

A Quick Overview of Public Transit in Pittsburgh

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Public transportation as we know it in the Pittsburgh region began, as it did in most communities, with the omnibus. These glorified stagecoaches were franchised by cities to operate over fixed routes, which they did on more-or-less fixed schedules. While the omnibus was faster than walking, and less expensive to ride than a horse was to own, early roads were hardly conducive to rapid transit, often turning to mud in inclement weather.

Over the protests of those fearful of anything new, horse-drawn railcars appeared on the streets of New York in 1832. The steel (or iron) wheel on a steel (or iron) rail was a major leap in technology, for it simultaneously made for a (relatively) smooth-riding surface while reducing the rolling friction enough to double the operating speed. Fewer horses were required and their jobs were easier.

Horse-drawn streetcars appeared in Philadelphia in 1858 and in Pittsburgh a year later. The Citizens Passenger Railway Company opened for business on August 5, 1859, on a route extending from the present Sixth Street along Penn Avenue to 34th Street. Once the popularity of this service was established, other companies followed quickly, eventually expanding to a network totaling 35 miles of track



serving the city well for the next thirty years.

But the horse cars had their drawbacks — a maximum speed of just five miles per hour, high feed, stabling and veterinary costs, and the undesirability of tons of animal waste deposited on the streets daily. In October 1888, a cable railway system was in place along Fifth Avenue, running from Downtown through Oakland and ending in East Liberty, replacing the horses. Two more cable car lines were built before the “ultimate” answer emerged.

Cable railways entailed heavy, expensive and invasive infrastructure under the streets, and although again faster than their predecessors, tended toward unreliability and high operational costs. As they were being built, in fact, the city’s first experiments with electrical propulsion were taking place. Early installations on the South Side and in the City of Allegheny taught valuable lessons which were quickly learned.

By the spring of 1890, Pittsburgh’s first permanent and successful electric streetcar line was in operation from Downtown to Glenwood. The Second Avenue Traction Company demonstrated conclusively the superiority of electric propulsion over

previous modes. Other operators quickly converted to the new trolleys, named after the rolling wheels that rode the high-voltage electric wires in the first experimental lines. And in typical entrepreneurial fashion, new entrants lined up to request franchises so they could employ this lucrative technology.

Expansion in the 1890s was rapid, until the industry got caught up in an economic downturn (we would call it a recession today) during 1893-94, leading to a first major round of mergers and consolidation. Then, as now, it was practical to buy out your competitor to prevent price wars. By the end of the decade, only three main operators remained, and they in turn combined at the beginning of 1902 to form the Pittsburgh Railways Company, which itself was part of a conglomerate known as the Philadelphia Company, parent of Equitable Gas and, from 1912, Duquesne Light, along with a number of smaller entities.

Because the new trolley company had many obligations to its underlying predecessors and their bondholders, and to the municipalities in the form of taxes and street maintenance requirements, little revenue was left for new equipment to handle increasing loads. PRCo

quickly became unpopular in the eyes of the public because of their apparent indifference to the riders’ needs, and the feeling intensified when the local owners sold the company in 1906 to the San Francisco-based United Railways Investment Company.



1905 High-Floor Car

Though the new owners retained local management and slowly re-equipped the system with larger, state-of-the-art low-floor streetcars, the goodwill of the public had been lost — a situation that would haunt the company for decades, regardless of all the positive improvements that were undertaken. It was easier to remember, for example, that transfer privileges were withdrawn on holidays (large traffic days) to increase the company’s revenue than to acknowledge that several hundred new streetcars were acquired (on two occasions, no less) at great cost to provide a better ride.

The low-floor vehicle, so popular in transit operations today, was conceived by PRCo General Manager P. N. Jones and placed in ser-



1890s Electric Car



Low-Floor Car

vice in 1910. Although those first cars were trailers, Jones soon prevailed on his former colleagues at Westinghouse Electric to develop a smaller-diameter, lighter-weight motor that would fit under these car bodies. By 1914, the first of 840 low-floor motor cars were in service, along with 225 trailers, to serve the system that would reach maximum size four years later with 606 miles of track.

PRCo struggled through the 'teens and entered its first receivership in 1918, occasioned by war-time inflation, service disruptions due to weather and maintenance lapses, and accident claims, along with the City's refusal to permit a fare increase to pay for all this. The bankruptcy allowed the company to abandon some of its underlying obligations (along with the predecessor companies claiming them), while a valuation was established

(under state auspices) for rate-setting purposes. Municipalities were no longer able to set fares, as the courts upheld a ruling by the Public Service Commission that it alone was in control of rates.

“The PCC car's riding qualities, seating comfort and acceleration characteristics (faster than most autos of the day) made it an effective competitor and helped to stanch patronage losses.”

Before the receivership was lifted in 1924 the company embarked on a major capital program that included 618 of those low-floor cars, and much track and bridge improvement work. At about the same time, the company (and its parent) were sold again, this time to the Standard Gas & Electric Company of Chicago, whose Bylesby Engineering and Management group was brought in to run

the show. Unfortunately, passenger counts had peaked in 1923, and no one knows what their progressive management could have done with transit in an era of growth.

There would be no more growth

until the Second War; revenues began to decline immediately, but until late 1929 the levels were sustainable. The automobile was here to stay, and the Great Depression took away what the auto missed. PRCo and other transit operators well understood the need to further modernize in an attempt to stay competitive. To that end, they formed their Presidents' Conference Committee, charged with the

development of a modern streetcar.

In 1936, the streamlined PCC car was a reality, and within two years more than 200 of them were on Pittsburgh streets, supplementing cars that were little more than ten years old. The PCC car's riding qualities, seating comfort and acceleration characteristics (faster than most autos of the day) made it an effective competitor and helped to stanch patronage losses. Pittsburgh Railways would go on to own 666 of these popular cars.

Although bus service in the area began as early as 1911, it was not until the 1920s that it came into its own. By this time, the economics of extending rail lines were no longer favorable, and roads had improved to the point where reliable motor coach service could be operated into areas needing transit. In 1925, PRCo formed a subsidiary, the Pittsburgh Motor Coach Company, which bought out the Pittsburgh Auto Transit Company. The latter firm had been in operation since 1913, and ran from East Liberty to Downtown. PMC developed many new routes through the next three decades, as did the 30-some independent bus operators in Allegheny County.

During the Depression, PRCo became unable to pay all its obligations to bondholders of the old underlying companies, and again entered bankruptcy in 1938. While the bankers and lawyers (and the politicians) all struggled to figure out how they could benefit from the reorganization proceedings, World



PCC Car in Homestead



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1980 LRVs on the Overbrook Line

War II intervened. The lack of new autos, plus gasoline and tire rationing, brought back rider counts reminiscent of the 1920s. This cash flow permitted the purchase of 465 PCC cars during the receivership, but the war's wear and tear on the infrastructure was devastating. A handful of trolley lines had been converted to bus by the end of the war, but most still ran and were in need of renewal.

By 1949, automobile supply had caught up with demand, and transit patronage again took a nosedive. PRCo came out of bankruptcy in 1951 into a declining market, and almost immediately began replacing shuttle routes with buses. This process was extended to through routes during the next two years, and eliminated the biggest money losers. The company's labor relations had become contentious in this period of declining revenues, and a lengthy strike in 1954 (among others) drove even more riders away for good. Many of the independent bus lines were having tough times, as well, as the steel industry reached full maturity and began the first stages of decline.

Community leaders had for some years been calling for a unified, county-wide transit operation, and their dreams were fulfilled in 1964, when the publicly-subsidized Port Authority of Allegheny County (PAT) took over 33 private companies and began their integration. Rail lines were converted to bus as quickly as new vehicles could be acquired, yet fare increases brought about more rider losses. In the early 1970s, PAT began to aggressively market transit, and made it highly visible through bold paint schemes on buses and trolleys, while pro-

moting new express service to many areas. Also during this era, PAT proposed a controversial rapid transit system to replace the last of the South Hills streetcars.

That plan foundered amid community rejection in the affected areas, and in the 1980s the trolley lines were upgraded to modern light rail standards and re-equipped with modern cars. Most recently, a rail corridor dating from the 1870s was rebuilt and was reopened in 2004. Bus-only roadways lead east, south and west from the city for fast getaways, and a small number of through-route buses have been added, the one to Pittsburgh International Airport the most popular. Otherwise, the Port Authority route map in 2005 looks remarkably like the one of 40 years ago.

Passenger counts on the buses continue to droop as the city's population tumbles (it is about half of what it was in 1950) and automobiles are almost universal. Transit funding is again a major issue, just as in the days before the Port Authority, when it was claimed that only public ownership would permanently solve the funding shortfall problem.

Light rail is showing steady to rising ridership, and plans are to take the system north of the Allegheny River, where future extensions could go in each of two directions. But unresolved is the future of the corridor with the greatest need – Downtown to Oakland and beyond. Had the politicians of a decade ago not interfered, we might be riding it today!

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DUQUESNE INCLINE OPENS MACHINE ROOM

By David J. Vater, Registered Architect

One of the few remaining mechanical devices representative of the industrial prowess of old Pittsburgh, the age of steam, the era of steel, and the dawn of modern engineering, the Duquesne Incline faithfully climbs and descends Mt. Washington on its 800 foot long tracks pulled by braided steel cables and massive revolving gears installed in 1877, 128 years ago by Pittsburgh engineer Samuel Diescher.

Earlier this year, thanks to a Federal T-21 grant, and with the installation of a new stairway and viewing mezzanine, the equipment room at last opened to the public. Visitors can now view the ingenious machinery in actual operation, including a pair of safety cable sheave wheels, the six bull wheels, the 12' diameter cast iron drive gear with 130 pairs of removable wooden teeth that turns the massive cable drum which simultaneously winds one cable on to lift a passenger car and unwinds one cable off lowering the other car. Moments after bells clang alerting passengers that the incline is about to start, all the gears and cables begin to move. Watching the machinery in operation is a wonderful lesson in physics, especially for children.

Samuel Diescher (1839 – 1915) born in Budapest, Hungary, studied engineering in Germany and Switzerland, and in 1866 immigrated to the United States at the age of 27. His Pittsburgh office designed the machinery for the first Ferris wheel at the 1893 World's Columbian Exhibition in Chicago. In 1912 he designed a mechanical apparatus to generate electricity from the ocean for the United States Wave Power Company. He also designed local bridges, highways, street railways, coke works, water works, rolling mills, and over a dozen inclines in North and South America.

The Duquesne Incline is open 365 days a year. It was named a National Historic Mechanical Engineering Landmark in 1977.

