From Boxcars to Buses: Use of Railroad Rights-of-Way for Transit in Pittsburgh

David E. Wohlwill, AICP
Port Authority of Allegheny County

American Planning Association - Pennsylvania Chapter
Philadelphia, PA
October 12, 2014

Pittsburgh’s Railroads

Pennsylvania Railroad entered Pittsburgh in 1852. Became the largest railroad serving Pittsburgh
Other major railroads serving Pittsburgh:
• Baltimore & Ohio
• Pittsburgh & Lake Erie
• Pittsburgh & West Virginia/ Wabash Pittsburgh Terminal (Last railroad to enter Pittsburgh)

Historical Society of Western Pennsylvania

Port Authority
Extensive network of railroad lines developed in Pittsburgh by the 1900s

Railroads’ Vast Physical Plant

Pennsylvania Station Track Layout

CM Interlocking in East Liberty

Port Authority

Port Authority

10/31/2014
PRR’s rail infrastructure in Pittsburgh

- To accommodate increased freight and passenger traffic, busiest lines were widened to four tracks.
- These lines were also grade separated in elevated and depressed alignments.
- Wide rights-of-way and grade separation subsequently facilitated use of PRR rail corridors for transit usage.

Both images: University of Pittsburgh
Mid 20th Century Changes in the Pittsburgh Region and Rail Corridors

- Pittsburgh region became economically mature in the 1920s
- Lineside industries relocate to other areas or go out of business (Ford Motor plant ceases production in 1932)
- City of Pittsburgh reaches its peak population in 1950 and then enters a long period of population decline
- Many residents of Pittsburgh neighborhoods and adjacent municipalities move to new suburbs such as Monroeville and Greentree
- Businesses follow the outward migration
- Suburban retail developments attract shoppers away from traditional business districts
- Disinvestment in communities located along rail corridors
- First “Renaissance” for Downtown Pittsburgh occurs in 1950s

Later 20th Century Changes in Pittsburgh

- Unsuccessful effort to revitalize East Liberty through clearance of many properties, creation of pedestrian mall and development of a ring road around the neighborhood’s core
- The Pittsburgh region undergoes a sharp decline in steel making and other heavy industrial production in the late 1970s and throughout the 1980s
- City’s population declined by 37% 1950 - 1980
- The educational and medical sectors emerge as the major drivers of the Pittsburgh region’s economy
- Downtown Pittsburgh undergoes second “Renaissance” (1980s)
Post-war Decline of Railroads

- 1947 - PRR posts loss
- Travelers shift to driving and flying
- Long-distance passenger rail service greatly reduced
- 1964 - PRR eliminates all Pittsburgh area commuter rail service
- With regional industrial decline and more freight being shipped by truck, demand for freight rail decreases
- 1968 - PRR merges with New York Central to form Penn Central
- 1970 - Penn Central enters largest bankruptcy in US history
- 1971 - Amtrak created
- 1976 - Conrail formed

New opportunities for Port Authority Utilization of Rail Corridors

- Wabash HOV: Wabash Tunnel
- South Busway: Edge of Norfolk & Western Railway Corridor
- West Busway: Abandoned section of Conrail Panhandle Line in Western communities
- South Hills Light Rail System: Tunnel and bridge sections of Conrail Panhandle Line in Downtown Pittsburgh
- Martin Luther King, Jr. East Busway: Conrail/Ohio Southern Pittsburgh Line corridor and along short section of a Baltimore & Ohio RR corridor
Port Authority Facilities using Railroad Corridors

Light Rail Transit System
Light Rail Transit System

- 26.2 miles of line linking the North Shore & Downtown Pittsburgh with South Side and South Hills
- Red Line opened in 1987
- Blue Line opened in 2004
- North Shore Connector opened in 2012
- Mix of subway, elevated, on street and at-grade private right-of-way alignments
- 27,500 weekday riders (2014)

Railroad right-of-way available for LRT Alignment
Reuse of Railroad Facilities for LRT

- Port Authority bought right-of-way from Conrail in 1980
- Purchase included:
  - Grant’s Hill Tunnel (Used for Steel Plaza Station)
  - ROW on both sides of tunnel
  - Panhandle Bridge
- No longer used for passenger service and other railroad infrastructure
  accommodated rerouted freight trains

First Avenue Station

- Built adjacent to elevated PRR alignment and on site of street-level B & O
  freight and passenger rail terminal
- Opened in 2001
- Intermodal function with connections to parking and Eliza Furnace Trail
Development along LRT Line

- Steel Plaza Station
  - BNY Mellon Center (incorporates Steel Plaza Station)
  - Walkway connection to US Steel Building (now UPMC) has several small businesses and YMCA
  - Mellon Customer Service Center
- First Avenue Station
  - PNC Firstside Center
  - Public Safety Complex
  - Parking Garage
  - Bicycle Rental

Martin Luther King, Jr. East Busway

Port Authority
Martin Luther King, Jr. East Busway

- 9.1 miles linking Downtown Pittsburgh and Oakland with East End neighborhoods and Eastern suburbs
- 24,000 weekday riders (May 2014)
- Built from Downtown to Wilkinsburg in 1983 and extended to Swissvale in 2003

Busway built in property made available when railroad consolidated operations on two tracks

South Highland Ave Bridge over Railroad and East Busway
Shadyside & East Liberty

University of Pittsburgh
Relationship of Busway to Railroad

Shadyside

Swissvale

Conrail and Norfolk Southern Requirements

- Track and Signal Improvements
- Realignment of track
- Railroad clearance requirements
  - 13 feet from centerline on tangent track
  - 14 feet on curved track
- Insurance
  - $100 Million of liability per occurrence per year
  - High level of transit service is considered to be high frequency of risk
  - Covers operations within 50 feet of the railroad
  - Additional $10 million policy covers contractors and subcontractors performing work on busway and stations
East Busway Benefits

- Major reduction in travel times for eastern commuters
- Investment represented a major improvement in a deteriorated railroad corridor:
  - New transit guideway
  - New stations
  - Lighting and landscaping
- The combination of improved access and the physical investment generated developer interest in Pittsburgh's eastern neighborhoods

Development along the Busway

- Population decline leveling off (-1.5% 1990 - 2010 compared to -1.7% for City)
- $800 million between 1983 and 2008
- Additional development taking place
- Development includes new construction and renovation of older buildings
- Popularity of East End neighborhoods with students and young professionals
- Expansion of medical sector
New Construction

- Shadyside: Medical Professional Building
- Shadyside: Condominiums
- Homewood: Townhouses
- East Liberty: Mixed Retail

Reuse of Lineside Industrial Buildings

- Nabisco Plant
  - Allegheny Conference on Community Development
- Bakery Square
- Ford Motor Company Plant
  - Don Doughtery Collection
- UPMC Research Facility
E ast L iberty Redevelopment

- New development reestablished E ast L iberty's status as a key activity center in Pittsburgh
- Several community redevelopment plans for the neighborhood core focused on the busway station.
- Greatest amount of development along busway
- TIGER grant to build new station and infrastructure to support new Transit-Oriented Development

Penn Station Transformation

- Photographs from Railpictures.net, John Dziobko

Port Authority
Railroad continues to be an important transportation artery

- Amtrak opens new station facility in 1990
- Two Amtrak trains in each direction
- Conrail merges into Norfolk Southern (NS) in 1999
- Nearly all freight trains are through trains not serving Pittsburgh industries

Rail Corridor Opportunities

- Railroad corridors are often wide enough for new rail or bus rapid transit lines
- Can reduce right-of-way acquisition costs
- Railroads often have done the difficult work of overcoming geographic barriers by constructing tunnels, bridges, etc.
- Railroad yards can provide locations for bus garages, railcar maintenance and storage areas, stations and park-and-ride lots
- Maintaining transportation function of the corridor can avoid the need to rezone the corridor to permit a transit facility
Rail Corridor Challenges

• To minimize grade changes, railroads are located within valleys or on elevated alignments which are not easily accessible.

• Abandoned railroads, yards and other rail facility sites are often hazardous material site locations.

• Coordination with railroad can be complex and costly
  – Require funding of improvements to railroad infrastructure in return for allowing shared use of an active railroad corridor.
  – Costly insurance premiums.

• Use of grade-separated rights-of-way cause many to view East Busway infrastructure as a barrier to access between communities.

• Presence of an active railroad increases complexity of implementing Transit-Oriented Development.

Contact Information

David E. Wohlwill, AICP
Program Manager, Long-Range Planning
Port Authority of Allegheny County
412.566.5110

dwohlwill@portauthority.org