Mon Val 274 –Interurban Combines

- Companies realized that trolley technology could also be applied between cities. The theory was to provide a low-cost alternative to trains, or to serve areas not accessible by train, roughly equivalent to today's intercity buses.
- Most interurban cars came as standard models from specialized builders.
- Many interurban cars also included a compartment for passenger baggage, as well as small freight shipments, making them *combines*. Sometimes a farmer would take his milk or eggs to town to sell by interurban. In this area, many of them linked small coal company towns to the outside world.
- Jersey Shore 3 built in 1905 and Mon Val 274 built in 1918

Toledo – Private Interurban Cars

- Most interurban cars were marginally profitable and short lived due to factors like automobile competition, but in the Midwest the spacing of medium sized cities on a relatively flat landscape made them more profitable than most, and more popular. Some lines felt justified in purchasing luxurious cars.
- The *Toledo* is an example of a trolley company executive's private car, and is outfitted appropriately with parlors, kitchen, and bathroom.
- Built in 1906

New Orleans 832, Philadelphia 5326, & Johnstown 350 – Double end 1920s city cars

- Double-end cars were flexible, because they could be used on lines where turning loops were either unavailable or impractically located. Philadelphia used them on lines that were too short to make loops cost effective.
- The arch-roof design was made possible by better ventilation devices and lighting. Older cars used a monitor for light and ventilation, which made the cars much heavier and thus more expensive to maintain and operate.
- They exhibit a state-of-the-art car body style that was cheap to build and maintain and that looked very modern at the time they were introduced.

Red Arrow 66 –Center Door cars

- Represent the same car body style and construction as double end 1920s city car, but also include innovations that enabled faster loading.
- The large, center doors made loading and unloading faster. These cars were larger than city cars to handle heavy rush hour suburban crowds, and could be run in multiple-unit fashion for even greater capacity. They outlasted many newer cars because their size and weight made them useful in heavy snows and for large group charters.
- Built in 1926

West Penn 832 & Philadelphia &West Chester 78 – Lightweight cars

- Automobile competition cut into trolley revenues, so companies saved costs with one-person cars. The PA Public Service Commission began allowing one-person operation on the condition that cars had dead-man controls.
- Autos also gave new urgency to comfort, a consideration management often overlooked in competition's absence. Both cars reflect increased attention to comfort: designed lighting, picture windows, and leather-upholstered seats.

- Each car was built using new technologies that made them extra-lightweight. 832 uses curved sides that reduce material while adding strength. No. 78 is made of aluminum, a much lighter metal than steel. Like previous weight-cutting innovations, these advances saved money by using less electricity.
- Both cars increased speeds, especially 78 – its top speed is around 50 mph.
- WP 832 built in 1930; 78 built in 1932

Pittsburgh 1467– Early PCCs

- The Electric Railway Presidents' Conference Committee met in the late 1920s to save the street railways business, and decided they needed a radical new car to compete with the comfort and speed of the automobile.
- The resulting car, named “PCC” (the committee's initials), incorporated many refinements that made it friendlier to passengers. Hand-crank windows, upholstered seats, and quiet propulsion were just some of the advances.
- The PCC was quickly adopted in many cities that still had streetcars. In 1936 Pittsburgh was the first to put one into regular service. This pre-1946 car features single, tall passenger windows, and air brakes.
- Built in 1941

Pittsburgh 1711 & 4004; Philadelphia 2711; Shaker Heights 94 – Late PCCs

- PCCs were popular and successful in preserving many streetcar companies at least through the end of World War Two. In 1946, the design was updated to include windows for standees, a more curvaceous body, and electric brakes to make them more competitive against postwar demand for automobiles.
- They were popular enough that some lines ordered them with appliances for suburban and interurban routes; no. 94 ran to Cleveland's Shaker Heights.
- Pittsburgh Railways president Tom Fitzgerald foresaw much suburban growth after World War Two, and purchased cars like 1711 to meet the expected demand. However, most new suburbanites chose auto trips instead of trolley trips. The line closed only four years later after business collapsed.
- PCCs were popular, durable, and easy to maintain, so they were often long-lived. No. 1711 became a city car after the Washington line closed, and served until 1988 – nearly 20 years beyond its planned lifespan. Most Philadelphia cars were retired in the 1990s. Pittsburgh 4004 was overhauled in the late 80s and ran until 1999. PCCs still run in transit service in some cities.
- Pgh 1711 built in 1949, 2711 built in 1947; Shaker Heights built in 1948

Red Arrow 14, & 24 – PCC-inspired cars

- The PCC was licensed to car builders. The largest builder, J.G. Brill, was not a licensee, and developed its own design called Brilliner to compete with the PCC, approximating many of its refinements. It did not sell well, and patent infringement suits stopped production.
- Red Arrow liked the PCC concept, and asked licensee St. Louis Car Co. to develop a car with similar refinements, but better suited to their operations. Cars like 14 & 24 resulted, with PCC appearance and comfort, but double-ended, able to run in trains, and with a drive found on other Red Arrow cars.
- Built in 1949

City of Philadelphia 606 – Rapid Transit Car

- Early subway and elevated railroad lines were steam-powered, but they cost a lot to run, and city residents often vociferously opposed smoke and noise. Electric traction and multiple-unit control made them cheaper and cleaner.
- Rapid transit outlasted street railways because it served dense areas where driving was impractical, didn't get caught in traffic, and had higher capacity.
- No. 606 is built of stainless steel, which saved on maintenance costs.
- Built 1960

Snow sweepers, dump cars, cranes, tow cars/locomotives – Work Equipment

- Maintenance equipment kept the line running reliably and economically. Unlike rubber-tired vehicles on public streets, trolley companies had to maintain their own track and infrastructure with no public support. Street maintenance jobs like snow removal were often required for a franchise.