

JUNE 2002



Subway

**INTERMODAL  
PASSENGER  
SYSTEM  
SURVEY**

**PHASE 1  
A WORKING DOCUMENT**



DELAWARE VALLEY REGIONAL PLANNING COMMISSION





JUNE 2002



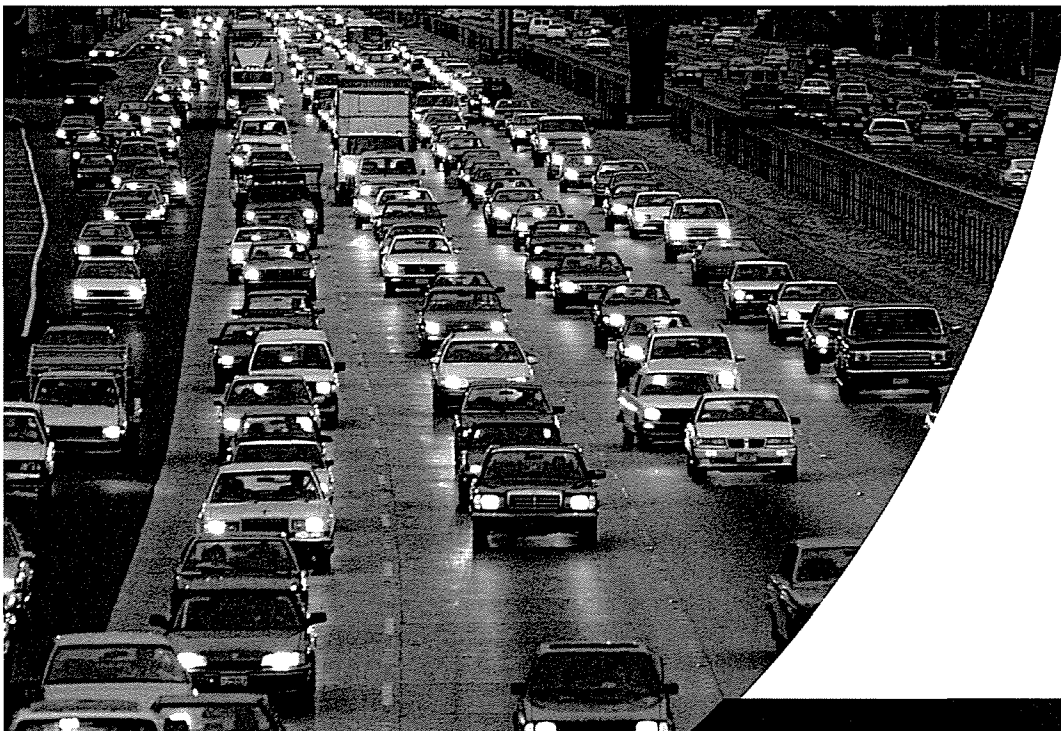
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DELAWARE VALLEY REGIONAL PLANNING COMMISSION



Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency that provides continuing, comprehensive and coordinated planning to shape a vision for the future growth of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties, as well as the City of Philadelphia, in Pennsylvania; and Burlington, Camden, Gloucester and Mercer counties in New Jersey. DVRPC provides technical assistance and services; conducts high priority studies that respond to the requests and demands of member state and local governments; fosters cooperation among various constituents to forge a consensus on diverse regional issues; determines and meets the needs of the private sector; and practices public outreach efforts to promote two-way communication and public awareness of regional issues and the Commission.



Our logo is adapted from the official DVRPC seal, and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole, while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

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## **EXECUTIVE SUMMARY**

DVRPC staff identified 55 key intermodal passenger terminals to examine change of mode conditions which may affect or support intermodal passenger travel in the region. Staff subsequently developed a systematic phased work program to evaluate 38 of these. In phases I, II and III, inventories and evaluations are conducted to provide information on station amenities, interconnecting services, highway access and parking characteristics. This report summarizes the first phase of work and addresses 20 facilities.

The inventory of facilities included in the first phase includes four PATCO stations, 13 SEPTA regional rail stations and three park-and-ride lots owned and maintained by PennDOT.

Fact sheets have been prepared for each facility, and are shown in the Appendix. Each facility's fact sheet provides:

- an aerial view of the station or lot (DVRPC's 2000 digital aerial photography)
- an inventory of interconnecting modes, parking availability and amenities
- a map of the commuter parking shed surrounding the station or lot.

The series of three initial phases are prepared as working documents. Presentation in this manner provides member governments and agencies the opportunity to continually review, remark and supply inputs to the system and the performance data collected and evaluated.

Phase IV will summarize the initial steps and culminate with a candidate action plan to improve vehicular access and passenger transfer conditions for a selected subset of the inventory.

The work was conducted through the Intermodal Facilities Management System (IMS) element of DVRPC's annual planning work program. The IMS was one of six management systems created by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and is carried on through the auspices of the region's current long range plan.

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## **INTRODUCTION**

The work presented in this report assesses an inventory of operating conditions in and around key intermodal passenger terminals in the Delaware Valley. Intermodal passenger terminals are components of the transportation system that facilitate the transfer of people between modes of travel. Examples of intermodal passenger terminals in the region include train and bus stations, airports and park-and-ride lots.

This report is Phase I of a four phase program that will systematically inventory and analyze passenger transfer conditions at train stations and park-and-ride lots in the region. The initial three phases will consist of collecting data, and providing sketch planning data to evaluate 38 terminals.

Major elements included in the inventory are:

- commuter parking shed areas surrounding the station
- connecting highways and interconnecting transit services which serve the approach and departure of customers within that shed
- circulation conditions on the station premises
- parking availability at the station.

It is intended that the first three phases will be summarized as working documents to elicit review and input by member agencies. DVRPC staff also would take advantage of the working nature of the reports to integrate missing data or products emanating from the forthcoming Region-wide Transportation GIS Project – notably bus route alignments through the shed areas. Phase IV will summarize the evaluation steps and will recommend improvements for accessing and transferring at a selected subset of the terminals.

### **The Report**

Phase I addresses 20 passenger terminals, including four PATCO High Speed Line stations, 13 SEPTA Regional Rail stations, and three park-and-ride lots. The report's major products are contained in the Appendix, wherein for each terminal major elements are inventoried or mapped, and aerial photos of the terminal area are provided.

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## THE INTERMODAL PASSENGER SYSTEM

Multiple modal choices are available to travelers in the Delaware Valley. The region contains a dense network of bus and rail services, as well as three major airports.














Figure 1 identifies the overarching system including regional, high-speed and light rail systems, the National Highway System, and park-and-ride lots. On the figure 55 regionally significant intermodal passenger terminals which were initially considered for inclusion in this study are identified. From that population, 17 facilities were recognized to be undergoing site specific evaluations and/or were judged to be beyond the scope of this work. Table 1 corresponds with Figure 1, and indicates the particular phase in which the terminal inventories will be performed. Phase I, the current year's work program, addresses 20 of the listed terminals.

### **Bases for Network Evaluations**

Detailed inventories conducted for each terminal, are presented on fact sheets in the Appendix. The fact sheets provide the basis for subsequent performance evaluations and recommendations employing:

1. Aerial mapping of the terminal area. These provide a sense of the size of the location, the environment surrounding the facility, the alignment of roadways serving the facility, and possible areas for parking expansion.
  2. Inventories of:
    - a. Station boarding activity and interconnecting transit services,
    - b. Parking conditions: current supply and demand relationships, a near term future which considers committed parking expansions, and planning level estimates of future parking demand changes at the station or at the park-and-ride lot. The estimates were based on published studies performed for SEPTA or by DVRPC, or were computed assuming forecasted changes in population within the shed areas of the station (see item 3, below).
    - c. Amenities on the station premises that contribute to smooth transfer between modes. These include shelters for transfers, lights, kiss-and-ride loops / short term parking area, bike racks, and opportunities for parking expansion. Many of these amenities have not been field viewed as of the publication of this report, but will be as successive phases are undertaken and completed.
-

Figure 1  
**REGIONAL INTERMODAL  
 PASSENGER FACILITIES  
 NETWORK**

- HIGHWAY FACILITIES**
-  NHS Routes
  -  Limited Access
  -  Principal Arterial
  -  Secondary Arterial
- PASSENGER RAIL SYSTEM**
-  Amtrak
  -  Regional Rail
  -  Rapid Transit Rail
  -  Light Rail
  -  Under Construction Rail
  -  Proposed Rail
  -  Potential Rail
- INTERMODAL FACILITIES**
-  Stations / Terminals
  -  Park and Ride Lots





**Table 1**  
**Intermodal Passenger Facilities Management System Work Plan**

Map ID	Description	Phase	Map ID	Description	Phase
1	Princeton Junction	2	29	Matsonford Rd. Park-and-Ride	1
2	Hamilton Station	2	30	Ardmore Station	2
3	Trenton	4	31	Norristown Transportation Center	-
4	West Trenton	2	32	Lansdale Station	1
5	CR 538 Spur & A.C. Expressway Park-and-Ride	2	33	Ambler Station	1
6	Atco	2	34	Fort Washington Station	1
7	Lindenwold Station	1	35	Glenside Station	1
8	Woodcrest Station	1	36	Jenkintown Station	1
9	Ferry Ave. Station	1	37	Doylestown Station	1
10	Rand Transportation Center / Broadway Station	1	38	Warminster Station	1
11	Cherry Hill	2	39	Scutters Falls Bridge Park-and-Ride	3
12	Philadelphia International Airport	-	40	Woodbourne Station Park-and-Ride	3
13	Chester Transportation Center	-	41	Cornwells Heights Station Park-and-Ride	1
14	Crum Lynn Station	-	42	Fox Chase Station	1
15	Darby Transportation Center	-	43	Frankford Transportation Center	-
16	69 <sup>th</sup> Street Terminal	-	44	Fern Rock Transportation Center	2
17	Media Station	1	45	Olney Transportation Center	-
18	Elwyn Station	1	46	North Philadelphia Transportation Center	-
19	Wawa Station (proposed)	1	47	Wissahickon Transportation Center	3
20	Radnor Station	-	48	30 <sup>th</sup> Street Station	-
21	West Chester Transportation Center	3	49	Suburban Station, City Hall, 15 <sup>th</sup> Street Complex	-
22	Thorndale Station	1	50	Market East, 11 <sup>th</sup> Street Complex	-
23	Exton Station	2	51	Greyhound Terminal	-
24	Paoli Station	-	52	8 <sup>th</sup> Street Complex	-
25	Paoli Pk. and US 202 Park-and-Ride	2	53	Walnut-Locust, 15 <sup>th</sup> - 16 <sup>th</sup> Street Station Complex	-
26	US 30 and US 202 Park-and-Ride	2	54	Pattison Station Park-and-Ride	3
27	Matthews Rd. and US 202 Park-and-Ride	1	55	Eastwick Transportation Center	3
28	Limerick Park-and-Ride	1	Shaded cells represent facilities studied for this report.		

3. Maps displaying commuter parking shed areas surrounding the station. Most of the shed maps represent the geocoded<sup>1</sup> addresses for registered owners of parked cars at the station. These were obtained through recent surveys at the parking lot, and with the help of PennDOT staff and its tag interrogation process. Where available, DVRPC staff used pre-existing shed area data in this process. As such, the shed areas for the Lansdale, Media and Elwyn stations are characterized by a line outlining the boundary of the postal zones (i.e., zip codes) which comprise the station's parking shed.

## PERFORMANCE EVALUATION

The data collected and provided in this report provides a basis for identifying deficiencies and preliminarily identifying improvement recommendations. As the data inventory will expand, the key evaluation criteria at this point are parking conditions.

### Parking Conditions

Table 2 provides a summary tabulation of parking conditions at the stations, and suggests which may be candidates for inclusion in Phase IV.

Existing parking supply and demand were obtained from SEPTA and PATCO inventories and/or counts performed by DVRPC. Future parking supply was obtained from the owners, and indicates where expansions are budgeted and programmed to implemented in the near future.

Estimates of future parking demands were drawn from previously prepared sources, or were newly computed for this study. The projections for PATCO were obtained from *Ridership and Parking Requirement Forecasts for the PATCO Hi-Speedline New Jersey Stations* (DVRPC, February 2002). Media and Elwyn stations' projections were obtained from *SEPTA R3 Media / Elwyn Rail Line Parking Demand Study* (DVRPC, May 1999). Glenside and Jenkintown stations's parking demand projections are from *Glenside and Jenkintown SEPTA Station Parking Demand Study* (DVRPC, October 2000). Parking supply and demands at the proposed Wawa Station were obtained from *Elwyn to Wawa Service Restoration Study* (SEPTA, June 2000). Fort Washington's demand estimates were obtained in *Fort Washington Station Parking Needs Analysis* (SEPTA, December 1999).

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<sup>1</sup> Geocoding was performed using Arcview 8.0, and the TIGER Line Files based on the US 2000 Census

<b>Table 2 Future Parking Outlook</b>						
<b>Location</b>	<b>Current</b>		<b>Committed Supply</b>	<b>Estimated</b>		
	<b>Supply</b>	<b>Demand</b>		<b>Demand (year)</b>	<b>Parking Deficiency</b>	<b>% Parking Deficiency</b>
<b>PATCO Stations</b>						
Lindenwold	3,337 <sup>1</sup>	3,078 <sup>1</sup>	3,337	4,863 (2025)	-1,526	-46%
Woodcrest	2,673 <sup>1</sup>	2,470 <sup>1</sup>	2,673	3,349 (2025)	-676	-25%
Ferry Avenue	1,900 <sup>1</sup>	1,790 <sup>1</sup>	1,900	2,160 (2025)	-260	-14%
Rand Transportation Center / Broadway	n/a	n/a	n/a	n/a	-	-
<b>SEPTA Stations</b>						
Media	252 <sup>2</sup>	252 <sup>2</sup>	252	336 (2020)	-84	-33%
Elwyn	217 <sup>2</sup>	217 <sup>2</sup>	217	274 (2020)	-57	-26%
<i>Wawa (proposed)</i>	0	0	385 <sup>2</sup>	217 (2020)	-	-
Thorndale	456 <sup>2</sup>	143 <sup>3</sup>	456	198 (2025)	ample parking available	
Lansdale	497 <sup>2</sup>	407 <sup>2</sup>	497	491 (2025)	ample parking available	
Ambler	588 <sup>2</sup>	461 <sup>3</sup>	588	544 (2025)	ample parking available	
Fort Washington	296 <sup>2</sup>	306 <sup>3</sup>	584 <sup>2</sup>	551 (2005)	ample parking available	
Glenside	260 <sup>2</sup>	260 <sup>2</sup>	260	747 (2025)	-487	-187%
Jenkintown	603 <sup>2</sup>	603 <sup>2</sup>	603	960 (2025)	-357	-59%
Doylestown	185 <sup>2</sup>	124 <sup>3</sup>	185	171 (2025)	ample parking available	
Warminster	668 <sup>2</sup>	510 <sup>3</sup>	818 <sup>2</sup>	687 (2025)	ample parking available	
Cornwells Heights	1,916 <sup>2</sup>	910 <sup>2</sup>	1,916	993 (2025)	ample parking available	
Fox Chase	348 <sup>2</sup>	336 <sup>3</sup>	348	351 (2025)	-3	-1%
<b>Park-and-Ride Lots</b>						
Matthews Rd	86 <sup>3</sup>	3 <sup>3</sup>	86	- -	ample parking available	
Limerick (US 422)	63 <sup>3</sup>	19 <sup>3</sup>	63	27 (2025)	ample parking available	
Matsonford Rd	91 <sup>3</sup>	19 <sup>3</sup>	91	21 (2025)	ample parking available	

1 - PATCO Data  
 2 - SEPTA Data  
 3 - DVRPC Count

New parking demand projections for each of the remaining station sheds were prepared expressly for this study. In those cases, proportioned population changes between DVRPC's Board adopted 1997 and Year 2025 municipal population forecasts, within the shed, were applied to current station parking demands. It should be noted that the latter set are quick, planning-level estimates, and do not include the possible affects of diverted or latent parking demands.

In the table, unshaded cells indicate stations with adequate parking supplies. Cells shaded yellow represent those stations which may experience a minimal parking shortages in the foreseeable future (e.g , 50 to 100 spaces). Orange shaded cells indicate stations with a future parking deficiency of 100 or more spaces – but have adjacent stations with a current surplus of parking spaces. Cells shaded red denote a projected future parking deficiency of 100 or more spaces – and there are currently no available parking spaces at adjacent stations.

From an examination of the table, seven of the twenty locations examined in Phase I are likely to experience some level of undesirable parking deficiency in the foreseeable future. Of these, 5 stations will experience significant parking supply shortages. These are: Lindenwold, Woodcrest, Ferry Avenue, Glenside and Jenkintown stations. All but the Lindenwold and Jenkintown stations have been identified as candidates for developing parking expansion projects.

At Media and Elwyn deficiencies of a lesser magnitude are projected. Elwyn's supply has been subject to parking expansion proposals in the past. Interim decisions have elected to postpone developing further parking expansion at the station, in favor of first examining the R3 Line's extension to Wawa – to determine whether demand will be diverted from Elwyn to proposed stations along the extension. A review of the SEPTA prepared study of the extension suggests that overall boarding activity at the Media and Elwyn stations will decrease with the extension.

From these evaluations, Phase IV should consider opportunities to ameliorate parking deficiencies at Lindenwold and Jenkintown stations. Where more land is not available for parking lots, structured parking may be considered. Alternatively, steps may also be taken to improving bus services, or paths which serve pedestrians and bikes, between the station and its shed – in an effort to capture more station users.

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## **NEXT STEPS**

Phase II work will be initiated and will consist of four NJ Transit rail stations, five SEPTA Regional Rail stations, and one park-and-ride lot, owned and maintained by NJ Transit.

Phase I data collection should be completed as the Phase II work progresses.

An evaluation matrix should be prepared which summarizes all inventoried and evaluated performance items across the three initial phases, to guide the work to be conducted in Phase IV.

An open review and comment process will be maintained throughout the three initial phases. Member government and agency staff should comment on the network, the performance criteria and evaluations, and where possible submit outstanding data items.

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Intermodal Passenger System Survey

Phase I

**APPENDIX**

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# Lindenwold Station



DVRPC 2000 Aerials  
1" = 500'



**Location: Lindenwold Station**  
**NHS Routes: US 30**

**Map ID # 7**

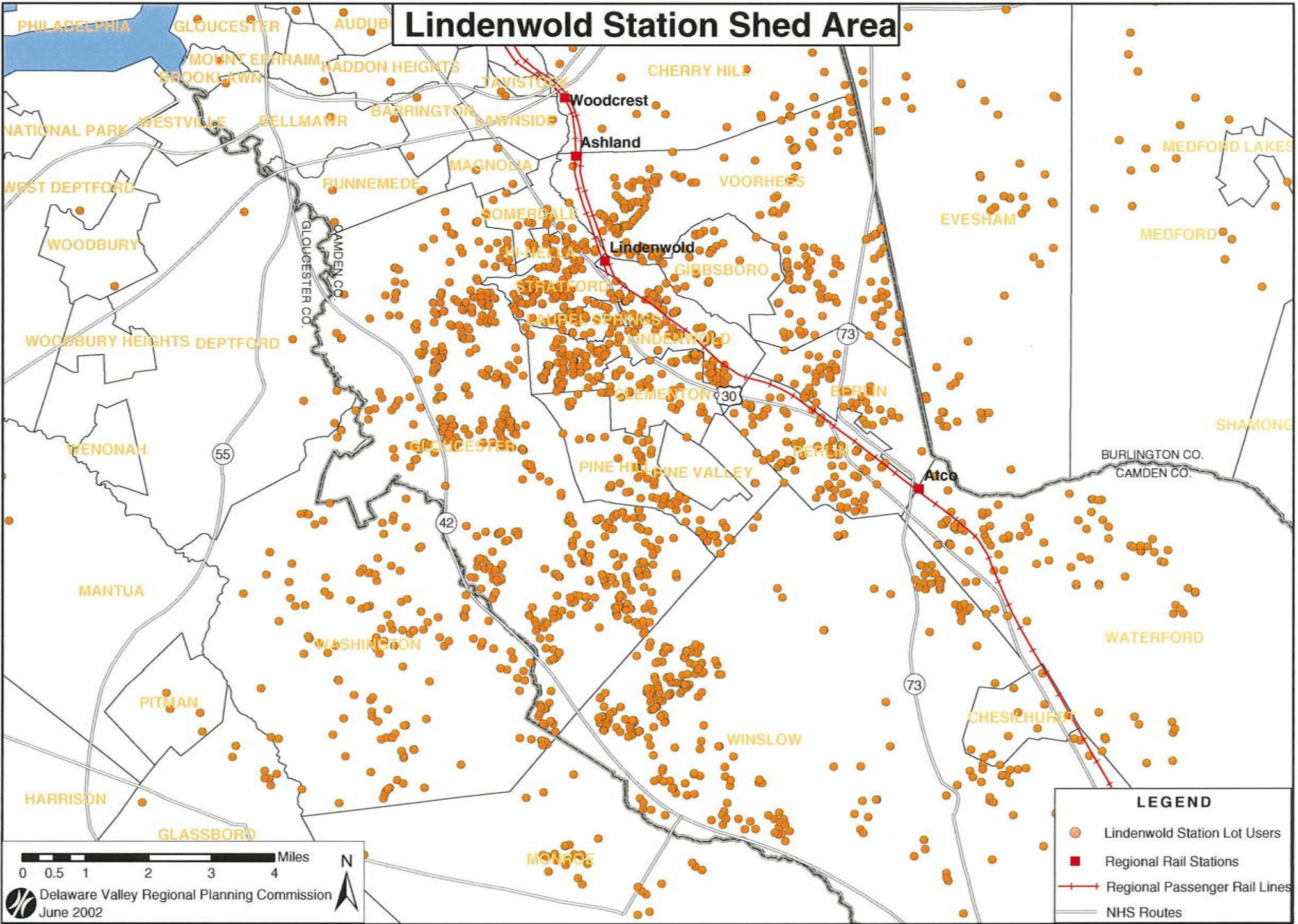
<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
PATCO	High Speed Line	Commuter Rail	5,228	PATCO Historical Data, Sept. 01
NJ Transit	Route 401	Bus	n/a	n/a
NJ Transit	Route 402	Bus	n/a	n/a
NJ Transit	Route 609	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
3,337	3,078	92%
Projected Year 2025 Parking Demand:		4,863*
Major Shed Contributors to Station by MCD:	Gloucester Twp (22%), Winslow Twp (12%), Voorhees Twp (10%), Lindenwold Boro (9%), Washington Twp (6%)	

\*Source: *Ridership and Parking Requirement Forecasts for the PATCO Hi-Speedline New Jersey Stations* (DVRPC, February 2002).

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	x	
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion		x

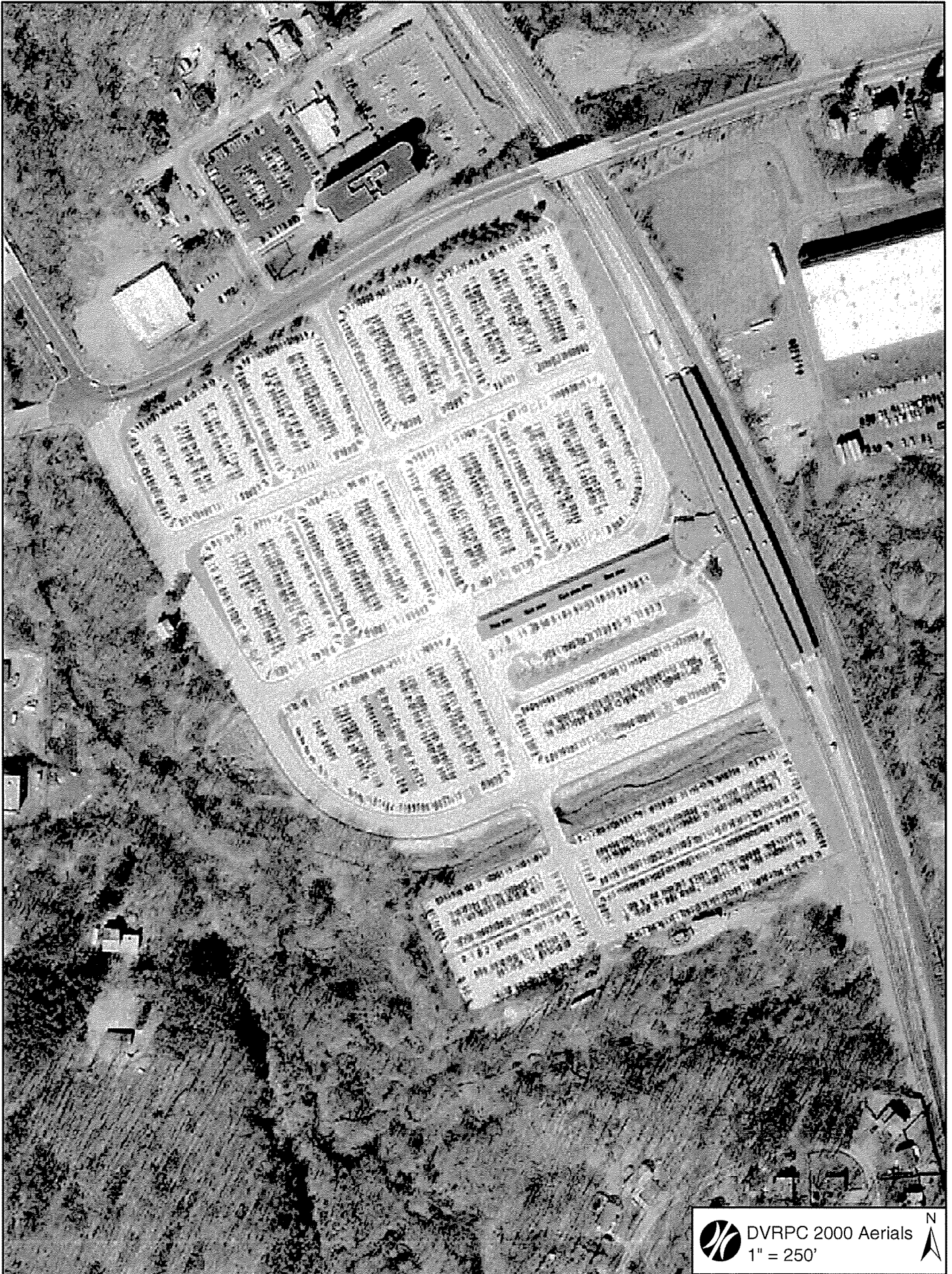
# Lindenwold Station Shed Area







# Woodcrest Station



**Location: Woodcrest Station**  
**NHS Routes: I-295**

**Map ID # 8**

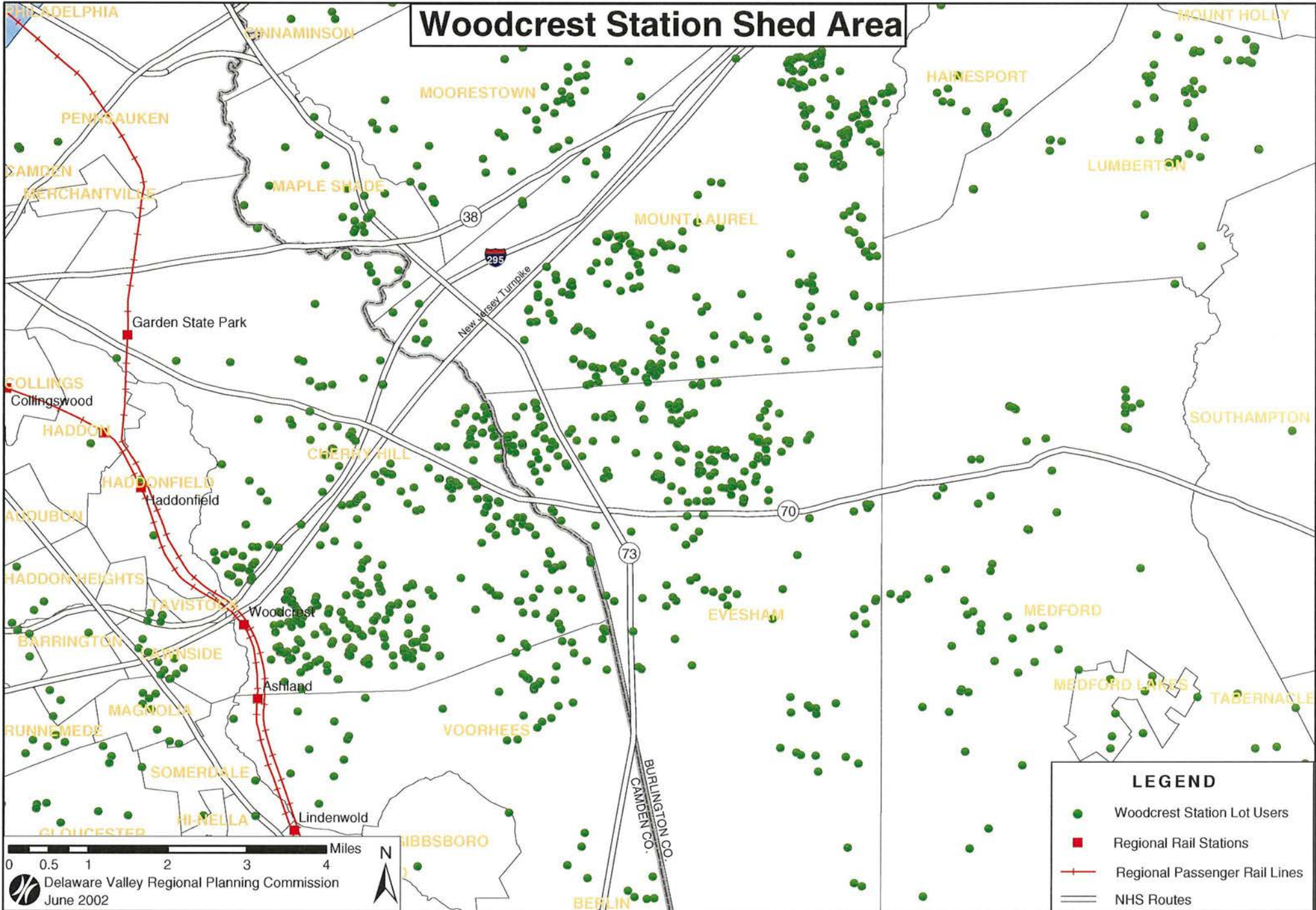
<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
PATCO	High Speed Line	Commuter Rail	2,828	PATCO Historical Data, Sept. 01

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
2,673	2,470	92%
Projected Year 2025 Parking Demand:		3,349*
Major Shed Contributors to Station by MCD: Cherry Hill Twp (21%), Mount Laurel Twp (18%), Evesham Twp (13%)		

\*Source: *Ridership and Parking Requirement Forecasts for the PATCO Hi-Speedline New Jersey Stations* (DVRPC, February 2002).

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	x	
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Woodcrest Station Shed Area



**LEGEND**

- Woodcrest Station Lot Users
- Regional Rail Stations
- +— Regional Passenger Rail Lines
- NHS Routes



# Ferry Avenue Station



**Location:** Ferry Avenue Station

**Map ID # 9**

**NHS Routes:** US 130, Camden Co. Rt. 561 (Connector), Camden Co. Rt. 603 (Connector), Camden Co. Rt. 606 (Connector)

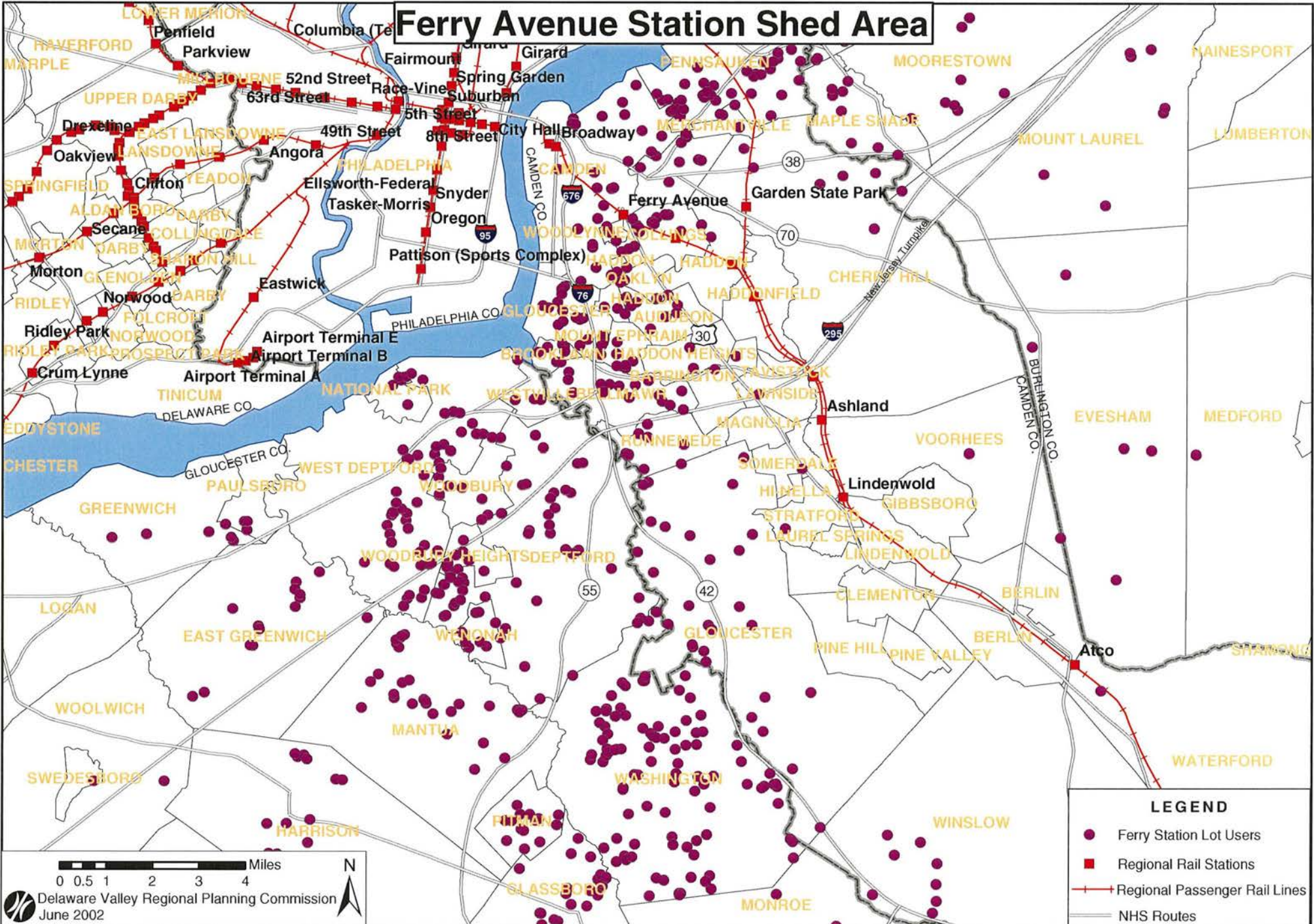
<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
PATCO	High Speed Line	Commuter Rail	2,773	PATCO Historical Data, Sept. 01
NJ Transit	Route 408	Bus	n/a	n/a
NJ Transit	Route 608	Bus	n/a	n/a
NJ Transit	Route 609	Bus	n/a	n/a
NJ Transit	Route 611	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
1,900	1,790	94%
Projected Year 2025 Parking Demand:		2,160*
Major Shed Contributors to Station by MCD:	Washington Twp (14%), West Deptford Twp (7%), Deptford Twp (6%), Pennsauken Twp (6%)	

\*Source: *Ridership and Parking Requirement Forecasts for the PATCO Hi-Speedline New Jersey Stations* (DVRPC, February 2002).

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	x	
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Ferry Avenue Station Shed Area



**LEGEND**

- Ferry Station Lot Users
- Regional Rail Stations
- Regional Passenger Rail Lines
- NHS Routes





# Rand Transportation Center / Broadway Station



DVRPC 2000 Aerials  
1" = 250'



Location: Rand Transportation Center / Broadway Station

Map ID # 10

NHS Routes: I-676, Camden Co. Rt. 551 (Connector), Seventh St. (Connector), Copper St. (Connector)

Public Transportation Available				
Operator	Route	Type	Boardings	Source
PATCO	High Speed Line	Commuter Rail	1,960	PATCO Historical Data, Sept. 01
NJ Transit	Route 316	Bus	n/a	n/a
NJ Transit	Route 402	Bus	n/a	n/a
NJ Transit	Route 403	Bus	n/a	n/a
NJ Transit	Route 404	Bus	n/a	n/a
NJ Transit	Route 405	Bus	n/a	n/a
NJ Transit	Route 406	Bus	n/a	n/a
NJ Transit	Route 407	Bus	n/a	n/a
NJ Transit	Route 408	Bus	n/a	n/a
NJ Transit	Route 409	Bus	n/a	n/a
NJ Transit	Route 410	Bus	n/a	n/a
NJ Transit	Route 601	Bus	n/a	n/a
NJ Transit	Route 602	Bus	n/a	n/a
NJ Transit	Route 603	Bus	n/a	n/a
NJ Transit	Route 604	Bus	n/a	n/a
NJ Transit	Route 605	Bus	n/a	n/a
NJ Transit	Route 607	Bus	n/a	n/a
NJ Transit	Route 608	Bus	n/a	n/a
NJ Transit	Route 611	Bus	n/a	n/a
NJ Transit	Route 976	Bus	n/a	n/a
NJ Transit	Route PJS	Bus	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
n/a	n/a	n/a
Major Shed Contributors to Station by MCD: n/a		

Station Premises		
Amenity	Yes	No
Shelters for Transfers	x	
Lights	x	
Kiss & Ride Loop / Parking		x
Bike Racks	x	
Opportunities for Parking Expansion		x

# Media Station



Location: Media Station  
 NHS Routes: None

Map ID # 17

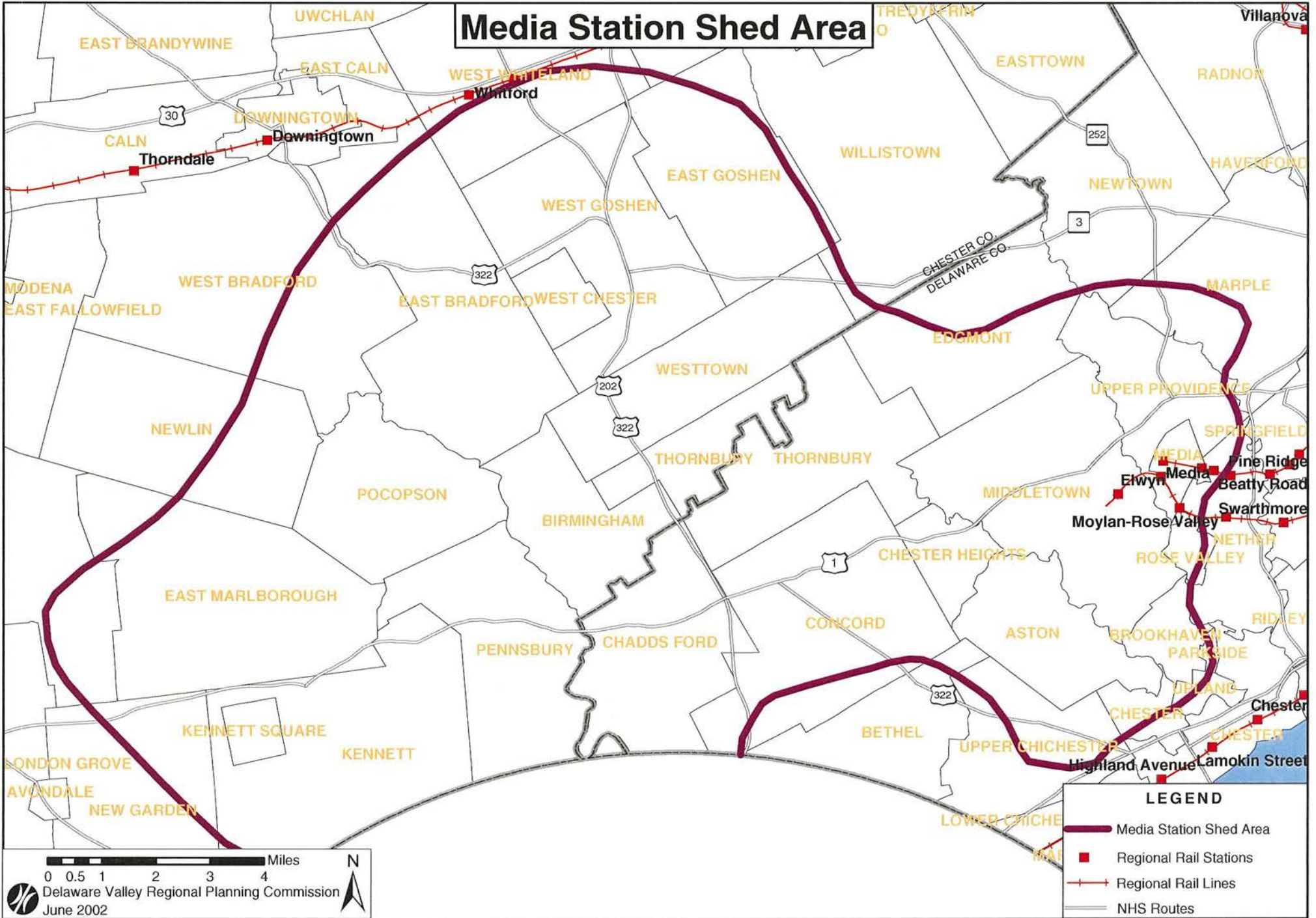
Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	R3	Commuter Rail	948	SEPTA Data, Dec. 00

Parking Conditions		
Supply	Demand	% Utilization
252	252	100%
Projected Year 2020 Parking Demand:		336*
Major Shed Contributors to Station by MCD: MiddletownTwp (17%), Upper Providence Twp (17%), Media Twp (8%)		

\* Source: SEPTA R3 Media / Elwyn Rail Line Parking Demand Study (DVRPC, May 1999).

Station Premises		
Amenity	Yes	No
Shelters for Transfers	n/a	n/a
Lights	n/a	n/a
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	n/a	n/a

# Media Station Shed Area



**LEGEND**

- Media Station Shed Area
- Regional Rail Stations
- Regional Rail Lines
- NHS Routes

0 0.5 1 2 3 4 Miles

Delaware Valley Regional Planning Commission  
June 2002



# Elwyn Station



DVRPC 2000 Aerials  
1" = 250'



Location: Elwyn Station  
 NHS Routes: None

Map ID # 18

Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	R3	Commuter Rail	610	SEPTA Data, Sept. 00
SEPTA	Route 117	Bus	n/a	n/a
SEPTA	Route 119	Bus	n/a	n/a

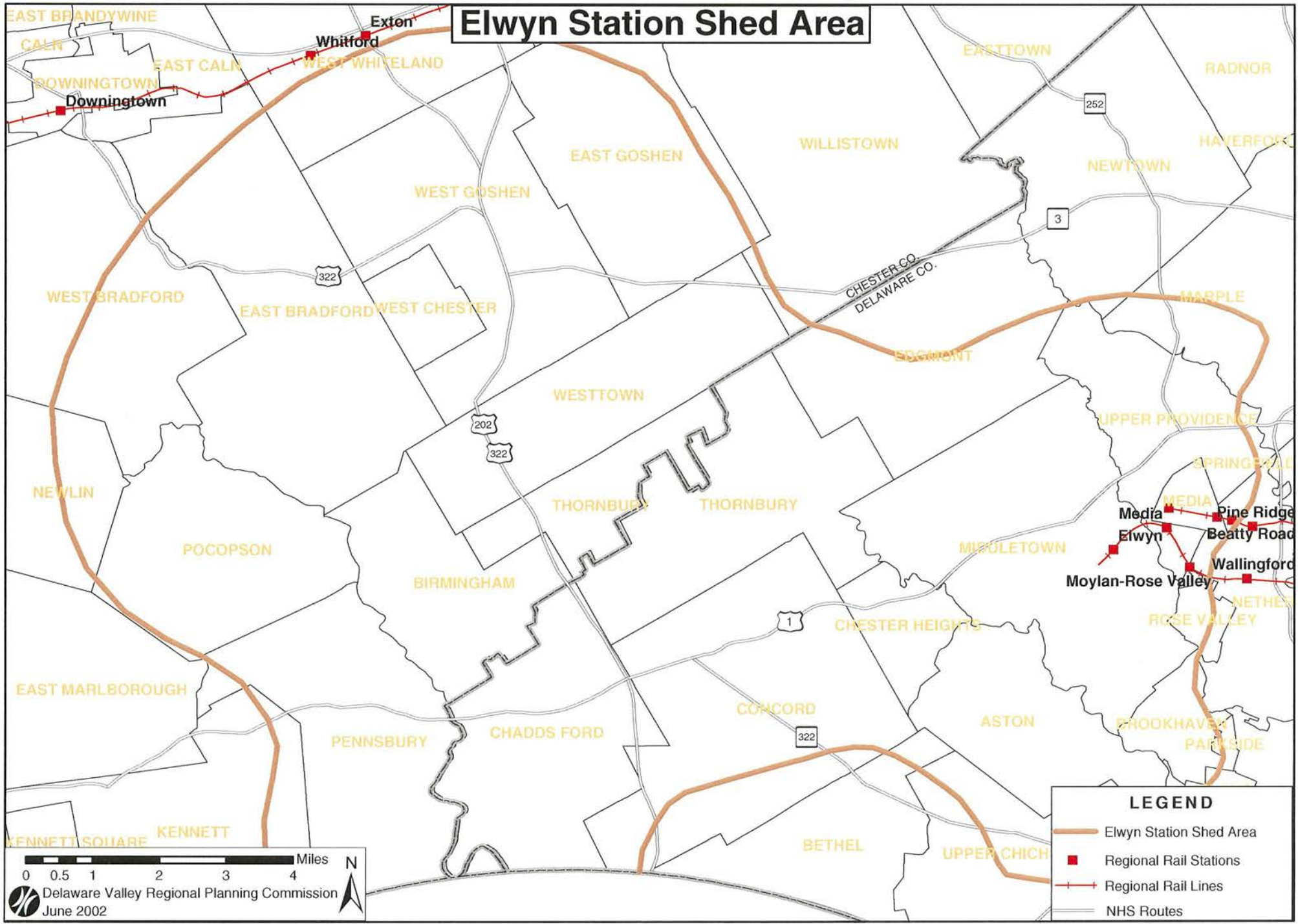
Parking Conditions		
Supply	Demand	% Utilization
217	217	100%
Projected Year 2020 Parking Demand:		274*
Major Shed Contributors to Station by MCD: Middletown Twp (30%), Aston Boro (13%), Westtown Twp (10%)		

\*Source: SEPTA R3 Media / Elwyn Rail Line Parking Demand Study (DVPRC, May 1999).

Station Premises		
Amenity	Yes	No
Shelters for Transfers	n/a	n/a
Lights	n/a	n/a
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	n/a	n/a





# Elwyn Station Shed Area





# Wawa Station (Proposed)



 DVRPC 2000 Aerials  
1" = 250' 

Location: Wawa Station  
 NHS Routes: US 1

Map ID # 19

Public Transportation Proposed				
Operator	Route	Type	Projected Boardings (2020)	Source
SEPTA	R3	Commuter Rail	719	Elwyn to Wawa Service Restoration Study (SEPTA, June 2000)

Proposed Parking Conditions		
Supply	Demand	% Utilization
385*	217*	~ 56%
Major Shed Contributors to Station by MCD:		n/a

\* 2020 Projected Supply / Demand Source: SEPTA's Elwyn to Wawa Service Restoration Study, June 2000. Prepared for SEPTA by Vollmer Associates.

Station Premises		
Amenity	Yes	No
Shelters for Transfers	In order to ensure the best transfer of passengers between modes, all of the listed amenities should be included in the construction of a new station.	
Lights		
Kiss & Ride Loop / Parking		
Bike Racks		
Opportunities for Parking Expansion		

# Thorndale Station



DVRPC 2000 Aerials  
1" = 250'



Location: Thorndale Station  
 NHS Routes: US 30

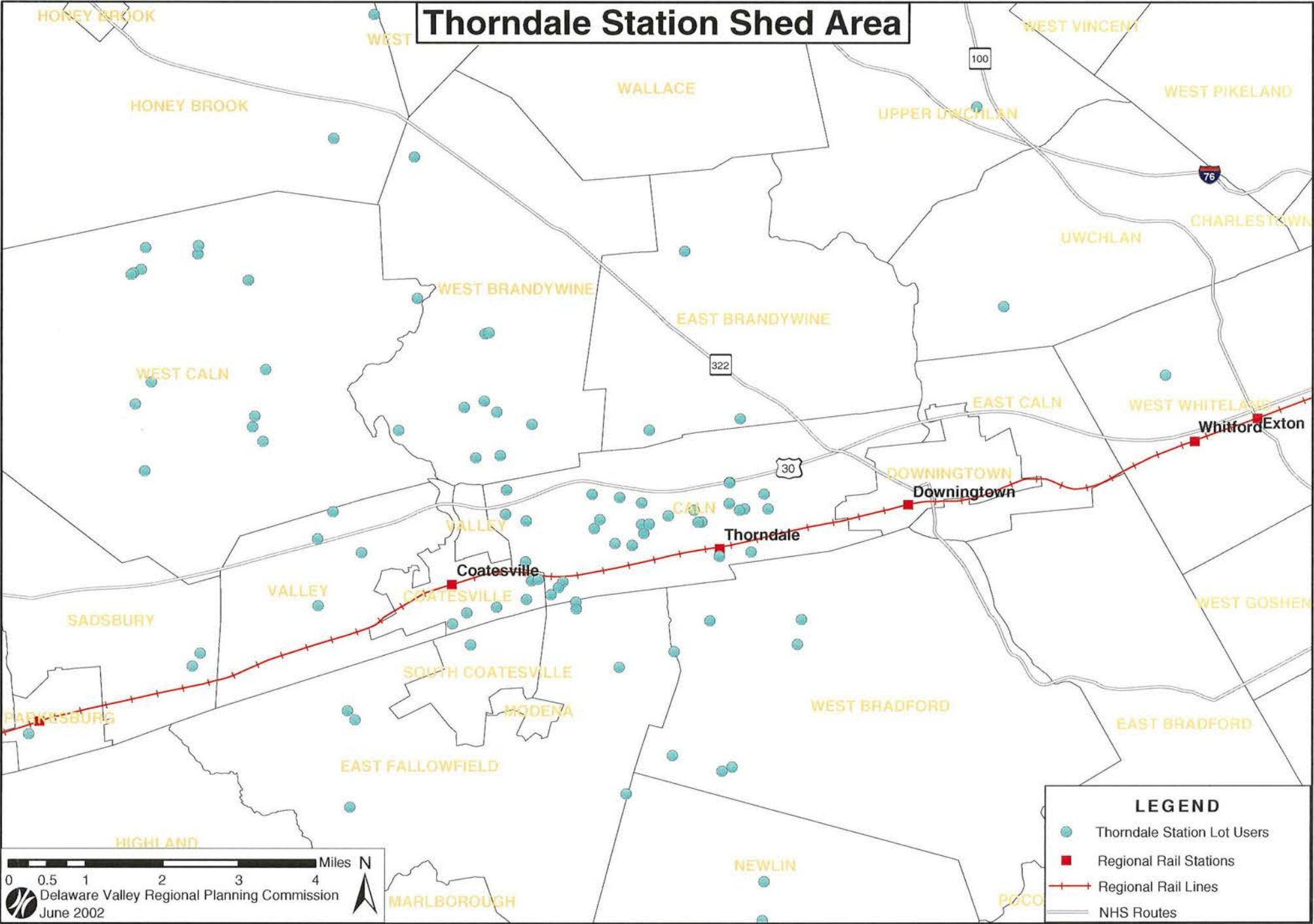
Map ID # 22

Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	R5	Commuter Rail	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
456	143	31%
Projected Year 2025 Parking Demand:		198
Major Shed Contributors to Station by MCD:	Caln Twp (26%), West Bradford Twp (15%), West Caln Twp (13%), West Brandywine Twp (8%)	

Station Premises		
Amenity	Yes	No
Shelters for Transfers	n/a	n/a
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	x	

# Thorndale Station Shed Area



**LEGEND**

- Thorndale Station Lot Users
- Regional Rail Stations
- +— Regional Rail Lines
- +— NHS Routes

0 0.5 1 2 3 4 Miles **N**

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# Lansdale Station



DVRPC 2000 Aerials  
1" = 250'



**Location: Lansdale Station**  
**NHS Routes: PA 63**

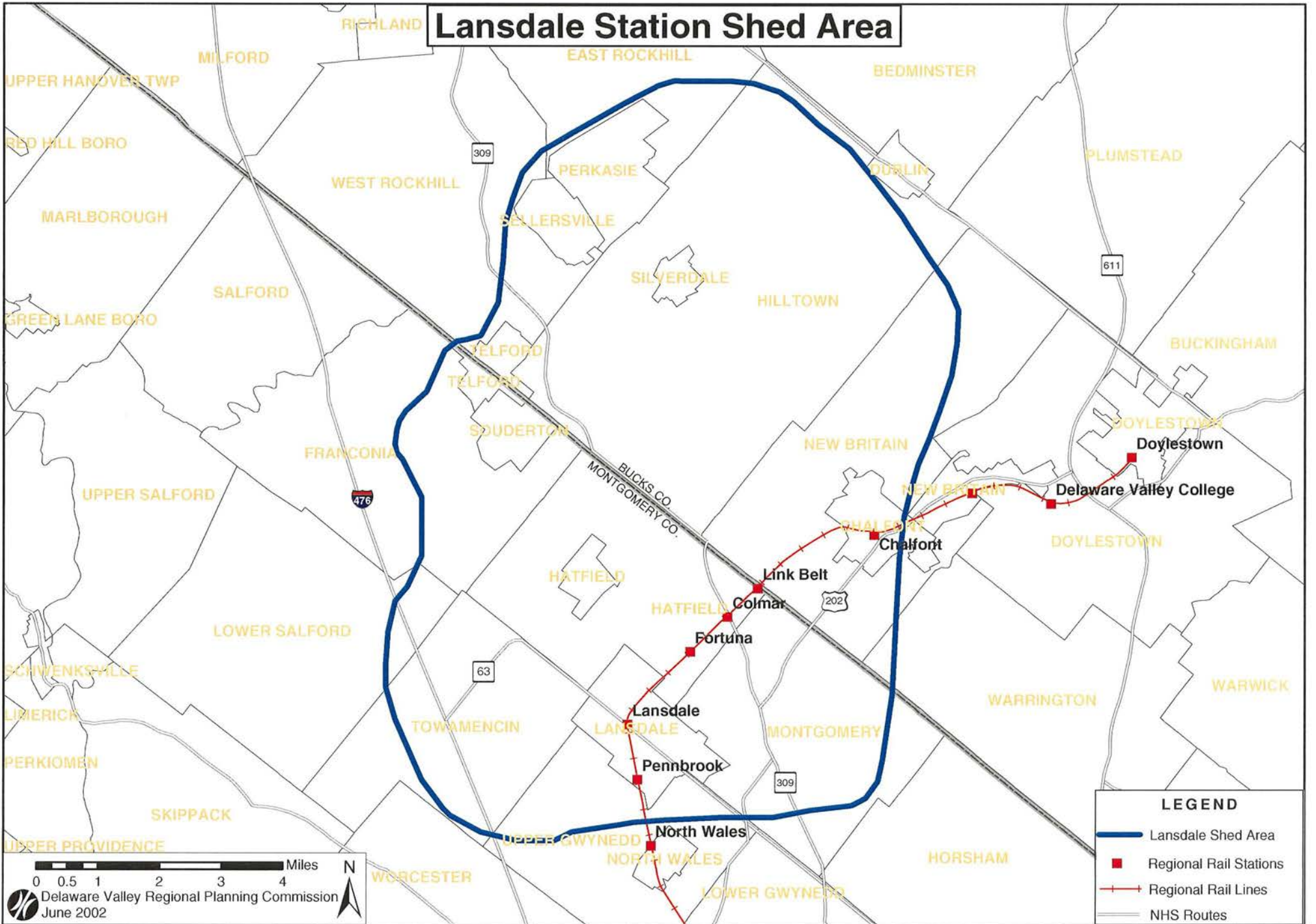
**Map ID # 32**

<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R5	Commuter Rail	1,420	SEPTA Data, Dec. 00
SEPTA	Route 96	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
497	407	82%
Projected Year 2025 Parking Demand:		491
Major Shed Contributors to Station by MCD: Hatfield Twp (19%), Towamencin Twp (17%), Lansdale Boro (15%)		

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	n/a	n/a
Lights	n/a	n/a
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	n/a	n/a

# Lansdale Station Shed Area



**LEGEND**

- Lansdale Shed Area
- Regional Rail Stations
- Regional Rail Lines
- NHS Routes

0 0.5 1 2 3 4 Miles

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# Ambler Station



Location: **Ambler Station**

Map ID # 33

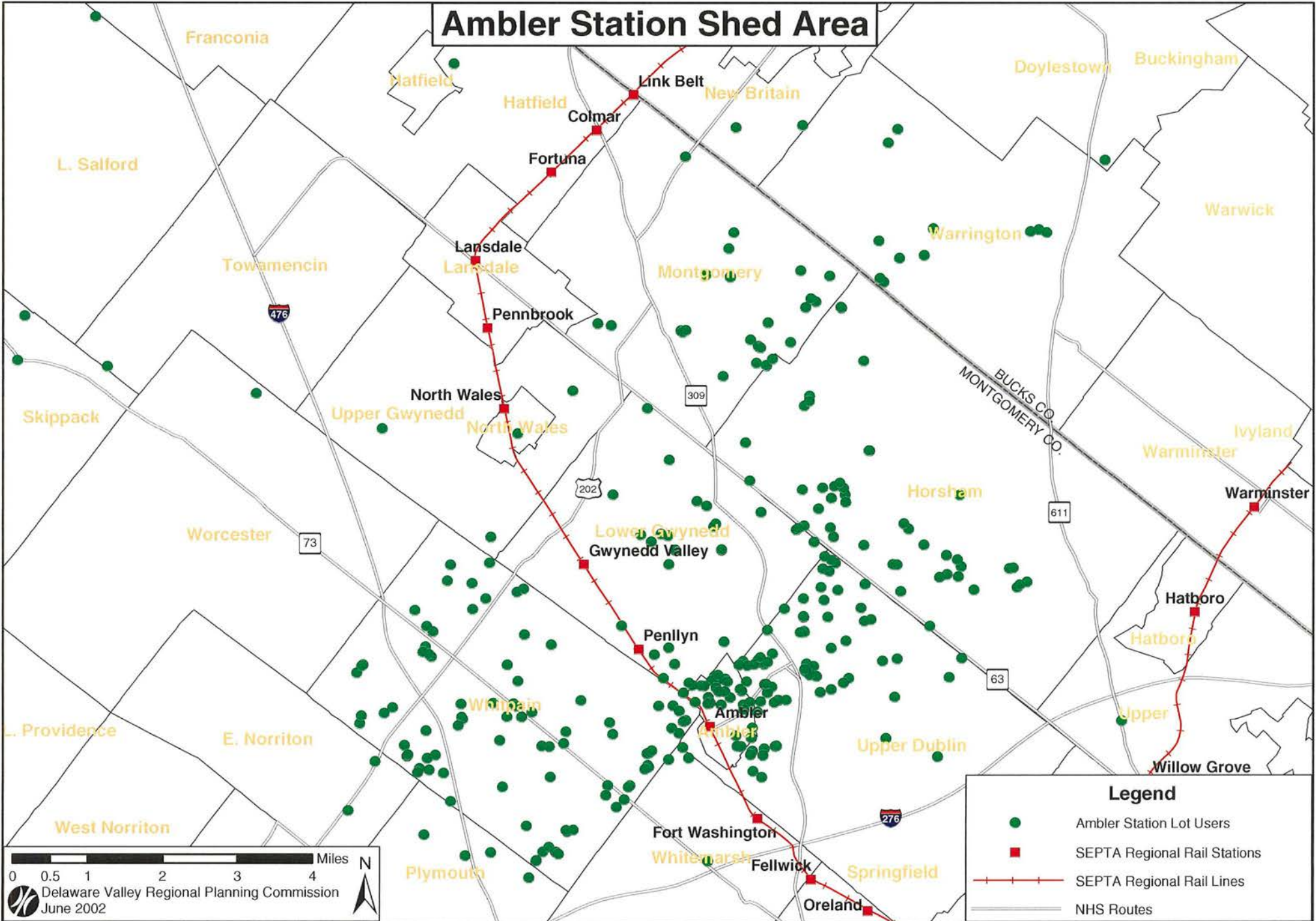
NHS Routes: PA 309, Butler Ave. (connector), Susquehanna Ave. (connector)

<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R5	Commuter Rail	1,446	SEPTA Data, Dec. 00
SEPTA	Route 94	Bus	n/a	n/a
SEPTA	Route 98	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
588	461	78%
Projected Year 2020 Parking Demand:		544
Major Shed Contributors to Station by MCD:	Whitpain Twp (26%), Upper Dublin Twp (21%), Horsham Twp (13%), Ambler Boro (8%), Lower Gwynedd Twp (8%)	

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	n/a	n/a
Lights	n/a	n/a
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	n/a	n/a

# Ambler Station Shed Area



**Legend**

- Ambler Station Lot Users
- SEPTA Regional Rail Stations
- - - SEPTA Regional Rail Lines
- NHS Routes

0 0.5 1 2 3 4 Miles

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June 2002





# Fort Washington Station



**Location:** Fort Washington Station  
**NHS Routes:** PA 309

**Map ID # 34**

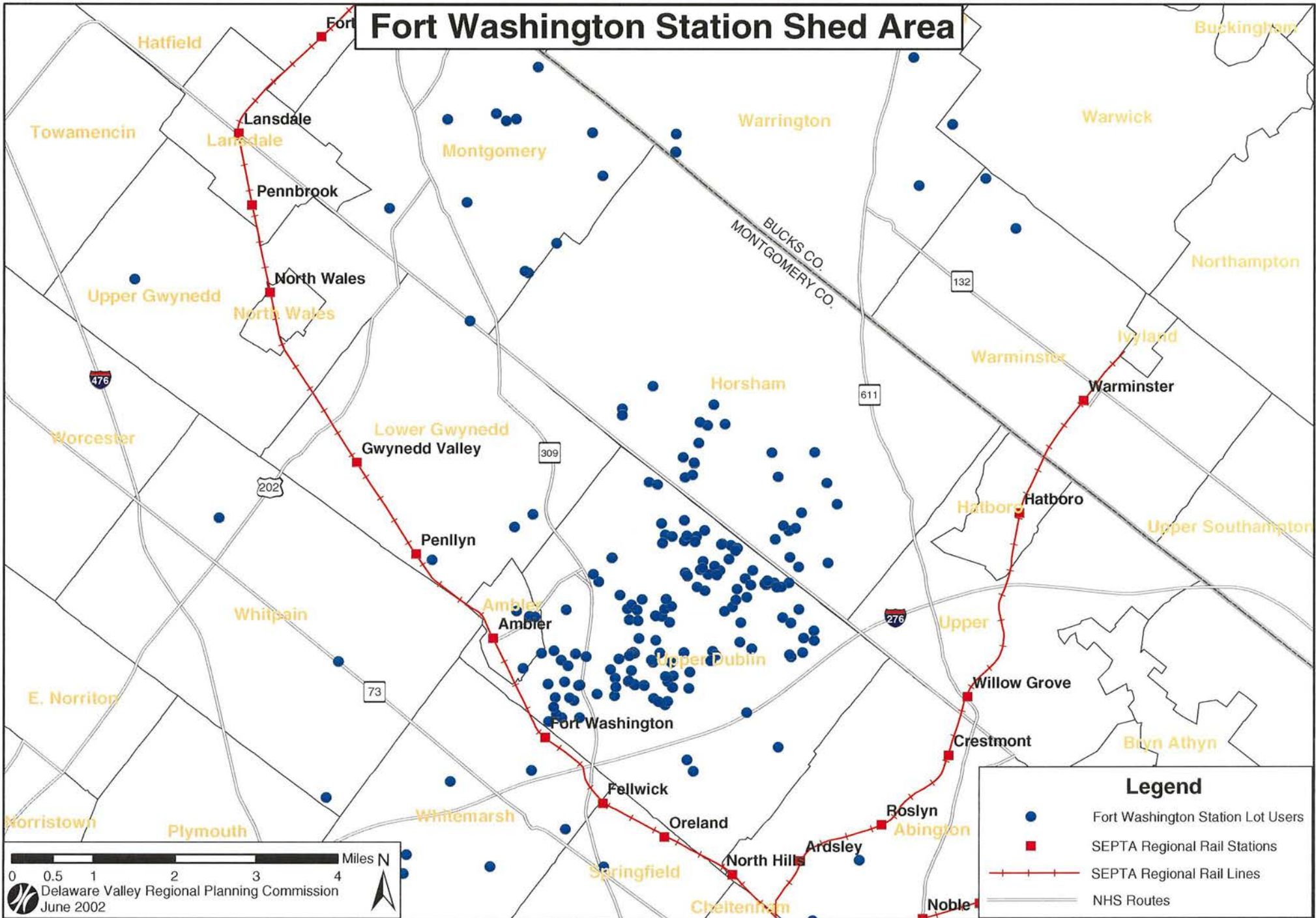
<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R5	Commuter Rail	1,212	SEPTA Data, Dec. 00
SEPTA	Route 94	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
296	306	103%
Projected Year 2005 Parking Demand:		551*
Major Shed Contributors to Station by MCD: Upper Dublin Twp (62%), Horsham Twp (12%), Montgomery Twp (5%)		

\*Source: Fort Washington Station Parking Needs Analysis, December 1999. Prepared for SEPTA by Gannett Fleming.

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	n/a	n/a
Lights	n/a	n/a
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	n/a	n/a

# Fort Washington Station Shed Area



**Legend**

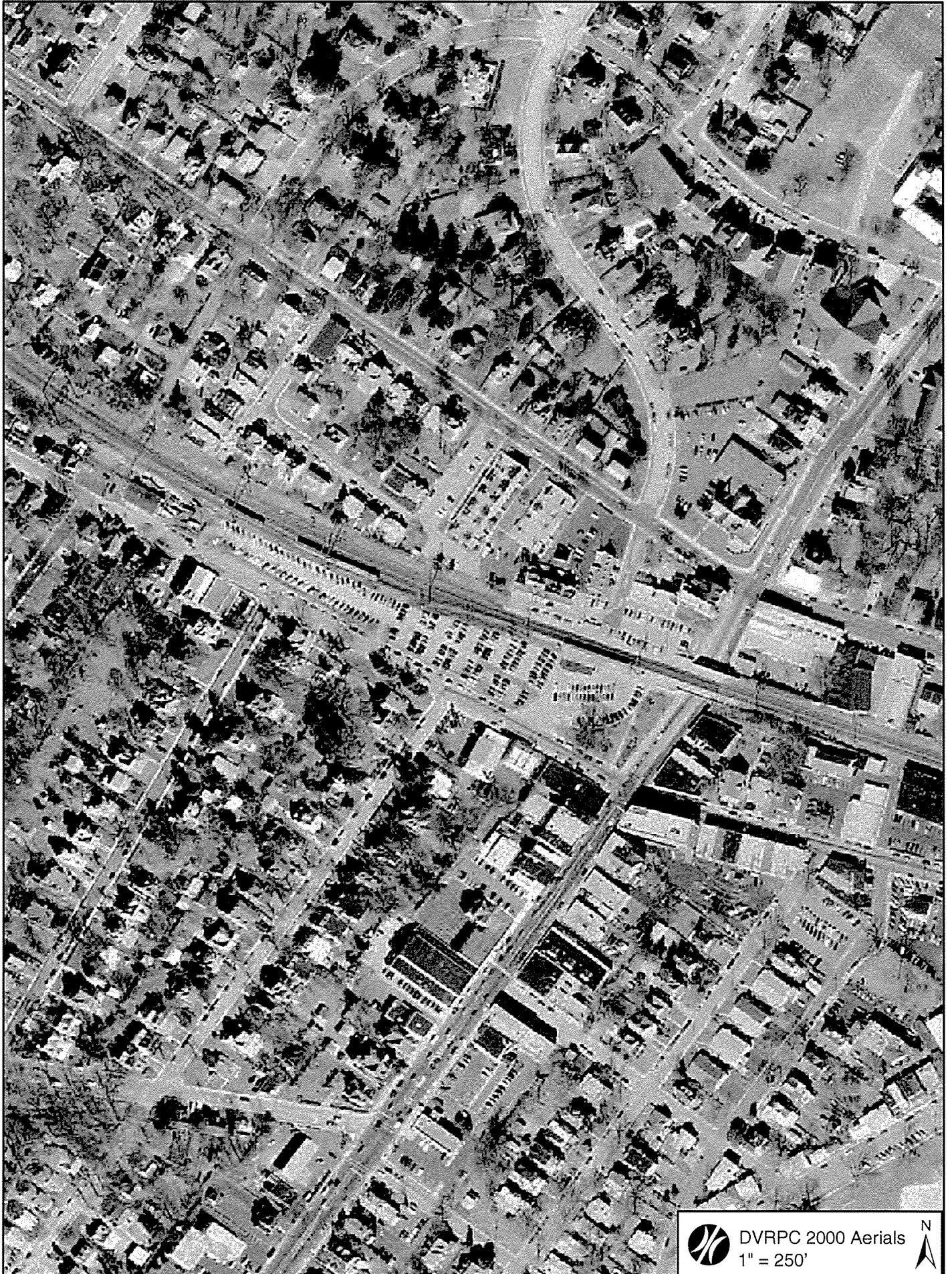
- Fort Washington Station Lot Users
- SEPTA Regional Rail Stations
- +—+—+ SEPTA Regional Rail Lines
- NHS Routes

0 0.5 1 2 3 4 Miles N

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# Glenside Station



DVRPC 2000 Aerials  
1" = 250'



**Location: Glenside Station**  
**NHS Routes: None**

**Map ID # 35**

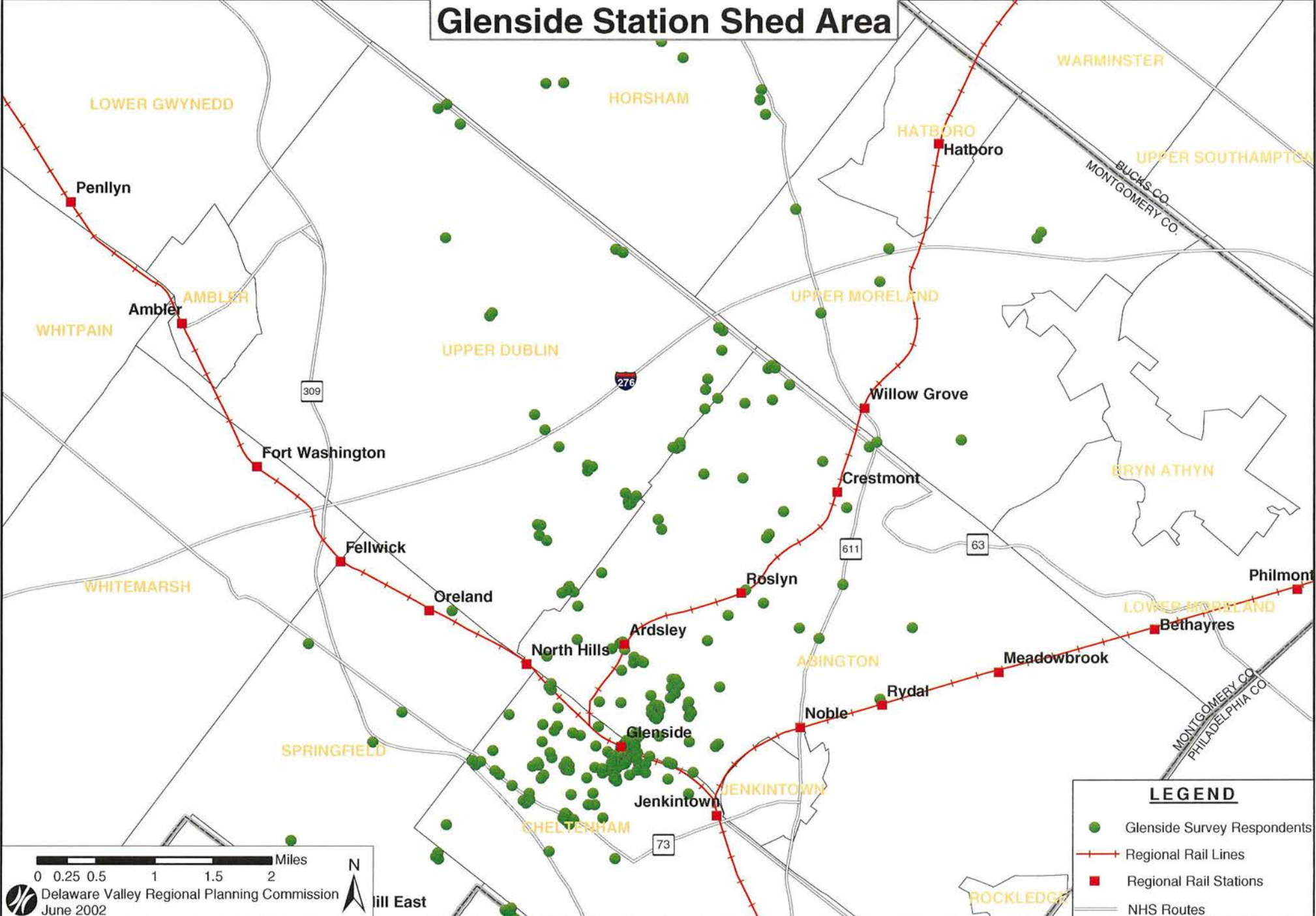
<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R1	Commuter Rail	1,358	SEPTA Data, Dec. 00
SEPTA	R2	Commuter Rail		
SEPTA	R5	Commuter Rail		
SEPTA	Route 22	Bus	n/a	n/a
SEPTA	Route 77	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
260	260	100%
Projected Year 2025 Parking Demand:		747*
Major Shed Contributors to Station by MCD: Abington Twp (36%), Cheltenham Twp (32%), Upper Dublin Twp (14%)		

\*Source: *Parking Demand Study - Glenside and Jenkintown SEPTA Stations* (DVRPC, October 2000).

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	x	
Lights	n/a	n/a
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Glenside Station Shed Area



**LEGEND**

- Glenside Survey Respondents
- +— Regional Rail Lines
- Regional Rail Stations
- NHS Routes

0 0.25 0.5 1 1.5 2 Miles

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June 2002

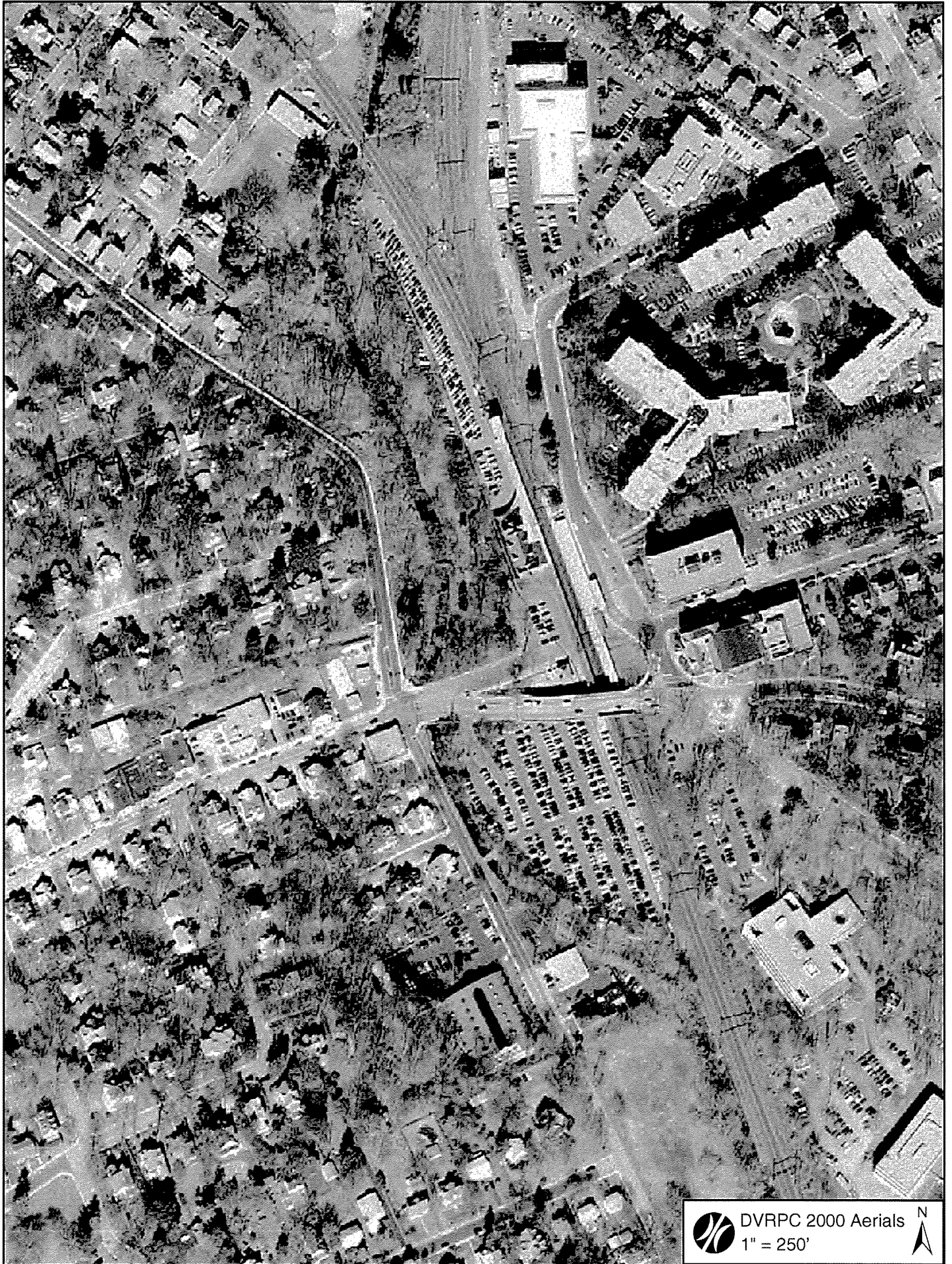
North Arrow

Mill East





# Jenkintown Station



DVRPC 2000 Aerials  
1" = 250'



**Location:** Jenkintown Station  
**NHS Routes:** PA 73, Greenwood Ave. (connector)

**Map ID # 36**

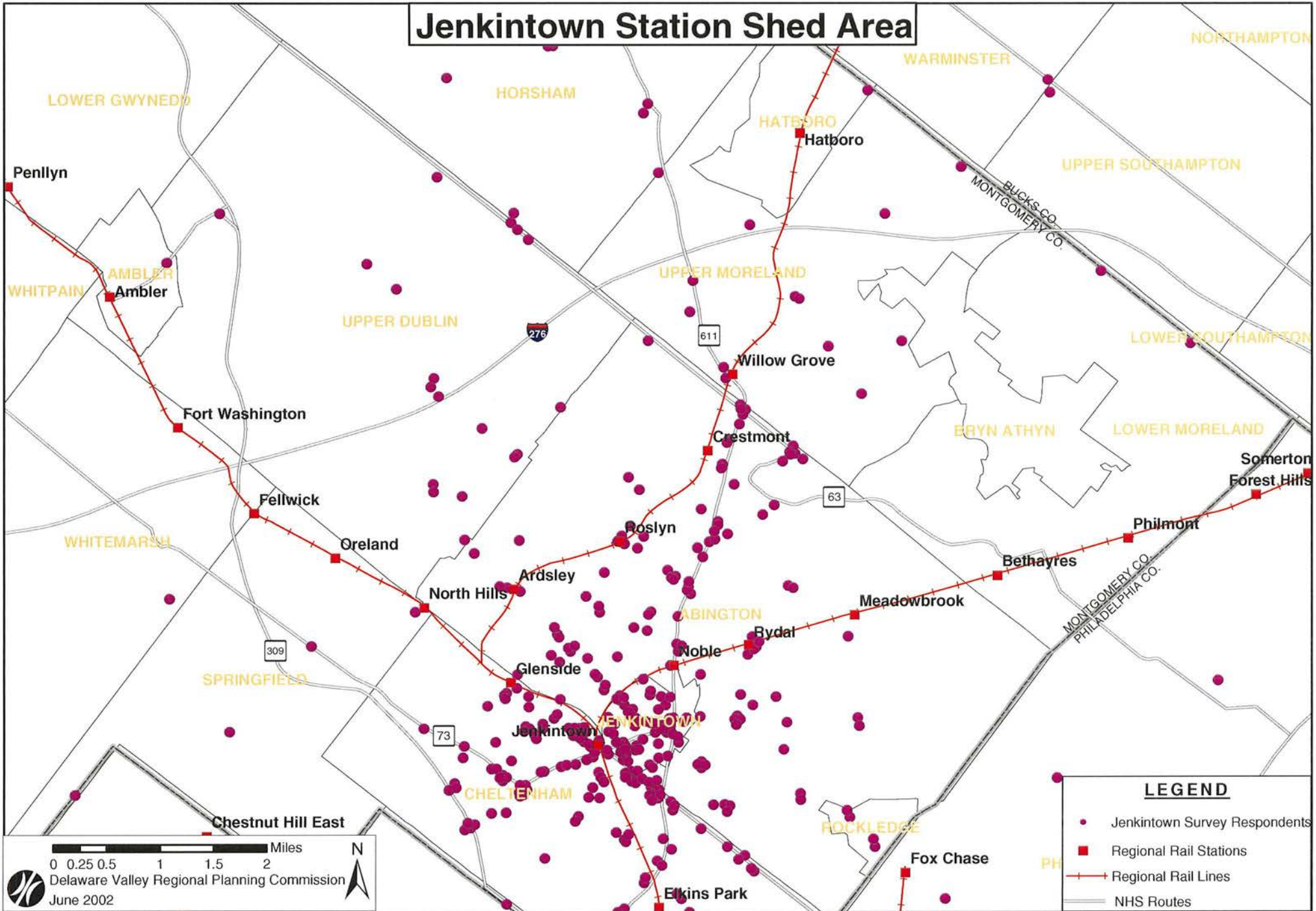
<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R1	Commuter Rail	2,754	SEPTA Data, Dec. 00
SEPTA	R2	Commuter Rail		
SEPTA	R3	Commuter Rail		
SEPTA	R5	Commuter Rail		
SEPTA	Route 77	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
603	603	100%
Projected Year 2025 Parking Demand		960*
Major Shed Contributors to Station by MCD: Abington Twp (27%), Cheltenham Twp (26%), Jenkintown (20%)		

\*Source: *Parking Demand Study - Glenside and Jenkintown SEPTA Stations* (DVRPC, October 2000)

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers	x	
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Jenkintown Station Shed Area



## LEGEND

- Jenkintown Survey Respondents
- Regional Rail Stations
- +— Regional Rail Lines
- NHS Routes

0 0.25 0.5 1 1.5 2 Miles

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June 2002

N



# Doylestown Station



Location: Doylestown Station  
 NHS Routes: None

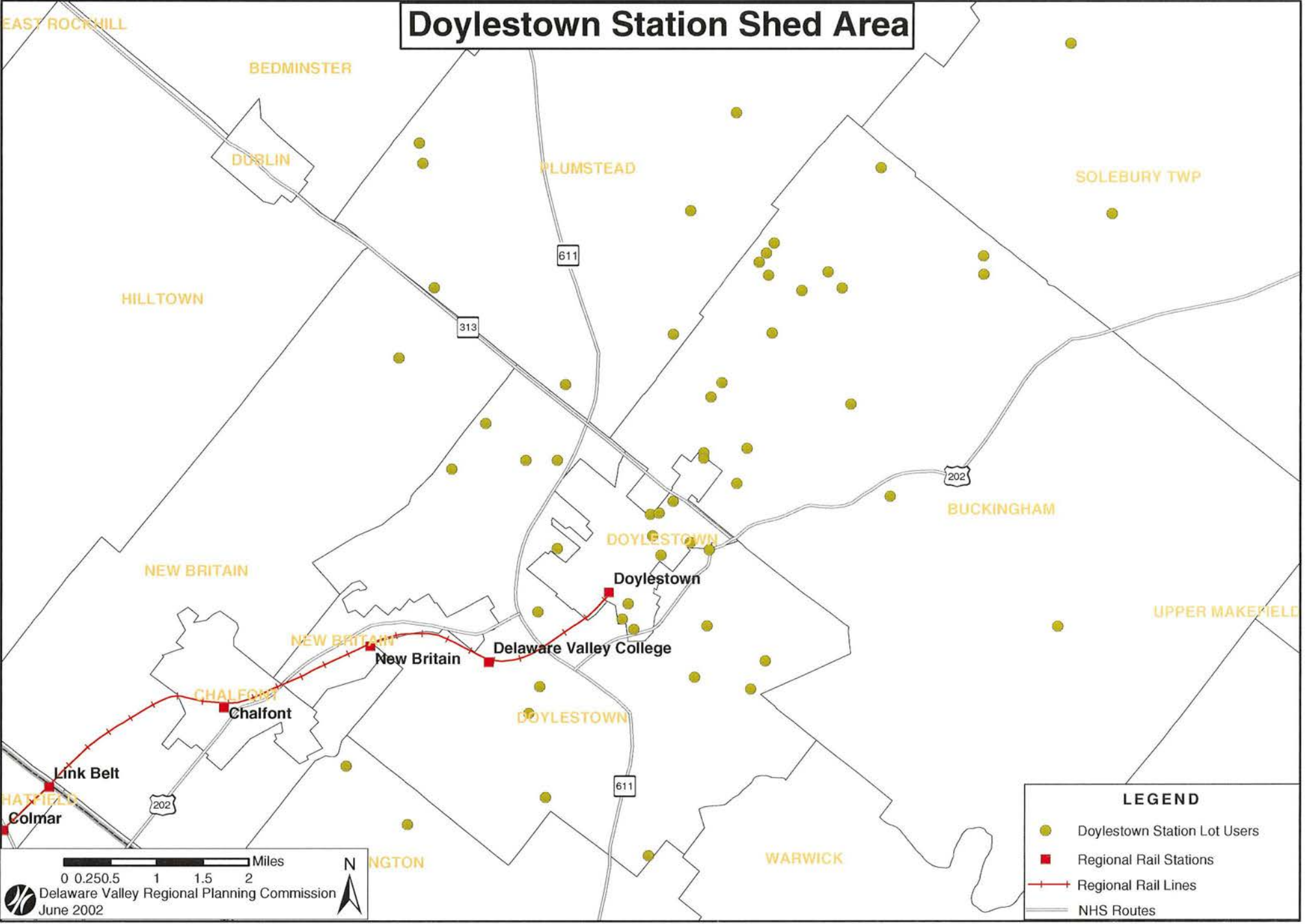
Map ID # 36

Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	R5	Commuter Rail	568	SEPTA Data, Dec. 00
SEPTA	Route 55	Bus	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
185	124	67%
Year 2025 Projected Parking Demand		171
Major Shed Contributors to Station by MCD: Doylestown Boro (33%), Buckingham Twp (28%), Plumstead Twp (10%)		

Station Premises		
Amenity	Yes	No
Shelters for Transfers		x
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Doylestown Station Shed Area



**LEGEND**

- Doylestown Station Lot Users
- Regional Rail Stations
- +— Regional Rail Lines
- NHS Routes

0 0.25 0.5 1 1.5 2 Miles

N

Delaware Valley Regional Planning Commission  
June 2002





# Warminster Station



DVRPC 2000 Aerials  
1" = 250'



**Location:** Warminster Station  
**NHS Routes:** PA 132, Jacksonville Rd (connector)

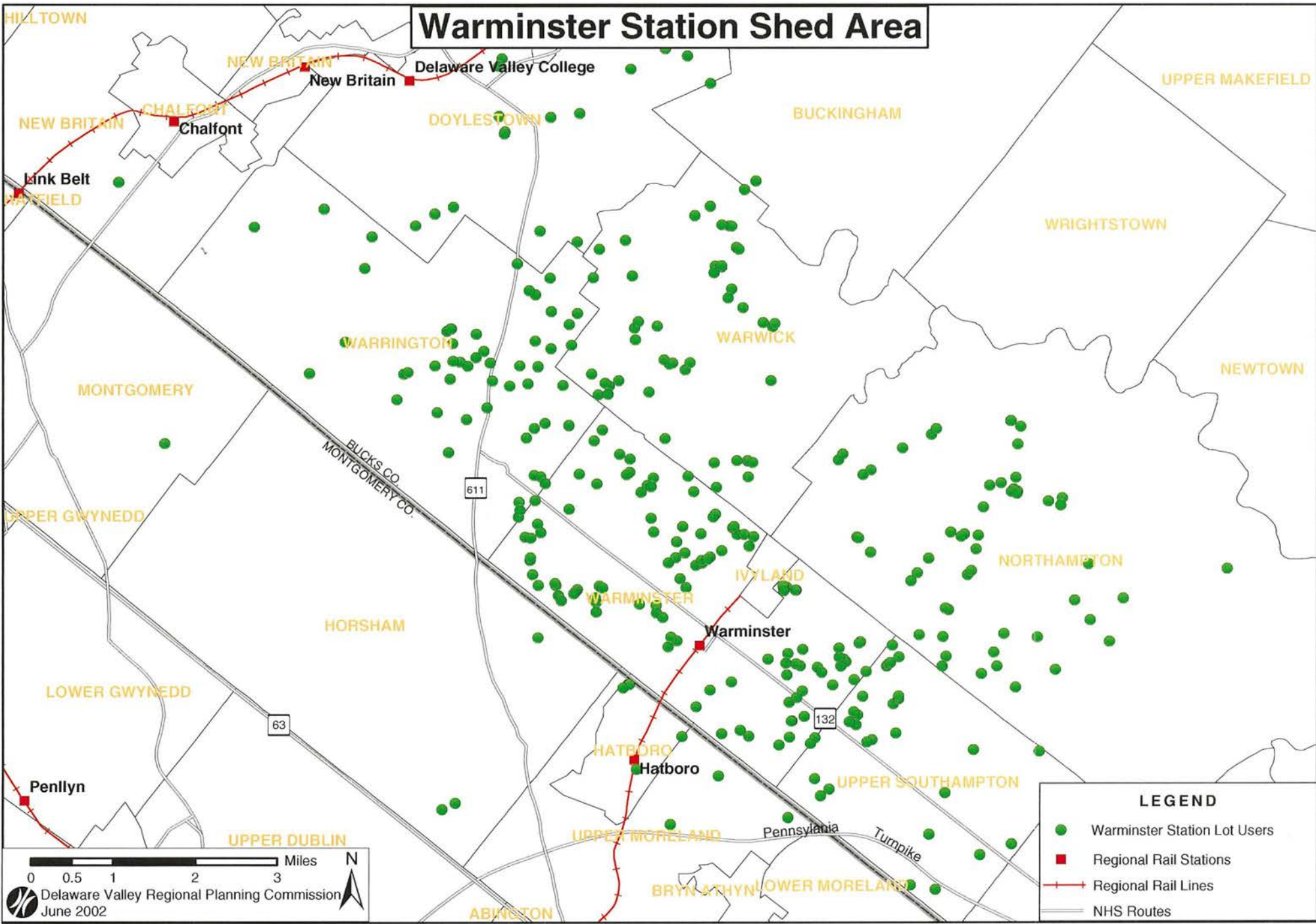
**Map ID # 38**

<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R2	Commuter Rail	1,219	SEPTA Data, Dec. 00
SEPTA	Route 206	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
668	510	76%
Projected Year 2025 Parking Demand		687
Major Shed Contributors to Station by MCD:	Warminster Twp (30%), Northampton Twp (15%), Warrington Twp (15%), Warwick Twp (13%)	

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers		x
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Warminster Station Shed Area



**LEGEND**

- Warminster Station Lot Users
- Regional Rail Stations
- +— Regional Rail Lines
- NHS Routes



# Cornwells Heights Station



DVRPC 2000 Aerials  
1" = 400'



Location: Cornwells Heights Station  
 NHS Routes: I-95

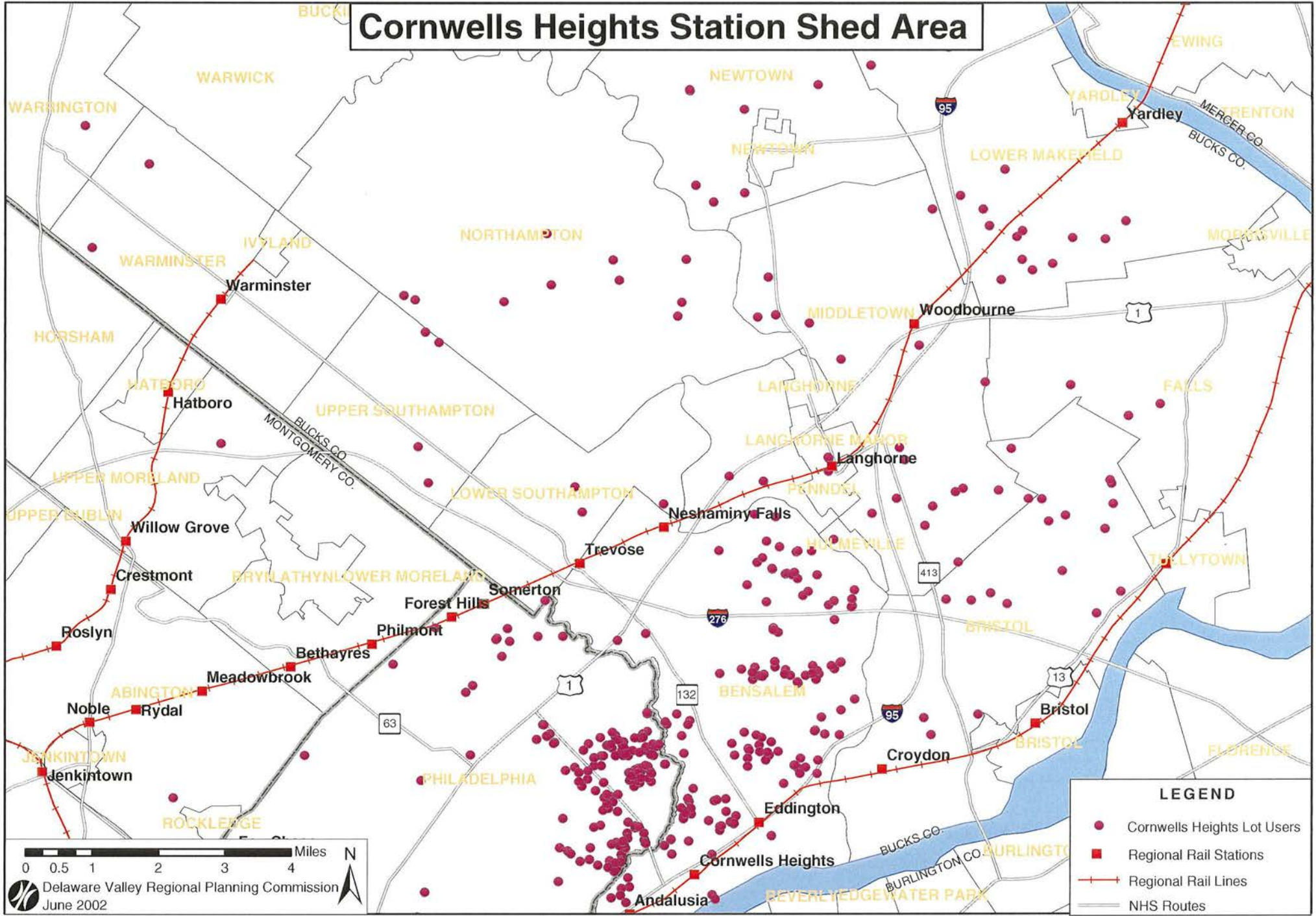
Map ID # 41

Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	R7	Commuter Rail	962	SEPTA Data, Dec. 00
SEPTA	Route 304	Bus	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
1,916	910	47%
Projected Year 2025 Parking Demand		993
Major Shed Contributors to Station by MCD:	Bensalem Twp (39%), Far Northeast Philadelphia (32%), Middletown Twp (6%)	

Station Premises		
Amenity	Yes	No
Shelters for Transfers	n/a	n/a
Lights	n/a	n/a
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	n/a	n/a

# Cornwells Heights Station Shed Area



**LEGEND**

- Cornwells Heights Lot Users
- Regional Rail Stations
- +— Regional Rail Lines
- NHS Routes

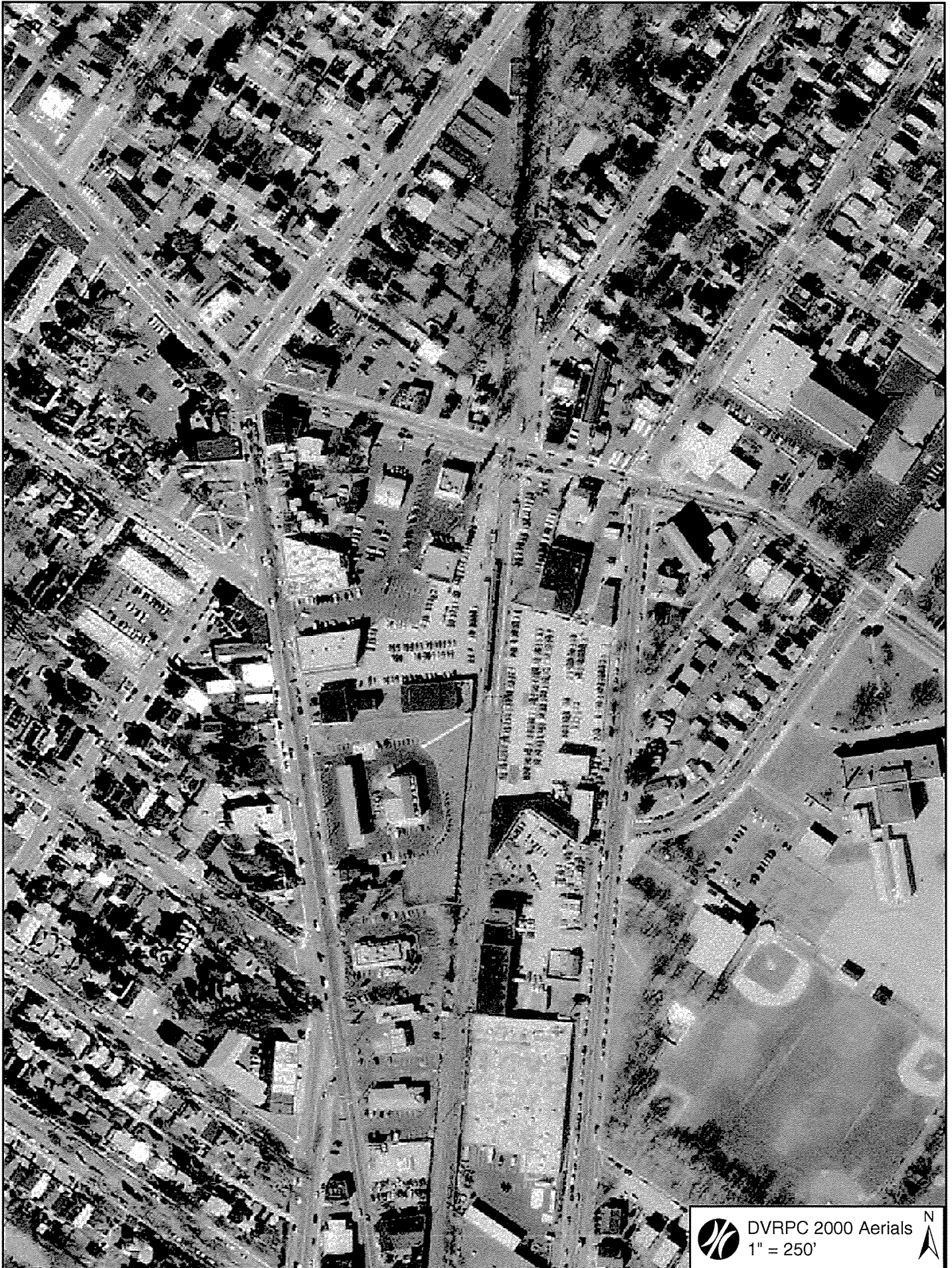
0 0.5 1 2 3 4 Miles **N**

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# Fox Chase Station



DVRPC 2000 Aerials  
1" = 250'



**Location:** Fox Chase Station  
**NHS Routes:** None

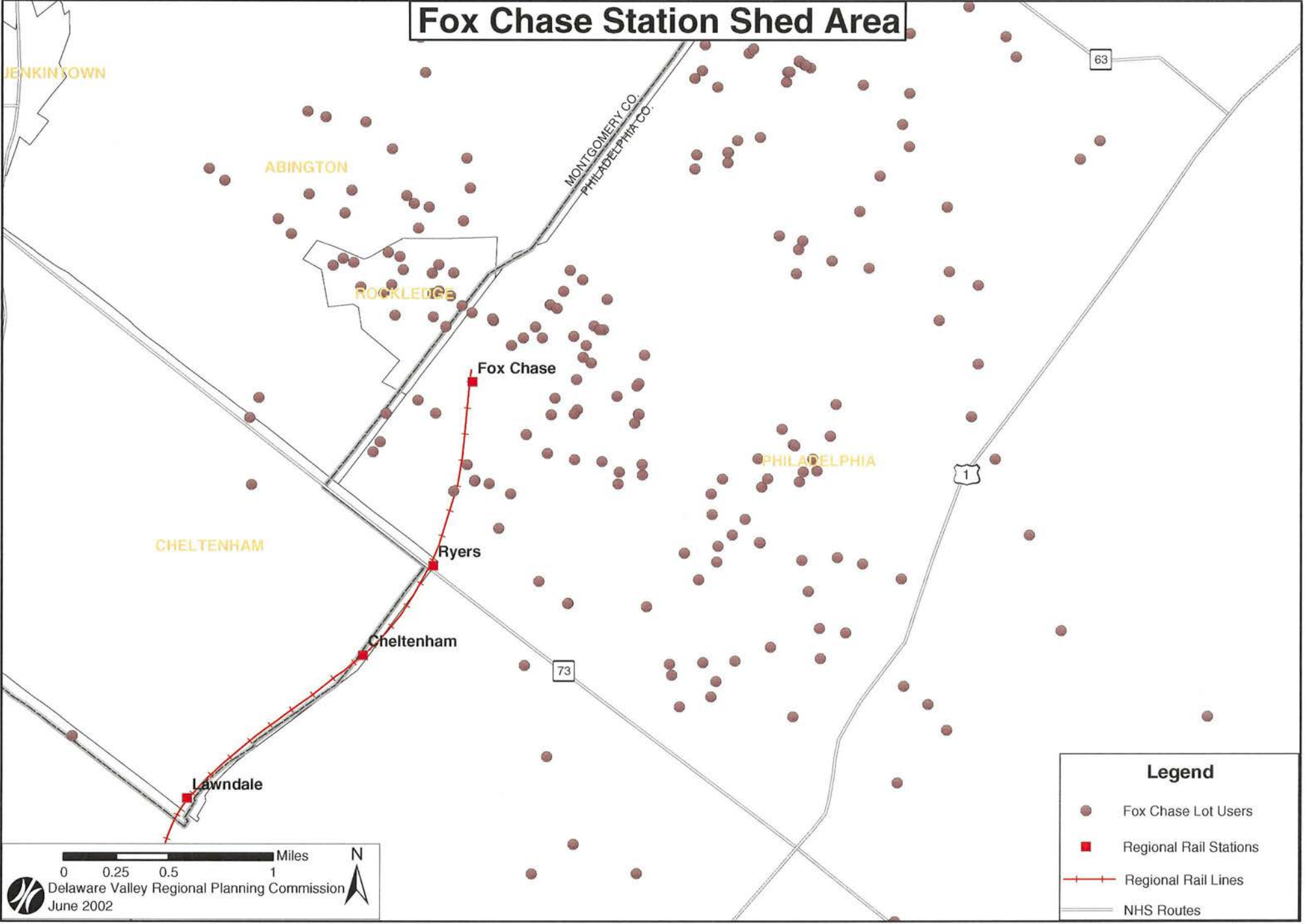
**Map ID # 42**

<b>Public Transportation Available</b>				
<b>Operator</b>	<b>Route</b>	<b>Type</b>	<b>Boardings</b>	<b>Source</b>
SEPTA	R8	Commuter Rail	1,984	SEPTA Data, Dec. 00
SEPTA	Route 21	Bus	n/a	n/a
SEPTA	Route 28	Bus	n/a	n/a
SEPTA	Route 301	Bus	n/a	n/a
SEPTA	Route 302	Bus	n/a	n/a

<b>Parking Conditions</b>		
<b>Supply</b>	<b>Demand</b>	<b>% Utilization</b>
348	336	97%
Projected Year 2025 Parking Demand:		351
Major Shed Contributors to Station by MCD: Philadelphia City (72%), Abington Twp (11%), Rockledge Boro (8%)		

<b>Station Premises</b>		
<b>Amenity</b>	<b>Yes</b>	<b>No</b>
Shelters for Transfers		x
Lights	x	
Kiss & Ride Loop / Parking	x	
Bike Racks	x	
Opportunities for Parking Expansion	x	

# Fox Chase Station Shed Area





# Matthews Rd. Park-and-Ride



DVRPC 2000 Aerials  
1" = 250'



Location: Matthews Rd Park-and-Ride  
 NHS Routes: US 202

Map ID # 27

Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	Route 204	Bus	n/a	n/a
SEPTA	Route 206	Bus	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
86	3	3%
Major Shed Contributors to Station by MCD: n/a		

Station Premises		
Amenity	Yes	No
Shelters for Transfers	n/a	n/a
Lights		x
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion		x

# Limerick Park-and-Ride



Location: Limerick Park-and-Ride  
 NHS Routes: US 422

Map ID # 28

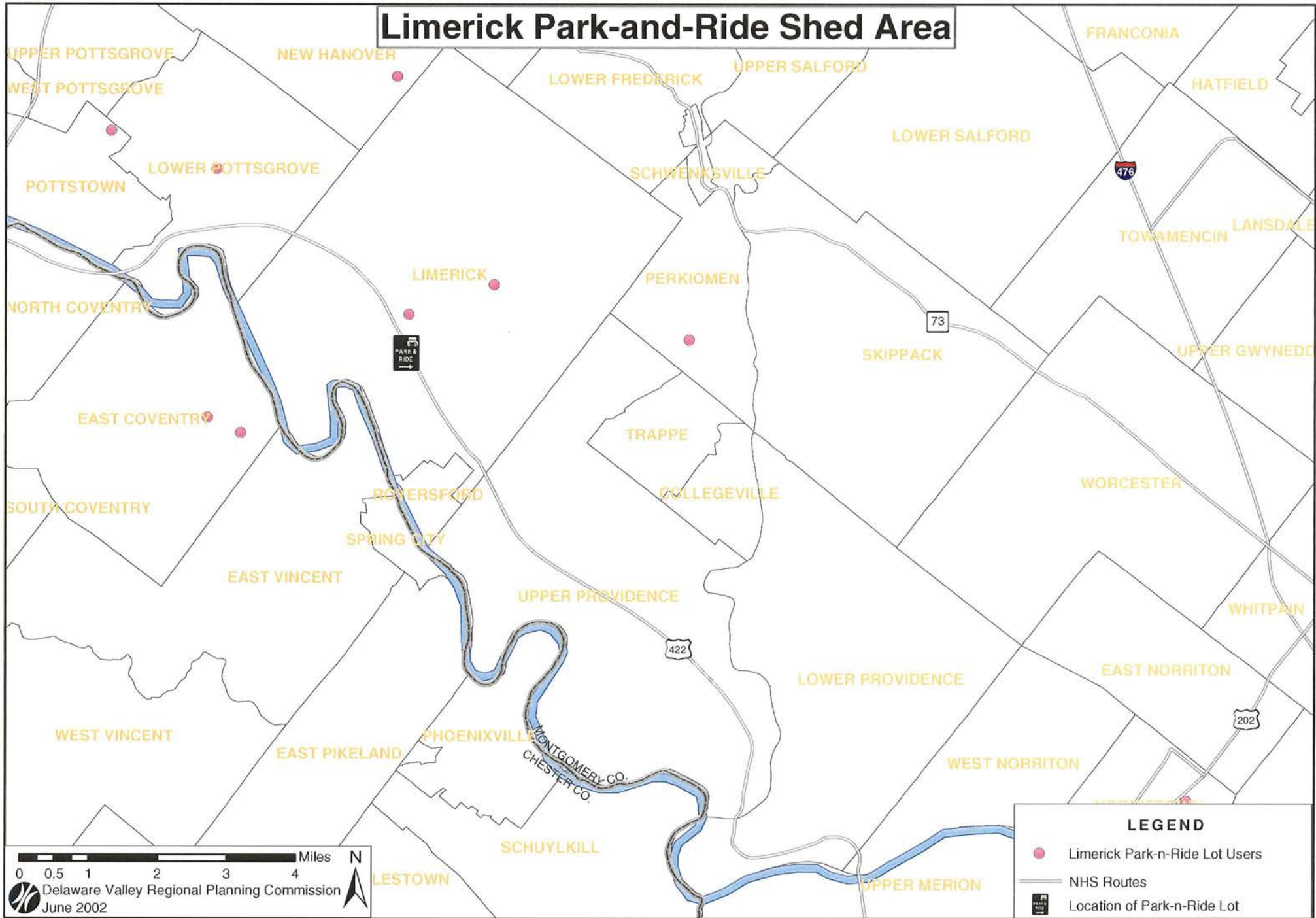
Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	Route 99	Bus	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
63	19	30%
Projected Year 2025 Parking Demand:		27
Major Shed Contributors to Station by MCD:	East Coventry Twp (21%), Lower Pottsgrove Twp (21%), Limerick Twp (16%)	

Station Premises		
Amenity	Yes	No
Shelters for Transfers	n/a	n/a
Lights		x
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	n/a	n/a
Opportunities for Parking Expansion	x	



# Limerick Park-and-Ride Shed Area



0 0.5 1 2 3 4 Miles  
Delaware Valley Regional Planning Commission  
June 2002

**LEGEND**

- Limerick Park-n-Ride Lot Users
- NHS Routes
- Location of Park-n-Ride Lot



# Matsonford Rd. Park-and-Ride



Location: Matsonford Rd Park-and-Ride  
 NHS Routes: I-76, I-476

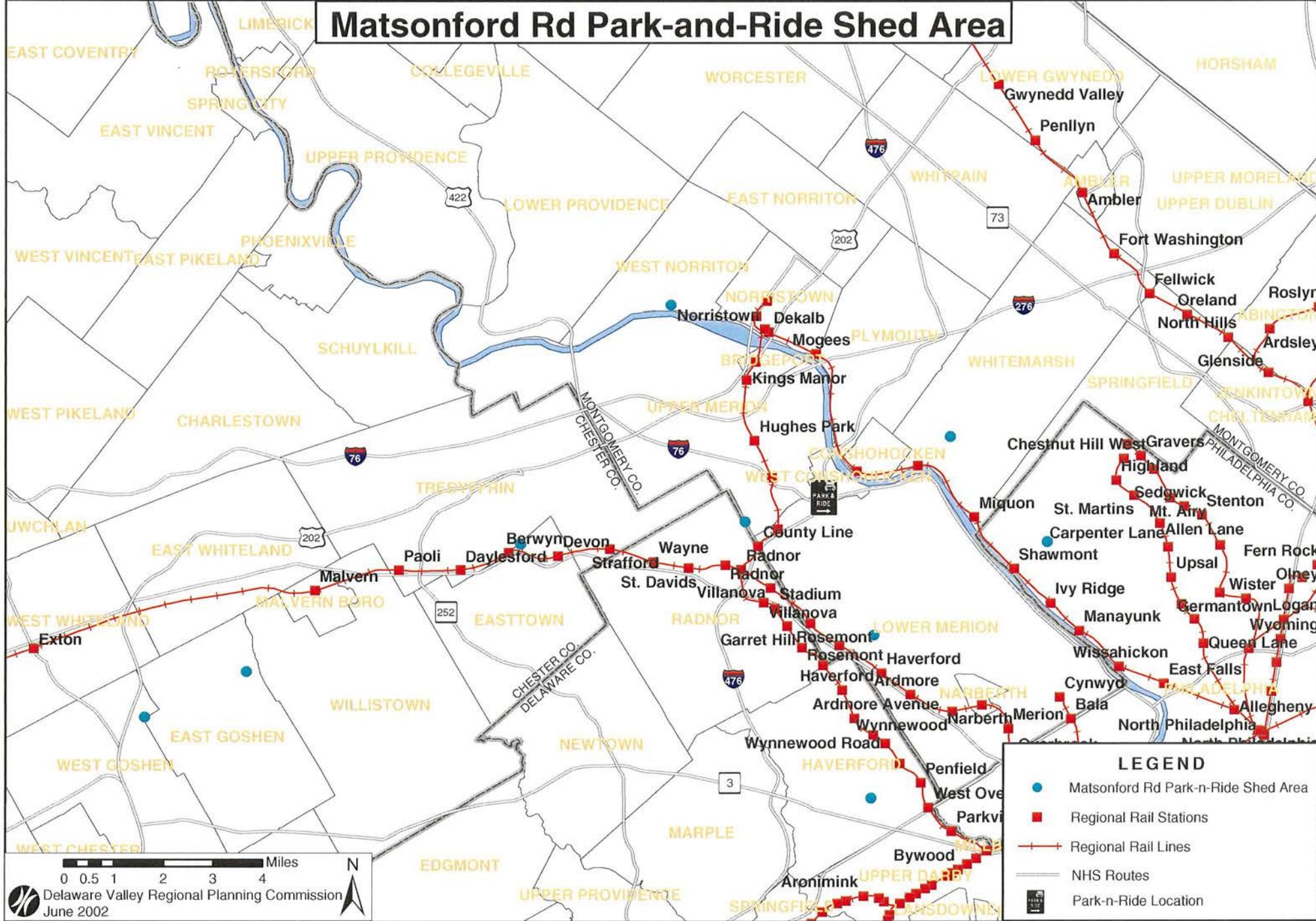
Map ID # 29

Public Transportation Available				
Operator	Route	Type	Boardings	Source
SEPTA	Route 124	Bus	n/a	n/a
SEPTA	Route 125	Bus	n/a	n/a

Parking Conditions		
Supply	Demand	% Utilization
91	19	21%
Projected Year 2025 Parking Demand:		21
Major Shed Contributors to Station by MCD: Whitemarsh Twp (32%), Lower Merion Twp (11%)		

Station Premises		
Amenity	Yes	No
Shelters for Transfers	x	
Lights	x	
Kiss & Ride Loop / Parking	n/a	n/a
Bike Racks	x	
Opportunities for Parking Expansion	n/a	n/a

# Matsonford Rd Park-and-Ride Shed Area



**LEGEND**

- Matsonford Rd Park-n-Ride Shed Area
- Regional Rail Stations
- Regional Rail Lines
- NHS Routes
- Park-n-Ride Location



# DELAWARE VALLEY REGIONAL PLANNING COMMISSION

## Publication Abstract

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<b>Title:</b> Intermodal Passenger System Survey, Phase I <i>A working document</i>	<b>Date Published</b> <b>Publication No.</b>	<b>June 2002</b> <b>02026</b>
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**Geographic Area Covered:** the entire Delaware Valley Region; Bucks, Chester, Delaware, Montgomery and Philadelphia Counties in PA, and Burlington, Camden, Gloucester, and Mercer Counties in NJ.

**Key Words:** intermodal passenger terminals, intermodal transfer, National Highway System (NHS), park-and-ride lot, parking conditions, commuter parking shed area, station amenities

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### ABSTRACT

DVRPC staff identified a network of 55 regionally significant intermodal passenger terminals in the Delaware Valley Region. The network consists of airports, train and bus stations, and park-and-ride lots. Staff subsequently developed a systematic phased work program for evaluating passenger transfer conditions at 38 locations. Ultimately, the fourth and final phase will prepare an action plan to improve access and circulation conditions at a selected subset of these.

This report represents the first phase of the work program and summarizes evaluations at 20 sites, including four PATCO stations, 13 SEPTA regional rail stations, and three park-and-ride lots. The data collection effort provides: aerial photographs of the terminal area, inventories of station amenities including parking availability and interconnecting modes, and commuter parking shed maps for each facility. Conditions for each passenger terminal are summarized on fact sheets contained in the Appendix.

The report is intended to be a working document to elicit participation from the member governments and agencies. Preliminary recommendations of the Phase I report indicate that long term parking deficiencies will exist Lindenwold, Jenkintown, Media and Elwyn stations. These may serve as candidates for consideration in Phase IV.

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