



CORRIDOR RAIL FACILITIES



PREPARED FOR
PENNSYLVANIA
DEPARTMENT OF
TRANSPORTATION
BY
DELAWARE
VALLEY
REGIONAL
PLANNING
COMMISSION
JANUARY
1991

**I-95 Intermodal Mobility Project:
Heading for the Twenty-First Century**



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HEADING FOR THE TWENTY-FIRST CENTURY



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DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

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ABSTRACT

*This report reviews rail freight and passenger rail in the Delaware Valley Region, as well as the I-95 Corridor. This report, a component of the **I-95 Intermodal Mobility Project**, presents an overview of rail freight lines and passenger rail lines in the region followed by a more detailed discussion of rail freight facilities in the I-95 corridor.*

Long-term shipping trends, a commodity analysis and a network overview are presented in the Rail Freight Lines chapter. The Passenger Rail Lines chapter examines SEPTA Regional Rail, Amtrak, SEPTA Rapid Transit and New Jersey Rapid Transit. The Rail Freight Facilities in the I-95 Corridor chapter identifies active and abandoned rail lines, interlockings, train yards, terminals and SEPTA train stations in the corridor.

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SUMMARY

The I-95 Corridor contains extensive rail facilities used for the movement of passengers and freight. Conrail and CSX are the principal freight carriers in the region, and Amtrak and SEPTA handle intercity and local passengers respectively. The Delaware and Hudson (D&H) Railroad, with trackage rights into Philadelphia, has the potential to become a major rail freight carrier after its acquisition by the Canadian Pacific Railroad becomes finalized. Rail facilities transport freight and passengers who would otherwise use I-95 or its alternative routes. The interrelationship between I-95 and rail facilities is therefore pivotal when planning improvements to the highway. The ability of the rail system to attract freight and passenger vehicles away from the highways in the corridor will significantly affect the magnitude of improvements needed to carry traffic over the next 20 years.

Over 600 miles of rail freight lines serve Philadelphia and its four suburban counties on the Pennsylvania side of the Delaware River. The region has traditionally been a destination for rail freight bound for the ports along the Delaware River. During the last year that data was available (1985), 70% of the tonnage was destined for the region, with 30% of the tonnage originating from the region. The largest commodities shipped - coal, iron ore, scrap, and paper - are largely port related commodities.

Due to changing economic patterns in the state, and to a lesser extent in the region, the long-term outlook for rail freight is not optimistic. Pennsylvania has experienced a steady decline of its coal industry. Other ports, in particular Baltimore, are attracting a greater share of the declining coal export business. Historically, Philadelphia was a major gateway for iron ore destined for Pittsburgh; however, in the evolving steel industry, Pittsburgh is becoming a producer of secondary steel products. As the economy of the Philadelphia region becomes more service oriented, many manufacturing companies are leaving the region, resulting in fewer products available for shipping. Most importantly, in recent years the Port of Philadelphia has been gradually losing cargo to other ports along the Delaware River and the East Coast. Reasons include high costs, antiquated facilities, and the lack of unified control. To rectify the situation, in July 1990, the Commonwealth of Pennsylvania created an authority to own and operate port facilities along the Delaware River. The state has committed funds for port improvements, including a major intermodal cargo-transfer station. Long-term plans call for port unification with New Jersey, or at least some form of cooperative planning and marketing. If some kind of agreement can be reached, the Delaware River Port Authority would commit substantial funds to modernize ports in both states.

A number of major rail lines converge in the region. North-south Conrail traffic between Baltimore and North Jersey passes through the region. In the past, freight trains between North Jersey and Harrisburg were also routed through the region. However, Conrail has shifted most through freight traffic between North Jersey and Harrisburg via Allentown in order to avoid paying trackage rights to Amtrak. The through routes have direct access to the Greenwich Yard serving the Port of Philadelphia. While CSX has access to the port from the south, its yards lack adequate intermodal capability. Probably the most important feeder

line in the I-95 Corridor is the Chester Secondary Track serving Philadelphia International Airport, Sun Company, Allied Chemical, Scott Paper Company, Philadelphia Electric, and other industrial complexes along the waterfront in Delaware County. Other major feeder lines in the corridor serve industrial areas in Philadelphia - Port Richmond, the area around Northeast Philadelphia Airport, and steel fabrication plants in the Holmesburg section - as well as the USX Fairless Works in Bucks County.

SEPTA operates six commuter lines within the I-95 Corridor - R1 Airport, R2 Wilmington, R3 West Chester, R3 West Trenton, R7 Trenton, and R8 Fox Chase - carrying an average of 38,000 passengers a day. For a long time, passenger service was allowed to deteriorate as the Pennsylvania and Reading railroads and their successor companies faced financial difficulties. SEPTA took over ownership and operation of commuter rail service in 1983. The Regional Rail System is still suffering from an inadequately maintained physical plant; the backlog of capital projects needed just to maintain existing service is estimated to exceed \$1.2 billion.

SEPTA operates extensive service to Center City during weekdays and limited service on weekends. During peak periods, most rail lines operate with 30 minute or less headways. During off-peak periods, service generally operates at 60 minute headways. Commuter parking is provided at many stations, though the number of spaces is limited. Since 1985 ridership on the rail lines serving the southern portion of the I-95 corridor has decreased, though in the northern portion of the study area ridership levels have increased. A recent series of fare increases and several other ancillary factors have reduced overall ridership on SEPTA's Regional Rail System.

Three of SEPTA's lines in the I-95 Corridor operate over right-of-way owned by Amtrak. Similarly, Conrail retains trackage rights on many SEPTA owned rail lines.

SEPTA also operates rapid transit service in Philadelphia along Broad Street, Market Street, and Kensington/Frankford Avenues. Trolley service in Delaware County is also operated by SEPTA. Because of the relatively short distances involved and their placement with respect to I-95, these transit lines have a limited impact on travel demand in the I-95 Corridor.

Amtrak operates intercity rail service parallel to I-95 between Boston and Washington, as well as connecting Philadelphia to Harrisburg and Atlantic City. Amtrak service provides an alternative to driving and has the potential to draw additional vehicles from I-95. ☐

INTRODUCTION

The I-95 Corridor contains extensive rail facilities used for the movement of passengers and freight. Conrail and CSX are the principal freight carriers in the region; the D&H is currently playing a minor role, but it has the potential to become a major freight carrier after its acquisition by the Canadian Pacific Railroad becomes finalized. Amtrak and SEPTA handle intercity and local passengers respectively. Rail facilities transport freight and passengers who would otherwise use I-95 or its alternative routes. The interrelationship between I-95 and rail facilities is pivotal when planning improvements to the highway. Rail's ability to attract freight and passenger vehicles from the highways in the corridor will significantly affect the magnitude of improvements needed to carry traffic over the next 20 years.

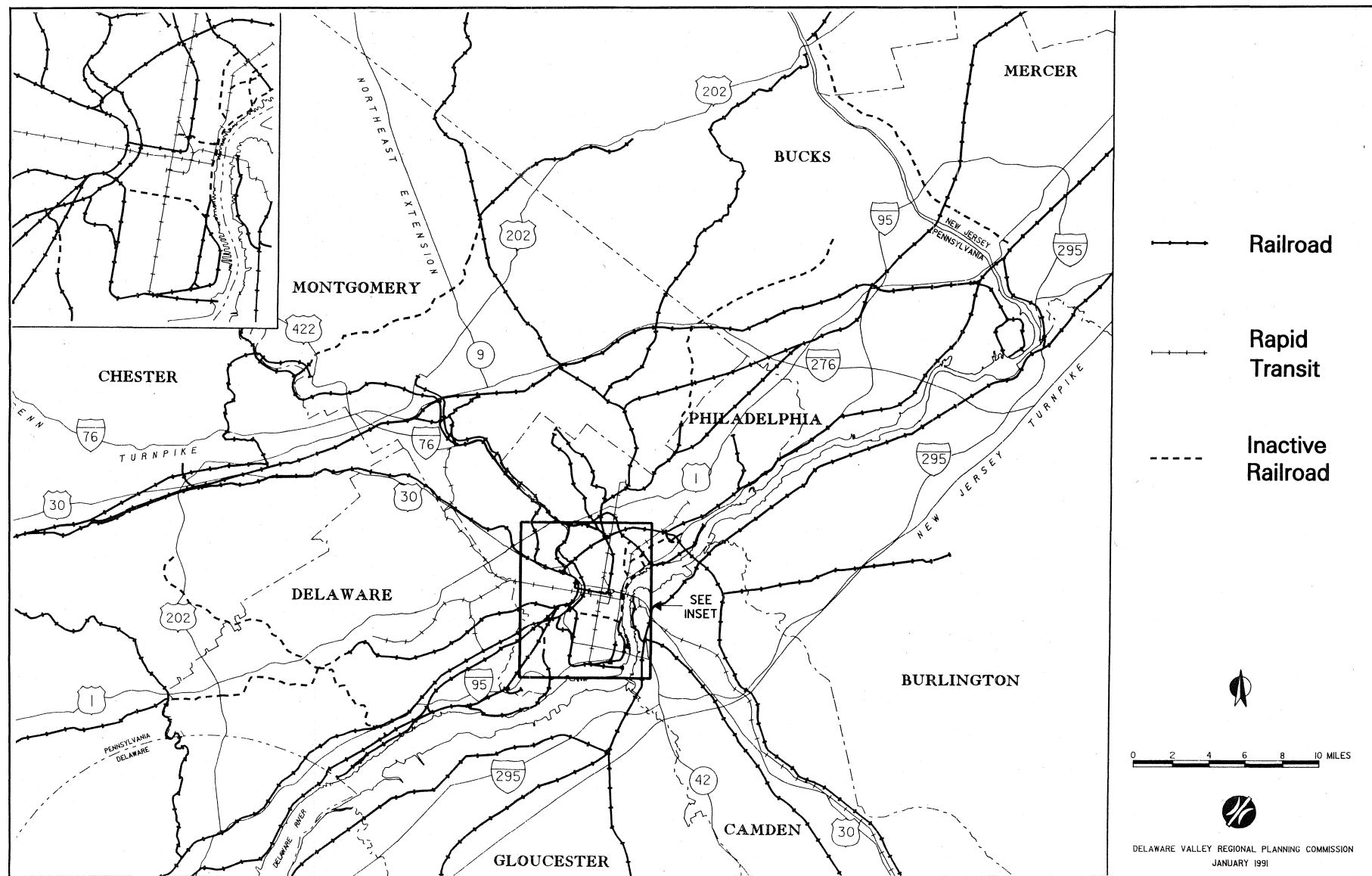
To gain a perspective on rail freight operations, this report presents a review of which commodities are shipped via rail and how long-term economic trends may affect the movement of goods. The report then provides an overview of rail freight operations in the region prior to a more detailed description of rail facilities in the I-95 Corridor. The regional rail network is displayed in Figure 1. In the network overview, rail lines are classified as core, feeder, or shortline, in order to depict the hierarchy of key rail movements. Potential modifications to the rail network are also discussed.

Commuter rail services in the corridor are summarized. Emphasis is given to SEPTA's Regional Rail System, which competes with auto travel in the corridor. Of SEPTA's 13 commuter lines serving suburban counties, six operate in the I-95 Corridor, carrying an average of 38,000 passengers a day. The inventory of the Regional Rail System includes a brief description of each line, ridership levels and trends, frequency of service, travel times, fares, and a station inventory. Portions of the Regional Rail inventory duplicate the freight inventory because both modes frequently share the same tracks.

The report also briefly reviews other rail passenger services operated by Amtrak, SEPTA, PATCO, and NJ TRANSIT. Amtrak's Northeast Corridor rail service parallels I-95 offering passage to Wilmington, Trenton, and more distant cities. In addition to its Regional Rail service, SEPTA offers an array of transit services including rapid rail transit, bus, and trolley service. The Broad Street and Market-Frankford lines are reviewed because of their interface with I-95. Lastly, PATCO and NJ TRANSIT train service to and within New Jersey are briefly described.

The final chapter provides a detailed inventory of rail lines in the I-95 Corridor - number of tracks, line ownership and trackage rights, interlockings, rail yards, rail terminals, and abandoned rail lines. Results of the inventory can provide an insight on how rail facilities interrelate with potential improvements to I-95 and its alternate routes. □

Figure 1: REGIONAL RAIL NETWORK



RAIL FREIGHT LINES

This chapter provides an overview of the regional rail freight network, principal shipping commodities, major rail movements into and through the region, and long-range trends. Knowledge of these fundamentals is needed to understand rail freight operations in the I-95 Corridor which are enumerated in the last chapter.

More than 600 miles of rail freight lines serve Philadelphia and its suburban counties on the Pennsylvania side of the Delaware River. While some lines, such as the Trenton Cut-Off, are an integral part of the national rail network, other rail lines are local or regional in nature, serving port facilities and other industrial areas lying along the waterfront in the I-95 Corridor. With extensive intercity and commuter rail service, Amtrak and SEPTA own a considerable portion of the rail network, resulting in an intermingling of freight and passenger trains sharing the same right-of-way. In 1985, according to a report commissioned by PennDOT, rail lines in the region carried 17.9 million tons, up slightly from 17.0 million tons in 1984. Changing economic patterns are likely to produce a slow decline in freight traffic.

Long-Term Shipping Trends

In an effort to fashion a state rail plan, PennDOT commissioned a study titled "A Comprehensive Freight Rail Study for Pennsylvania" (1986) by Transportation and Distribution Associates, Inc. Incorporated in the study was an analysis of which commodities are shipped by rail and how long-term economic trends may affect different commodities. The following discussion and the subsequent commodity analysis are largely based upon information presented in the final report (1986) and an update (1987).

Due to changing economic patterns in the state, and to a lesser extent in the region, the long-term outlook for rail freight is pessimistic. Because of the ports along the Delaware River, the region traditionally has been a destination for rail freight and not an originator of rail freight. Rail destination commodities are those goods which come into the region (Philadelphia and its four surrounding counties in Pennsylvania) via rail and are either consumed here or are shipped out of the region through the port. Rail origination commodities are either produced in the region or are shipped into the region via the port and are then sent by rail to other destinations. In 1985, the four largest destination commodities - coal, grain, scrap, and paper - accounted for over 60% of the region's destination tonnage, most of which was shipped out via the port. Similarly, in 1985, the three largest rail tonnage origination commodities - iron ore, scrap, and other minerals - was shipped into the region via the port. By 1990, the shipment of grain out of the port has become non-existent as grain shipments have shifted to the Gulf Coast.

Pennsylvania has experienced a steady decline of its coal industry. Among the contributing factors are a declining export market, the relatively high sulfur content of Pennsylvania's coals, and a switch to alternative energy sources. Except for the reconstruction of Pier 124 adjacent to the Greenwich Yard, coal tonnage passing through the port would have

decreased in recent years. To stay competitive with foreign competition, the steel industry needs more modern plants with access to iron and coal from the Great Lakes. Steel production will eventually be limited to specialty products and other secondary steels. As the steel industry evolves, older supporting industries become dispensable. Historically, the Port of Philadelphia was a major gateway for iron ore destined to Pittsburgh. Philadelphia, Baltimore and other ports have experienced a sharp reduction in iron ore tonnage. Structural changes in Philadelphia's economy are also contributing to declining rail tonnage. As the Philadelphia economy becomes more service industry oriented, the magnitude of products produced by the region is steadily declining.

As traditional sources of rail freight decline, two commodities - paper and chemicals - are showing increased signs of shipping activity.

Another key factor in the long-term outlook for rail freight is the status of the Port of Philadelphia. For a long time, the port has been gradually losing cargo to other ports along the Delaware River and the East Coast. Reasons include high costs, antiquated facilities, and inefficient management. Typical of the problem is a dispute over a proposed intermodal cargo-transfer station in the Greenwich Yard. The yard serves the Packer Avenue Marine Terminal, a major port facility. To lower shipping costs and make itself more competitive, the port and the Commonwealth of Pennsylvania have made construction of the new intermodal cargo-transfer station a high priority in order to permit CSX and other rail carriers to initiate operations into the port. Conrail has reservations concerning the capacity of the intermodal cargo-transfer station as well as the rates to be charged for renting the facility.

To rectify the port situation, the Commonwealth of Pennsylvania has proposed a number of initiatives. In July 1990, the newly created Philadelphia Regional Port Authority (PRPA), a state entity, acquired ownership and operation of the Packer Avenue Marine Terminal, the Tioga Marine Terminal in Port Richmond and 11 finger piers in Philadelphia. These facilities were formally under the ownership and operation of the City of Philadelphia. PRPA also has jurisdiction over any public port facilities to be built in Delaware or Bucks Counties. Long range plans call for port unification, or some form of joint planning and marketing operations with New Jersey port officials. An agreement between Pennsylvania and New Jersey can lead to an infusion of money for capital improvements by the Delaware River Port Authority (DRPA). DRPA derives its revenue from operating bridges between both states. It is unclear what agreement will be forthcoming from the negotiations. The Pennsylvania legislature earmarked \$57.8 million for port modernization, of which \$29.4 million has been released.

Commodity Analysis

Because of the long-term trends discussed above, the State Rail Plan projected a 16.0% decrease in rail tonnage in the Philadelphia region between 1985 and 1991 (see Table 1), from 17.9 million tons to 15.1 million tons. The projected loss in rail activity is not as steep as projected for the state as a whole which was projected to experience a 24.3% decline in rail activity during the same period. Conrail feels the projections overstated the actual decline

of rail tonnage in the region, in fact many commodities did not experience any decline in tonnage.

Rail operations in the region are destination oriented (see Table 1), delivering commodities to the port for shipment. Over 70% of the tonnage is destination tonnage as compared to the state-wide tonnage which is nearly evenly split between origin and destination shipments.

Table 1: COMPARISON OF PENNSYLVANIA AND REGIONAL RAIL STATISTICS

1985-1991 RAIL FREIGHT STATISTICS (MILLIONS OF TONS)

<u>TOTAL TONNAGE</u>	<u>1985</u>	<u>PROJ. 1991</u>	<u>DIFF.</u>	<u>% DIFF.</u>
PENNSYLVANIA	106.574	80.703	-25.871	-24.28
PA. PORTION OF REGION	17.926	15.066	-2.860	-15.95

1985 ORIGIN VS. DESTINATION

<u>LOCATION</u>	<u>% ORIGIN</u>	<u>% DESTINATION</u>
PENNSYLVANIA	51.65	48.35
PA. PORTION OF REGION	29.07	70.93

Source: "A Comprehensive Freight Rail Study for Pennsylvania," Transportation and Distribution Assoc., 1987.

Distribution of rail freight among commodity types, in 1985, is shown in Table 2. Among the commodities with freight shipments originating from the region, mining products - iron ore (42.9%) and other metal mining (9.4%) - represent over 50% of the tonnage. Other major commodities and their percentage of origination tonnage include: primary metals (9.4%), transportation equipment (5.3%), petroleum refining products such as asphalt or roofing materials (4.7%), pulp and other paper products (3.4%), and chemicals (3.0%). Major commodities destined to the region, and their percentage of destination tonnage, include: coal (34.7%), agriculture (14.4%), paper (10.1%), food (6.8%), chemicals (5.9%), coke (4.0%), and other mining products (3.7%). In the late 1980's, shipment of grain into the region for export purposes had ceased. Coal is the largest single commodity shipped into or out of the region, representing approximately one-quarter of the entire region's tonnage.

Between 1985 and 1991, the state rail plan projected a 24.0% decrease in tonnage originating from the region (see Table 3). The biggest decreases were projected to occur among iron ore (38.0%), metal scrap (37.7%), primary metals (38.0%), coke (33.3%), and other petroleum products (38.1%). These commodities represent some of the most important origination

Table 2: DISTRIBUTION OF RAIL FREIGHT AMONG COMMODITY TYPES

1985 ORIGIN AND DESTINATION FREIGHT (MILLIONS OF TONS)				
<u>COMMODITY</u>	<u>ORIGIN</u>		<u>DESTINATION</u>	
	<u>TONNAGE</u>	<u>PERCENT</u>	<u>TONNAGE</u>	<u>PERCENT</u>
Agriculture	0.153	2.93	1.835	14.43
Total Mining	2.722	52.23	4.887	38.43
Coal	0.000	0.00	4.414	34.71
Iron	2.234	42.87	0.000	0.00
Other Mining	0.488	9.36	0.473	3.72
Total Scrap	0.227	4.36	0.267	2.10
Metal Scrap	0.155	2.98	0.202	1.59
Other Scrap	0.072	1.38	0.065	0.51
Total Manufacturing	1.524	29.26	4.356	34.26
Food	0.096	1.85	0.860	6.76
Lumber	0.001	0.02	0.161	1.27
Paper	0.179	3.43	1.288	10.13
Chemicals	0.156	3.00	0.754	5.93
Petroleum	0.259	4.97	0.649	5.10
Coke	0.012	0.24	0.511	4.02
Other	0.247	4.73	0.138	1.08
Stone, etc.	0.040	0.77	0.065	0.52
Primary Metal	0.490	9.40	0.254	2.00
Transport Equip.	0.274	5.25	0.252	1.98
Other Manufacturing	0.030	0.57	0.073	0.57
Miscellaneous Shipments	0.585	11.22	1.371	10.78
TOTAL	5.211	100.00	12.715	100.00

Source: "A Comprehensive Freight Rail Study for Pennsylvania," Transportation and Distribution Assoc., 1987.

Table 3: RAIL FREIGHT TRENDS BY COMMODITY: 1985-1991

ORIGIN AND DESTINATION FREIGHT (MILLIONS OF TONS)								
COMMODITY	ORIGIN				DESTINATION			
	1985	PROJ. 1991	DIFF.	% DIFF.	1985	PROJ. 1991	DIFF.	% DIFF.
Agriculture	0.153	0.137	-0.016	-10.46	1.835	1.944	0.109	5.94
Total Mining	2.722	1.861	-0.861	-31.64	4.887	3.515	-1.372	-28.06
Coal	0.000	0.000	0.000	0.00	4.414	3.054	-1.360	-30.80
Iron	2.234	1.386	-0.848	-37.97	0.000	0.000	0.000	0.00
Other Mining	0.488	0.475	-0.013	-2.66	0.473	0.461	-0.012	-2.58
Total Scrap	0.227	0.171	-0.056	-24.67	0.267	0.232	-0.035	-13.11
Metal Scrap	0.155	0.097	-0.058	-37.74	0.202	0.165	-0.037	-18.36
Other Scrap	0.072	0.075	0.003	4.14	0.065	0.068	0.003	4.36
Total Manufacturing	1.524	1.295	-0.229	-15.03	4.356	4.119	-0.237	-5.44
Food	0.096	0.098	0.002	1.094	0.860	0.824	-0.036	-4.18
Lumber	0.001	0.001	0.000	0.00	0.161	0.161	0.000	0.00
Paper	0.179	0.186	0.007	4.23	1.288	1.347	0.059	4.60
Chemicals	0.156	0.179	0.023	14.58	0.754	0.754	0.000	0.00
Petroleum	0.259	0.161	-0.098	-37.97	0.649	0.451	-0.198	-30.52
Coke	0.012	0.008	-0.004	-33.33	0.511	0.317	-0.194	-37.97
Other	0.247	0.153	-0.094	-38.06	0.138	0.134	-0.004	-2.94
Stone, etc.	0.040	0.038	-0.002	-4.57	0.065	0.064	-0.001	-2.53
Primary Metal	0.490	0.304	-0.186	-37.96	0.254	0.206	-0.048	-18.89
Transport Equip.	0.274	0.301	0.027	10.15	0.252	0.241	-0.011	-4.42
Other Manufacturing	0.030	0.027	-0.003	-10.53	0.073	0.071	-0.002	-2.35
Miscellaneous Shipments	0.589	0.499	-0.90	-15.28	1.371	1.294	-0.077	-5.62
TOTAL	5.211	3.962	-1.249	-23.97	12.715	11.104	-1.611	-12.67

Source: "A Comprehensive Freight Rail Study for Pennsylvania," Transportation and Distribution Assoc., 1987.

commodities. Two commodities - chemicals and transportation equipment - were anticipated to experience over a 10% increase in tonnage. Destination commodities were projected to decline 12.7%. The largest declines were anticipated among coke (38.0%), coal (30.8%), primary metals (18.9%), and scrap metal (18.4%). Since coal is the largest commodity shipped via rail in the region, the projected 30.8% decrease has serious implications. Again, Conrail feels the actual decline in rail shipping was not as steep as projected in the 1986 report.

Rail Classification System

To gain an understanding of how the regional freight rail network operates, the different lines and branches need to be classified in a hierarchy based upon function. With this perspective, a macroscopic view of regional freight movements becomes possible.

In the report titled "A Comprehensive Freight Rail Study For Pennsylvania (1986)," a consultant team classified rail lines throughout Pennsylvania into four categories - core, feeder, short lines, and "at risk". The purpose was to identify a state rail freight network that should be in place after 1991, and to identify those freight lines at risk which may require special attention to preserve essential services. The New Jersey State Rail Plan takes a more project oriented approach, identifying branch lines to receive capital improvement funding rather than a comprehensive review of the rail network. Since the Pennsylvania effort was more comprehensive in nature and the emphasis of this study is the rail network in the Pennsylvania portion of the I-95 Corridor, the Pennsylvania classification categories will be used.

The Pennsylvania rail plan employs the following categories to classify rail freight lines:

- Core: The core network includes those lines used for through freight service across the state. Freight service is marked by scheduled over-the-road through service, in addition to unit trains, local way freights, and switching operations. While major traffic generators may be located on a core line, much of the traffic does not originate or terminate on the line, but is handled overhead to the specific segment. Certain core lines are also used by the primary intercity rail passenger network. A core line typically has a traffic density greater than ten million gross tons per mile.
- Feeder: The feeder network is comprised of those lines that generate considerable traffic, with traffic usually either originating or terminating on-line. Freight service is generally made up of local way freights and unit trains, although some limited through trains may operate over these lines. Traffic is primarily generated on-line; however, some segments provide overhead links between traffic-generating areas and the core network. If they are not included in the core network, lines serving such important traffic points as power plants, coal and grain piers, and unit train loading sites are identified as feeder routes.
-

Longer line segments frequently have a traffic density in excess of three million gross ton miles per mile; however, for shorter segments, these lines generally produce over 100 loads per mile.

Shortline: Segments included in the shortline category are limited to only those lines currently operated by Class II or Class III carriers. These lines are generally characterized as spurs or stub-end branches; however, some shortline operations are through routes that are included in either the core or feeder categories.

The fourth category in the State Rail Plan is "at risk" lines. Lines not identified as part of the core or feeder systems, or as viable shortlines, are considered at risk. At risk does not mean a segment will be abandoned; rather, it implies that a segment is at risk of having a change in its present level of operations. That change may result in service being abandoned or downgraded, or it may result in a line being transferred from a Class I carrier to a smaller railroad. Some at risk lines are already out of service. For the purposes of this overview, an effort was made to reclassify the at risk lines into one of the other categories based upon the supporting information provided in the state rail plan. In most instances, the at risk lines were reclassified as shortlines.

Rail lines in New Jersey were classified based upon the category definitions and the limited information available.

Network Overview

To gain an overview of how rail freight is shipped into and through the region, the regional core and feeder network is shown on Figure 2. Interlockings and rail yards critical to the movement of rail freight are shown on the figure and listed in Table 4. Ownership of these lines is shown on Figure 3. The following discussion will focus on the core network describing the predominant movements of rail traffic; the key feeder lines within the I-95 Corridor will also be briefly reviewed. Many rights-of-way serve intercity or commuter passenger service in addition to freight; in some instances they share the same tracks, in other locations there are separate dedicated tracks for freight and passenger service. Rail lines that function as passenger lines with little or no freight traffic are classified by the State Rail Plan as shortlines, and are therefore not shown on these figures. More detailed information describing shortlines, train yards, and terminals within the I-95 Corridor are discussed later in the report.

Until the formation of Conrail, the main rail freight through route between North Jersey and Harrisburg and points west passed through the Delaware Valley. A number of concurrent events prompted a change in operations. Reorganization of the Northeast rail network resulted in segments of the former through route being owned by Amtrak while Conrail acquired competing railroads. To avoid paying trackage rights to Amtrak, Conrail routes as many through trains as possible over Conrail owned tracks. As a result, Conrail switched

Figure 2: CORE AND FEEDER RAIL NETWORK

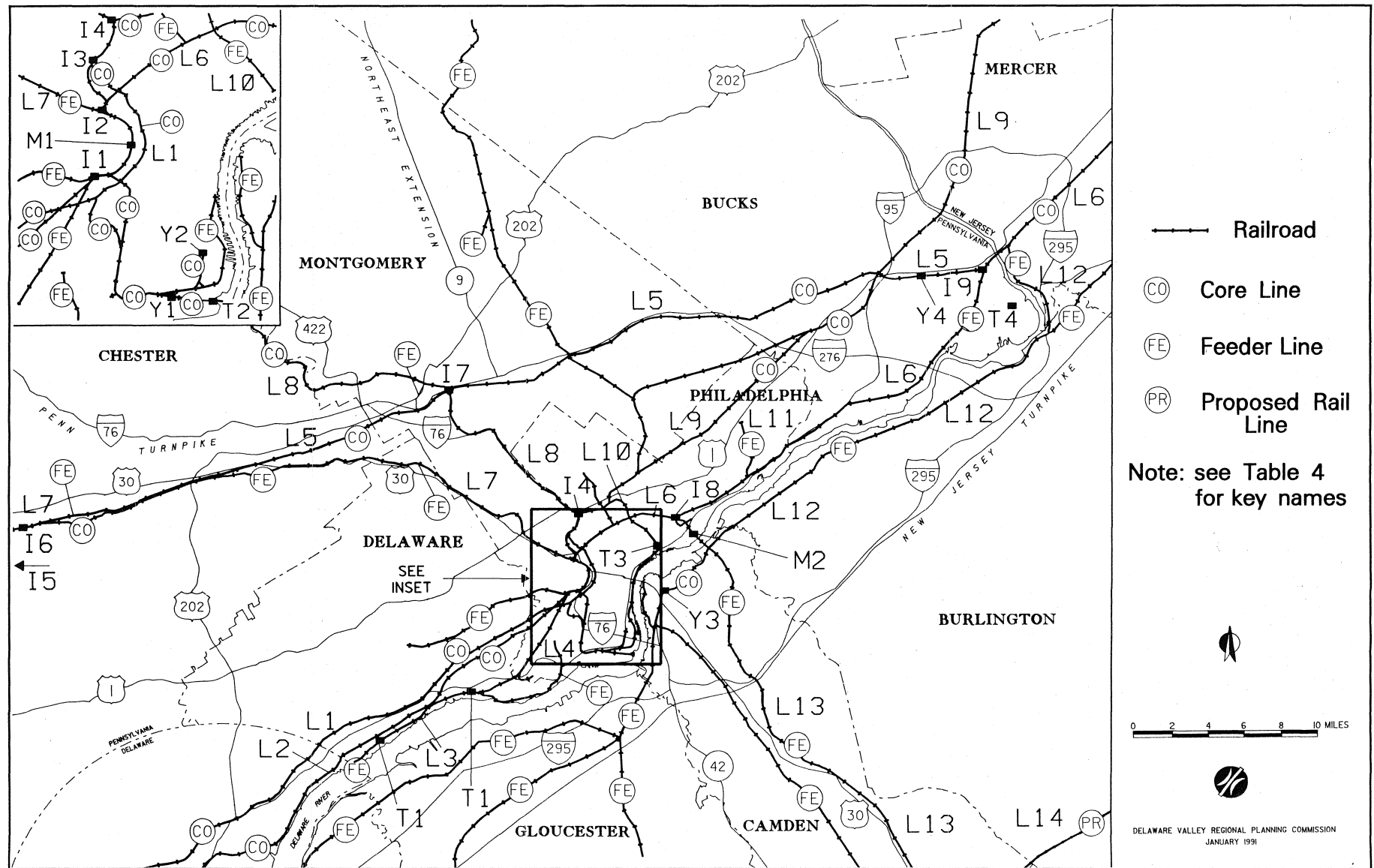


Figure 3: CORE AND FEEDER RAIL NETWORK OWNERSHIP

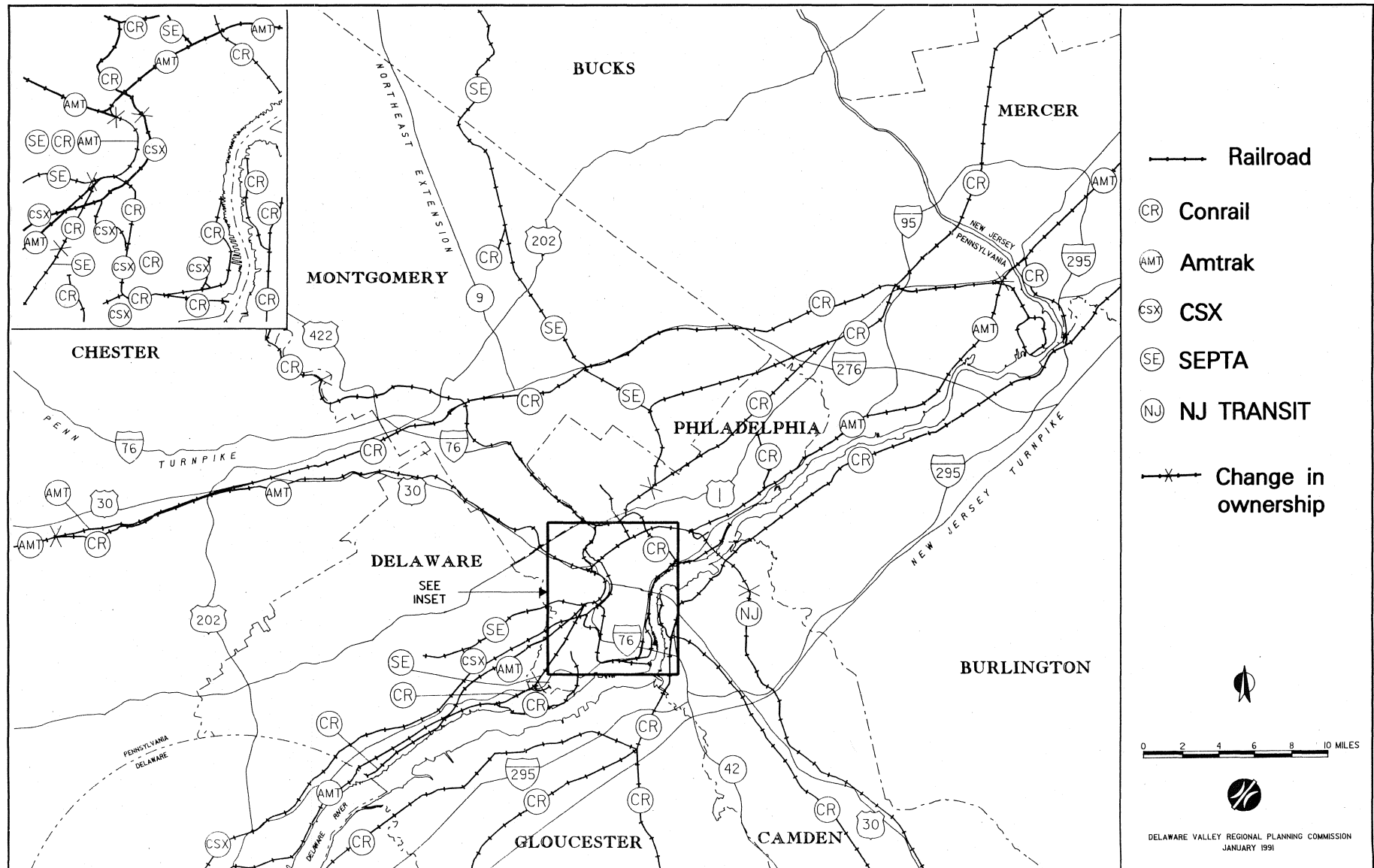


Table 4: KEY TO CORE AND FEEDER RAIL NETWORK MAP

<u>RAIL LINES</u>		<u>RAIL YARDS</u>	
L1	CSX Line	Y1	Greenwich
L2	Northeast Corridor (Washington-Philadelphia)	Y2	South Philadelphia
L3	Chester Secondary Track	Y3	Pavonia
L4	60th Street Industrial Track	Y4	Morrisville
L5	Trenton Cut-Off (Morrisville Line)		
L6	Northeast Corridor (New York-Philadelphia)		
L7	Harrisburg Main Line		
L8	Reading Main Line (CR Harrisburg Line)		
L9	New York Branch		
L10	Richmond Secondary Track		
L11	Bustleton Branch		
L12	Bordentown Branch		
L13	Atlantic City PRSL		
L14	Southern Secondary Track		
<u>RAIL TERMINALS</u>		<u>INTERLOCKINGS</u>	
T1	Sun Company, Allied Chemical, Scott Paper	I1	Arsenal
T2	Packer Avenue Marine Terminal	I2	Zoo
T3	Port Richmond	I3	Belmont
T4	US Steel Fairless Works	I4	Falls Junction
		I5	Parkesburg
		I6	Thorndale
		I7	Earnest-Abrams
		I8	Frankford Junction
		I9	Morrisville
		<u>MISCELLANEOUS FACILITIES</u>	
		M1	30th Street Station
		M2	Delair Bridge

its fleet to diesel power giving Conrail further impetus to shift to a shorter, non-electrified, route. The new through route follows the former Lehigh Valley Line between North Jersey and Allentown, and then the former Reading Line between Allentown and Harrisburg, thereby bypassing the Delaware Valley.

While the former through route between North Jersey and Harrisburg does not serve as many through trains as it used to, it is still one of the more important rail freight routes into the region. Traffic moving between Trenton and Harrisburg uses the Amtrak Northeast Corridor to cross the Delaware River to Morrisville, located in Pennsylvania just southwest of Trenton. Trains then follow Conrail's Trenton Cut-Off (recently renamed the Morrisville Line) which parallels the Pennsylvania Turnpike to Earnest near Norristown in Montgomery County. From there, the former Reading Main Line (recently renamed the CR Harrisburg Line) is used to reach Harrisburg via Reading. Morrisville Yard handles local freight and is a major intermodal terminal for trailers and containers. The yard takes advantage of its location adjacent to I-95 and US 1 to effect easy distribution of tractor trailers to points throughout southeastern Pennsylvania and New Jersey. Conrail will not route a train into South Philadelphia unless it contains at least 10 units. Therefore most cargo destined to the Port of Philadelphia is routed to Morrisville and containerized cargo is then shipped between Morrisville and the port on I-95.

Traffic between the Port of Philadelphia or Camden to Harrisburg and points west use the former Reading Main Line (CR Harrisburg Line), travelling parallel to the Schuylkill River between Zoo interlocking and Reading and then to Harrisburg. Port traffic mainly originates in the Greenwich Yard in South Philadelphia. From the yard, rail traffic is routed over Conrail tracks along the west side of the Schuylkill River through the 30th Street Station complex to Zoo interlocking. In South Jersey the main classification yard is the Pavonia Yard located in Camden City. From there, rail traffic is routed over the Delair Bridge to Frankford Junction, then over the Amtrak Northeast Corridor to Zoo interlocking where it meets the Reading Main Line (CR Harrisburg Line). There is a connection between the Trenton Cut-Off and the Reading Main Line (CR Harrisburg Line) by Norristown in Montgomery County.

Conrail's main north-south line between North Jersey and Delaware crosses the Delaware River into Pennsylvania west of Trenton. In Middletown Township, Bucks County, there is a connection to Conrail's Morrisville Yard. From there to Falls Junction, freight trains follow the former Reading's New York Line parallel to US 1. Between Falls Junction and Arsenal, trains pass over Conrail lines through the 30th Street Station complex. In this segment, freight trains originating in South Jersey and using the Delair Bridge can access Conrail's main north-south route. Between the Arsenal and Delaware, freight trains use Amtrak's Northeast Corridor right-of-way.

CSX has one line into the region, it originates from the south and parallels Amtrak's Northeast Corridor. After crossing the Schuylkill River in Philadelphia the line branches. One branch continues along the east bank of the Schuylkill River where it joins Conrail's Reading Main Line (CR Harrisburg Line) at Belmont Junction. The other branch sweeps around South Philadelphia terminating at the South Philadelphia Intermodal Yard by Oregon Avenue. The Port of Philadelphia can be accessed by the second branch. At several locations in South Philadelphia there are interconnections between CSX and Conrail. Conrail has trackage rights over CSX from Belmont Junction to Benning Yard in Washington, D.C.

Probably the most important feeder line from a rail freight perspective is the Chester Secondary Track along the waterfront in Chester County and the 60th Street Industrial Track serving the Philadelphia International Airport. Major customers such as Sun Company, Allied Chemical, Scott Paper Company and Philadelphia Electric Company's Eddystone Station are situated along the feeder line. The Chester Secondary Track accesses the core system at Arsenal.

Another major feeder line is the Amtrak Northeast Corridor between Morrisville in Bucks County and Frankford Junction in Philadelphia, paralleling the Delaware River. An offshoot of the feeder is another feeder line, the Bustleton Branch, serving industries around the Northeast Airport in Philadelphia. Two other important feeder lines are the Conrail line to Port Richmond in Philadelphia serving bulk commodities (stone and scrap) and the rail connection to the US Steel Fairless Works in Bucks County.

Almost all freight trains in South Jersey pass through the Pavonia Yard in the City of Camden. Generally, rail freight leaves South Jersey via the Delair Bridge to Frankford

Junction in Philadelphia. An alternate route, the Bordentown Secondary Track, parallels the Delaware River between Camden and Trenton where it meets Amtrak's Northeast Corridor. The Bordentown Secondary Track serves locally generated traffic. Sand and chemicals are the principal commodities shipped from South Jersey. Coal, chemicals, and building products are important inbound commodities. Cargo from port facilities in Camden and Gloucester City are carried by spur lines parallel to the Delaware River. The PRSL Line (Pennsylvania Reading Seashore Line) carries Amtrak and NJ TRANSIT passenger service to Atlantic City. In recent years, Conrail has abandoned a large number of lines in South Jersey due to a declining manufacturing base. The New Jersey Department of Transportation (NJDOT), NJ TRANSIT (where passenger service was affected), and private operators have made a substantial commitment to purchase and maintain service on abandoned lines.

Long-Term Modifications To Rail Freight Network

A number of alterations to the core and feeder network, which can have a major impact on the movement of rail freight in the region, are planned or under discussion. These include double-stack trains, an intermodal cargo-transfer facility in the Greenwich Yard, revival of the D&H Railroad, and the possible reinstitution of service on the Southern Secondary Track in South Jersey.

The Delaware and Hudson (D&H) Railroad is one of the oldest transportation companies in America. D&H owns lines stretching from Rouse's Point New York by the Canadian border through Binghamton New York into Scranton and Sunbury in Pennsylvania. The D&H also has trackage rights with Conrail between the Wilkes-Barre area and Philadelphia via the former Reading Main Line (CR Harrisburg Line). In June 1988 the D&H declared bankruptcy, though service was maintained by the New York, Susquehanna & Western (NYS&W) under an ICC emergency service order. The Canadian Pacific (CP) Railroad has tentatively reached agreement with the bankruptcy court to purchase the D&H, the expected closing date is December 1990. When the purchase is completed, CP will have direct access to Pennsylvania and via trackage rights to Belmont interlocking in Philadelphia. Discussions between the CP and CSX concerning extending D&H trackage rights to Wilmington and Baltimore are presently underway. The interface will occur at Belmont. In a recently concluded agreement, December 1990, Conrail granted the D&H access into the Port of Philadelphia in South Philadelphia. Port officials are encouraging D&H access because competition may result in lower shipping rates, and secondarily it would improve port access to western New York State and Canada. It is hoped that the D&H will become a major tenant of the proposed intermodal cargo-transfer facility in the Greenwich Yard.

To increase efficiency, railroads are resorting to employing double-stack and multi-level trains. Because of insufficient bridge clearances, there are no double-stack rail lines in Pennsylvania except through Erie County. Double-stack trains are presently being routed around Eastern Pennsylvania, to North Jersey via Albany, or down to Baltimore or Norfolk. Because of the need for east-west and north-south access, PennDOT identified three tentative double-stack

corridors. One would traverse the entire state from Pittsburgh to Altoona, then to Reading, and finally to Philadelphia over the Reading Main Line (CR Harrisburg Line). The second route is the CSX Line from Baltimore to Philadelphia. The last corridor is between Scranton and Allentown. Preparing these corridors for double-stack trains entails a considerable expense to raise bridge clearance to a minimum height of 19'4". The State Rail Plan in 1986 estimated 45 bridges need to be raised between Pittsburgh and South Philadelphia at a projected cost of \$12 million (1985 dollars). On the CSX line the state plan estimated one bridge needed to be raised, at a projected cost of \$5 to \$6 million. At this point no state funds are available to increase bridge clearances. PennDOT is also unsure which corridors or portions of corridors will be selected for improvement. Running double-stack trains into Philadelphia is contingent upon constructing an intermodal cargo-transfer facility in the Greenwich Yard. Conrail claims double-stack trains would not benefit the region because insufficient demand does not justify the construction cost and increased shipping capacity would fragment existing services resulting in higher costs.

Preliminary plans for the intermodal cargo-transfer facility place it on a 106-acre site along I-95 in the Greenwich Yard. The purpose of the intermodal facility is to consolidate at one location the operation of transferring international containerized cargo between rail carriers and the marine terminals along the Delaware River. The objective is multi-fold: 1) to efficiently lower costs by efficiently transferring containerized cargo, 2) to create an opportunity to increase cargo volume to a level to encourage rail carriers to offer express train service to inland ports, and 3) to offer a modern facility with double-stack capacity. The core of the intermodal facility will consist of four loading tracks and two rail storage tracks. Initially, the facility will handle trailers on flat car (TOFC) and containers on flat car (COFC). In a second phase, the intention is to expand to double-stack capability. There will be a heavy reliance on a computerized tracking system to speed the processing of containers, thus reducing costly delays. The intermodal cargo-transfer facility will serve the entire waterfront by means of the Conrail, CSX, or the Philadelphia Belt Line; containers will also be shipped via truck over the Walt Whitman Bridge to the Port of Camden and via I-95 to Port Richmond. It is anticipated that an independent operator will manage the facility. Besides Conrail and the PBL, Port officials hope CSX and the D&H will become major tenants of the facility. Preliminary cost estimate for both phases is approximately \$52 million. While the Commonwealth of Pennsylvania is ready to proceed with the project, two other principal players are delaying implementation. DRPA is willing to contribute financially to the project when an agreement is reached between Pennsylvania and New Jersey on port unification or some form of joint planning/marketing operations. More importantly, Conrail objects to the size of the proposed facility and the rates to rent it. While an intermodal cargo-transfer facility is beneficial from a regional perspective, the significance from an I-95 Corridor perspective it is more mixed. Currently almost all freight destined to the Greenwich Yard in South Philadelphia is transported by truck into the port. Construction of the intermodal cargo-transfer facility will result in a higher percentage of the freight being delivered to the Greenwich Yard via rail; conversely, it will generate new trucking activity between the intermodal facility and other port terminals in the Commonwealth of Pennsylvania and New Jersey.

South Jersey is becoming the last accessible sand mining area in the northeast. There is a concern that as the demand for sand increases, the Delair Branch would not be able to cope with the corresponding increase in freight traffic. Recently instituted Amtrak intercity passenger service to Atlantic City, which operates over the Delair Branch, may significantly reduce the branch's capacity to handle rail freight traffic. The New Jersey State Rail Plan in its 1990 update identified this potential problem. One possible solution presented in the plan was to resurrect the former Southern Division of the Central Railroad of New Jersey. This line, now called the Southern Secondary, stretches between Red Bank and Bridgeton. A 24 mile section between Winslow Junction and Woodmansie has been abandoned since 1981. NJ TRANSIT obtained a ten year lease, expiring in 1993, on this portion of the line. While NJ TRANSIT has not expressed interest in renewing passenger service, a number of freight operators have approached NJDOT about rail freight operations. The rail plan calls for a study to examine all issues regarding reinstituting freight service on the line, including demand, costs, and the impact on the Delair Branch. □

PASSENGER RAIL LINES

SEPTA Regional Rail

SEPTA operates 13 Regional Rail or commuter lines serving Philadelphia and its suburbs (see Figure 4). Six of these - R1 Airport, R2 Wilmington, R3 West Chester, R3 West Trenton, R7 Trenton, and R8 Fox Chase - operate parallel to I-95 and are therefore considered part of the study corridor. In total, the six lines carry an average of 38,000 passengers a day, 41% of the SEPTA Regional Rail ridership.

Regional Rail System

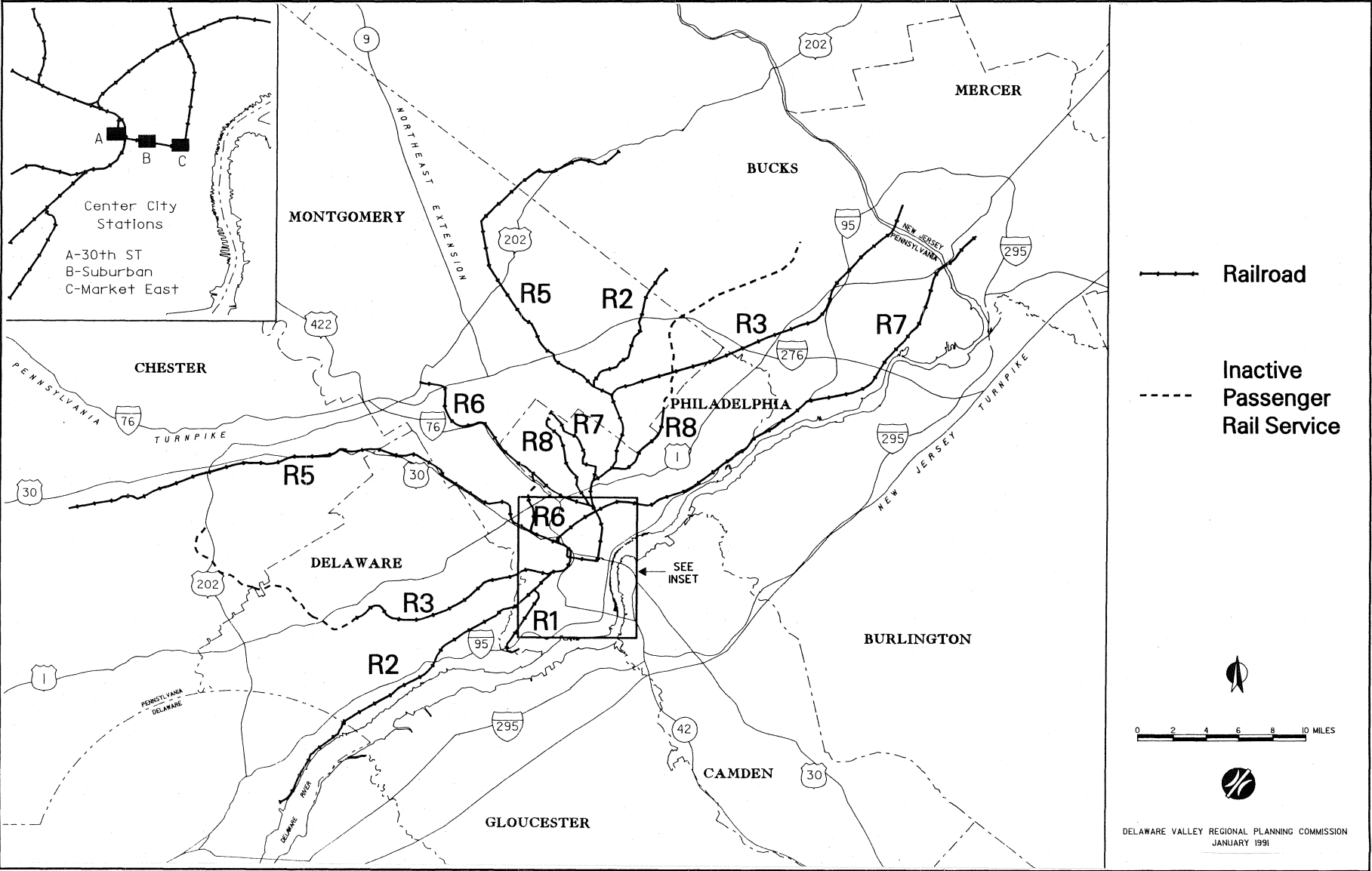
Regional Rail service was provided historically by the Pennsylvania and Reading railroads. Both companies had extensive route networks that together fanned out in all directions on the Pennsylvania side of the Delaware River. This was a radial network with Philadelphia as the hub. All Pennsylvania Railroad passenger service passed through 30th Street Station and terminated at Suburban Station in Center City, while Reading Railroad passenger service terminated at Reading Terminal four blocks to the east. Most routes were electrified - indeed, electric traction was required for entry into Suburban Station - though the Reading did operate some diesel-powered trains.

When Conrail was formed in 1976 from the remains of the Penn Central, Reading, and four other bankrupt railroads, it took over operation of the surviving services, which were by then operating with public subsidies. Service on non-electrified lines ended in 1981 as it became increasingly difficult to maintain diesel equipment operating on scattered lines. In 1983, SEPTA took over direct operation of the trains along with ownership of most of the track and structures over which they ran, with the principal exceptions of the Northeast Corridor and the Amtrak Main Line to Harrisburg, which had earlier passed to Amtrak upon the formation of Conrail.

At the time of SEPTA's takeover much of the railroad infrastructure was in a deteriorated condition, the result of years of deferred maintenance by the predecessor railroads. The Regional Rail System is still suffering from an inadequately maintained physical plant because of the lack of capital resources. The backlog of capital projects needed just to maintain existing service is now estimated at over \$1.2 billion.

Though the system has shrunk somewhat from earlier years, SEPTA essentially continued the separate operating practices inherited from the predecessor railroads. However, a major change occurred in 1984 when the Center City Commuter Tunnel opened, connecting the two previously separate rail systems. Reading routes were paired with Pennsylvania routes, and schedules were rewritten to allow through operation from one side to the other. This meant that riders could reach any of the three Center City terminals, regardless of which route their trip started from, and transfers between all lines were now possible.

Figure 4: SEPTA REGIONAL RAIL NETWORK



Three of the six lines inherited from the Pennsylvania Railroad are now owned and maintained by Amtrak. These are four-track lines with the inner tracks serving Amtrak and the outer tracks used by SEPTA. Conrail freight trains have trackage rights on many commuter rail lines to reach otherwise isolated sidings.

Overall, Amtrak ownership has proven beneficial to SEPTA. The pluses include access to well maintained high-speed rights-of-way, modernized signaling and train control, use of 30th Street Station, and the capture of a feeder market for Amtrak's intercity service. However, there are negatives which focus on the loss of control of the right-of-way which is reflected in delays triggered by interference with Amtrak trains. SEPTA has also been required through federal regulations to equip traction units with automatic speed control and event recorders, in order to operate safely on the 125 mph Northeast Corridor.

The principal yards serving SEPTA's Regional Rail System are the Paoli Yard (on the R5 Parkesburg/Paoli Line), the Frazer Yard (also on the R5 Parkesburg/Paoli Line), the Powelton Yard (by 30th Street Station), and the Roberts Yard (at Wayne Junction).

Description of Rail Lines

SEPTA Regional Rail Lines operating in the I-95 corridor are displayed on Figure 5. Below is a brief description of each Regional Rail Line, with more detailed information on stations, fare zones, commuter parking, and connecting rail and bus services displayed in Table 5. Because commuter and freight services frequently share the same right-of-way, much of the following discussion complements the previous chapter, which detailed rail freight facilities in the I-95 Corridor.

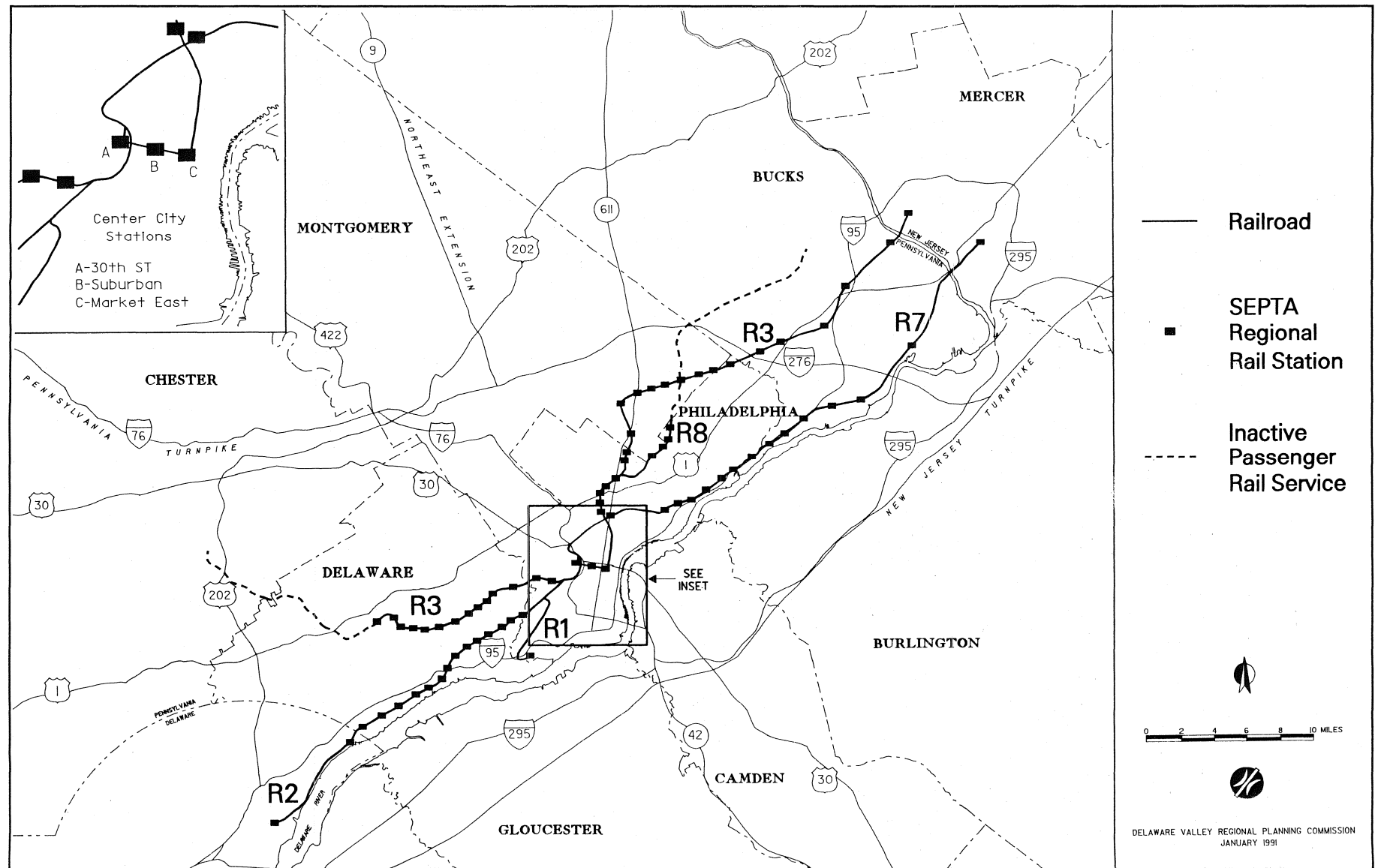
R1 Airport Line:

In 1985, a new passenger line to Philadelphia International Airport was opened. The 9.4 mile route between Center City and the airport took advantage of existing track for much of the way, even though the track had to be upgraded to passenger standards and supplied with overhead power for electric traction. All four domestic terminals are directly served by the three airport stations, and the Overseas Terminal is accessed via a free shuttle bus. Proposals to expand Philadelphia International Airport with new terminals call for extending the rail line. Besides the three Center City stations, the North Broad and Temple University stations are also served by the Airport Line. The City of Philadelphia plans to start construction of a new University City Station in Summer 1991, which is to be used by the R1 Airport Line, and very likely, the R2 Wilmington and R3 West Chester lines as well.

R2 Wilmington Line:

This 26.8 mile line operates between Wilmington, Delaware and Center City over Amtrak's Northeast Corridor right-of-way. When SEPTA assumed operations in 1983,

Figure 5: SEPTA I-95 CORRIDOR RAIL NETWORK



service was cut back to Marcus Hook. However, in 1989 service was restored to Wilmington. Transportation centers are located at the Wilmington and Chester stations. Claymont station in New Castle County, Delaware was reopened in October, 1990. Service is presently abandoned at Baldwin in Eddystone Borough, Delaware County. When Baldwin is reopened, service to the nearby Crum Lynne Station may be discontinued especially if a major park-and-ride facility providing interconnections between the Blue Route (I-476), I-95, and the railroad is constructed as is presently proposed. There is considerable freight service operating on the right-of-way because of connections with the Chester Secondary Track serving industries along the Delaware River waterfront. Under the State Rail Plan the right-of-way is classified as a core line.

R3 West Chester Line:

Rail service on the West Chester Line now terminates at Elwyn with shuttle bus service to West Chester. Service between Elwyn and West Chester was discontinued in 1986 because of deterioration of the track. There are no immediate plans to reinstate train service. However, SEPTA is presently conducting a preliminary engineering analysis on the restoration of rail service from Elwyn to Wawa. SEPTA owns the 27.4 mile right-of-way between Center City and West Chester, which is classified by the State Rail Plan as a feeder line between 30th Street Station and Morton and as a short line between Morton and West Chester. Stations at the western end of the line begin to fall outside the I-95 Corridor.

R3 West Trenton Line:

Between Center City and Neshaminy Falls, the right-of-way is owned by SEPTA with Conrail having trackage rights, but beyond Neshaminy Falls, Conrail owns the right-of-way with SEPTA having trackage rights. For the most part the 33.0 mile line consists of two tracks. Jenkintown Station, Wayne Junction Station, and North Broad Station are transportation hubs where passengers can switch between rail lines or use bus services. The Conrail owned portion of the right-of-way is considered a core line by the State Rail Plan, the SEPTA owned portion is considered a short line. The southern portion of the line, especially where it shares the right-of-way with the R2 Warminster Line and the R5 Doylestown/Lansdale Line, falls outside the I-95 Corridor even though it is shown on the I-95 Corridor rail maps. Auto commuters use alternate routes outside the I-95 Corridor to reach Center City.

R7 Trenton Line:

The 34.5 mile line operates between Trenton, New Jersey and Center City. The right-of-way, owned by Amtrak, is part of the Northeast Corridor, with Conrail and SEPTA having trackage rights. Transportation centers exist at North Philadelphia Station and the Trenton Station. At Trenton passengers can continue onto Newark and New York via NJ TRANSIT passenger rail service. Joint tickets are offered by SEPTA and NJ

TRANSIT. Between Morrisville and Frankford Junction the line is classified as a feeder, the remainder of the line is classified as a core line by the State Rail Plan.

R8 Fox Chase Line:

Rail service on the R8 Line used to extend to Newtown in Bucks County, but passengers had to change trains at Fox Chase since the line had never been electrified beyond that point. The diesel service between Fox Chase and Newtown was terminated in 1983, and replaced by a shuttle bus. The shuttle bus can also be reached at the Bethayres Station on the R3 West Trenton Line. Plans to resurrect service to Newtown are being discussed within SEPTA and Bucks and Montgomery counties. If service is reinstated, the most likely scenario is to construct an off-shoot of the R3 West Trenton Line at Bethayres. SEPTA owns the right-of-way between Center City and Newtown Junction (by Tabor), and between Cheltenham Junction and Newtown, Conrail owns the intermediate segment between Newtown Junction and Cheltenham Junction with SEPTA having trackage rights. Under the State Rail Plan, the Conrail portion of the 11.6 mile line is classified as a core line, the SEPTA owned portions are classified as a short line. The R8 Fox Chase Line falls along the boundary of the I-95 Corridor; however, if the line is extended to Newtown, portions of the extension would directly compete with I-95 for trips to Center City.

Ridership

SEPTA's Regional Rail Division carries approximately 92,700 trips per weekday, substantially fewer than the 123,000 trips carried as late as 1980. In recent years ridership on Regional Rail had been increasing; however, a recent series of fare increases caused some loss in ridership. It is too early to tell if this portends lower ridership levels over the long range. Insufficient parking at railroad stations also constrain ridership growth. Two lines are responsible for approximately 37% of SEPTA's Regional Rail ridership, the R5 Parkesburg/Paoli and the R5 Doylestown/Lansdale. Both lines are located outside the I-95 corridor.

Recent ridership trends in the corridor are shown in Table 6. Ridership on rail lines to Chester and Delaware Counties, south of Philadelphia, is decreasing. Elimination of service between Elwyn and West Chester did not significantly contribute to lower ridership on the R3 West Chester Line. Ridership levels on the R2 Wilmington Line are lower even with the restoration of service to Wilmington. One explanation for the decrease in ridership is that the surrounding areas are characterized by mature suburban communities with little potential for growth and a waning reliance on Philadelphia as a destination for work or shopping. Ridership levels in Bucks County, north of Philadelphia, have sharply increased. Tremendous growth in lower Bucks County in the 1980's may account for the increased ridership.

Passenger boardings by station for each rail line in the I-95 Corridor are shown in Table 7. Boarding and alighting counts are conducted at each station one day each year by SEPTA

Table 5: SEPTA REGIONAL RAIL STATION INVENTORY

<u>STATION</u>	<u>MUNICIPALITY</u>	<u>COUNTY</u>	<u>FARE ZONE</u>	<u>PARKING SPACES</u>	<u>CONNECTIONS RAIL</u>	<u>BUSES</u>
<u>R2 WILMINGTON LINE</u>						
Wilmington	Wilmington	N. Castle	4	P	Amtrak	DART
Claymont	Claymont	N. Castle	4	170	-	DART
Marcus Hook	Marcus Hk.	Del.	4	209	-	113
Highland Ave.	Chester	Del.	4	10	-	117
Lamokin St.	Chester	Del.	3	N	-	-
Chester	Chester	Del.	3	10	-	37,109,113,114, 116,117,118
Eddystone	Eddystone	Del.	3	10	-	37
Baldwin*	Eddystone	Del.	3	N	-	-
Crum Lynne	Ridley Pk.	Del.	3	20	-	114
Ridley Park	Ridley Pk.	Del.	3	43	-	-
Prospect Park	Prospect Pk.	Del.	2	28	-	-
Norwood	Norwood	Del.	2	62	-	-
Glenolden	Glenolden	Del.	2	70	-	-
Folcroft	Folcroft	Del.	2	43	-	-
Sharon Hill	Sharon Hill	Del.	2	36	-	115
Curtis Park	Sharon Hill	Del.	2	24	-	115
Darby	Darby	Del.	2	12	-	-
<u>R3 WEST CHESTER LINE**</u>						
Elwyn	Middletown	Del.	3	199	-	-
Media	U. Providence	Del.	3	211	-	-
Moylan-Rose Val.	N. Providence	Del.	3	123	-	-
Wallingford	N. Providence	Del.	3	62	-	118
Swarthmore	Swarthmore	Del.	3	142	-	109
Morton	Morton	Del.	2	118	-	107,111
Secane	Upper Darby	Del.	2	45	-	111
Primos	Aldan	Del.	2	117	-	107
Clifton-Aldan	Aldan	Del.	2	141	-	102
Gladstone	Lansdowne	Del.	2	109	-	-
Lansdowne	Lansdowne	Del.	2	141	-	109,113,115
Fernwood	Yeadon	Del.	2	N	-	108
Angora	-	Phila.	1	N	-	G,34,46
49th Street	-	Phila.	1	N	-	13,64

* Service to Baldwin station is currently suspended; however, SEPTA plans to restore passenger service and may close Crum Lynne.

** Shuttle bus operates between Elwyn and West Chester.

DART - Delaware Administration for Regional Transit

N - No parking P - Parking permitted, number of spaces unknown

Table 5: SEPTA REGIONAL RAIL STATION INVENTORY (Continued)

<u>STATION</u>	<u>MUNICIPALITY</u>	<u>COUNTY</u>	<u>FARE ZONE</u>	<u>PARKING SPACES</u>	<u>CONNECTIONS</u>	
					<u>RAIL</u>	<u>BUSES</u>
<u>R3 WEST TRENTON LINE</u>						
West Trenton	Ewing	Mercer	5	66	-	NJ TRANSIT
Yardley	Yardley	Bucks	5	101	-	127
Woodbourne	Middletown	Bucks	5	55	-	-
Langhorne	Langhorne Mr.	Bucks	4	226	-	14,127,130
Neshaminy Falls	Bensalem	Bucks	4	134	-	58
Trevoise	Bensalem	Bucks	4	86	-	14
Somerton	-	Phila.	3	194	-	58,84
Forest Hills	-	Phila.	3	136	-	84
Philmont	L. Moreland	Mont.	3	197	-	-
Bethayres	L. Moreland	Mont.	3	148	-	Newtown Shuttle, 24,88
Meadowbrook	Abington	Mont.	3	37	-	-
Rydal	Abington	Mont.	3	45	-	-
Noble	Abington	Mont.	3	67	-	55
Jenkintown-Wyncote	Cheltenham	Mont.	3	496	R2,R5	X
Elkins Park	Cheltenham	Mont.	2	82	R2,R5	28
Wayne Junction	-	Phila.	1	N	R2,R5,R7	23,53,75
North Broad	-	Phila.	C	N	R2,R5,R6,R7,R8 Broad St. Line	C,54
<u>R7 TRENTON LINE</u>						
Trenton	Trenton	Mercer	5	1,856	NJ TRANSIT Amtrak	NJ TRANSIT,127
Levittown	Tullytown	Bucks	5	480	-	128
Bristol	Bristol Boro.	Bucks	4	150	-	129
Croydon	Bristol Twp.	Bucks	4	67	-	129
Eddington	Bensalem	Bucks	4	N	-	129
Cornwells Hts.	Bensalem	Bucks	3	186	-	-
Andalusia	Bensalem	Bucks	3	N	-	-
Torresdale	-	Phila.	3	324	-	19,84
Holmesburg	-	Phila.	2	35	-	28,70,84
Tacony	-	Phila.	2	N	-	84
Wissinoming	-	Phila.	2	N	-	84
Bridesburg	-	Phila.	2	N	-	73,84
Frankford	-	Phila.	1	N	-	56
Frankford Jct.	-	Phila.	1	N	-	5
North Phila.	-	Phila.	C	N	R8, Amtrak, Broad St. Line	C,54

C - Center City fare zone

N - No parking

Table 5: SEPTA REGIONAL RAIL STATION INVENTORY (Continued)

<u>STATION</u>	<u>MUNICIPALITY</u>	<u>COUNTY</u>	<u>FARE ZONE</u>	<u>PARKING SPACES</u>	<u>CONNECTIONS RAIL</u>	<u>BUSES</u>
<u>R8 FOX CHASE LINE</u>						
Fox Chase	-	Phila.	2	291	-	16,18,24,28 Newtown Shuttle
Ryers	-	Phila.	2	70	-	16,70
Cheltenham	Cheltenham	Mont.	2	7	-	-
Lawndale	-	Phila.	2	N	-	-
Olney	-	Phila.	1	61	-	8,18
Wayne Junction	-	Phila.	1	N	R2,R5,R7	23,53,75
North Broad	-	Phila.	C	N	R2,R5,R6, R7,R8, Broad St. Line	C,54

C - Center City fare zone

N - No parking

Table 6: SEPTA REGIONAL RAIL RIDERSHIP TRENDS

AVERAGE WEEKDAY RIDERSHIP BY LINE (BASED ON CONDUCTOR COUNTS)				
<u>LINE</u>	<u>1985</u>	<u>1990</u>	<u>DIFF.</u>	<u>% DIFF.</u>
R1 Airport Line	2,000	2,500	500	25.0%
R2 Wilmington Line*	7,100	6,700	-400	-5.6%
R3 West Chester Line**	10,000	8,600	-1,400	-11.0%
R3 West Trenton Line	5,500	7,300	1,800	32.7%
R7 Trenton Line	7,000	8,600	1,600	22.9%
R8 Fox Chase Line	3,500	4,300	800	22.8%
Entire Regional Rail	80,000	92,700	12,700	15.9%

* R2 Line was extended from Marcus Hook to Wilmington in 1989.

** R3 Line shuttle bus service was substituted for train service between Elwyn and West Chester in 1986.

Table 7: PASSENGER BOARDINGS BY SEPTA REGIONAL RAIL STATION

<u>STATION</u>	<u>BOARDINGS</u>	<u>STATION</u>	<u>BOARDINGS</u>
<u>R1 AIRPORT LINE</u>		<u>R3 WEST TRENTON LINE (Cont.)</u>	
Airport	826	Langhorne	460
<u>R2 WILMINGTON LINE*</u>		Neshaminy Falls	175
Wilmington	313	Trevose	82
Marcus Hook	417	Somerton	500
Highland Avenue	103	Forest Hills	215
Lamokin Street	69	Philmont	395
Chester	329	Bethayres	318
Eddystone	64	Meadowbrook	71
Crum Lynne	94	Rydal	70
Ridley Park	305	Noble	126
Prospect Park	243	Jenkintown-Wyncote	273
Norwood	276	Elkins Park	201
Glenolden	268	Wayne Junction	106
Folcroft	242	North Broad	116
Sharon Hill	252	TOTAL	3,565
Curtis Park	150	<u>R7 TRENTON LINE</u>	
Darby	120	Trenton	979
TOTAL	3,245	Levittown	478
<u>R3 WEST CHESTER LINE**</u>		Bristol	281
Elwyn	352	Croydon	269
Media	533	Eddington	69
Moylan-Rose Valley	197	Cornwells Heights	368
Wallingford	201	Andalusia	24
Swarthmore	389	Torresdale	883
Morton	432	Holmesburg	365
Secane	471	Tacony	81
Primos	337	Wissinoming	35
Clifton-Aldan	356	Bridesburg	56
Gladstone	172	Frankford	4
Lansdowne	374	Frankford Junction	36
Fernwood	111	North Philadelphia	158
Angora	20	TOTAL	4,086
49th Street	19	<u>R8 FOX CHASE LINE</u>	
TOTAL	3,964	Fox Chase	1,021
<u>R3 WEST TRENTON LINE</u>		Ryers	230
West Trenton	84	Cheltenham	182
Yardley	257	Lawndale	335
Woodbourne	89	Olney	229
		TOTAL	1,997

* Claymont (located between Wilmington and Marcus Hook) opened after the SEPTA survey was conducted.

** Shuttle bus boardings by station between West Chester and Elwyn were not taken by SEPTA.
Station count survey conducted October 1989 by SEPTA.

personnel. The number of alightings is approximately equal to the number of boardings since passengers typically use the same station in the morning and the evening.

Major Regional Rail stations within the I-95 Corridor in terms of ridership are: Marcus Hook, 417 passengers per day on the R2 Wilmington Line; Media, 533 passengers, Morton, 432 passengers, and Secane, 471 passengers on the R3 West Chester Line; Langhorne, 460 passengers and Somerton, 500 passengers on the R3 West Trenton Line; Trenton, 979 passengers and Torresdale, 833 passengers on the R7 Trenton Line; and Fox Chase, 1,021 passengers on the R8 Fox Chase Line.

Service Characteristics

SEPTA operates extensive service to Center City seven days per week. During peak periods, most rail lines operate with 30 minute or less headways (Table 8). During off-peak periods and weekends, service generally operates at 60 minute headways. The R1 Airport Line operates with 30 minute headways every day of the week. The first trains into Center City tend to arrive prior to 6:30 AM, the last trains leave around 11:30 PM.

Table 8: FREQUENCY OF SEPTA REGIONAL RAIL WEEKDAY TRAIN SERVICE

<u>LINE</u>	<u>INBOUND</u>				<u>OUTBOUND</u>			
	<u>AM</u>	<u>MID-DAY</u>	<u>PM</u>	<u>EVENING</u>	<u>AM</u>	<u>MID-DAY</u>	<u>PM</u>	<u>EVENING</u>
R1 Airport Line	30	30	30	30	30	30	30	30
R2 Wilmington Line	20	60	33	60	30	60	22	60
R3 West Trenton Line	19	60	45	60	55	60	30	60
R3 West Chester Line	26	60	38	60	24	60	28	60
R7 Trenton Line	24	60	35	50	47	60	23	60
R8 Fox Chase Line	20	60	46	60	30	60	25	60

Service headway in minutes.

SEPTA operates limited express service on the Regional Rail System to and from Center City during peak periods. Express trains save 5-10 minutes over local service. The number of express trains is limited, typically only 1-3 trains in each direction on those lines that have them.

Travel times between each Regional Rail station in the corridor and Center City's Suburban Station are shown in Table 9. Travel times are given for the peak and off-peak periods, and for express trains.

Table 9: SEPTA REGIONAL RAIL TRAVEL TIMES TO CENTER CITY

<u>STATION</u>	<u>PEAK</u>	<u>EXP</u>	<u>OFF-PK</u>	<u>STATION</u>	<u>PEAK</u>	<u>EXP</u>	<u>OFF-PK</u>
<u>R1 AIRPORT LINE</u>				<u>R3 WEST TRENTON LINE (Cont.)</u>			
Terminal E	22	-	22	Woodbourne	56	51	53
Terminal C & D	21	-	21	Langhorne	52	47	50
Terminal B	19	-	19	Neshaminy Falls	48	42	46
<u>R2 WILMINGTON LINE</u>				Trevose	46	-	44
Wilmington	54	46	50	Somerton	43	37	41
Claymont	43	36	41	Forest Hills	42	-	40
Marcus Hook	40	33	37	Philmont	39	33	37
Highland Avenue	37	29	34	Bethayres	37	30	35
Lamokin Street	35	26	32	Meadowbrook	34	-	33
Chester	33	24	30	Rydal	32	-	31
Eddystone	30	22	28	Noble	30	-	29
Crum Lynne	28	-	26	Jenkintown-Wyncote	27	-	27
Ridley Park	26	19	24	Elkins Park	24	-	24
Prospect Park	24	-	22	Wayne Junction	16	-	16
Norwood	22	-	21	North Broad	12	-	12
Glenolden	20	-	19	<u>R7 TRENTON LINE</u>			
Sharon Hill	18	-	18	Trenton	58	53	53
Curtis Park	15	-	15	Levittown	49	44	44
Darby	13	-	13	Bristol	44	39	40
<u>R3 WEST CHESTER LINE*</u>				Croydon	39	35	36
Elwyn	42	35	39	Eddington	36	-	34
Media	38	31	35	Cornwells Heights	34	31	32
Moylan-Rose Valley	35	28	32	Andalusia	32	-	30
Wallingford	33	26	30	Torresdale	30	28	29
Swarthmore	30	23	27	Holmesburg	26	24	26
Morton	27	20	25	Tacony	24	-	24
Secane	24	17	22	Wissinoming	22	-	22
Primos	22	-	20	Bridesburg	20	-	20
Clifton-Aldan	20	-	19	Frankford	-	-	-
Gladstone	18	-	17	Frankford Junction	18	-	18
Lansdowne	16	-	16	North Philadelphia	14	15	14
Fernwood	14	-	14	<u>R8 FOX CHASE LINE</u>			
Angora	12	-	12	Fox Chase	32	-	31
49th Street	10	-	10	Ryers	29	-	29
<u>R3 WEST TRENTON LINE</u>				Cheltenham	27	-	27
West Trenton	64	60	61	Lawndale	25	-	25
Yardley	61	57	58	Olney	21	-	21
				Wayne Junction	16	-	16
				North Broad	12	-	12

* Shuttle bus operates between Elwyn and West Chester.
 Commuter travel time to Suburban Station (in minutes).
 Summer 1990 SEPTA schedule.
 EXP - Express trains

Transit Fares

SEPTA operates a complex fare schedule, with separate fare structures maintained for the Regional Rail and Transit divisions.

The Regional Rail System is divided into six zones, with reduced fares offered for off-peak travel, children, and family groups. A small savings can be obtained by purchasing ten-trip tickets. Weekly and monthly passes provide additional discounts. The pre-purchase of single trip tickets is also less expensive than the on-board purchase of tickets. No transfers are available for trips combining Regional Rail and transit routes, separate fares must be paid for each. However, weekly and monthly passes permit unlimited riding on both Regional Rail and transit lines. Intermediate Rail Pass and the Cross County Pass, available on a one-way or unlimited monthly basis, is convenient for trips between stations outside Center City. A special one-way fare applies between 30th Street, Suburban and Market East Stations. The SEPTA fare schedule is shown on Table 10.

**Table 10: SEPTA REGIONAL RAIL FARE SCHEDULE
TO/FROM CENTER CITY**

<u>ZONE</u>	<u>PEAK ONE-WAY</u>	<u>OFF-PEAK ONE-WAY</u>	<u>PEAK TEN-TRIP</u>	<u>TRAILPASS WEEKLY</u>	<u>TRAILPASS MONTHLY</u>
1	\$2.75	\$2.00	\$25.00	\$18.00	\$68.00
2	3.25	2.50	30.00	23.00	86.00
3	3.75	3.00	35.00	28.00	102.00
4	4.25	3.50	40.00	32.00	117.00
5	4.75	3.50	45.00	37.00	132.00
6	5.25	3.50	50.00	37.00	132.00

A special \$1.75 one-way fare applies between 30th Street, Suburban, and Market East Stations.
Fare schedule Summer 1990.

SEPTA also offers several types of passes for multiple trips. The most common type of pass used on Regional Rail is the Trailpass, which provides unlimited travel on any SEPTA vehicle between Center City and stations up to the zone shown on the pass. Travel to additional zones is possible with an additional charge.

A separate fare schedule is offered on the R1 Airport Line. For one-way and ten-trip purchases, zone 5 fares are charged. Zone 2 fares are charged for weekly and monthly trailpasses.

Within the City Transit Division, the basic fare is \$1.50 for subway and bus trips. A \$16 Weekly Pass and a \$58 Monthly Pass is available for unlimited trips.

Amtrak

Amtrak operates two types of passenger services on the Northeast Corridor between New York and Washington, unreserved coaches and reserved Metroliners. Both services operate on approximate one-hour headways. Extra service is provided during rush hours between New York and Philadelphia. Travel times to and from Philadelphia are shown in Table 11. Metroliner service can save up to 15 minutes in travel time to New York or Washington DC. from Philadelphia.

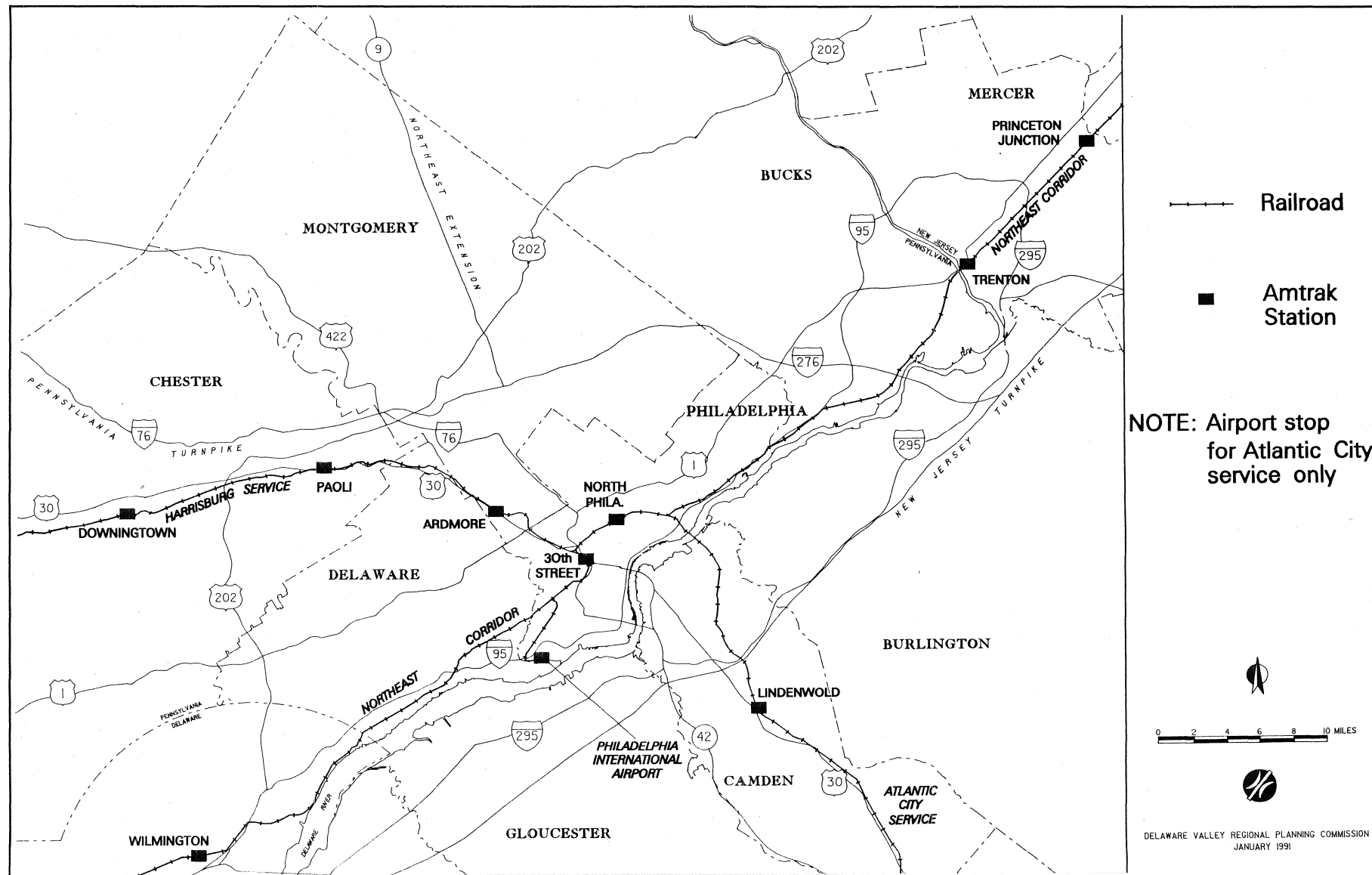
Table 11: AMTRAK TRAVEL TIMES TO/FROM PHILADELPHIA

<u>STATION</u>	<u>TO PHILADELPHIA</u>		<u>FROM PHILADELPHIA</u>	
	<u>METROLINER</u>	<u>COACH</u>	<u>METROLINER</u>	<u>COACH</u>
New York	68-80	74-116	67-83	81-112
Princeton Jct.	38	60	40	40-53
Trenton	29	53	29	32-45
Wilmington	22	21-26	20-22	22-31
Washington DC.	92-100	117-126	96-105	111-134

Travel times in minutes.

Within the I-95 Corridor, there are five stations (see Figure 6), Princeton Junction and Trenton in New Jersey, North Philadelphia and Philadelphia in Pennsylvania, and Wilmington in Delaware. The heaviest used station in the corridor is Philadelphia's 30th Street Station, serving Center City and connecting with SEPTA's rapid transit and Regional Rail Lines. Train service to Princeton Junction is limited, with nine round trips per day including one Metroliner, mainly during peak hours. The Trenton Station is located adjacent to US 1 near the state capitol and other state offices. The station also functions as the terminal station for rail passenger services operated by SEPTA and NJ TRANSIT. One Metroliner train stops at Trenton daily. Historically, North Philadelphia was a secondary stop serving westbound passenger trains bypassing 30th Street Station to reduce travel time and to eliminate the need to back trains into 30th Street Station. North Philadelphia offers the only Philadelphia stop for the Keystone State Express which bypasses 30th Street Station while en route between New York and Harrisburg. The station also offers connections to SEPTA's Regional Rail System either at the station itself or at the nearby North Broad Station. Planned renovations to the station and surrounding area may increase ridership levels, which are currently low. Wilmington Station is located in the Wilmington Central Business District. The station functions as a transportation center serving SEPTA's R2 Wilmington Line and numerous DART (Delaware Administration for Regional Transit) bus routes.

Figure 6: AMTRAK RAIL NETWORK



In addition to service along the Northeast Corridor, Amtrak also operates passenger trains to Harrisburg and Atlantic City. In 1989, Amtrak initiated train service to Atlantic City. NJ TRANSIT rail service to Atlantic City shares the right-of-way between Lindenwold and Atlantic City. Approximately six round trips operate daily between Richmond/Washington, Springfield/New York, and Philadelphia to Atlantic City. In the region, trains currently stop at 30th Street Station and Lindenwold in New Jersey. Amtrak has extended three of the Philadelphia trains to Philadelphia International Airport for connecting airline passengers, this service will be suspended in January 1991 until a new arrangement is reached with another airline. As of July 1990, Amtrak was carrying almost 42,000 passengers per month on the Atlantic City Line. The potential of Atlantic City passenger rail service to attract vehicles from the I-95 Corridor is unclear.

Amtrak operates approximately seven round trip trains between Philadelphia and Harrisburg on weekdays and five on weekends. Within the region, trains stop at 30th Street Station, Ardmore, Paoli, and Downingtown. An additional weekday train runs between Harrisburg and New York bypassing 30th Street Station but stopping at North Philadelphia. Again, the ability of this service to draw vehicles from the I-95 Corridor is limited.

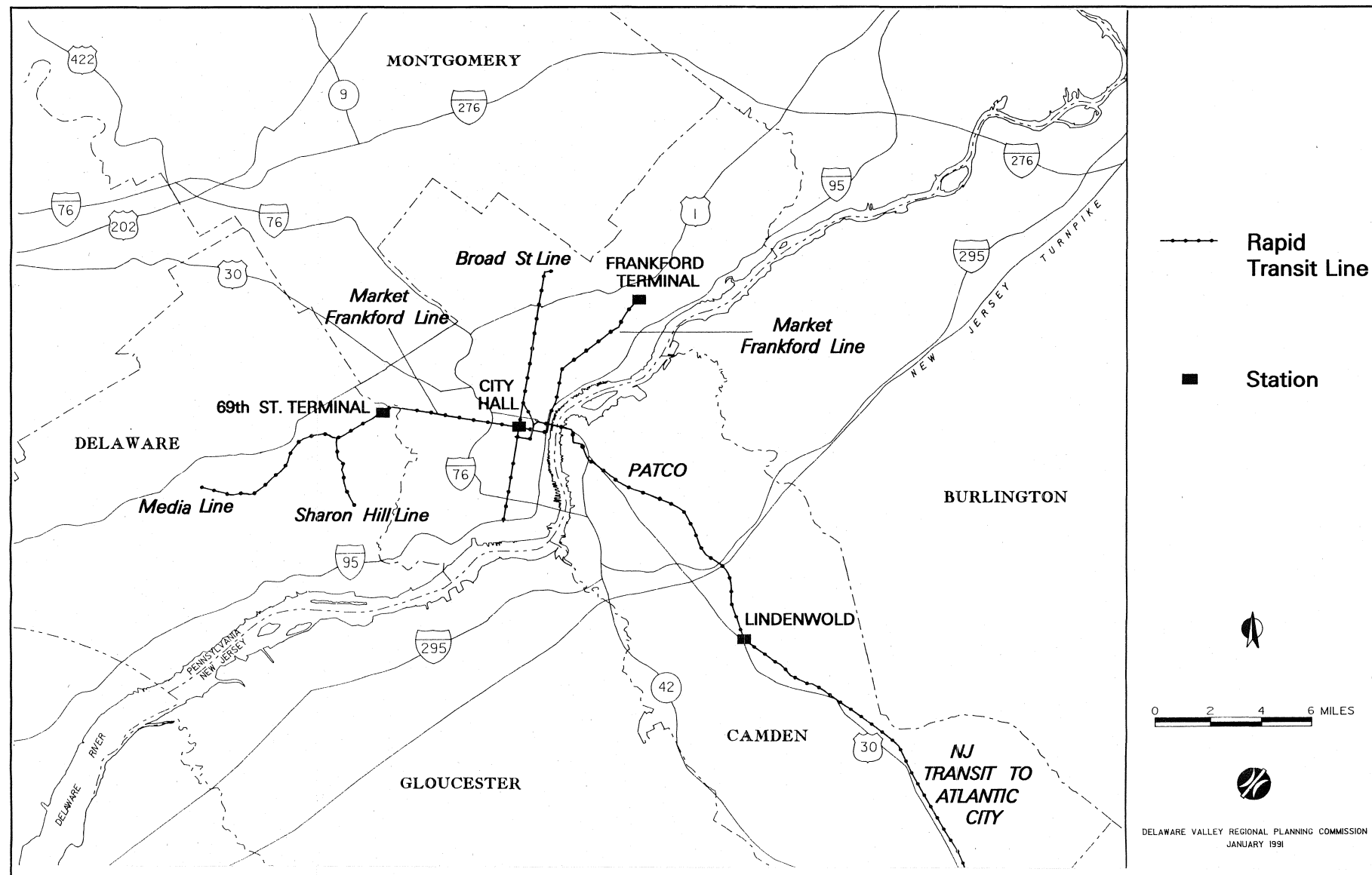
SEPTA Rapid Transit

In addition to its 13 commuter rail lines, SEPTA operates two rapid transit lines: the Market-Frankford Subway-Elevated Line and the Broad Street Line (see Figure 7). Both are radial routes providing service to Center City and intersecting near SEPTA's commuter rail hub, Suburban Station. SEPTA also operates two light rail lines in the corridor, both originate at 69th Terminal at the western terminus of the Market-Frankford Subway-Elevated Line, with one line destined to Media and the other to Sharon Hill.

Market-Frankford Subway-Elevated Line

This line carries approximately 175,000 trips per day and is the most heavily used line in the SEPTA system. The line follows an L-shaped route running east along Market Street from 69th Street Terminal in Upper Darby Township through Center City to I-95, where it turns north and uses the median of I-95 for a short distance before it bears off onto Front Street, Kensington Avenue and Frankford Avenue to reach its terminus between Bridge and Pratt Streets. The north-south section of this line from Market Street to Frankford Terminal basically parallels I-95. The Center City portion, on Market Street, operates as a subway - between 46th Street and 2nd Street - and the remainder of the route runs along an elevated structure. The western terminus, at 69th Street Terminal, serves as a major transfer point to SEPTA's Suburban Transit rail and bus routes, which handle a significant number of Delaware County commuters. The northeastern terminus also provides an important transfer point for travelers to Northeast Philadelphia and adjacent Bucks County. Service is provided 24 hours a day with a service frequency eight minutes or less from approximately 6:30 AM to 6:30 PM, and half-hour headways from approximately 1:00 AM to 5:00 AM. SEPTA is now

Figure 7: REGIONAL RAPID TRANSIT RAIL NETWORK



proposing to substitute buses, at double the frequency, for late night rail service on the Market-Frankford Subway-Elevated Line.

The travel time from 69th Street Terminal to Frankford Terminal is approximately 38 minutes. From Frankford Terminal to Center City (15th Street Station), the travel time is approximately 22 minutes. From 69th Street Terminal to Center City (15th Street Station), the travel time is approximately 16 minutes. The most heavily used station on this line is 15th Street, boarding 28,000 passengers per day.

Broad Street Line

This line carries approximately 130,000 daily trips and runs under Broad Street through the center of the city in a north-south direction. This line intersects the east-west section of the Market-Frankford Subway-Elevated Line in Center City near City Hall where there is a free interchange. The Fern Rock Station serves as the northern terminal for this line. A convenient passenger interchange with the SEPTA commuter lines will be established at Fern Rock in Spring 1991, with the completion of the Fern Rock Transportation Center. The southern terminal, Pattison Station, is located adjacent to the Sports Complex which houses Philadelphia's professional sports teams and other entertainment events. There are 22 stations along this 10 mile route. The travel time between Fern Rock and Pattison is approximately 30 minutes. From Fern Rock to Center City (City Hall Station), the travel time is about 21 minutes, and it takes approximately 9 minutes to travel from Pattison Station to City Hall Station. Express trains, operated during peak periods, can save time over local service. Service is provided 24 hours a day with a service frequency of 5 to 8 minutes from approximately 6:30 AM to 6:30 PM and half hour headways from approximately 1:00 AM to 5:00 AM. SEPTA is now proposing to substitute buses for late night rail service on the Broad Street Line. Other than City Hall, the most heavily used station on this line is the Olney Station, boarding 22,000 passengers per day.

Media/Sharon Hill Lines

SEPTA's Suburban Transit Division operates three rail lines and 12 bus routes, mainly in Delaware County, out of its principal terminus at 69th Street in Upper Darby Township. The Media Line (Route 101) and the Sharon Hill Line (Route 102) originate at 69th Terminal, and jointly travel southwestward along Garrett Road on their own right-of-way. Just west of Shadeland Avenue the lines split. The Media Line continues southwestward along its own right-of-way to Providence Road (PA 252) in Media where it joins State Street and shares the right-of-way with vehicular traffic until its terminus at Orange Street. The Sharon Hill Line continues southward on its own right-of-way to Springfield Road. At this point the trolley line utilizes Springfield Road and Woodlawn Avenue. At North Street, the trolley bears off Woodlawn Avenue and runs parallel to it on its own separate right-of-way to its terminus at Chester Pike. The third rail line, the Norristown High Speed Line, lies outside the I-95 Corridor.

Travel time on the Media Line is 35 minutes from Media to 69th Street Terminal, trolleys operate with 20 minute headways. Weekday service operates from approximately 4:30 AM to 1:00 AM. The fare between Media and 69th Street Terminal is \$1.90. Travel time on the Sharon Hill Line is 25 minutes from Sharon Hill to 69th Street Terminal, trolleys operate with 20 minute headways. Weekday service operates from approximately 5:00 AM to 12:30 AM. The fare between Sharon Hill and 69th Street Terminal is \$1.50.

New Jersey Rapid Transit

PATCO High Speed Line

This line is the only rail transit service operating between South Jersey and the City of Philadelphia. The 14.2 mile line, which opened in 1969, has nine stations in New Jersey and four in Philadelphia. In New Jersey, the line is wholly located in Camden County running in a southeast-northwest diagonal across the County. The eastern terminal in Lindenwold provides parking for 3,300 vehicles. The western terminal at 15th/16th and Locust in Philadelphia is underground and provides no parking. The line operates as a subway from its western terminal in Philadelphia to the Broadway Station in Camden, except for the Delaware River crossing via the Ben Franklin Bridge. Parking is provided at seven of the nine New Jersey Stations. Camden City Hall Station and the Broadway Station, both located underground, provide no parking. The PATCO High Speed Line intersects the Market-Frankford Subway-Elevated Line at the 8th Street Station and the Broad Street Line at the 15th/16th Street Station. Connections can be made at Lindenwold to NJ TRANSIT and Amtrak rail service to Atlantic City. In 1989, the average weekday ridership exceeded 40,000 trips per day.

Service is provided 24 hours a day. Peak hour headways range from 2 to 6 minutes, service frequency is every 40 minutes from 12:00 AM to 4:00 AM. Travel time from Lindenwold to 15th/16th and Locust Station is 27 minutes.

NJ TRANSIT

NJ TRANSIT is the principal bus transit service provider in the South Jersey portion of the region, and as such, provides transit service across the Delaware River between New Jersey and Pennsylvania. The agency began operating train service between Lindenwold and Atlantic City in the fall of 1989, and as of June 1990 this line was carrying approximately 36,000 riders per month.

Bus ridership for FY 88 in NJ TRANSIT's Southern Division totaled about 36,000 passengers per weekday. Bus operations in South Jersey consist of 51 bus routes. Eighteen of those routes provide service to Philadelphia from Camden, Burlington and Gloucester Counties, carrying approximately 23,000 passengers per weekday. Service to shore points is provided

by ten bus routes, six of which terminate at Atlantic City. Trips between Philadelphia and seashore points originate and terminate at the Greyhound Terminal located at 10th and Filbert Streets in Philadelphia. The remaining bus routes are local lines operating primarily in Camden County. □

RAIL FREIGHT FACILITIES IN THE I-95 CORRIDOR

This chapter details rail freight facilities in the I-95 Corridor. For each line in the corridor there is a brief description specifying ownership, trackage rights, and number of tracks. Rail facilities such as interlockings, train yards, rail freight terminals, and abandoned rail lines are incorporated in the rail line summaries, as well as treated separately. While the focus of this chapter is rail freight, applicable SEPTA facilities are also characterized because SEPTA frequently shares the same facilities with rail freight operations. An overview of regional rail freight and SEPTA's Regional Rail System was discussed in the previous chapters.

Rail lines and all other rail facilities in the I-95 Corridor are displayed on Figure 8, which is subdivided into four maps showing the entire corridor from Delaware to Trenton. Accompanying the maps is an inventory, keyed to symbols on the maps, cataloging the various categories of rail facilities such as yards or terminals. Much of the information for this inventory was derived from maps provided by Conrail.

Rail Lines

Approximately 18 rail branch lines, designated B1 to B18, have been identified in the I-95 Corridor, they are listed on Table 12. For simplicity, rail lines in the I-95 Corridor were divided into discreet branch lines. Auxiliary branches are covered under the appropriate parent branch. Line designations were obtained from Conrail maps.

Major lines (i.e., core lines) used by Conrail include: the Amtrak Northeast Corridor (B1) for rail freight traffic from Wilmington, the Reading Main Line (B11) for rail freight traffic from Reading and Harrisburg, the New York Branch (B15) for freight traffic between Philadelphia and North Jersey, the Delair Branch (B9) for trains destined to South Jersey, and the Trenton Cut-Off (B18) for freight trains between New Jersey and Harrisburg. Portions of the Amtrak Northeast Corridor (B8) are used in conjunction with the Delair Branch (B9) and the Trenton Cut-off (B18) for movement of freight. With the realignment of railroads in the Northeast since the inception of Conrail, many rail lines have been renamed - the Reading Main Line is now known as the CR Harrisburg Line, the Trenton Cut-Off is now called the Morrisville Line, and the New York Short Line is now known as the New York Branch.

Conrail lines serving major rail terminals include: the Chester Secondary Track (B3), the 60th Street Industrial Track (B4), the Delaware Avenue Extension (B7), the Amtrak Northeast Corridor (B8) to Trenton, and the Richmond Secondary Track (B12).

Amtrak intercity passenger service trains use the Northeast Corridor (B1) to Wilmington, the Northeast Corridor (B8) to New York, and the Delair Branch (B9) to Atlantic City New Jersey.

Branch lines used by SEPTA include: the Amtrak Northeast Corridor (B1) to Wilmington; a section of the Chester Secondary Track (B3) to Philadelphia International Airport; West Chester Line (B5) to Elwyn; the Amtrak Northeast Corridor (B8) to Trenton; SEPTA Trunk

Figure 8-A: INVENTORY OF RAIL FACILITIES IN THE I-95 CORRIDOR

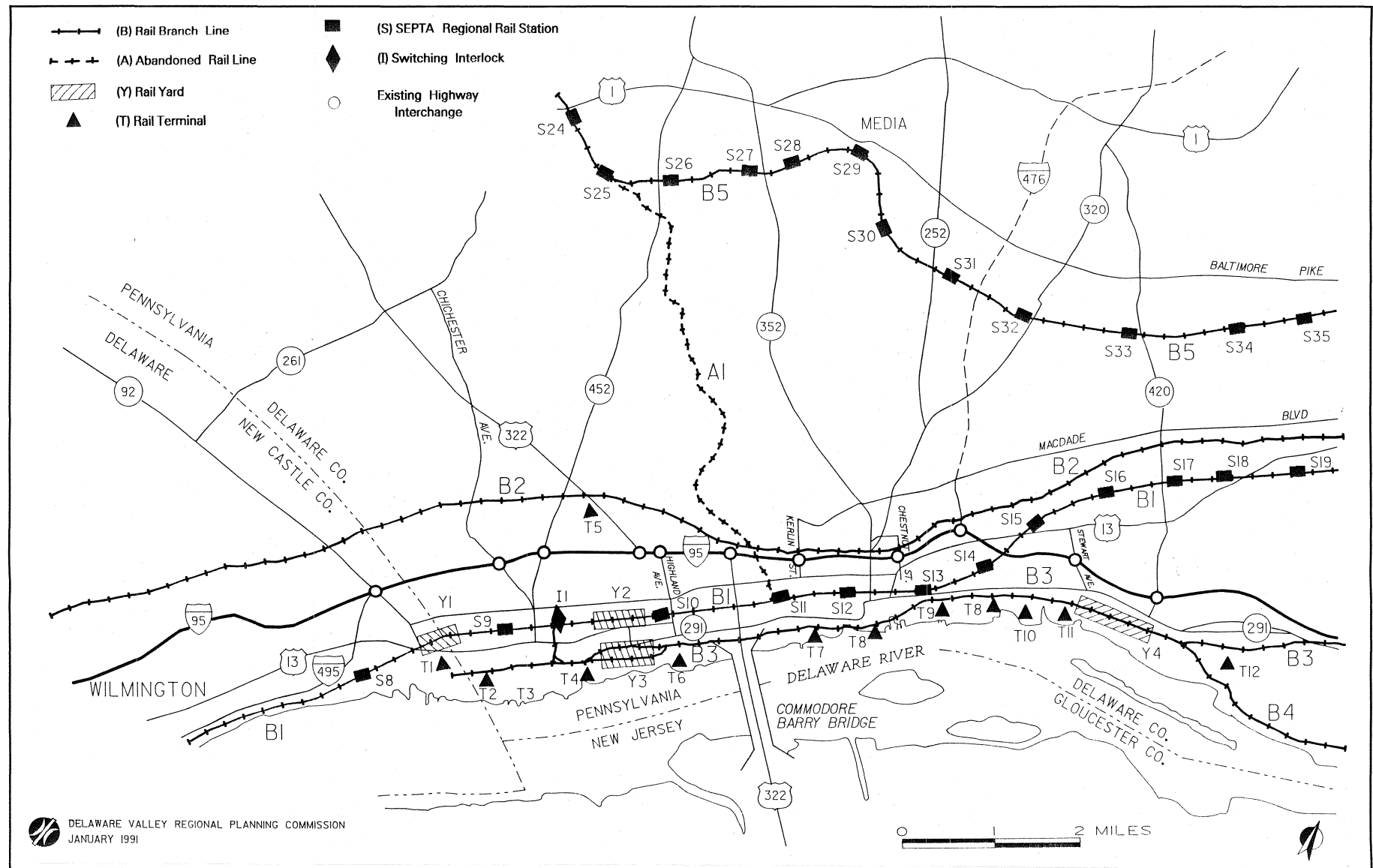


Figure 8-B: INVENTORY OF RAIL FACILITIES IN THE I-95 CORRIDOR

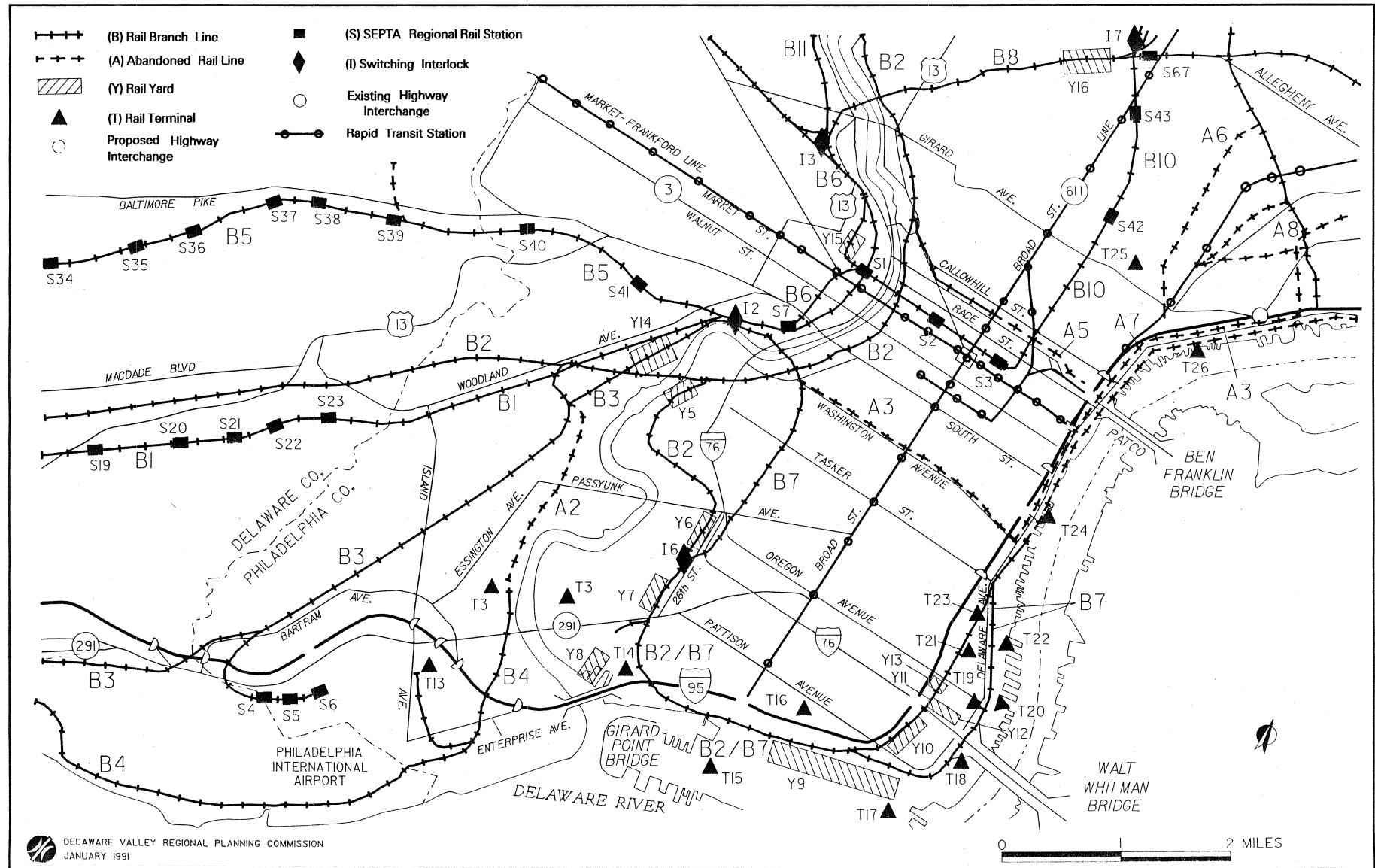


Figure 8-C: INVENTORY OF RAIL FACILITIES IN THE I-95 CORRIDOR

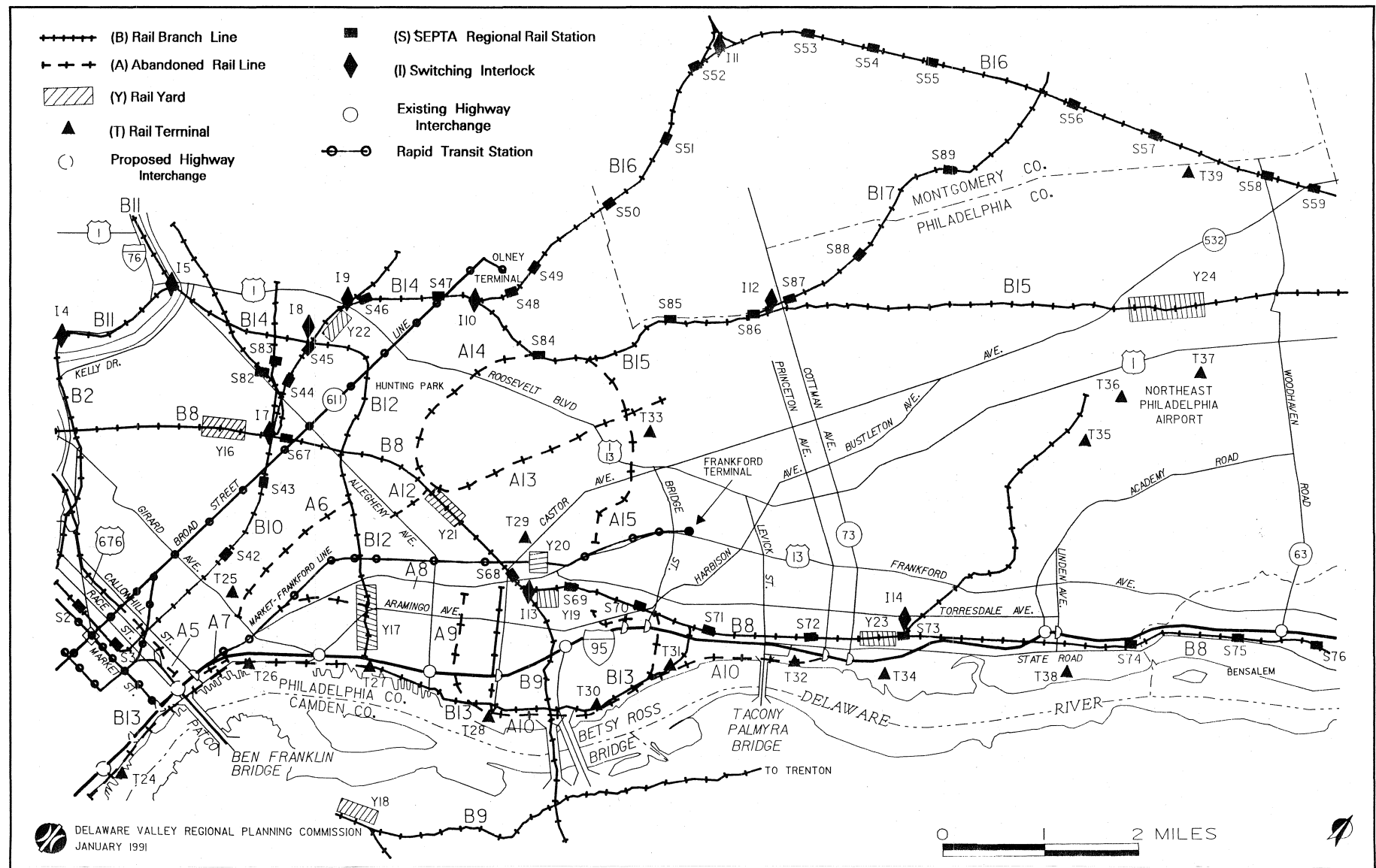


Figure 8-D: INVENTORY OF RAIL FACILITIES IN THE I-95 CORRIDOR

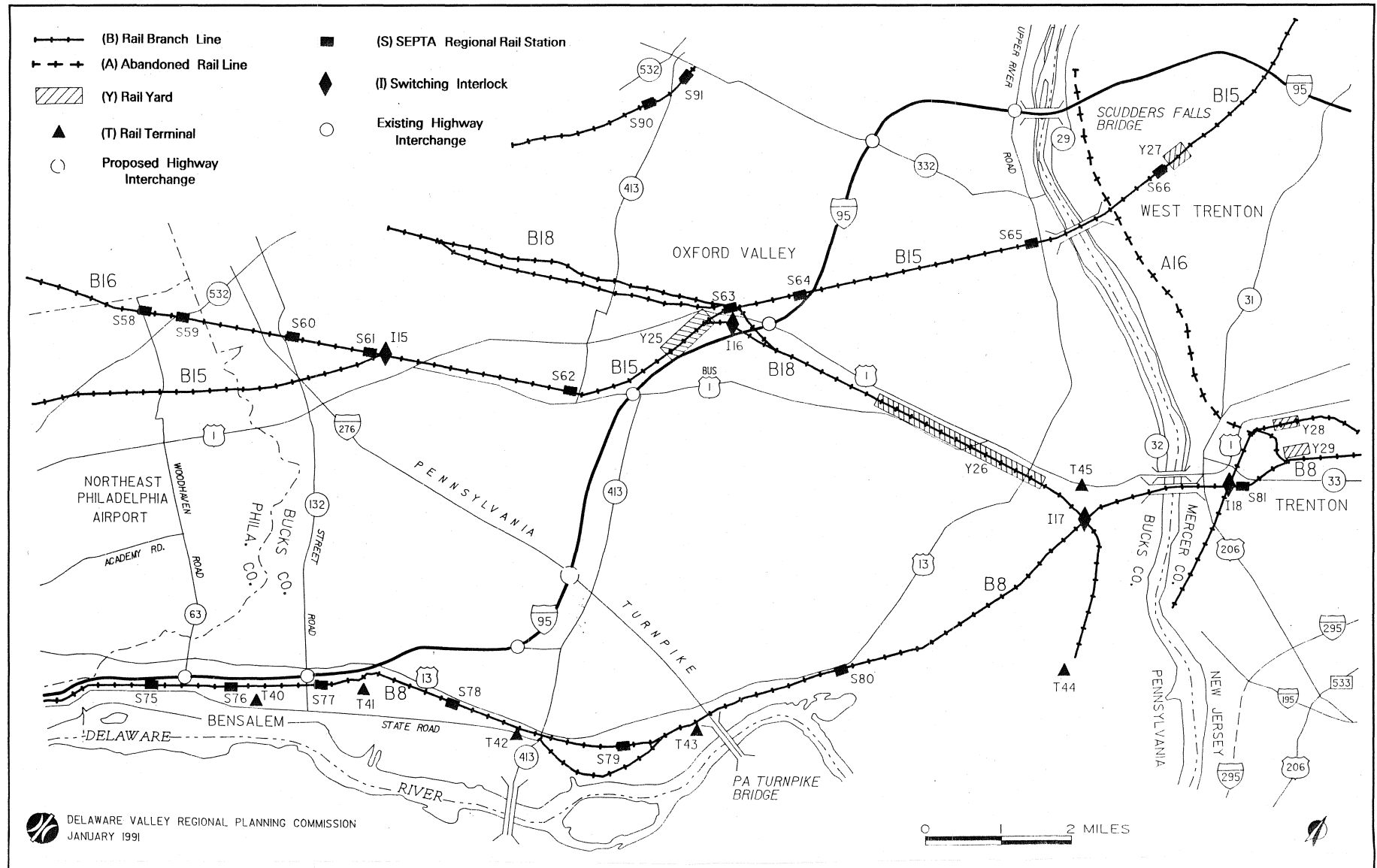


Table 12: RAIL BRANCH LINES: I-95 CORRIDOR**B1 AMTRAK NORTHEAST CORRIDOR (Delaware State Line-Arsenal)**

This segment of the Northeast Corridor between New York and Washington, D. C. carries intercity passenger service and rail freight. The right-of-way is owned by Amtrak with Conrail and SEPTA having trackage rights, SEPTA operates the R2 Wilmington Line and a portion of the R1 Airport Line on the right-of-way. The line consists of four tracks; as it approaches Arsenal the main line begins dividing into separate Amtrak, Conrail, and SEPTA tracks. Interlockings include Hook, connecting with the Chester Secondary Track, and a connection for SEPTA's Airport Line by 60th Street. The State Rail Plan classifies this segment of the Northeast Corridor as a core line.

B2 CSX LINE (Delaware State Line-Belmont)

CSX is the only rail freight line into Philadelphia not owned by Conrail or Amtrak. The right-of-way generally consists of two tracks; however, in sections there is only one track. CSX owns the right-of-way with Conrail having trackage rights east of the Schuylkill River. A small segment at the northern portion of the line, between Vine Street and Belmont, is actually owned by Conrail with CSX having trackage rights. Just prior to the Schuylkill River a branch departs from the main line, it passes through the Eastside Yard and then continues around South Philadelphia, through the Greenwich Yard before terminating at the South Philadelphia Intermodal Yard by the Walt Whitman Bridge. This branch essentially serves the main facilities of the Port of Philadelphia. The Eastside Yard and South Philadelphia Intermodal Yard are owned by CSX. The main interlockings between CSX and Conrail are Belmont (with the Reading Main Line) and Penrose (with the Delaware Avenue Extension). CSX Line and its secondary branch are classified as core lines.

B3 CHESTER SECONDARY TRACK (Delaware State Line-Arsenal)

The right-of-way is mainly owned by Conrail, however SEPTA owns a small segment (between 60th and 90th streets) used by its R1 Airport Line. The Chester Secondary serves industrial customers along the waterfront including Sun company, Allied Chemical, and the Philadelphia Electric Company's (PECO) Eddystone Generating Plant. Many major customers have closed or have been converted into industrial parks such as Penn Ship Yard (partially open), or the Chester Tide Water Terminal (currently an industrial park). Between the Arsenal and the Wanamaker Yard there are two tracks. The 60th Street Industrial Track merges with the Chester Secondary Track by the Wanamaker Yard. Between the Wanamaker Yard and the Delaware State Line the secondary consists of either one or two tracks. Major interlockings are located by the Wanamaker Yard with the 60th Street Industrial Track, and with Amtrak's Northeast Corridor at the Hook. The Chester Secondary Track is classified as a feeder line.

B4 60th STREET INDUSTRIAL TRACK (Wanamaker Yard-Sun Company)

The 60th Street Industrial Track begins by Sun Company north of the Platt Bridge (Penrose Avenue) and swings around Philadelphia International Airport prior to meeting the Chester Secondary Track by the Wanamaker Yard. Conrail owns the right-of-way which consists of only one track. The Enterprise Avenue Industrial Track is an off-shoot which permits access into the airport. At one time, the 60th Street Industrial Track continued to the Amtrak Northeast Corridor; however, except for a small section used by the SEPTA R1 Airport Line, between the Amtrak Line and the Chester Secondary Track, the remainder has been abandoned. The 60th Street Industrial Track is classified as a feeder.

Table 12: RAIL BRANCH LINES: I-95 CORRIDOR (Continued)**B5 WEST CHESTER LINE (West Chester-Arsenal)**

SEPTA owns the right-of-way for the R3 West Chester Line. SEPTA rail service terminates at Elwyn, with bus service between Elwyn and West Chester. Passenger service is suspended because of deteriorated track conditions. Conrail and Amtrak have trackage rights on the West Chester Line, which is classified as a feeder between Arsenal and Morton and as a shortline between Morton and West Chester. The dual classification of the line reflects divergent rail freight usage. A quarry on the line supplies ballast stone to Amtrak for use on the Northeast Corridor. At one time there were a number of branch lines to Newtown Square and 69th Street Terminal but they were abandoned in 1982.

B6 AMTRAK/CONRAIL/SEPTA (Arsenal-Zoo)

Between Arsenal and Zoo interlockings, separate tracks owned by Amtrak, Conrail and SEPTA all converge and pass through 30th Street Station and nearby rail yards. Conrail trains use the elevated Highline Branch through West Philadelphia to bypass 30th Street Station. Amtrak trains on the Northeast Corridor pass under 30th Street Station along the west bank of the Schuylkill River. Amtrak trains from Harrisburg can be routed at Zoo interlocking to either 30th Street Station or New York. At 30th Street Station, SEPTA trains destined to the southern suburbs (R1 Airport Line, R2 Wilmington Line, and the R3 West Chester Line) are separated from trains destined to the western and northern suburbs (R5 Paoli/Parkburg, R6 Ivy Ridge, R7 Trenton, and R8 Chestnut Hill West). Southbound SEPTA trains use a tunnel under Market Street and join the Northeast Corridor at Phil interlocking (located near Arsenal), northbound trains pass Powelton Yard and join the Northeast Corridor at Zoo interlocking, trains destined to Center City use the upper level of 30th Street Station to access the Schuylkill Bridge. South of 30th Street Station each rail operator maintains two tracks, north of the station Amtrak and SEPTA maintain four tracks each because of the intermingling of different routes. Conrail tracks in this segment are classified as a core line, Amtrak and SEPTA tracks are classified as feeder lines.

B7 DELAWARE AVENUE EXTENSION (Arsenal-Washington Avenue)

The Delaware Avenue Extension serves the main facilities of the Port of Philadelphia. The branch begins north of Arsenal where it crosses the Schuylkill River and heads south to Penrose. At Penrose, there are interlockings leading to the Penrose Yard and the Girard Point Yard. The extension then continues to the Greenwich Yard which serves Pier 122 (ore and fertilizer), Pier 124 (coal), the Packer Marine Terminal, and the Philadelphia Naval Yard. Between the Greenwich Yard and Washington Avenue, the Delaware Avenue Extension divides into two branches serving the Swanson Street Yard (only partially used), the Packer Avenue Yard, a number of piers, and many light industrial customers. The eastern branch is located in the median of Delaware Avenue which was rebuilt in the mid 1980's to segregate rail and vehicular traffic. North of Washington Avenue, the now abandoned Philadelphia Belt Line travels along the waterfront to Port Richmond. The Delaware Avenue Extension generally consists of two tracks. At several points, Penrose and Greenwich Yard, Conrail and CSX lines interact and share the same tracks. The D&H Railroad has been granted trackage rights over the Delaware Avenue Extension by Conrail. The Delaware Avenue Extension is classified as a core line between Arsenal and Greenwich, north of Greenwich it is classified as a feeder line.

Table 12: RAIL BRANCH LINES: I-95 CORRIDOR (Continued)**B8 AMTRAK NORTHEAST CORRIDOR (Zoo-Trenton)**

This line carries Amtrak's Northeast Corridor to New York and SEPTA's R7 Regional Rail Line to Trenton. There is considerable local freight traffic along the line. Freight trains from the Delair Branch access the line at Frankford Junction; the Bustleton Branch to industries located at Philadelphia's Northeast Airport begins at Holmesburg Junction. Major terminals are located at Holmesburg (Northern Metals and several steel plants), and at US Steel's Fairless Works. Between Zoo interlocking and Frankford Junction, the line consists of five to six tracks, north of Frankford Junction it consists of four tracks. It is classified as a core line between Zoo interlocking and Frankford Junction because it serves as the main rail route into South Jersey; it is also a core line between Morrisville and Trenton because that segment was used as part of the through route between Harrisburg and North Jersey. Between Frankford Junction and Morrisville the Amtrak Northeast Corridor is classified as a feeder route.

B9 DELAIR BRANCH/BORDENTOWN LINE (Frankford Junction-Pavonia Yard)

The Delair Bridge over the Delaware River represents Conrail's main line into South Jersey. In South Jersey, rail freight uses the Bordentown Branch to access the Pavonia Yard in Camden. The Pavonia Yard is the principal rail yard which all South Jersey branch lines feed into. The Bordentown Branch parallels the east side of the Delaware River from Trenton to the Pavonia Yard. An important Conrail line continues south along the river to Deepwater Point near the Delaware Memorial Bridge. Both lines generally consist of two tracks. Amtrak passenger service to Atlantic City also uses the Delair Bridge.

B10 SEPTA TRUNK LINE (30th Street Station-Wayne Junction)

All SEPTA Regional Rail Lines use these tracks to enter and exit Center City. The segment, consisting of four tracks, is composed of the former Reading and Pennsylvania Line passenger tracks and the Center City Commuter Tunnel connecting Suburban Station and Reading Terminal, all of which is now owned by SEPTA. At 30th Street Station and Wayne Junction, Regional Rail Lines begin diverging from the trunk line. The one exception is the R6 Norristown Line which departs from the trunk line at North Philadelphia. Both termini contain major SEPTA yards, the Powelton Avenue Yard at 30th Street Station and the Roberts Yard at Wayne Junction. Conrail has trackage rights to portions of the SEPTA Trunk Line.

B11 READING MAIN LINE (Zoo-Falls Junction)

Reading Main Line (renamed CR Harrisburg Line) is the main route between the Port of Philadelphia and Harrisburg. Freight traffic from South Jersey, CSX, or the New York Branch can access the Reading Main Line (CR Harrisburg Line) at either Zoo, Belmont, or Falls Junction interlockings, respectively. The line consisting of two tracks is classified as a core line. The D&H Railroad has trackage rights.

B12 RICHMOND SECONDARY TRACK (Nice-Port Richmond)

This is a Conrail owned line providing access to Port Richmond and other nearby port and industrial facilities on the Delaware River. Port Richmond consists of a number of piers. The Richmond Secondary Track interconnects with the Berks Street Branch (largely abandoned) and the Philadelphia Belt Line which transverses the waterfront. The single track branch departs from Conrail's Richmond Branch at Nice and terminates at the Port Richmond Yard. The State Rail Plan classifies the line as a feeder.

Table 12: RAIL BRANCH LINES: I-95 CORRIDOR (Continued)**B13 PHILADELPHIA BELT LINE (Washington Avenue-Rohm Haas)**

The Philadelphia Belt Line (PBL) is a terminal railroad established to insure all rail companies have equal access to the publicly owned piers on the Delaware River. PBL used to operate in two sections. The southern section, now abandoned, operated between Washington Avenue and Port Richmond down the median of Delaware Avenue. South of Penn's Landing, Delaware Avenue was reconstructed with a median to separate rail and vehicular traffic. Plans to reconstruct Delaware Avenue north of Penns Landing are included in the regional Transportation Improvement Program (TIP) prepared by DVRPC. The former line interfaced with the Delaware Avenue Extension and the Richmond Secondary Track. This portion of the PBL now mainly serves as an historic trolley operating along the Delaware River waterfront at Penns Landing. The northern section between Port Richmond and Rohm and Haas primarily serves the pharmaceutical firm, as well as other waterfront industries.

B14 RICHMOND BRANCH (Falls Junction-Tabor)

This is a portion of Conrail's through route from Philadelphia and points south to North Jersey. The segment begins by Falls Junction where it connects with the Reading Main Line (CR Harrisburg Line). At Nice, the Richmond Secondary Track leads to Port Richmond and nearby port and industrial facilities along the Delaware River. Between Nice and Tabor a portion of the right-of-way is shared with SEPTA's Trunk Line running on separate tracks. At Tabor, all SEPTA lines, except the R8 Fox Chase Line, depart to the Bethlehem Branch. After Tabor, freight trains continue to New Jersey via the New York Branch. Between Falls Junction and Nice the right-of-way consists of two Conrail Tracks, and between Nice and Tabor there are one Conrail track and two SEPTA tracks. SEPTA operates a major rail yard at Wayne Junction, the Roberts Yard, which is located adjacent to Nice. The line is classified as a core line.

B15 NEW YORK BRANCH (Tabor-West Trenton)

This is a continuation of Conrail's through route between North Jersey and Philadelphia, connecting with the segment previously described above. Between Tabor and Neshaminy the New York Branch is almost exclusively a freight line, SEPTA's R8 Fox Chase Line uses a small portion of the right-of-way. At Neshaminy, the New York Branch merges with the West Trenton Line which carries SEPTA's R3 West Trenton Line. The R3 West Trenton Line departed from the New York Branch at Tabor. From Neshaminy the New York Branch continues into New Jersey. At Woodbourne there is a connection to the Morrisville Yard and to Amtrak's Northeast Corridor Line. The line consists of mostly two tracks, and is classified as a core line in the State Rail Plan.

B16 BETHLEHEM BRANCH/WEST TRENTON LINE (Tabor-Neshaminy)

SEPTA owns the right-of-way which serves the R2 Warminster Line, the R5 Lansdale/Doylestown Line and the R3 West Trenton Line. At Jenkintown, the first two commuter lines continue towards Quakertown on the Bethlehem Branch while the R3 turns northward onto the West Trenton Line until it merges into Conrail's New York Branch at Neshaminy. There is freight activity along the Bethlehem Branch which falls outside the I-95 Corridor. The Bethlehem Branch and the West Trenton Line each have two track lines with Conrail having trackage rights. The Bethlehem Branch segment between Tabor and Jenkintown is classified as a feeder line, the West Trenton Line segment between Jenkintown and Neshaminy is classified as a shortline.

Table 12: RAIL BRANCH LINES: I-95 CORRIDOR (Continued)

B17 FOX CHASE LINE (New York Branch-Newtown)

This SEPTA owned Regional Rail right-of-way serves the R8 Fox Chase Line. The line actually extends to Newtown, however passenger service on the non-electrified segment north of Fox Chase is suspended. Conrail has trackage rights to the line. The one track line is classified as a shortline.

B18 TRENTON CUT-OFF (Thorndale-Morrisville)

The Trenton Cut-Off (renamed Morrisville Line) used to function as the main rail freight line between North Jersey and Harrisburg and points west. To avoid paying trackage rights, Conrail now reroutes its through traffic via the Lehigh Valley Line to Allentown and then via the Reading Line to Harrisburg. The Trenton Cut-Off (Morrisville Line) originates near Downingtown where freight trains leave Amtrak's Harrisburg Main Line. It then parallels the Pennsylvania Turnpike, at Woodbourne there is an interconnection with Conrail's New York Branch, north of Morrisville the Trenton Cut-Off (Morrisville Line) joins Amtrak's Northeast Corridor (only a portion of the line is shown on figure 8). The Trenton Cut-Off (Morrisville Line), consisting of two tracks, is owned by Conrail. Even though the Trenton Cut-Off (Morrisville Line) is no longer primarily used for through trips, there is considerable freight traffic between Norristown and Morrisville. A major interconnection with the Reading Main Line (CR Harrisburg Line) occurs near Norristown (outside the I-95 Corridor) where there is a line between the Earnest and Abrams Yards. The Trenton Cut-Off (Morrisville Line) is classified as a core line.

Line (B10); sections of the Richmond Branch (B14), the New York Branch (B15), the Bethlehem Branch/West Trenton Line (B16); and the Fox Chase Line (B17).

Interlockings

Interlockings, designated I1 to I18 on Figure 8, permit the movement of trains between rail lines. Conrail, SEPTA and Amtrak occasionally give different names to the same interlocking. At other locations the interlocking system is fairly intricate with each rail operator using separate interlockings. The inventory of interlockings appears on Table 13.

Table 13: INTERLOCKINGS: I-95 CORRIDOR

<u>LOCATION</u>	<u>INTERLOCKING</u>	<u>FIGURE</u>	<u>COMMENTS</u>
I1	Hook	8-A	Between Chester Secondary Track and Amtrak Northeast Corridor
I2	Arsenal	8-B	Between Amtrak Northeast Corridor, Chester Secondary Track, and West Chester Line
I3	Zoo	8-B	Between Amtrak Northeast Corridor, Harrisburg Main Line, and Reading Main Line
I4	Belmont	8-C	Between Reading Main Line and CSX Line
I5	Falls Junction	8-C	Between Reading Main Line and Richmond Branch
I6	Penrose	8-B	Between Delaware Avenue Extension and CSX Line
I7	North Philadelphia	8-B,C	Between Amtrak Northeast Corridor and SEPTA Trunk Line, and R8 Chestnut Hill West Line
I8	Nice	8-C	Between Richmond Branch and Richmond Secondary Track
I9	Wayne Junction	8-C	Between SEPTA Trunk Line and R7 Chestnut Hill W. Line
I10	Tabor	8-C	Between New York Branch and Bethlehem Branch
I11	Jenkintown	8-C	Between Bethlehem Branch and West Trenton Line
I12	Cheltenham Junction	8-C	Between New York Branch and Fox Chase Line
I13	Frankford Junction	8-C	Between Amtrak Northeast Corridor and Delair Branch
I14	Holmesburg Junction	8-C	Between Amtrak Northeast Corridor and Bustleton Branch
I15	Neshaminy	8-D	Between West Trenton Line and New York Branch
I16	Woodbourne	8-D	Between Trenton Cut-Off and New York Branch
I17	Morrisville	8-D	Between Amtrak Northeast Corridor and Trenton Cut-Off
I18	Fair	8-D	Between Amtrak Northeast Corridor and Bordentown Line

Major interlockings include Arsenal (I2), Zoo (I3), Belmont (I4), Falls Junction (I5), Nice (I8), Frankford Junction (I13), and Woodbourne (I16).

Arsenal (I2), located south of 30th Station, interconnects all rail lines south of Philadelphia: Amtrak's Northeast Corridor, the Chester Secondary, the Delaware Avenue Extension, and SEPTA's West Chester Line. CSX is the one exception, it interconnects with Conrail at Belmont (I4). Conrail trains use Arsenal to reach the Port of Philadelphia in South

Philadelphia. Zoo interlocking (I3), located north of 30th Street Station, interconnects rail lines north and west of Philadelphia: Amtrak's Main Line to Harrisburg, the Reading Main Line (CR Harrisburg Line), and the Amtrak Northeast Corridor. Conrail trains from Wilmington use Zoo interlocking to access the Reading Main Line (CR Harrisburg Line) to Harrisburg or the New York Branch to North Jersey. Amtrak trains from North Jersey can be routed through Zoo interlocking to either Harrisburg or to 30th Street Station and points south. SEPTA's R5 Parkesburg/Paoli and R7 Trenton Lines diverge at Zoo interlocking.

Falls Junction (I5) permits switching between the Reading Main Line (CR Harrisburg Line) and the Richmond Branch/New York Branch/Richmond Secondary Track. At Falls Junction, southbound freight trains can use the Reading Main Line (CR Harrisburg Line) to either travel southward to Wilmington or west to Reading and eventually Harrisburg. Movements between the Richmond Secondary Track and the Richmond Branch occur at Nice (I8). Similarly, freight traffic between South Jersey (via the Delair Branch) and the Amtrak Northeast Corridor occurs at Frankford Junction (I13). The last major interlocking is located at Woodbourne (I16) where freight traffic on the Trenton Cut-Off (Morrisville Line) and the New York Branch can shift lines; it also permits access to the Morrisville Yard from the New York Branch.

Arsenal interlocking is technically called CP Field by Conrail and Arsenal by Amtrak, SEPTA uses a nearby interlocking called Phil. Tabor is an interlocking used by Conrail on the New York Branch, SEPTA uses an adjacent interlocking called Newtown Junction for its trains destined to the Bethlehem Branch.

Train Yards

Rail yards in the I-95 Corridor are listed on Table 14. In many instances rail yards double as freight terminals, especially if they have trailer facilities or are situated adjacent to port facilities. In most instances Conrail owns the rail yard unless otherwise specified on Table 14. Where Conrail maps indicate special services such as flexi flo or TrailVan facilities, they are also depicted on Table 14. Train yards are designated Y1 to Y29 on Figure 8.

Major rail freight yards in the I-95 Corridor are the Greenwich Yard (Y9), Port Richmond Yard (Y17), Pavonia Yard (Y18) and the Morrisville Yard (Y26). The Greenwich Yard (Y9) serves Port of Philadelphia facilities in South Philadelphia. The Pavonia Yard (Y18) in North Camden is the main yard serving South Jersey. Morrisville Yard (Y26) is situated at the intersection of the Trenton Cut-Off (Morrisville Line) and the Amtrak Northeast Corridor, both are major through routes to New Jersey. Many shippers find it more convenient to load or unload goods at the Morrisville Yard and haul them by truck into Philadelphia rather than reconfigure freight trains for delivery in Philadelphia. Conrail uses a 10 car threshold when rerouting trains into Philadelphia. Morrisville Yard presently handles container on flat car (COFC) operations for the Port of Philadelphia.

Besides the Greenwich Yard (Y9), other yards supporting port facilities in South Philadelphia are the Eastside Yard (Y5), Atlantic Yard (Y6), Penrose Yard (Y7), Girard Point Yard (Y8),

Table 14: TRAIN YARDS: I-95 CORRIDOR

<u>LOCATION</u>	<u>YARD</u>	<u>FIGURE</u>	<u>COMMENTS</u>
Y1	Naaman Yard	8-A	Located on Amtrak Northeast Corridor, partially in Del.
Y2	Thurlow Yard	8-A	Located on Amtrak Northeast Corridor
Y3	Stoney Creek Yard	8-A	Located on Chester Secondary Track, serving industries located along Delaware waterfront
Y4	Wanamaker Yard	8-A	Located near junction of Chester Secondary Track and 60th Street Industrial Track
Y5	Eastside Yard	8-B	Located on CSX Line, owned by CSX, bulk transfer facility
Y6	Atlantic Yard	8-B	Located on CSX Line and Delaware Avenue Extension, inactive
Y7	Penrose Yard	8-B	Located on CSX Line and Delaware Avenue Extension, inactive
Y8	Girard Point Yard	8-B	Located on Delaware Avenue Extension, inactive
Y9	Greenwich Yard	8-B	Located on Delaware Avenue Extension, CSX has rights to yard, serves Packer Avenue Marine Terminal
Y10	Swanson Street Yard	8-B	Located on Delaware Avenue Extension
Y11	Packer Avenue Yard	8-B	Located on Delaware Avenue Extension, adjacent to South Philadelphia Intermodal Yard and other facilities serving the Port of Philadelphia
Y12	South Philadelphia Yard	8-B	CSX facility located on Delaware Avenue Extension, adjacent to Packer Avenue Yard and other facilities serving the Port of Philadelphia
Y13	Oregon Avenue Yard	8-B	Located on Delaware Avenue Extension, "flexi flo" facility
Y14	Grays Ferry Yard	8-B	Located by Arsenal interlocking, inactive
Y15	Powelton Ave Yard	8-B	Adjacent to 30th Street Station, SEPTA facility
Y16	Margie and Este Yards	8-B,C	Located on Amtrak Northeast Corridor between Zoo interlocking and North Philadelphia
Y17	Port Richmond Yard	8-C	Located on Richmond Secondary Track, serves Port Richmond, bulk facility
Y18	Pavonia Yard	8-C	Located in North Camden, main rail yard in South Jersey
Y19	Aramingo Yard	8-C	Located by Frankford Junction
Y20	Frankford Junction Yd.	8-C	Located by Frankford Junction
Y21	Fairhill Yard	8-C	Located on Amtrak Northeast Corridor
Y22	Roberts Yard	8-C	Located by Nice and Wayne Junction, SEPTA facility
Y23	Bleigh Street Yard	8-C	Located on Amtrak Northeast Corridor by Holmesburg Junction
Y24	Ben-Salem Yard	8-C	Located on New York Branch
Y25	Woodbourne Yard	8-D	Located on New York Branch by Woodbourne
Y26	Morrisville Yard	8-D	Located on Trenton Cut-Off between the NY Branch and the Amtrak Northeast Corridor, "TrailVan Facility"
Y27	West Trenton Yard	8-D	Located on New York Branch in New Jersey
Y28	Coalport Yard	8-D	Major Conrail facility in New Jersey at Trenton, connections to the Bordentown Line and Amtrak Northeast Corridor
Y29	Barracks Yards	8-D	East and West Barracks Yards located on Amtrak Northeast Corridor, West Barracks Yard owned by NJDOT

Swanson Street Yard (Y10), Packer Avenue Yard (Y11), CSX's South Philadelphia Intermodal Yard (Y12) and the Oregon Avenue Yard (13). The Atlantic Yard, Penrose Yard, and Girard Point Yard are largely inactive facilities.

Transfer facilities are located in a number of rail yards. A Conrail "flexi-flo" terminal operates at the Oregon Avenue Yard (Y12). In flexi-flo operations suction pumps and scrubbers remove materials from covered hopper cars. The facility can also handle tank cars carrying dry or liquid bulk. "TrailVan Facilities" are located at the Morrisville Yard (Y26). TrailVan facilities permits trailer on flat car (TOFC) operations, namely setting the entire trailer (including its wheels) directly on a flat car. Morrisville Yard is the main TrailVan Facility serving the Philadelphia region. CSX operates a bulk intermodal facility out of its Eastside Yard (Y5) for dry and liquid bulk items. The Port Richmond Yard (Y17) is used by Conrail for bulk commodities.

SEPTA vehicles use the Powelton Avenue Yard (Y15) and the Roberts Yard (Y22).

Rail Freight Terminals

Rail freight terminals in the I-95 Corridor are listed on Table 15 and are designated T1 to T45 on Figure 8.

Rail freight terminals are clustered in four general locations. Along the waterfront in Delaware County, major terminals include Allied Chemical (T2), Sun Company (T3), the auto import lot (T5), and PECO (T10). Rail traffic in Delaware County is gradually diminishing, many businesses which once generated considerable rail traffic have scaled back production, while other sites have been converted to industrial/business parks. In South Philadelphia, most terminals are directly related to port activities: ore and coal piers (T17), Packer Marine Terminal (T18), the auto import yard (T19), and miscellaneous piers (T20). Another group of terminals are located in the Holmesburg section of Philadelphia along the waterfront, T32 through T34. These terminals, mainly involve steel and metal industries, include Northern Metals and Allegheny Ludlum Steel. Another group of terminals are located around Philadelphia Northeast Airport, these include American Bag and Paper (T35), Continental Can (T36), and Philadelphia Industrial Park (T37).

Other major terminals in the I-95 Corridor include Port Richmond (T27) and Rohm and Haas (T31) in Philadelphia, and USX's Fairless Works (T44) in Bucks County. Conrail would like to expand its Port Richmond operations, expansion is contingent upon improved highway access to I-95 and the Betsy Ross Bridge.

SEPTA Train Stations

SEPTA passenger stations falling in the I-95 Corridor are listed on Table 16 and are designated S1 to S91 on Figure 8.

Table 15: RAIL FREIGHT TERMINALS: I-95 CORRIDOR

<u>LOCATION</u>	<u>TERMINAL</u>	<u>FIGURE</u>	<u>COMMENTS</u>
T1	Phoenix Steel	8-A	Located in Delaware
T2	Allied Chemical	8-A	Other chemical companies adjacent to Allied Chemical
T3	Sun Company	8-A	Oil refinery, several locations
T4	BP Oil	8-A	Oil refinery
T5	Auto Import Yard	8-A	Auto shipping facility
T6	Chester Tidewater Term.	8-A	Industrial park
T7	Riverbridge Ind. Center	8-A	Industrial park
T8	Scott Paper	8-A	Plants at two locations
T9	Penn Shipbuilding Yard & Drydock	8-A	Partially closed facility
T10	PECO	8-A	Electric generating plant
T11	Boeing Vertol	8-A	Airplane parts manufacturing
T12	Tinicum Industrial Pk.	8-A	Flex-space, partially occupied
T13	Phila. Intl. Airport	8-B	Industrial park
T14	Tidewater Grain Co.	8-B	Inactive
T15	Phila. Naval Yard	8-B	Ship repairs, reserve naval fleet
T16	Food Distribution Ctr.	8-B	Food warehousing and processing
T17	Pier 122, 124	8-B	Ore and coal piers
T18	Packer Marine Terminal	8-B	BURMA TRACKS (container port)
T19	Auto Import Yard	8-B	Auto shipping facility
T20	Piers	8-B	Assorted shipping piers
T21	Misc. Industries	8-B	Penn Jersey Paper, Liquid Carbonic, Philadelphia Perishable Goods
T22	Piers	8-B	Assorted shipping piers
T23	Misc. Industries	8-B	Crown Paper, Alpha Steel, United Steel Barrel
T24	Misc. Industries	8-B	Furness-Whitby, Amstar, Pier 38
T25	Misc. Industries	8-B	Schmidts Brewing Co., American Fruit
T26	Misc. Industries	8-B	Union Paving, American Can, Penn Atlantic Millwork, PECO
T27	Port Richmond	8-C	Assorted shipping piers (stone and scrap)
T28	Tioga Marine Terminal	8-C	Assorted piers and miscellaneous industries
T29	Misc. Industries	8-C	Franks Beverage, Unity Foods
T30	Philadelphia Coke Co.	8-C	
T31	Rohm & Haas	8-C	Pharmaceutical company
T32	Misc. Industries	8-C	Halpern Interstate, PA Foundry, Impex
T33	Misc. Industries	8-C	US Naval Defense Supply Center, Sears
T34	Steel Companies	8-C	Northern Metals, Morris Iron & Steel, Allegheny Ludlum Steel
T35	Misc. Industries	8-C	American Bag & Paper, United Container, Globe Products
T36	Misc. Industries	8-C	Continental Can, Penn Jersey Supply
T37	Phila. Industrial Pk.	8-C	Assorted industries
T38	Torresdale Water Filtration Plant	8-C	
T39	Budd Company	8-C	
T40	Penn Salt	8-D	
T41	Expwy. 95 Ind. Park	8-D	Assorted industries
T42	Rohm & Haas	8-D	Pharmaceutical company
T43	Misc. Industries	8-D	Lavery Chemical, Purex
T44	USX Fairless Works	8-D	Partially open steel works
T45	Misc. Industries	8-D	Morrisville Scrap, Vulcanized Rubber

Table 16: SEPTA TRAIN STATIONS: I-95 CORRIDOR

<u>LOCATION</u>	<u>STATION</u>	<u>FIGURE</u>	<u>COMMENTS</u>
<u>CENTER CITY STATIONS</u>			
S1	30th Street	8-B	Also serves Amtrak, Market-Frankford Line
S2	Suburban	8-B	Also serves Broad Street Line, Market-Frankford Line
S3	Market East	8-B	Also serves PATCO, Market-Frankford Line
<u>R1 Airport Line</u>			
S4	Terminal B	8-B	
S5	Terminals C and D	8-B	
S6	Terminal E	8-B	
S7	University City	8-B	Under construction (Summer 1991)
<u>R2 Wilmington Line</u>			
S8	Claymont	8-A	Opened October 29, 1990
S9	Marcus Hook	8-A	
S10	Highland Avenue	8-A	
S11	Lamokin Street	8-A	
S12	Chester	8-A	
S13	Eddystone	8-A	
S14	Baldwin	8-A	Proposed station
S15	Crum Lynne	8-A	
S16	Ridley Park	8-A	
S17	Prospect Park	8-A	
S18	Norwood	8-A	
S19	Glenolden	8-A,B	
S20	Folcroft	8-B	
S21	Sharon Hill	8-B	
S22	Curtis Park	8-B	
S23	Darby	8-B	
<u>R3 West Chester Line</u>			
S24	Wawa	8-A	Train service suspended
S25	Lenni	8-A	Train service suspended
S26	Glen Riddle	8-A	Train service suspended
S27	Williamson School	8-A	Train service suspended
S28	Elwyn	8-A	
S29	Media	8-A	
S30	Moylan-Rose Valley	8-A	
S31	Wallingford	8-A	
S32	Swarthmore	8-A	
S33	Morton	8-A	
S34	Secane	8-A,B	
S35	Primos	8-A,B	
S36	Clifton-Aldan	8-B	
S37	Gladstone	8-B	
S38	Lansdowne	8-B	
S39	Fernwood	8-B	
S40	Angora	8-B	
S41	49th Street	8-B	

Table 16: SEPTA TRAIN STATIONS: I-95 CORRIDOR (Continued)

<u>LOCATION</u>	<u>STATION</u>	<u>FIGURE</u>	<u>COMMENTS</u>
<u>R3 WEST TRENTON LINE</u>			
S43	North Broad	8-C	Also serves R8 Fox Chase Line
S46	Wayne Junction	8-C	Also serves R8 Fox Chase Line
S51	Elkins Park	8-C	
S52	Jenkintown-Wyncote	8-C	
S53	Noble	8-C	
S54	Rydal	8-C	
S55	Meadowbrook	8-C	
S56	Bethayres	8-C	
S57	Philmont	8-C	
S58	Forest Hills	8-C,D	
S59	Somerton	8-C,D	
S60	Trevose	8-D	
S61	Neshaminy Falls	8-D	
S62	Langhorne	8-D	
S63	Woodbourne	8-D	
S64	Oxford Valley	8-D	Proposed station
S65	Yardley	8-D	
S66	West Trenton	8-D	
<u>R7 TRENTON LINE</u>			
S67	North Philadelphia	8-B,C	Also serves Amtrak
S68	Frankford Junction	8-C	
S69	Frankford	8-C	
S70	Bridesburg	8-C	
S71	Wissinoming	8-C	
S72	Tacony	8-C	
S73	Holmesburg	8-C	
S74	Torresdale	8-C	
S75	Andalusia	8-C,D	
S76	Cornwells Heights	8-C,D	
S77	Eddington	8-D	
S78	Croydon	8-D	
S79	Bristol	8-D	
S80	Levittown	8-D	
S81	Trenton	8-D	
<u>R8 FOX CHASE LINE</u>			
S84	Olney	8-C	
S85	Lawndale	8-C	
S86	Cheltenham	8-C	
S87	Ryers	8-C	
S88	Fox Chase	8-C	
S89	Walnut Hill	8-C	Service suspended
----	<i>Seven R8 stations Omitted from Fig. 8</i>	----	<i>Walnut Hill, Huntingdon Valley, Bryn Athyn, County Line, Southampton, Churchville, Holland</i>
S90	George School	8-D	Train service suspended
S91	Newtown	8-D	Train service suspended

Table 16: SEPTA TRAIN STATIONS: I-95 CORRIDOR (Continued)

<u>LOCATION</u>	<u>STATION</u>	<u>FIGURE</u>	<u>COMMENTS</u>
<u>SEPTA STATIONS SERVING OTHER RAIL LINES</u>			
S42	Temple University	8-B	
S44	Tioga	8-C	Train service suspended
S45	Nicetown	8-C	Train service suspended
S47	Logan	8-C	R2 Warminster Line
S48	Tabor*	8-C	R2 Warminster Line
S49	Fern Rock*	8-C	R2 Warminster Line
S50	Melrose Park	8-C	R5 Doylestown Line
S82	Allegheny	8-C	R6 Norristown Line
S83	Westmoreland	8-C	R8 Chestnut Hill West Line

* To be replaced by the Fern Rock Transportation Center, scheduled to open Spring 1991.

SEPTA stations were subdivided into eight categories based upon rail line: Center City stations, R1 Airport Line, R2 Wilmington Line, R3 West Chester Line, R3 West Trenton Line, R7 Trenton Line, R8 Fox Chase Line, and SEPTA stations serving other rail lines. The three Center City stations are 30th Street Station, Suburban Station, and Market East Station. Stations listed under SEPTA stations serving other rail lines include stations on the SEPTA Trunk Line not serving one of the Regional Rail Lines falling in the I-95 Corridor. Some inactive stations on the R8 Fox Chase Line are listed on Table 16 but are not shown in Figure 8 because they fall outside the corridor.

Some SEPTA stations serve more than one line, stations with multiple lines can be identified from the station inventory (Table 5) incorporated in the Regional Rail chapter. Stations with suspended service are denoted on the inventory.

Abandoned Rail Lines

Abandoned rail lines in the I-95 Corridor are listed on Table 17 and are designated A1 to A16 on Figure 8.

Table 17: ABANDONED RAIL LINES: I-95 CORRIDOR

<u>LOCATION</u>	<u>ABANDONED LINE</u>	<u>FIGURE</u>	<u>COMMENTS</u>
A1	Chester Creek Secondary Track	8-A	Portion of right-of-way sold
A2	60th Street Industrial Track	8-B	Portion of right-of-way sold
A3	Washington Ave. Branch	8-B	Located in median of Washington Avenue
A4	Delaware Ave. Ext.	8-B,C	Located in median of Delaware Avenue
A5	Willow Street Industrial Track	8-B,C	
A6	Berks Street	8-B,C	
A7	Canal Street Track	8-B,C	
A8	Trenton Avenue Elevated Line	8-B,C	Portion of right-of-way sold
A9	Westmoreland Street Siding	8-C	
A10	K&T Branch	8-C	Portion of right-of-way sold
A11	Frankford Street Track	8-C	Right -of-way sold
A12	Fairhill Branch	8-C	
A13	Oxford Road Branch	8-C	
A14	Olney Run Track	8-C	Portion of right-of-way sold
A15	Frankford Ind. Track	8-C	Portion of right-of-way sold
A16	East Trenton Ind. Track	8-D	

A number of abandoned rail lines either lie directly adjacent to I-95 or intersect it: Chester Creek Secondary Track (A1), 60th Street Industrial Track (A2), Delaware Avenue Extension (A4), Berks Street (A6), a branch of the Trenton Avenue Elevated Line (A8), Westmoreland Street Siding (A9), and the Frankford Street Track (A11). The K&T Branch (A10) intersects I-95 at two different locations in Philadelphia.

Portions of two lines listed as abandoned, the Delaware Avenue Extension and the 60th Street Industrial Track, are active feeder railroads and were discussed earlier in the report.

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