



Report 6

**Regional Park and Ride Assessment:
Highway-Related Facilities
Evaluation of Areas #1-75**



DIRECTION 2020

A Region on the Rise

**REGIONAL PARK AND RIDE ASSESSMENT:
HIGHWAY-RELATED FACILITIES**

Evaluation of Areas #1-75

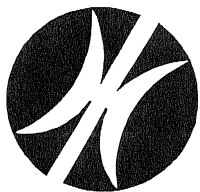
DIRECTION 2020 Report #6



**Delaware Valley Regional Planning Commission
The Bourse Building
21 South 5th Street
Philadelphia, PA 19106
June 1993**

This report, prepared by the Delaware Valley Regional Planning Commission, was financed in part by the Federal Transportation Administration of the U. S. Department of Transportation, the Federal Highway Administration, the Pennsylvania and New Jersey Departments of Transportation, and the Pennsylvania Turnpike Commission. The authors, however, are solely responsible for its finding and conclusions, which may not represent the official views or policies of the funding agencies.

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency which provides continuing, comprehensive and coordinated planning for the orderly growth and development 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. The Commission is an advisory agency which divides its planning and service functions among the Office of the Executive Director, the Office of Public Affairs, and three line Divisions: Transportation Planning, Regional Information Services Center which includes the Office of Regional Planning, and Finance and Administration. DVRPC's mission for the 1990s is to emphasize technical assistance and services and to conduct high priority studies for member state and local governments, while determining and meeting the needs of the private sector.



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DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: June 1993
REGIONAL PARK AND RIDE ASSESSMENT: HIGHWAY-RELATED FACILITIES	Publication No. 92038

Geographic Area Covered:

The DVRPC nine-county region, including Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey.

Key Words:

Market area evaluation, demand analysis, trip factors, rideshare options, locational factors, needed improvements, risk factors, local and regional park and ride lots, focal intersection, travel time, travel distance, transit service, local land use, proximity of vacant land, state and local plans

ABSTRACT

This report defines park and ride lots, identifies areas within the DVRPC region in which park and ride development may be successful, and defines the factors that need to be considered when planning a park and ride lot. One of the park and ride areas is further analyzed to test a methodology for conducting a site selection process. A recommendation for further action is given for each of the proposed park and ride areas.

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EXECUTIVE SUMMARY

The development of park and ride facilities is an important step toward managing traffic congestion and improving air quality, both of which are primary goals in the Delaware Valley Regional Planning Commission's DIRECTION 2020 long-range land use and transportation plan. This study presents a process for assessing prospective highway-related park and ride areas, estimating potential demand, and comparing candidate park and ride sites.

Park and ride lots are off-street parking areas at which drivers park one vehicle in order to transfer to another vehicle for the purpose of ridesharing. They can serve car pools, van pools, and transit vehicles. This report discusses park and ride facilities that serve mainly car pools and van pools, and are located closer to the user's origin than to the destination. This type offers the greatest potential reduction of vehicle miles of travel from single occupant vehicles.

To conduct this assessment, a list of 75 candidate park and ride areas was compiled. Each area was selected based on the Core Transportation Network, approximate distance from Philadelphia, locations of chronic congestion, and input from state and local agencies. Next the list was subjected to a market area evaluation and a demand analysis. The results of these two considerations determined whether or not further analysis of a park and ride area was worthwhile.

In the market area analysis, three categories of factors were discussed as to how they effect park and ride development. These three categories were trip factors, rideshare options, and locational factors. Where reasonable, maximum or minimum values were provided for each factor as a guide in evaluating sites. By weighing each area against these criteria, it was possible to assess the probability of an area's success or failure. Because commuters are more likely to be involved in ridesharing, the criteria were discussed in relation to work trips.

Potential demand was analyzed as a fourth factor. The demand analysis was conducted by estimating the number of home-based work trips each potential park and ride area would serve. This estimate was developed by identifying a market area for each proposed park and ride area and ten major employment centers, five in Pennsylvania and five in New Jersey. The number of trips produced by each market area destined to each employment area was summed, adjusted to eliminate trips that were too short, then multiplied by a potential usage factor. The majority of the market areas produced sufficient potential demand to justify further consideration.

A site selection methodology was developed and tested as the next step of the regional park and ride plan. The test area for the methodology was the proposed park and ride area near the I-76/PA 100 interchange in Uwchlan Township, Chester County. The purpose of the lot would be to serve commuters using the Downingtown Interchange (#23) of the Pennsylvania Turnpike (I-76) as well as PA Routes 100 and 113. This area was chosen because of the previous existence of an informal park and ride lot that was eliminated when the interchange was reconstructed in the 1980's.

The site selection process was based on a comparison of two aspects: construction factors and risk factors. The construction factors were categorized as either essential or optional to indicate their importance to the success of the park and ride. The improvements included access and egress, surfacing, curbing, pedestrian facilities, parking delineation, lighting, drainage, security, signage, amenities, landscaping, fencing, telephone, water, and ticket services. The risk factors included wetlands, floodplains, community opposition, and limited lot capacity.

Three lots near the intersection of PA 100 and PA 113 were chosen for comparison. All three of the lots were located within one mile of the turnpike interchange. The first lot examined was a privately owned, under-utilized parking lot adjacent to a vacant office building. This lot was the first eliminated from the selection process because of poor visibility from the main road, which could be perceived as a security risk, and the uncertain tenancy status of the office building.

The other two lots were owned by PennDOT and were equally undeveloped with severe drainage problems. Both lots were adjacent to the PA 100/PA 113 intersection on the northeastern and southwestern quadrants. Taking into consideration the proposed locations of access points for each lot and the surrounding land uses, the lot on the southwestern quadrant was recommended for development as a park and ride site.

A focused demand analysis tailored to the characteristics of the test area was also conducted. Because of the location of the proposed park and ride area near the region boundary, the focused demand analysis needed to include internal and external trips. The number of trips projected for this travel market was multiplied by a usage factor, which resulted in an estimated usage of 127 vehicles for the proposed park and ride lot.

Costs were approximated for implementing park and ride lots at the 70 areas recommended for further study. The estimated costs included construction, engineering, planning, and marketing. The estimated cost of implementing these park and ride areas was calculated at \$27,900,000, not including cost of right-of-way acquisition, highway improvements, or mitigation of environmental problems.

Finally, the report concludes that park and ride development is a viable and practical option for promoting ridesharing in the DVRPC region. Over 90 percent of the areas considered were recommended for further study. By the year 2020, the DVRPC region should be served by a logical system of park and ride lots offering a convenient alternative to the single occupant vehicle.

INTRODUCTION

In fiscal year 1991, the Delaware Valley Regional Planning Commission (DVRPC) initiated a group of projects to investigate strategies for mitigating and managing congestion in the region. These two goals have since been enfolded into DIRECTION 2020, DVRPC's long-range land use and transportation plan. This assessment of highway-related park and ride development was conducted because park and ride activity supports the goals of Direction 2020 by reducing the number of single occupant vehicles (SOV) on the region's highways.

Park and ride planning on the regional level requires two different stages, or phases, of analysis. The first phase consists of selecting park and ride areas that are situated appropriately to the regional transportation system and can generate a sufficient number of trips to regional employment centers to make park and ride development a good investment. The second phase of park and ride planning involves examining specific sites, or parcels, within a park and ride area and selecting the best parcel for establishing a park and ride lot.

This report discusses both phases of park and ride planning with regard to non-transit park and ride opportunities in the DVRPC region. It presents the results of an evaluation of 75 proposed park and ride areas located throughout the region and an application of the site selection process to a park and ride area in Uwchlan Township, Chester County. Finally, a summary of the tasks that must be performed to develop a park and ride lot, along with suggested roles and responsibilities for regional, state, and local agencies, and a projection of the cost of park and ride development to the region through the year 2010 are offered.

DEFINITION

Park and ride lots are off-street parking areas at which drivers park one vehicle in order to transfer to another vehicle for the purpose of ridesharing. Vehicles used for ridesharing can include cars, vans, buses, trolleys, and trains. Park and ride lots can serve a single form of ridesharing, such as at a train station, or they can serve multiple types. Formal park and ride lots have been planned based on a demand forecast and have been properly designed and constructed. Informal park and ride lots can materialize without any prior planning or engineering. They evolve where a need is not being met by a formal park and ride lot. Informal park and ride lots usually need to be upgraded to include the basic elements essential to good park and ride design.

The objective of a park and ride lot is to facilitate ridesharing, which reduces the total number of vehicles on the highway. The vehicle miles travelled (VMT) decreases, thereby diminishing traffic congestion and improving regional air quality. Park and ride development represents an important transportation control measure (TCM) that can be used to meet the air quality standards set by the Clean Air Act Amendments of 1990.

There are two basic types of park and ride lots. The type of lots considered for development in this study tend to be located closer to the user's origin than to the destination, and can be characterized as either regional or local. This type of park and ride lot contributes

to an overall reduction of VMT in the region because fewer cars are driving long distances. other type of park and ride lot is called a satellite park and ride lot. Satellite lots are located closer to the destination than the origin. They are usually positioned at the perimeter of an activity center into which the users rideshare. Satellite park and ride lots aid air quality by reducing the number of cars on local streets, which decreases vehicle hours travelled (VHT).

Formal park and ride facilities in the DVRPC region currently exist mainly at SEPTA and PATCO rail stations. In New Jersey, a few lots for car pools, van pools, and bus riders are located in Burlington and Camden Counties. NJDOT is in the process of letting contracts to consultants to conduct corridor studies of the major travel corridors in southern New Jersey for the purpose of developing park and ride facilities. In Pennsylvania, only two formal non-transit park and ride lots currently exist. An initiative has been started by PennDOT to investigate more sites.

SEPTA, PATCO, and NJ TRANSIT have their own standards and agenda for park and ride development; therefore no attempt was made to assess park and ride areas that would serve transit exclusively. However, transit service information was gathered to show where transit park and ride and car pool/van pool park and ride lots may be able to coexist. Developing the methodology to assess transit park and ride potential and compiling an inventory of proposed transit park and ride lots will need to be completed in a separate study.

IDENTIFICATION OF PARK AND RIDE AREAS

In developing a park and ride plan, an evaluation must be completed on two different levels. First, a market area evaluation needs to be performed to determine whether or not sufficient demand, available land, complimentary services, and local support for a facility exist. If the market area evaluation shows that park and ride development is viable, then a site selection process and focused demand analysis must be completed to determine the exact location and size of the proposed lot.

Early in the study, the determination was made that the site selection phase would not be the main focus of this project. Instead, a list of potential park and ride areas would be developed and a market area evaluation performed. Each area would have a focal intersection and would represent an area in which a single occupant vehicle (SOV) could be intercepted at a park and ride facility on its way to a major highway. The first list of potential park and ride areas was developed during fiscal year 1991, based predominantly on the locations of major highway interchanges and intersections in the region's Core Transportation Network. These interchanges and intersections became the focal points of the potential park and ride areas. Loosely factored into the selection of these areas were locations of chronic congestion and approximate distance from Philadelphia.

To finalize the list, input was requested from each of the DVRPC member counties, the state departments of transportation, and the major transit agencies. Consequently, 75 areas (shown in Figure I) were selected for further analysis. This list does not include all of the

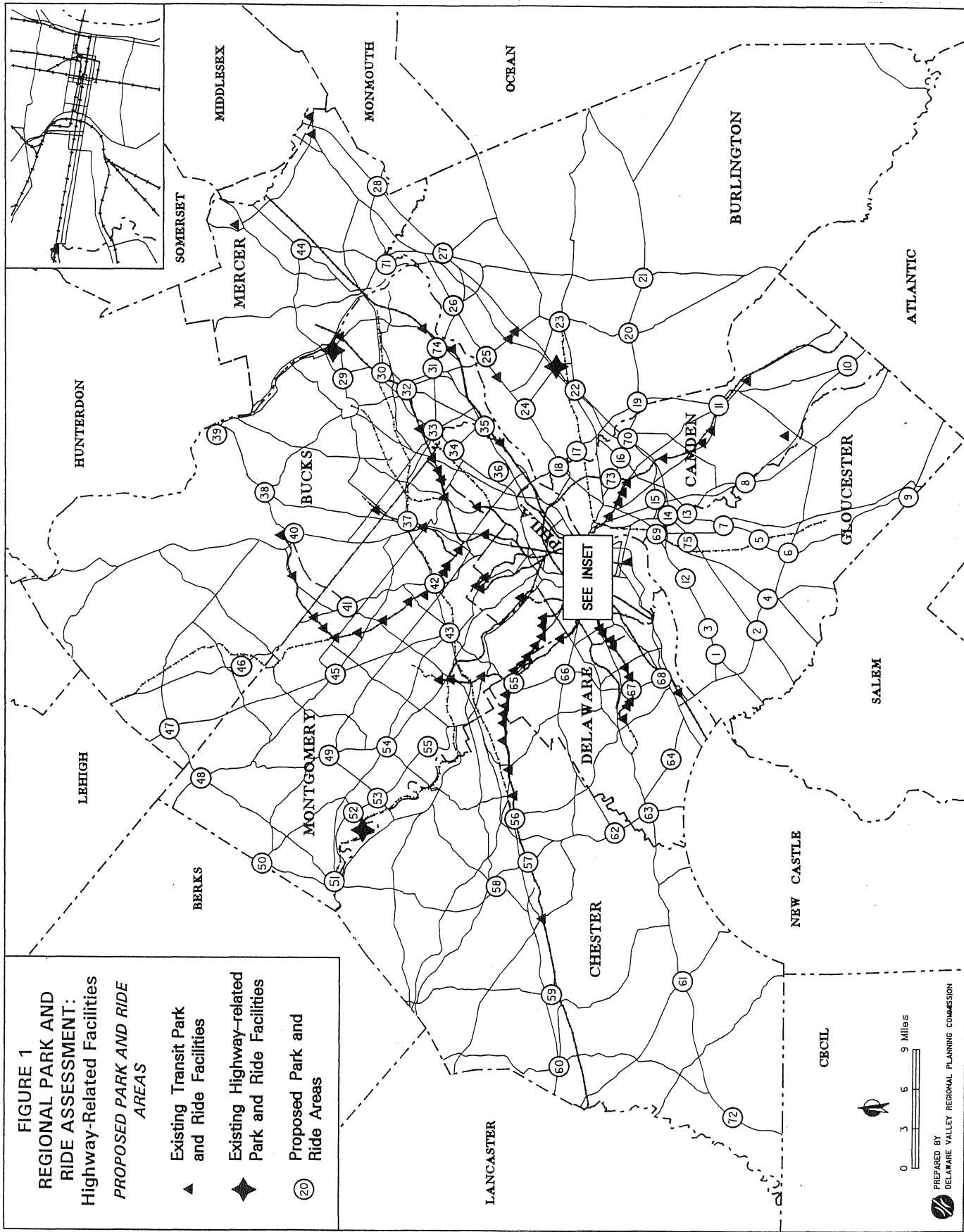


TABLE I

Park and Ride Areas Selected for Market Evaluation

<u>County</u>	<u>Area No.</u>	<u>Focal Intersection</u>	<u>Municipality</u>
<i>Bucks County</i>	29	I-95 & PA 332	Lower Makefield
	30	US 1 & I-95	Middletown
	31	I-95 & I-276	Bristol
	32	I-95 & PA 413	Bristol
	33	US 1 & I-276	Bensalem
	35	I-95 & PA 63	Bensalem
	38	US 202 & PA 263	Buckingham
	39	US 202 & PA 32	New Hope
	40	US 202 & PA 611	Doylestown
	46	PA 309 & PA 152	Sellersville
	47	PA 9 & PA 663	Milford
74	I-276 & US 13	Bristol	
<i>Chester County</i>	56	US 30 & PA 352	East Whiteland
	57	US 30 & PA 100	West Whiteland
	58	Pa Turnpike & PA 100	Upper Uwchlan
	59	US 30 & PA 82	Valley
	60	US 30 & PA 10	Sadsbury
	61	US 1 & PA 41	London Grove
	62	US 202 & PA 926	Westtown/Thornbury
	72	US 1 & PA 272	West Nottingham
<i>Delaware County</i>	63	US 1 & US 202	Concord
	64	US 322 & PA 452	Upper Chichester
	65	I-476 & US 30	Radnor
	66	I-476 & PA 3	Marple
	67	I-476 & Baltimore Pk	Nether Providence
	68	I-476 & I-95	Chester
<i>Montgomery County</i>	37	I-276 & PA 611	Upper Moreland
	41	PA 309 & US 202	Montgomery
	42	PA 309 & I-276	Upper Dublin
	43	I-476 & I-276	Plymouth
	45	PA 9 & PA 63	Towamencin
	48	PA 29 & PA 663	Pennsbury
	49	PA 29 & PA 73	Schwenksville
	50	PA 100 & PA 73	Douglass
	51	Ridge Pike & PA 663	Pottstown
	52	US 422 & Lewis Rd.	Limerick
	53	US 422 & Township Ln Rd	Limerick
	54	PA 29 & Germantown Pike	Collegeville
55	US 422 & Egypt Rd.	Upper Providence	
<i>Philadelphia</i>	34	Academy Rd & Grant Ave	NE Phila. Airport
	36	US 1 & PA 63	Normandy Section

TABLE I (continued)

Park and Ride Areas Selected for Market Evaluation

<u>County</u>	<u>Area No.</u>	<u>Focal Intersection</u>	<u>Municipality</u>
<i>Burlington County</i>	17	NJ 73 & CR 537	Maple Shade
	19	NJ 73 & NJ 70	Evesham
	20	NJ 70 & CR 541	Medford
	21	NJ 70 & US 206	Southampton
	22	I-295 & NJ 38	Mt. Laurel
	23	NJ 38 & CR 541	Mt. Holly
	24	US 130 & CR 636	Delran
	25	US 130 & CR 541	Burlington
	26	NJ Turnpike Ext. & US 130	Florence
	27	NJ Turnpike & US 206	Bordentown
<i>Camden County</i>	10	A.C. Expressway & NJ 73	Winslow
	11	NJ 73 & CR 561	Berlin
	14	NJ Turnpike & NJ 42	Runnemede
	15	I-295 & NJ 168	Bellmawr
	16	NJ 70 & NJ 41	Cherry Hill
	18	US 130 & NJ 73	Pennsauken
	69	US 130 & NJ 47	Brooklawn
	70	I-295 & NJ 70	Cherry Hill
	73	NJ 70 & CR 644	Cherry Hill
<i>Gloucester</i>	1	I-295 & US 130	Logan
	2	NJ Turnpike & US 322	Woolwich
	3	I-295 & CR 551 Spur	Greenwich
	4	US 322 & NJ 45	Harrison
	5	NJ 55 & CR 553	Mantua
	6	NJ 55 & US 322	Harrison
	7	NJ 55 & NJ 47	Deptford
	8	NJ 42 & NJ 168	Washington
	9	NJ 55 & US 40	Franklin
	12	I-295 & CR 667	West Deptford
	13	NJ 55 & Deptford Ctr Rd	Deptford
	75	NJ 45 & CR 534	Woodbury
	<i>Mercer County</i>	28	NJ Turnpike & I-195
44		I-295 & US 1	Lawrence
71		I-295 & I-195	Hamilton

potential park and ride areas in the region, but it does contain those which were felt to be important in relation to the regional highway network. Each area was subjected to a demand analysis and measured against other criteria which indicate the area's suitability for park and ride development. The results of all of the evaluations were compiled into the tables found in Appendix A. The selected areas are listed in Table I.

MARKET AREA EVALUATION

Considerable research has been done by transportation planners to ascertain the factors that lead to successful park and ride lots. These factors can be grouped into four categories: trip factors, rideshare options, locational factors, and potential demand. This section of the report discusses the first three groups of factors and how they can be used to assess the viability of a potential park and ride area. By weighing each area against these criteria, it is possible to predict the probability of an area's success or failure. Because commuters are more likely to be involved in ridesharing, the criteria are discussed in relation to work trips. Where reasonable, maximum or minimum values are given which are based on either DVRPC survey data or a study completed by Daniel Consultants, Inc. for the Federal Highway Administration (FHWA), *Park-And-Ride Facilities Guidelines for Planning, Design and Operation*, 1986.

Trip Factors: Ridesharing is more likely to occur when certain aspects of the commute trip make driving alone less desirable. These deterrents include excessive travel time, distance, or cost. Evaluating travel time and distance is important in locating park and ride areas in relation to both the user's origin and destination. Besides total origin-to-destination time and distance, these measures are usually broken into two segments: origin-to-lot, and lot-to-destination. Which measure is used depends on the travel corridor to be served by the park and ride lot. In areas with severe congestion, travel time becomes the more important factor. If congestion is light to moderate, then distance may be used.

Travel distance: TOTAL - Nationally, the typical total distance traveled by a park and ride user ranges from 20 to 25 miles. Statistics gathered from the FHWA study show that over three-quarters of the commuters who rideshare in New Jersey and Pennsylvania travel at least 20 miles.

ORIGIN-TO-LOT - Nationally, the typical park and ride user travels 3 to 4 miles from home to reach a park and ride lot. In the DVRPC region, that figure ranges from 1 to 6 miles, depending on the type of ridesharing and the transportation facility being served. For planning purposes, a park and ride lot should be located within 5 miles of the residential areas to be served.

LOT-TO-DESTINATION - The typical distance that a park and ride user travels from the lot to the final destination ranges from 10 to 20 miles. Again, statistics from the FHWA study show that the majority of car poolers from Pennsylvania and New Jersey travel more than 10 miles from the lot to the final destination. For the purpose of estimating demand from each market area, the minimum was held at 10 miles. For a focused analysis, every attempt should be made to determine an appropriate minimum distance that is suitable for the market area being served.

Travel time: TOTAL - Nationally, the majority of park and ride users spends 35 or more minutes traveling from origin to final destination (home-to-work). In the DVRPC region, that figure ranges from 39 minutes for car poolers

to 63 minutes for SEPTA riders. This means that the commuters in the DVRPC region who must travel more than 40 minutes are more likely to rideshare. Consequently, park and ride lots should be located at least 40 minutes from one or more major employment centers.

ORIGIN-TO-LOT - Another important factor in locating park and ride areas is how long the user must drive from the origin to reach the park and ride lot. Similar to statistics for the northeast corridor, the average access time for DVRPC region commuters to park and ride lots ranges from 10 to 14 minutes. This indicates that future park and ride lots should be constructed within 15 minutes of the residential areas that they are intended to serve.

LOT-TO-DESTINATION - With a minimum average total travel time of 40 minutes, and a maximum origin-to-lot time of 15 minutes, the minimum lot-to-destination time should be 25 minutes.

Travel cost: When the cost of commuting to work becomes excessive, ridesharing is more likely to occur. Additional travel costs can include bridge or highway tolls and parking. When the distance between home and work is great enough, the cost of gas becomes an increasingly significant factor. In fact, 90 percent of the park and ride users surveyed at the Yardley car pool/van pool park and ride lot at Scudders Falls mentioned saving money on gasoline as a reason for ridesharing. The respondents to that survey traveled an average total distance of 20 miles. All of the areas included in this plan were considered to be far enough from the employment centers to induce ridesharing, and some areas were chosen because of their proximity to toll facilities.

Rideshare Options: Park and ride lots can serve more than one type of ridesharing, such as carpooling, vanpooling, and mass transit in the form of buses, trains, and trolleys. Though the goal of this study is not to locate transit-oriented park and ride areas, locating highway-related facilities along established transit routes may work to serve both modes, increasing the use of the lot.

Citing transit as one of the potential ridesharing modes for a particular area is based on the presence of an existing transit route operating through or in close proximity to the park and ride area's focal intersection. The rationale for considering routes that operate nearby is that they may be able to serve the actual park and ride site through a minor route change and/or schedule modification.

The amount of traffic attracted to a park and ride lot attributable to transit service depends, in large measure, on the frequency of the service. Ideally, transit service should operate on 15-minute or better headways during the peak travel periods of the day. Because the non-urban portions of the DVRPC region have few corridors in which transit operates at that frequency, service with 20 to 30-minute headways may still generate sufficient park and ride patronage.

Locational Factors: Locational factors exist which are not directly related to the user's trip but must be considered when assessing an area's potential. These factors include land availability and cost, adjacent land uses, and the status of state, regional and local plans. Other location-related factors may present barriers which must be overcome when trying to construct a park and ride facility. These barriers include neighborhood acceptance and driver attitudes toward ridesharing.

Proximity of
Transportation
Services:

The proximity of a park and ride lot to the transportation facility it serves is as important as its convenience to user's origin. When evaluating a potential area, candidate sites should be located within one mile of the arterial highway facility being served or within 1/4 mile of the transit line being served.

Land
Availability
and Cost:

Before a park and ride lot can be established, land must be available. Three different options can be pursued to obtain the needed space. First, vacant land can be purchased or leased. The second option involves entering into an agreement with the owner of an existing parking lot that is either under-utilized or used at a different time than a park and ride lot. The third option consists of using land that is already publicly-owned.

The first option is usually the least desirable, since it has the potential of considerably raising the cost of the park and ride project. However, the cost of acquiring land can be reduced by offering tax credits for leased land or contributions of land from developers in lieu of fees.

The second option is best to consider if publicly-owned vacant land is not available, or if the park and ride lot is being opened on a trial basis. Using an existing parking lot can be the least expensive alternative when looking at short-term use.

The third option is usually the best option to pursue because it is less expensive and less complicated administratively; it should be fully investigated before going to the expense of purchasing land. Since many of the proposed park and ride areas are focused around interstate and turnpike interchanges, using publicly-owned land may be a viable option.

Regardless of the option used to acquire the land for a park and ride lot, it must be located within the proper proximity of either the focal intersection or transit line mile; otherwise the investment would be wasted.

Adjacent Land

Uses and Neighborhood

Acceptance: When evaluating a market area to determine whether or not candidate sites are available, it is important to examine the local land use mix. While there are advantages and disadvantages to locating a park and ride lot in the midst of each type of land use, some types are more compatible than others. Vacant parcels, other than park land or farm land, would cause the least friction, followed by non-residential. Locating a park and ride lot within a residential area would be the least desirable scenario.

Local zoning regulations traditionally do not recognize park and ride lots as a land use. They regulate parking lot construction only in relation to commercial development. Therefore, it is important to know how the affected municipalities address park and ride development, and how their requirements effect the agency that is implementing the lot.

Regardless of the neighborhood in which it is located, every park and ride proposal needs to be accompanied by a traffic impact study which quantifies the traffic that the park and ride lot will add to the local highway system. The problem of increased traffic can be eased through signage to direct park and ride patrons onto specific routes or through the appropriate use of one-way streets. Overflow parking on residential streets can be avoided by implementing a residential parking permit program which limits the duration of parking on sensitive streets, except for local residents. The permit program can be free to the residents or can be used as a source of income for the municipality to offset enforcement costs. Finally, an attractive design and a well-orchestrated marketing program can be instrumental in making a park and ride appealing to its neighbors as well as to its potential patrons.

Status of Local,
State and

Regional Plans: Coordination of planning and development efforts results in reduced costs and efficient implementation. As part of this study, a survey of existing park and ride studies was conducted, and sites recommended by other planning agencies (excluding transit agencies) were included in this plan. It is important when a park and ride lot is planned that each interested party be involved and has a clearly defined role in the planning process. One party needs to be designated as the lead agency, while the remaining parties perform support or advisory functions. As a result, work is not duplicated and resources are used more efficiently. This same coordination of efforts is necessary when developing a strategy to fund park and ride lots. Park and ride development now qualifies for funding under most programs of the Intermodal Surface Transportation Efficiency Act (ISTEA). Implementing agencies should be investigating the use of

National Highway System, Congestion Management/Air Quality, Interstate Reconstruction, and Surface Transportation Program monies as well as local money or land contributions to fund them. In addition to public funding, implementing agencies should be looking to private funding sources such as transportation management associations (TMA), transportation improvement districts (TID), transportation development districts (TDD), and developer fees.

Driver Attitudes

Toward Ride

Sharing:

The motorist's love affair with the single occupant vehicle may cool in the near future as the result of recent legislation. The Clean Air Act Amendments of 1990 require that employers located in severe or extreme non-attainment areas with more than 100 employees reduce the number of vehicle trips entering their establishments through Employee Trip Reduction Programs. Ridesharing is seen as one of the most effective means for employers to meet these requirements. In addition, the new Energy Policy Act increases the tax-free employee transit benefit cap to \$60 per month and extends the benefit to employer-sponsored van pools and other commuter vehicles which carry six or more passengers. It also limits the tax-free subsidy for parking to \$155 per month.

DEMAND ANALYSIS

In order for a park and ride lot to be successful, it must be used. Estimating the potential demand generated by a market area is accomplished through a demand analysis. Described below is the demand analysis used in conjunction with the market evaluation phase of this study to indicate whether or not further study of a potential park and ride area is warranted. This demand analysis is very general in nature and examines only trips traveling more than 10 miles to major regional employment centers, without regard to mode. Consequently, it provides only a partial picture of the actual demand for any specific park and ride area. Only major employment areas were considered because of limitations within the scope of the project. This analysis can also be used to develop a relative ranking of areas within the region for sketch planning purposes.

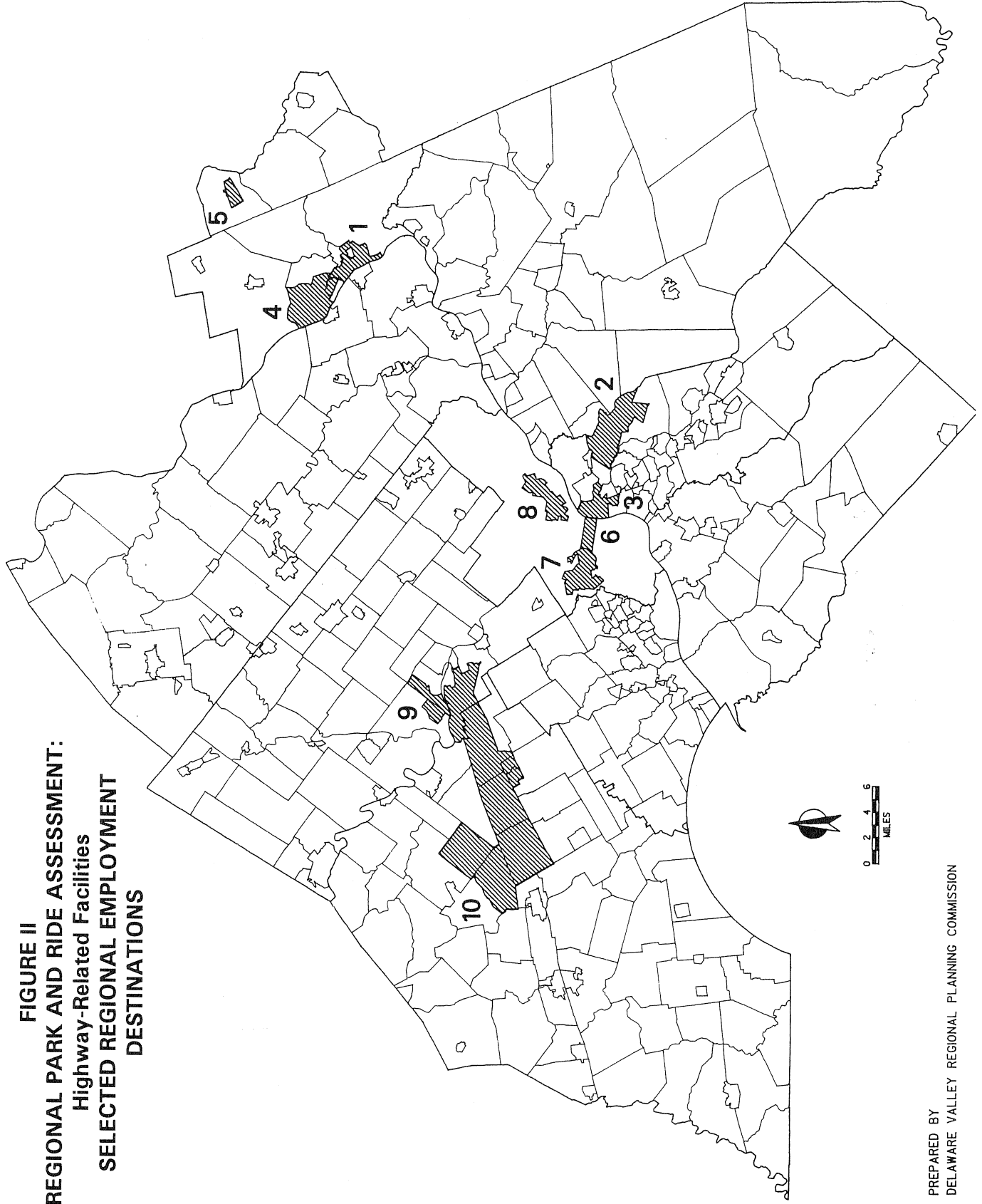
The demand analysis for this study was conducted by estimating the number of home-based-work trips each potential park and ride area would serve. This estimate was developed by delineating a market area for each park and ride area, defining employment centers likely to attract park and ride users, compiling the number of trips produced by each market area destined to each employment center, and by multiplying those totals by a potential usage factor. Each step is explained below.

Because of the numerous suburban employment centers found within the region, the demand analysis was completed using a market area approach as opposed to a highway corridor approach. The highway corridor approach usually estimates the potential demand to only one destination. Ten major employment centers, as identified by DVRPC in a 1984 study, "Regional Employment Centers Study: Employment Centers in the Delaware Valley," were selected as work trip destinations. The five largest from New Jersey and the five largest from Pennsylvania were chosen. The employment centers are listed below. The number assigned to each center does not indicate its magnitude, but is used for ease of identification on maps and in tables. The area covered by each center is shown in Figure II.

<u>Employment Center Number</u>	<u>Location</u>
1	Trenton City
2	Cherry Hill
3	Camden City
4	West Trenton/Ewing
5	Princeton
6	Center City Philadelphia
7	West Philadelphia
8	Kensington/Allegheny/Frankford
9	King of Prussia
10	Malvern/Paoli/Exton

One-way home-based work trips were chosen as the type of trip that would supply the majority of the users to a park and ride lot. Home-based non-work and non-home based trips may be involved in ridesharing, but past research has shown that these types of trips were infrequent users of park and ride lots.

FIGURE II
REGIONAL PARK AND RIDE ASSESSMENT:
Highway-Related Facilities
SELECTED REGIONAL EMPLOYMENT
DESTINATIONS



A market area was outlined for each focal intersection in the list of potential park and ride areas. Each market area was defined as a circle having a five mile radius around the focal intersection, as discussed in the evaluation criteria. The circular shape for the market was chosen because of the diverse locations of the employment centers included as destinations. The boundary of the market area was adjusted to conform to the DVRPC traffic zones (census tracts) most closely matching the radius of the circle. In areas where market areas overlapped, no effort was made to assign trips exclusively to one area or the other. Such an assignment would need to be done during the site selection process.

DVRPC's 2010 home-based work trip table was used in the demand analysis. DVRPC's trip tables are more than 1300 rows by 1300 columns, representing trips between every pair of census tracts within the region (internal-internal). The table was compressed to include only those trips beginning in the defined market areas and destined to the selected employment areas. In keeping with the evaluation criteria previously discussed, trips of less than 10 miles from the market area to the employment center were eliminated. Though not addressed in this level of analysis, trips to or from zones outside of the region (internal-external) should be considered when conducting site selection.

A study of park and ride lot usage in Yardley, PA showed that the number of users in the lot was equivalent to three percent of the year 2010 home-based work trips originating in the Yardley market area destined for I-95. Based on this study, the assumption was made that a successful park and ride lot may be expected to attract three percent of the home-based-work trips originating in the market area that it is intended to serve. The final calculation for each of the 75 park and ride areas chosen for study is shown in Table II.

Demand can be used as one of the primary factors in prioritizing park and ride construction projects. However, such an approach can result in delaying the construction of smaller lots that also could be successful. Therefore, other factors besides demand should be considered in the prioritization and selection process, particularly the locational factors in the Market Area Evaluation section of this report. Table II shows the estimated potential demand for each of the 75 areas. The table has been sorted by total potential demand. As may be expected, those park and ride areas that are located in the more densely populated areas of the region are at the top of the list. This is the logical consequence of locating a lot in an area where there are more people who must travel to work. This list shows not only where a park and ride area ranks in relation to the rest of the region, but also in relation to others within the same county.

TABLE II
Potential Demand for Proposed
Park and Ride Areas

<u>Area No.</u>	<u>Focal Intersection</u>	<u>Total</u>	<u>Area No.</u>	<u>Focal Intersection</u>	<u>Total</u>
36	PHNEAIR	1145	73	CA70/644	95
34	PH1/63	662	23	BR541/38	94
67	DE476/BALT	617	63	DE1/202	87
66	DE476/3	590	52	MO422/LEWIS	86
35	BU63/95	544	71	ME195/295	83
68	DE476/95	481	57	CH30/100	77
33	BU1/276	429	15	CA168/295	74
08	GL42/168	402	49	MO73/29	70
65	DE476/30	374	14	CA42/NJTPK	66
32	BU413/95	371	27	BR206/NJTPK	66
13	GL42/55	349	03	GL551sp/295	60
16	CA644/70	334	26	BR130/NJTPK	60
31	BU276/95	318	60	CH30/10	50
70	CA295/70	309	51	MO663/RDG	48
75	GL45/534	307	40	BU202/611	45
07	GL47/55	306	58	CH100/76	45
42	MO309/276	289	04	GL322/45	38
62	CH202/986	281	10	CA73/ACX	34
74	BU13/276	279	46	BU152/309	32
19	BR70/73	275	21	BR206/70	29
43	MO476/276/9	232	38	BU202/263	27
17	BR537/73	227	02	GL322/NJTPK	25
29	BU332/95	224	61	CH1/41	23
59	CH30/340	218	50	MO100/73	19
69	CA47/130	212	01	GL130/295	17
11	CA73/561	204	09	GL40/55	13
24	BR636/130	189	44	ME1/295	10
18	BR130/73 or	186	48	MO29/663	10
53	MO422/TWPLN	178	47	BU663/9	9
22	BR38/295	177	39	BU32/202	7
12	GL667/295	174	72	CH1/272	7
28	ME195/NJTPK	164			
05	GL553/55	163		Total	13927
64	DE322/452	155			
30	BU413/1	154			
55	MO422/EGYPT	118			
45	MO63/9	115			
54	MO29/GMTWN	115			
37	MO611/276	114			
41	MO202/309	112			
20	BR541/70	112			
25	BR541/130	109			
56	CH30/352	105			
06	GL322/55	102			

Focal Intersection Code: GL = County; 111/222 = intersecting highways or streets

SITE SELECTION

The second phase of park and ride planning is site selection. This process can be initiated once the market area evaluation shows that adequate demand, candidate sites, and funding exist to warrant park and ride development. Included in site selection is the examination of candidate sites in terms of construction factors such as access, egress, paving and curbing, risk factors such as community opposition which increase the difficulty of lot development, and maximum potential lot capacity. In addition, a focused demand analysis needs to be performed which takes into consideration trip-making patterns and highway facilities specific to the area being analyzed. This section of the report discusses these factors then applies them to a test case in Uwchlan Township, Chester County. The focused demand analysis for that area is presented.

Based on park and ride programs in other parts of the country, as well as discussions with local transportation planning professionals, site selection is accomplished after comparing two aspects of each site: construction and risk factors. The importance of each aspect varies from site to site. The construction factors deal with the physical improvements that must be made to a parcel in order to establish a successful park and ride lot. They are categorized as either essential or non-essential improvements, the term essential implying that the improvement is vital to the success of the park and ride lot. Risk factors are social, environmental, and institutional considerations that can negate a parcel's feasibility for development regardless of how attractive it otherwise appears. An explanation of each type of improvement and factor is given below.

Construction Factors

Essential Improvements - These features are considered vital to the successful operation of a park and ride facility. The requirements for implementing many of these improvements are explicitly defined in local, county, and state zoning ordinances or codes.

Adequate Surface - Some lots may require asphalt paving, while crushed stone may be suitable for other lots. This component is satisfied depending on whether or not the site being considered has the minimum quality surface that the authority building and/or approving the lot deems necessary. All lots which will have a pull-in area for a transit vehicle should have an asphalt surface. Large, high volume car and van pool lots should likewise have asphalt surfaces to handle the traffic load.

Adequate Access/Egress - Access and egress at a park and ride lot are adequate if the geometry of the access points and the capacity and geometry of the adjacent roadways safely feed traffic into and out of the lot. Roadway and traffic control improvements should be considered when evaluating the adequacy of access and egress points. A traffic study should be done to determine the impact of the proposed park and ride lot on the adjacent roadways.

Curbing - All park and ride lots, regardless of surface, should have curbing to help define travel lanes and parking areas, to direct traffic into and out of the lot, and to channel run-off.

Pedestrian Facilities - Sidewalks add to the attractiveness of any park and ride lot, but they are not necessary for all park and ride lots. Those which serve transit riders should have sidewalks. They not only provide a more pleasant walking and

waiting area for patrons, but they minimize potential conflicts between pedestrians and transit vehicles. Wheelchair ramps must be constructed to meet the requirements of the Americans with Disabilities Act. Other facilities that define pedestrian movements are crosswalks, pedestrian overpasses, and signs.

Parking Delineation - While not all lots may have an asphalt surface, those that do should have striping to delineate parking areas from travel lanes and include directional arrows. Park and ride lots with a transit vehicle pull-in area particularly need striping to separate transit lanes from other vehicular travel lanes, and to direct the flow of both pedestrians and vehicles. In lots without an asphalt surface, barriers or delineators should be used to indicate where parking spaces are located.

Lighting - All park and ride lots need adequate lighting to ensure the safety of the patrons and their vehicles. Poor lighting can be the death knell of an otherwise well-planned park and ride lot.

Drainage - All park and ride lots, regardless of surface or type of usage, need adequate drainage to make them more desirable to patrons, prolong the life of the surface, and to make them safer.

Security - Patrons of a park and ride lot need to feel that they and their vehicles are relatively safe. While no vehicle's security can be absolutely guaranteed, providing good visibility of the lot from the surrounding neighborhood, arranging for frequent drive-by inspections by the local police force, installing adequate lighting, and in some cases, constructing an appropriate fence can reduce the risks. Failure to provide a safe environment can result in the failure of a park and ride lot.

Signage - Signs must be properly constructed, worded and displayed to direct patrons safely into and out of the lot at the site as well as from the surrounding streets. Regulatory and informational signs that provide guidance on the proper use of the lot are also needed. Signage is valuable as a marketing tool, as well as an important safety feature.

Optional Improvements - These park and ride features are not necessary for the operation of a park and ride facility from an engineering point of view, but they may be required by law in some locations. They also make the park and ride more attractive to the patrons.

Amenities - Amenities are features that add to the comfort of the patrons using a park and ride lot. They are more prevalent at park and ride lots that serve transit. Included are transit or community information kiosks, newspaper or refreshment concessions, restrooms and shelters. All park and ride lots serving transit with headways over 10 minutes should include a shelter. If patrons have to wait in their personal vehicles to avoid inclement weather, then the chance of a vehicle/pedestrian conflict increases. Shelters also help patrons identify the location of a park and ride lot.

Landscaping - An attractive landscape plan at a park and ride lot makes the facility more appealing to the patrons and the surrounding community, and helps to prevent erosion and facilitate proper drainage. Many municipalities require a minimum amount of landscaping with parking lot construction. Attractive landscaping can be an important factor in deterring community opposition to a park and ride lot.

Fencing - Fencing serves to delineate the exact limits of the park and ride lot, thereby preventing spillover parking onto private property. Fencing can provide a barrier between the facility and the surrounding community for security and maintenance purposes.

Telephone - Access to a public phone can be important to park and ride patrons in the event of an emergency. Provision of a public phone is particularly important for facilities located in more suburban or rural areas where a public phone may not be easily found within walking distance.

Water - Running water is a nice embellishment for a park and ride lot, particularly if it is located on a site which may evolve into a transit station or a transportation center.

Ticket Services - Having ticket service at a transit park and ride lot attracts patrons to the lot because of the convenience it provides.

Risk Factors

Wetlands - Because of existing legislation, disturbing wetlands is very expensive and potentially hazardous to the environment. They are not supposed to be destroyed, but if they are, they have to be replaced. Also, construction on wetlands is more expensive because of the problems associated with working on saturated ground. Wetlands should be avoided.

Floodplains - Locating a park and ride lot in a floodplain creates a potential hazard to patrons and potentially higher maintenance costs.

Community Opposition - If the surrounding community is against a proposed park and ride facility, then construction can be costly as a result of design concessions that must be made and zoning variances that must be obtained.

Limited Lot Capacity - A site should be able to meet the future needs of the market area as well as the present needs. If the parking area cannot expand with demand, then spillover parking can occur in the surrounding neighborhood, angering the local community. Also, limited capacity can result in decreased use because of discouraged patrons.

Focused Demand Analysis

To determine the number of spaces (estimated usage) needed for a proposed lot, a focused demand analysis needs to be conducted. Numerous methods for estimating park and ride usage

have been developed throughout the country. Most of them count only trips from one origin to one destination. Because of the size of the DVRPC region and the emergence of major suburban employment centers, an approach needs to be taken which aggregates the trips from one origin to numerous destinations.

To accomplish this task, an analysis similar to the market area demand analysis should be employed. However, with a focused demand analysis, employment and travel data are combined with the market area evaluation factors to determine which employment centers are major destinations for the area being examined. The employment and travel data reflect the employment centers to which the local residents are traveling while the market area evaluation factors are used to select employment centers located within an acceptable travel time or distance. Only employment centers are considered as destinations because of the densities needed at the destination end of the trip for ridesharing to occur.

The employment centers need to be defined as traffic zones relating to DVRPC's trip tables. The trip table used for the analysis depends on the location of the employment centers. If all of the employment centers are located within the region, then a home-based work trip table is best. However, if the park and ride area generates a significant number of trips to locations outside of the region, then a total vehicle trip table should be used. Only 25 percent of the total vehicle trips are used to represent work trips, the trip type used to calculate estimated lot usage. Once the origin and employment center (destination) zones have been defined, then the trip table can be compressed into a matrix showing the trips from the origin to the employment centers. A three percent usage factor is then applied to the total, resulting in the estimated lot usage, or the number of spaces needed by the end of the planning horizon.

Test Case: I-76 and PA 100 - Uwchlan Township, Chester County

Proposed park and ride area #58 (I-76 and PA 100) in Uwchlan Township, Chester County was chosen as a test case for the site selection methodology. At the suggestion of the Chester County Planning Commission, this area was chosen because of the previous existence of an informal park and ride lot at the entrance of the Pennsylvania Turnpike that was eliminated when the interchange was reconstructed in the 1980's. The purpose of the lot would be to intercept commuters using the Downingtown Interchange (#23) of the Pennsylvania Turnpike, PA 100, and PA 113.

Evaluation of Construction and Risk Factors

Before beginning the site selection process, a meeting was held with county representatives to obtain input as to appropriate sites to evaluate and any other circumstances that should be considered. As a result of that meeting and a survey of the vacant parcels adjacent to the turnpike interchange, three parcels were chosen near the intersection of PA Routes 100 and 113 (Figure III) for consideration. Though other vacant parcels could be found within one-half mile of the interchange, those parcels were either environmentally sensitive, or the existing land use made acquisition or development infeasible.

The intersection of PA Routes 100 and 113 is located about one-eighth of a mile southeast of the turnpike interchange. While only one parcel adjacent to the intersection has been developed, the area is moderately built-up with office, retail, and hotel space. PA 100 is a major arterial with two lanes of traffic by direction, separated by a concrete median barrier. The posted speed limit is 55 mph. Left turns off of the highway are permitted only at signalized intersections. PA 113 is a minor arterial with one lane of traffic by direction and no turning restrictions. The posted speed limit is 40 mph.

The first parcel ③ under consideration lies between PA 100, Welsh Pool Road, and Gordon Drive, northeast of the PA 100/PA 113 intersection, and is identified as Lot 38.8 on the Uwchlan Township tax map. Located on this parcel is a 1200-space parking lot built to serve the office building located on Lot 38.7. It has access to PA 100, Gordon Drive, and Welsh Pool Road. The parcel is owned by Lion Associates of Downingtown, PA, and at the time that this study was initiated, the parking lot was profoundly under-utilized. As a result of discussions with township officials and a field view of the lot, the decision was made to abandon this parcel as a candidate park and ride site. The lot has low visibility from the main highway, which decreases its marketability and increases its perception as a security problem. Secondly, the tenancy status of the adjacent office building is uncertain, making the possibility of negotiations with the property owner tenuous.

The other two parcels chosen for evaluation are adjacent to the intersection on the northeast ② and southwest ① quadrants, and both are owned by PennDOT. They both belong to the same lot identified on the Uwchlan Township tax map as Lot 26.1, and have a combined area of 4.3 acres. Both parcels have frontage on PA 100 and PA 113, but neither parcel currently has access to either highway.

A comparison of the needed improvements for both PennDOT lots showed them to be equal (Table III). Both lots are unimproved except for curbing along PA 100 and PA 113, and both lots have serious drainage problems. Each parcel has only a small area of level land. In parcel ②, that level area is located along PA 113 opposite Marsh Creek Road. While this

**FIGURE III
PROPOSED PARK AND RIDE SITES
CHOSEN FOR FOCUSED ANALYSIS
UWCHLAN TOWNSHIP, CHESTER COUNTY**

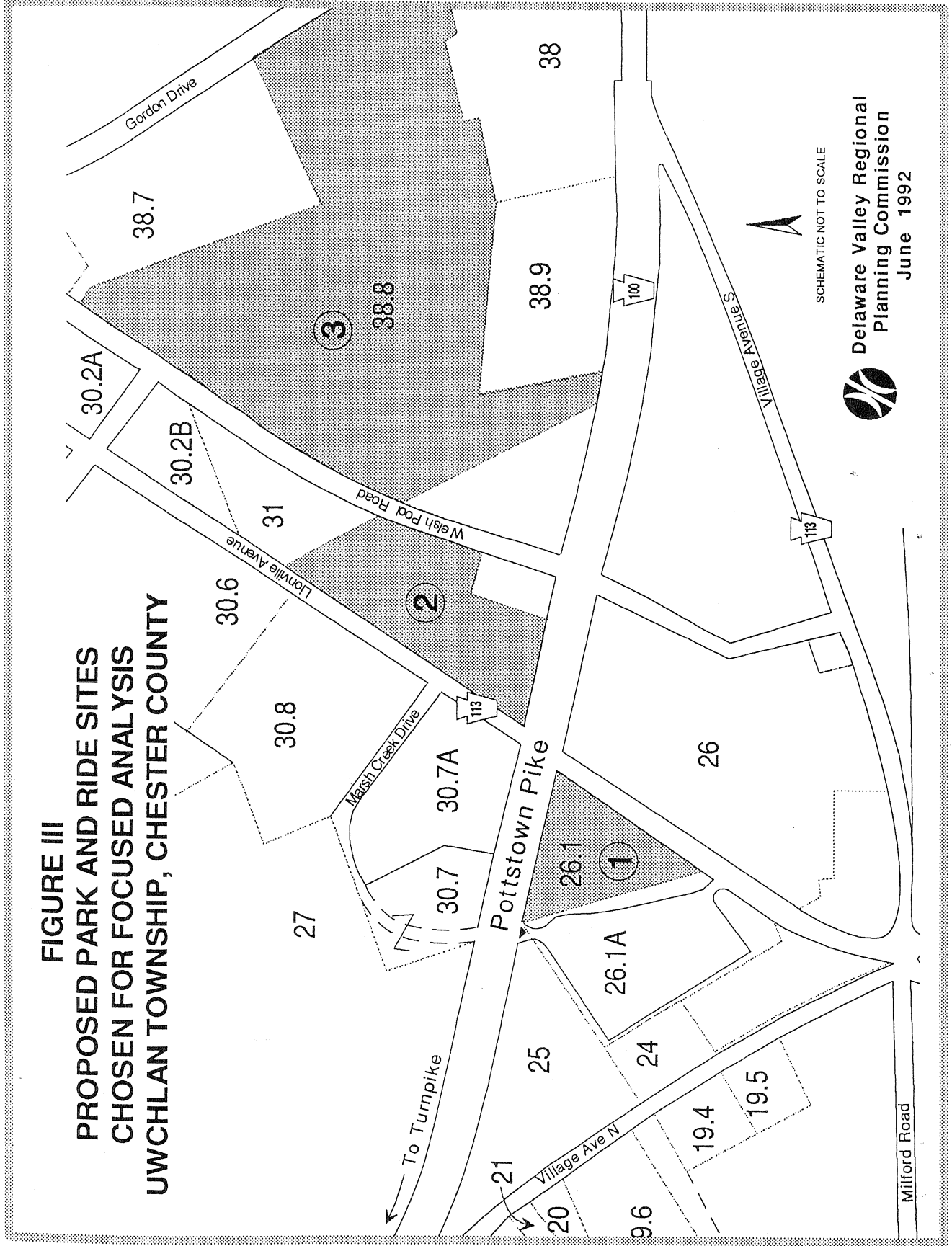


Table III

Park and Ride Site Comparison Worksheet																					
Site	Construction Factors										Risk Factors				Estimated Costs						
	Essential					Optional					Wetlands	Flood Plain	Community Opposition	Potential Lot Capacity	Improvements	Site Purchase/Lease	Total				
	Access	Surface Preparation	Curbing	Pedestrian Facilities	Parking Delineation	Lighting	Drainage	Security	Amenities	Landscaping								Fencing	Telephone	Water	Tickets
1. SW Quad PennDOT	X	X	X	X	X	X	X	X	X	X	X	X	X	N/A				\$91000	0	\$91000	
2. NE Quad PennDOT	X	X	X	X	X	X	X	X	X	X	X	X	X	N/A				\$89000	0	\$89000	
3. Lot 38.8 Lionville Corporate Center				X	X														0	unknown	1000

X = a deficiency exists

County: Chester

Township: Uwchlan

Notes:

- None of the lots are served by transit; therefore a gravel surface would be recommended for a new lot unless the asphalt is deemed necessary by the implementing agency or local ordinance.
- Both PennDOT lots have potential drainage problems.
- The main problem with the Lionville Corporate Center Lot is its lack of visibility from the main road (PA 100). This could present a perceived security problem to potential patrons as well as make it difficult to locate. The building on the Lionville Corporate Center Lot is currently vacant. Having an active park and ride lot on the site may be viewed by the owner as a security risk and as undesirable to potential tenants.

position is advantageous in terms of locating the parking lot access opposite Marsh Creek Road, it places another road opening within 250' of the intersection, which can be quite busy during peak periods.

The level area in parcel ①, on the other hand, is located in the section of the parcel that is furthest from the intersection. In addition, that section of the parcel is adjacent to an existing parking lot built to serve the Hampton Inn located on Lot 26.1A. An adjacent parking lot would not be out of character with the surrounding land use, and the hours of operation for the hotel and the park and ride lot would not conflict; therefore, parcel ①, located on the southwestern quadrant, was chosen as the better candidate of the two.

Focused Demand Analysis

The focused demand analysis was conducted by dividing the region into 30 traffic zones (Figure IV) and compressing DVRPC's 2015 total vehicle trip table into those zones. The compression resulted in a table of total vehicle trips originating in the study area destined to the rest of the region and to external locations via the region's cordon stations. A description of each zone is given in Table IV.

According to the 1990 Census, of the Chester County residents who work within the region, 67 percent work in Chester County, 14 percent work in Montgomery County, and 10 percent work in Delaware County. Results of DVRPC's 1989 cordon line surveys show that a significant percent of the trips crossing the cordon line in Chester County are commuters going from Chester County to the State of Delaware. Consequently, the trips destined to Delaware and Montgomery Counties plus the trips destined to locations external to the region via the Pennsylvania Turnpike, PA 100 and Chester County cordon stations, plus trips to areas of Philadelphia outside of Center City were used to calculate potential park and ride market. Trips to employment centers in Chester County were not added to the total because of their close proximity to the study area. Center City was excluded from the total because the transit services available to that destination capture the majority of that ridesharing market. Large, easily definable employment centers such as King of Prussia/Norristown and Pottstown were segregated into separate traffic zones. While Pennsylvania Turnpike exits 25 through 28 were also considered as separate traffic zones, they were combined into one zone called "Turnpike Corridor" when the potential park and ride market demand was calculated.

As the second and third largest destinations of employed residents of Chester County, all employment centers in Delaware and Montgomery counties needed to be considered. According to DVRPC's 1984 report on employment centers, 80 percent of the region's employment is located in centers. The density of employment in Delaware County precluded identifying each individual center; therefore, the county was considered one traffic zone with 80 percent of the trips counted as destined to employment centers. The areas of Montgomery County not included in the large, easily definable employment centers were treated the same way.

The total vehicle trips were multiplied by 25 percent to denote the work trips which comprise the potential park and ride market. These totals are shown in Table IV. Finally, the potential park and ride market was multiplied by a three percent usage factor to obtain the estimated number of vehicles that would use the park and ride lot by the year 2015. The total estimated park and ride lot usage, shown in Table VI, was 122 spaces.

FIGURE IV
CHESTER COUNTY PARK AND RIDE
SITE SELECTION - UWCHLAN TOWNSHIP
TRAFFIC ZONES AND CORDON STATIONS

- CORDON STATION
- ☼ PROPOSED PARK AND RIDE SITE

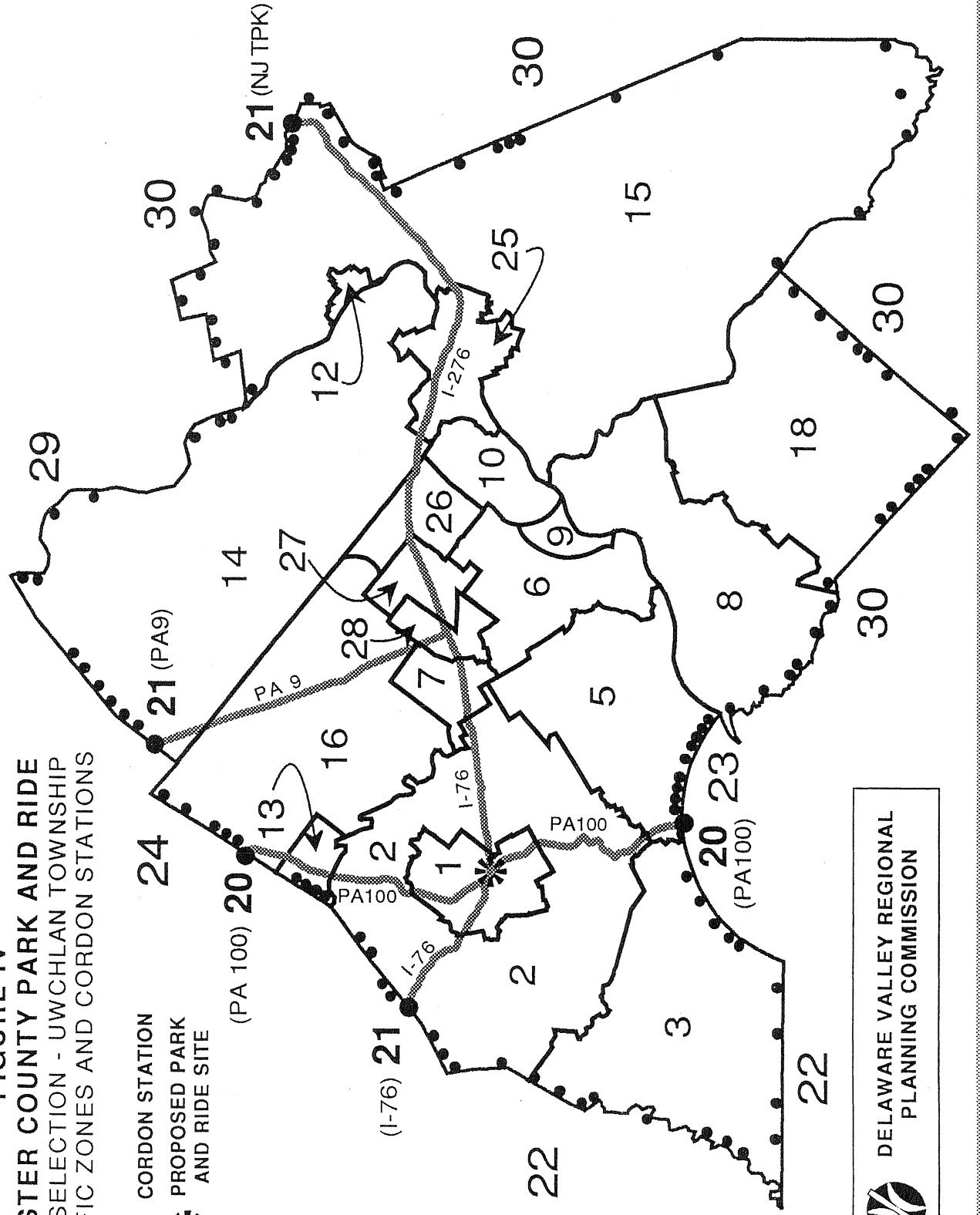


Table IV

ORIGIN-DESTINATION TRAFFIC ZONES FOR A FOCUSED DEMAND
ANALYSIS OF THE I-76/PA 100 PARK AND RIDE AREA

Zone	Description	Zone	Description
1	Market area of the proposed park and ride lot; includes Uwchlan, Upper Uwchlan, West Whiteland, West Pikeland, West Vincent, East Caln, and Downingtown	18	Lower Gloucester and Camden Counties
2	Townships in Chester County located 5 to 10 miles from the proposed park and ride lot	19	no assignment
3	The remainder of Chester County	20	PA 100 cordon stations
4	no assignment	21	I-76, PA 9, NJ Turnpike cordon stations
5	Delaware County	22	Chester County cordon stations
6	Western Philadelphia	23	Delaware County cordon stations
7	King of Prussia/Norristown	24	Montgomery County cordon stations
8	Upper Gloucester and Camden Counties	25	Bensalem exit (#28), I-276
9	Center City Philadelphia	26	Willow Grove exit (#27), I-276
10	Northeastern Philadelphia	27	Fort Washington exit (#26), I-276
11	no assignment	28	Plymouth Meeting exit (#25), I-276
12	City of Trenton	29	Bucks County cordon stations
13	City of Pottstown	30	New Jersey cordon stations
14	Remainder of Bucks County		
15	Remainder of Burlington and Mercer Counties		
16	Remainder of Montgomery County		
17	no assignment		

Table V

POTENTIAL PARK AND RIDE MARKET GENERATED BY THE I-76 AND PA 100
PARK AND RIDE AREA, UWCHLAN TWP., CHESTER COUNTY

<u>Employment Destinations</u>	<u>Potential Market</u>
Delaware County	989
King of Prussia/Norristown	728
Pottstown	240
Other Montgomery County	466
Turnpike Corridor	343
Philadelphia Outside Center City	343
Chester County/PA Turnpike/PA 100 Cordon Stations	963
Total	4436

Table VI

ESTIMATED PARK AND RIDE USAGE FOR THE I-76 AND PA 100 PARK AND
RIDE LOT, UWCHLAN TWP., CHESTER COUNTY

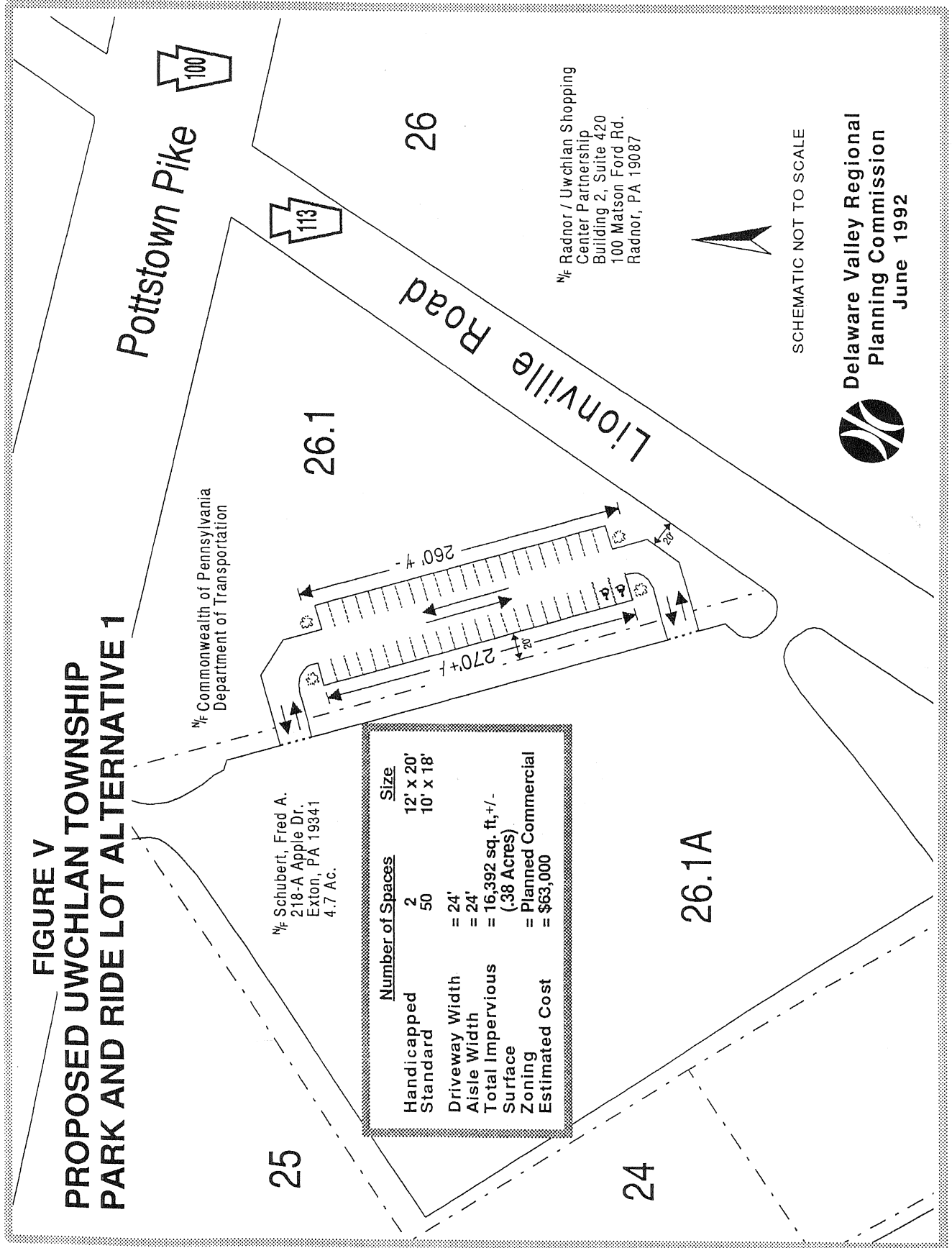
<u>Employment Destinations</u>	<u>Estimated Usage</u>
Delaware County	30
King of Prussia/Norristown	22
Pottstown	7
Other Montgomery County	14
Turnpike Corridor	10
Philadelphia Outside Center City	10
Chester County/PA Turnpike/PA 100 Cordon Stations	29
Total	122

Two proposed layouts are shown in Figures V and VI, both with 52 spaces. The number of spaces was set at 52 as a conservative beginning to a lot which may need 122 spaces by the year 2015. This number also includes the two handicapped spaces as required by the township zoning ordinance. Both of the layouts were drawn with consideration of township requirements for size and arrangement. The first figure shows the proposed lot with access shared with the Hampton Inn. From a traffic engineering point of view, this is more desirable because it reduces the number of total access points on Route 113. In addition, the access to the Hampton Inn is wholly contained within PennDOT's right-of-way, making a shared use arrangement more viable. The second layout shows the proposed park and ride lot with separate access from the Hampton Inn.

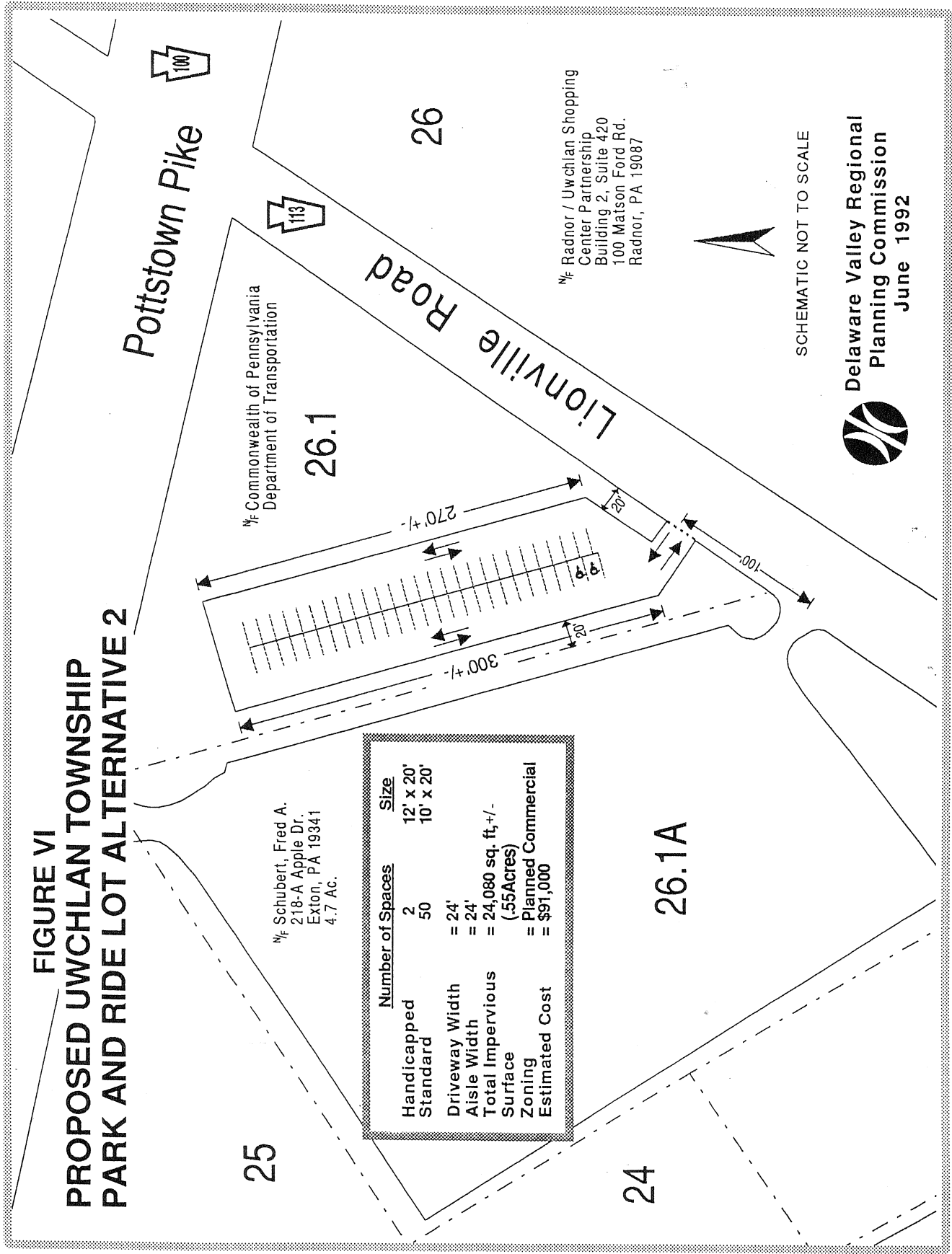
The cost estimates shown on the proposed layouts were calculated using a unit cost of \$3.30 per square foot plus 15 percent for contingencies, then rounded up to the nearest \$10,000. These estimates include excavation, paving, curbing, signage, and lighting. They do not include right-of-way acquisition, repairs to the adjacent highway system, or drainage work beyond inlet installation. The unit cost was developed based on costs previously incurred by PennDOT for park and ride construction and industry standards as published in *Black's Guide*.

Engineering work needs to be completed before the lot can be constructed. A traffic impact study needs to be executed. Specific lighting, drainage, signing, and landscaping plans that meet all township requirements need to be designed, and the total developable capacity of the lot needs to be determined. Finally, the county, township, and state need to work with the adjacent property owner to try to obtain the shared access arrangement.

**FIGURE V
PROPOSED UWCHLAN TOWNSHIP
PARK AND RIDE LOT ALTERNATIVE 1**



**FIGURE VI
PROPOSED UWCHLAN TOWNSHIP
PARK AND RIDE LOT ALTERNATIVE 2**



Mr. Schubert, Fred A.
218-A Apple Dr.
Exton, PA 19341
4.7 Ac.

	Number of Spaces	Size
Handicapped Standard	2	12' x 20'
	50	10' x 20'
Driveway Width	= 24'	
Aisle Width	= 24'	
Total Impervious Surface	= 24,080 sq. ft. +/-	
Zoning	= Planned Commercial	
Estimated Cost	= \$91,000	

Mr. Commonwealth of Pennsylvania
Department of Transportation

Mr. Radnor / Uwchlan Shopping
Center Partnership
Building 2, Suite 420
100 Matson Ford Rd.
Radnor, PA 19087



SCHEMATIC NOT TO SCALE



**Delaware Valley Regional
Planning Commission**
June 1992

SUMMARY OF TASKS

Highway-related park and ride development is a multi-task effort that often requires the involvement of many different agencies. If these tasks are not coordinated properly, the time needed to implement the project can be greatly lengthened. Listed below are the steps which need to be completed, from planning through construction, to implement a highway-related park and ride facility that has been initiated by a county or state agency. Suggestions are offered as to which public agency should take the lead with each task. Other agencies, such as transit agencies and TMA's should be included as support agencies in the performance of each task.

Task	Agency
<i>Area Planning</i>	
Develop a list of market areas.	County
Conduct a market area evaluation.	County, with assistance from the MPO or State
Prioritize the list of areas.	County, with input from the State
Begin coordination with all agencies (including private concerns) interested in park and ride development. At this point a decision should be made as to which is the lead agency and what support/assistance will be provided by other agencies.	County
<i>Site Specific Planning</i>	
Conduct a site selection analysis.	County, with assistance from the State or Municipality
Develop funding strategy.	County, with assistance from the MPO and State
Perform preliminary engineering and site design, including a traffic impact analysis.	State
Develop a marketing program to promote the new lot.	County, with assistance from local concerns
Construct the new lot (or develop a joint-use lot), concurrently implementing the marketing plan.	State and County
Monitor use of the lot.	County

ESTIMATED COSTS

To calculate a general cost estimate for park and ride development over the next 20 years, one must consider four different sets of costs: construction, engineering, planning, and marketing.

Using the parking lot layout from the test case as typical, the gross amount of impervious surface per parking space, including driveways, is 350 square feet. Based on a unit cost of \$3.30 per square foot plus 15 percent for contingencies, the estimated cost of constructing the 13,431 spaces at the 70 proposed park and ride areas that were recommended for further study is \$17,800,000.

Engineering costs are usually figured as 10 percent of the construction estimate. Engineering tasks include site design, calculation of costs, and a traffic impact study. For the 70 proposed park and ride areas, the cost of engineering is estimated at \$1,800,000.

Planning activities associated with park and ride development include interagency coordination, development of a funding strategy, and design of a marketing program. Performing these tasks for one park and ride area can cost an additional 10 percent of the construction estimate. The estimated cost of planning activities for the 70 proposed park and ride areas is \$1,800,000.

An effective marketing program is an essential component of park and ride development. Patrons cannot use a lot about which they have no information. The implementation of a marketing program should cost at least five percent of the construction estimate. For the 70 proposed park and ride areas, the marketing estimate is \$780,000.

When combined, the total estimated cost of developing the 70 proposed park and ride areas recommended for further action is \$22,300,000. Not included in this estimate are the cost of right-of-way acquisition, highway improvements, and mitigation of environmental problems. These factors could raise the estimate another 25 percent to \$27,900,000.

Park and ride development for the region should also include transit facilities and areas not included in this report. SEPTA has projected construction of 18,132 new spaces between 1990 and 2000. These spaces could cost an additional \$30,600,000, based on the methodology described above. If park and ride areas not included in this report are also developed, then the cost for the region can rise even higher.

CONCLUSIONS

Park and ride development is a viable and practical option to promote ridesharing in the DVRPC region. Of the 75 areas evaluated, 70 were recommended for further action. Fifty-one were recommended for site selection and focused demand analysis, and eight were recommended for preliminary engineering and construction (Areas 7, 46, 58, 65, 66, 67, 68, and 75). Eleven of the areas were recommended only for further demand analysis, because the one conducted for the market area evaluation did not result in sufficient demand. These areas tend to be near the perimeter of the region; the employment trips they generate may be destined outside of the region or to other major suburban employment centers.

Five areas were not recommended for further action. Areas #31 and #1 lacked good local access to the focal intersection. A recommendation was not made for area #14 because no action can be taken unless Exit 3 of the NJ Turnpike is relocated. Finally, no recommendations were offered for areas #47 and #52 because their development is already under way.

The next stage of development for this regional assessment of highway-related park and ride development consists of working with county and state agencies to refine and prioritize the list of areas to be evaluated in each county and begin the site selection process. As part of the Year 2020 planning process, additional work needs to be done which assesses the region's transit park and ride needs. Eventually, the region should be served by a logical system of park and ride lots offering a convenient alternative to the single occupant vehicle.

APPENDIX A

County: Bucks

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
29. Lower Makefield	PA 332 & I-95	1	c,v			224	Res, Otr	<1	S6	Recommended for focused analysis and site selection. Sufficient demand exists, but locating candidate sites may be a problem because of the land uses surrounding the interchange. Tie-in with the Cross County Metro regional rail line should be investigated. Should be coordinated with I-95 reconstruction.
30. Middletown	US 1 & I-95	1	c,v,b,r	S(R3), S(14), S(127), S(130)	P - 5.5/hr OP - 4/hr	154	Res, Com, Ind, Otr	<1	S6	Recommended for focused demand analysis and site selection, including transit park and ride. Many vacant parcels are in close proximity to the interchange; the site has sufficient demand and the support of the county. Project should be given a high priority to determine if park and ride development should be included in I-95 reconstruction plans.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial Com - commercial Vac - vacant Otr - other	> 1 - over 1 mile distant < 1 - less than 1 mile distant	S - SEPTA N - NJ TRANSIT NJ - NJDOT PA - PennDOT D - DVRPC C - County
2 - restricted parking	v - vanpool b - bus	N - NJ TRANSIT R - Reeder, Inc B - Carl R. Beiber	OP - off-peak				1 - Potential service restoration corridor 2 - Potential regional rail corridor
3 - tolls	r - rail	M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride study in progress 9 - Park and ride study in progress

County: Bucks

<u>Area No., Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
31. Bristol	I-95 & I-276	1,3	c,v		318	318	Res, Com	<1	S3 PA9	Not recommended for site selection because new interchange will not allow local access. The viability of a park and ride lot that does not target a specific residential market area needs further investigation.
32. Bristol	PA 413 & I-95	1	c,v		371	371	Res, Com	<1	S3	Recommended for focused analysis and site selection. Sufficient demand exists. Development probably best along PA 413 where more vacant parcels can be found.
33. Bensalem	US 1 & I-276	1	c,v		429	429	Com, Res, Otr	<1	S3	Recommended for site selection and focused demand analysis. Vacant land can be found around the interchange, potential demand is high, and the concept has county support. The project should be coordinated with transportation center development at Neshaminy Mall.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	>1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	<1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Bucks

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
35. Bensalem	PA 63 & I-95	1	c,v,r	S(R7)	544	Com, Res	<1	PA9 S6	Recommended for site selection and focused demand analysis. Vacant land is convenient to both the regional rail and I-95. The project has the support of the county and PennDOT; it needs to be coordinated with I-95 reconstruction.	
38. Buckingham	US 202 & PA 263	1	c,v		27	Com, Res, Otr	<1	S3 C7	Recommended for focused demand analysis. The area is sparsely developed; demand may be effected by park and ride development in Doylestown.	

Trip Factors	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land Use	Proximity of Vacant Land	Status/State/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride <u>study</u> completed
							8 - Park and ride <u>plan</u> completed
							9 - Park and ride <u>study</u> in progress

County: Bucks

Area No., <u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
39. New Hope	PA 32 & US 202	1	c,v	S(R5), S(S5), SU	P - 4.5/hr OP - 3/hr	7	Res, Com,	>1	C7 S4 S6	Not recommended unless a focused demand analysis of external trips reveals a higher potential demand. This is a well-developed town center; vacant parcels are scarce. If a joint-use property is not available, then it may be necessary to go west for a suitable site.
40. Doylestown	US 202 & PA 611	1	c,v,b,r	S(R5), S(S5), SU	P - 4.5/hr OP - 3/hr	45	Res, Otr	<1	S6	Recommended for focused demand analysis and site selection. Vacant parcels exist near the interchange, but a multimodal park and ride which includes bus, regional rail and car/van pool should also be investigated.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial Vac - vacant Otr - other	distant	NJ - NJDOT PA - PennDOT
3 - tolls	b - bus r - rail	R - Reeder, Inc B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers				< 1 - less than 1 mile distant	D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

County: Bucks

Area No., <u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
46. Sellersville	PA 309 & PA 152	1	c,v	B		32	Com, Res, Otr	<1	S1 D7 C7	Recommended for engineering and construction. This site should have a high priority since site selection was completed in a 1989 DVRPC report and it has the county's support.
47. Milford	PA 9 & PA 663	1,3	c,v			9	Com, Res, Otr	<1	S3 C7	Construction of 100 spaces being pursued by PennDOT and the PA Turnpike Commission.
74. Bristol	I-276 & US 13	1,3	c,v,b,r	S(128)	P - 1/hr OP - 1/hr	279	Com, Res	<1	S3	Recommended for focused analysis and site selection. Vacant land exists nearby, demand is sufficient, and turnpike tolls create an incentive to rideshare.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool b - bus	N - NJ TRANSIT R - Reeder, Inc	OP - off-peak		Com - commercial Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	r - rail	B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Otr - other		D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

County: Chester

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
56. East Whiteland	PA 352 & US 30	1	c,v,b,r	S(92) S(R5)	P - 1/hr OP - .5/hr	105	Com, Res, Otr	<1	S4	Recommended for focused demand analysis and site selection. Should be coordinated with transit park and ride development. Demand is high and vacant parcels exist south of US 30.
57. West Whiteland	US 30 & PA 100	1	c,v,r	S(R5)	P-1/hr OP-.5/hr	77	Res, Com	<1	S6	Recommended for focused demand analysis and site selection. Has sufficient demand and support of the county. Should be coordinated with transit park and ride and private development plans.
58. Upper Uwchlan	PA Turnpike & PA 100	1,3	c,v			45	Res, Com, Otr	<1	S3 D8	Recommended for engineering and construction as per the plan included in this report. Project should have a high priority based on work already done.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak	demand	Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc		analysis of the section of the report.	Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
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							5 - Listed as potential park and ride site
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							7 - Park and ride study completed
							8 - Park and ride plan completed
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County: Chester

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
59. Valley	US 30 & PA 82	1	c,v,b,r	R S(R5)	P - 1/hr OP - .5/hr	218	Res, Otr	<1	S3,4	Recommended for focused demand analysis and site selection. Has a high potential demand and is an area that may become a land development hotspot. Park and ride development should be coordinated with transit park and ride and private development plans.
60. Sadsbury	US 30 & PA 10	1	c,v			50	Res, Otr	<1	S4	Recommended for focused demand analysis and site selection. Has sufficient demand, vacant parcels and county support.
61. London Grove	PA 41 & US 1	1	c,v			23	Res, Otr	<1	S4	Recommend demand analysis of external trips before considering site selection. Vacant parcels can be found in close proximity.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand Taken from table in demand analysis section of the report.</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Res - residential	> 1 - over 1 mile distant	S - SEPTA	N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak	Ind - industrial	< 1 - less than 1 mile distant	NJ - NJDOT	PA - PennDOT
3 - tolls	b - bus	R - Reeder, Inc		Com - commercial		D - DVRPC	C - County
	r - rail	B - Carl R. Beiber		Vac - vacant			
		M - Martz Trailways		Otr - other			
		CP - Capitol Trailways					
		P - Pottstown Urban Transit					
		SU - Susquehanna Trailways					
		() - denotes SEPTA and NJ TRANSIT route numbers					

County: Chester

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
62. Westtown, Thornbury	PA 926 & US 202	1	c,v		281	281	Com, Res, Otr	<1	S4	Recommended for focused demand analysis and site selection. Proposed bus service to Wilmington may open more options. Demand is high, the area is plagued with congestion, and the county supports park and ride development here.
72. West Nottingham	PA 272 & US 1	1	c,v		7	7	Res, Otr	<1	S4	Recommend demand analysis of external trips before considering site selection.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	>1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial		N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
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							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Delaware

<u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
63. Concord	US 1 & US 202	1	c,v		87	Com, Otr	<1	S4 S6	Recommended for focused demand analysis and site selection. Demand is sufficient, but finding an available affordable parcel may be difficult.	
64. Upper Chichester	US 322 & PA 452	1	c,v		155	Com, Res, Otr	>1	S4	Recommended for focused demand analysis and site selection. Finding vacant parcels may be a problem. Park and ride should be addressed in any US 322 improvement plans.	
65. Radnor	I-476 & US 30	1	c,v,b,r	S(R5), S(100), S(105)	P - 5/hr OP - 4/hr	Com, Res	<1	S6	Recommended for final site selection and construction as per DVRPC's report dated October 1991. This project should have a high priority because of the high demand, the advanced status of the work done so far and because it has state and SEPTA support.	

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Vac - vacant		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Otr - other		PA - PennDOT
		M - Martz Trailways					D - DVRPC
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		P - Pottstown Urban Transit					1 - Potential service restoration corridor
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							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
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County: Delaware

Municipality	Area No., Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox. Vacant Land	Status on State/Local Plans	Recommendations
66. Marple	I-476 & PA 3	1	c,v,b	S(1040), S(112), S(120)	P - 7.5/hr OP - 5/hr	590	Com, Res	<1	S3	Recommended for final site selection and construction as per DVRPC's report dated October 1991.
67. Nether Providence	I-476 & Baltimore Pk.	1	c,v,b,r	S(R3), S(110), S(118), S(101)	P - 8.5/hr OP - 6/hr	617	Com, Res	<1	S3	Recommended for final site selection and construction as per DVRPC's report dated October 1991.
68. Chester/Ridley	I-476 & I-95	1	c,v,b,r	S(R2), S(114), S(37)	P - 5.5/hr OP - 3/hr	481	Com, Res	<1	S6	Recommended for final site selection and construction as per DVRPC's report dated October 1991.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	>1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial	<1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	b - bus r - rail	R - Reeder, Inc B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Vac - vacant Otr - other		D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride study in progress 9 - Park and ride study in progress

County: Montgomery

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox.. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
37. Upper Moreland	PA 611 & I-276	1,3	c,v,b	M, S(55)	P - 4/hr OP - 1.5/hr	114	Com, Res, Otr	<1	S6	Recommended for focused analysis and site selection. Potential demand is sufficient and multi-modal use may be an option with the Cross County Metro.
41. Montgomery	US 202 & PA 309	1	c,v,b	B, S(94)	P - 2/hr OP - 2/hr	112	Com	<1	S4	Recommended for focused analysis and site selection. Potential demand is sufficient; underutilized parking areas near the mall need to be investigated and access points controlled.
42. Upper Dublin	PA 309 & I-276	1,3	c,v,b	M, S(4), S(201)	P - 2/hr OP - 1.5/hr	289	Com, Res, Otr	<1	S6	Recommended for focused analysis and site selection based on the high potential demand. Site will need to be near local access to 309; options for multi-modal use exist with the regional rail line.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	b - bus r - rail	R - Reeder, Inc M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Vac - vacant Otr - other		D - DVRPC C - County

- 1 - Potential service restoration corridor
- 2 - Potential regional rail corridor
- 3 - Existing transit service area or corridor
- 4 - Potential transit opportunity corridor
- 5 - Listed as potential park and ride site
- 6 - Listed as potential transportation center
- 7 - Park and ride study completed
- 8 - Park and ride plan completed
- 9 - Park and ride study in progress

County: Montgomery

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
43. Plymouth	I-476 & I-276		c, v, b	S(L), S(27), S(95), S(98)	P - 8/hr OP - 6/hr	232	Res, Com, Otr	<1	S6	Recommended for focused demand analysis and site selection. Potential demand is high and with the recent highway construction publicly-owned land should be available. This project has the support of the county and should be given a high priority so that park and ride development can occur while vacant land is still available. Work should be coordinated with transportation center development.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride <u>Plan</u> completed
							9 - Park and ride study in progress

County: Montgomery

<u>Area No., Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox.. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
45. Towamencin	PA 63 & PA 9	1,3	c,v		115	115	Res, Com, Otr	<1	S4	Recommended for focused analysis and site selection based on potential demand, the existence of vacant parcels in close proximity and the extent of informal park and ride activity in the vicinity.
48. Pennsburg	PA 29 & PA 663	1	c,v		10	10	Com, Res	<1	S4	Recommended for further analysis of external trips.
49. Schwenksville	PA 29 & PA 73	1	c,v		70	70	Res, Otr	<1	S4	Recommended for focused demand analysis and site selection. Potential demand is sufficient; locating a vacant parcel may be effected by the presence of Perkiomen Creek.
50. Douglass	PA 73 & PA 100	1	c,v,b	P	19	19	Res, Com, Otr	<1		Recommended for analysis of external trips before considering with site selection.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	>1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial		N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant	<1 - less than 1 mile distant	PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: **Montgomery**

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox. Vacant Land	Status on State/ Local Plans	Recommendations
51. Pottstown	PA 663 & Ridge Pk.	1	c,v,b	S(93)	P - 3/hr OP - 3/hr	48	Com, Res	<1	S6	Recommended for focused demand analysis to examine external trips. Vacant parcels are scarce downtown, may want to investigate a joint use lot or other locations near a highway interchange outside of town. Capital Trailways currently has a joint-use agreement with the Holiday Inn near US 422. Park and ride development should be coordinated with transportation center development.
52. Limerick	US 422 & Lewis Rd.	1	c,v			86	Res, Com, Otr	<1	PA8 S4	Thirty-space lot constructed by PennDOT in 1992.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/State/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial Com - commercial Vac - vacant Otr - other	>1 - over 1 mile distant <1 - less than 1 mile distant	S - SEPTA N - NJ TRANSIT NJ - NJDOT PA - PennDOT D - DVRPC C - County
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak				1 - Potential service restoration corridor 2 - Potential regional rail corridor
3 - tolls	b - bus	R - Reeder, Inc					3 - Existing transit service area or corridor
	r - rail	B - Carl R. Beiber					4 - Potential transit opportunity corridor
		M - Martz Trailways					5 - Listed as potential park and ride site
		CP - Capitol Trailways					6 - Listed as potential transportation center
		P - Pottstown Urban Transit					7 - Park and ride study completed
		SU - Susquehanna Trailways					8 - Park and ride plan completed
		() - denotes SEPTA and NJ TRANSIT route numbers					9 - Park and ride study in progress

County: **Montgomery**

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox.. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
53. Limerick	US 422 & Township Line Rd	1	c,v		178	Res, Otr		<1	S6	Recommended for an immediate focused demand analysis, because of private development plans to include a park and ride lot. An assessment of the impact of the Lewis Rd. lot on this market area is needed.
54. Collegeville	PA 29 & Germantown Pk.	1	c,v,b	S(91), S(93)	P - 2/hr OP - 1.5/hr	115	Com, Res, Otr	<1	S4	Recommended for focused demand analysis and site selection based on potential demand.
55. Upper Providence	US 422 & Egypt Rd.	1	c,v,b	S(98)		118	Res, Com, Otr	<1	S4	Recommended for focused analysis and site selection based on sufficient demand and the congestion present in the area. Park and ride development should take into consideration transportation center development in King of Prussia.

<u>Trips Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
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							7 - Park and ride study completed
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County: Philadelphia

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox. Vacant Land	Status on State/Local Plans	Recommendations
34. Normandy Area	PA 63 & US 1	1	c,v,b	S(14)	662	Res, Ind, Otr	<1	S3	Recommended for focused analysis and site selection. Demand is very high. This is a good place to intercept traffic before it reaches the limited access portion of US 1 in Bucks County. Vacant parcels are located nearby.	
36. NE Philadelphia	Grant & Academy	1	c,v		1145	Res, Ind, Otr	<1	S3	Recommended for focused analysis and site selection. Demand is very high and the highways around the area are all multi-lane arterials.	

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand Taken from table in demand analysis of the section of the report.	Local Land Use	Proximity of Vacant Land	Status/State/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	> 1 - over 1 mile distant	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial		N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Burlington

<u>Area No., Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
17. Maple Shade	NJ 73 & CR 537	1	c,v,b	N(407), N(413)	P - 6/hr OP - 3/hr	227	Com	> 1	NJ9	Recommended for focused analysis and site selection. Potential demand is high. Because of dense development, a joint use lot, possibly at the NJ TRANSIT garage site, may need to be found. Park and ride should try to include transit.
19. Evesham	NJ 73 & NJ 70	1	c,v,b	N(406)	P - 2/hr OP - 2/hr	275	Com	< 1	NJ9	Recommended for focused analysis and site selection. Potential demand is high. Development should be coordinated with transit park and ride, current reconstruction and NJDOT studies. There may be underutilized parking in the area that may be available.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak	table in	Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc		demand	Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beijer		analysis	Vac - vacant		PA - PennDOT
		M - Martz Trailways		section of the	Otr - other		D - DVRPC
		CP - Capitol Trailways		report.			C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
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County: Burlington

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected Demand	Local Land <u>Use</u>	Prox. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
20. Medford	NJ 70 & CR 541	1	c,v,b	N(406)	P - <1/hr OP - <1/hr	112	Res, Com, Otr	<1	NJ9	Recommended for focused analysis and site selection. Potential demand is sufficient and vacant land is in close proximity, but restrictions on construction in the pine barrens environment may pose some limitations. Park and ride development should be coordinated with NJDOT studies.
21. Southampton	NJ 70 & US 206	1	c,v			29	Res, Com	<1	NJ9	Recommended for further demand analysis of external trips. Restrictions on construction in the pine barrens environment may pose limitations. Should be coordinated with NJDOT studies.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial		N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
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County: Burlington

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Projected <u>Demand</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox.. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
22. Mt. Laurel	NJ 38 & I-295	1	c, v, b	N(318)	c, v, b	N(318)	177	P - <1/hr OP - <1/hr	177	Com, Ind, Otr	<1	NJ9	Recommended for focused analysis and site selection. Potential demand is high and vacant land or farmland can be found nearby. Area is the proposed terminus of a fixed guideway transit system currently under study. Land should be acquired for present and future needs. Park and ride development should be coordinated with studies being conducted by NJDOT.
23. Mt. Holly	NJ 38 & CR 541	1	c, v, b	N(458), N(318)	c, v, b	N(458), N(318)	94	P - 1/hr OP - 1/hr	94	Com	<1	NJ9	Recommended for focused analysis and site selection. Potential demand is sufficient and vacant land is nearby. A multiple-use lot to accommodate transit should be investigated.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	Residential	> 1 - over 1 mile distant	S - SEPTA	
2 - restricted parking	v - vanpool	N - NJ TRANSIT	Industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT	
3 - tolls	b - bus	R - Reeder, Inc	Commercial		NJ - NJDOT	
	r - rail	B - Carl R. Beiber	Vacant		PA - PennDOT	
		M - Martz Trailways	Other		D - DVRPC	
		CP - Capitol Trailways			C - County	
		P - Pottstown Urban Transit			1 - Potential service restoration corridor	
		SU - Susquehanna Trailways			2 - Potential regional rail corridor	
		() - denotes SEPTA and NJ TRANSIT route numbers			3 - Existing transit service area or corridor	
					4 - Potential transit opportunity corridor	
					5 - Listed as potential park and ride site	
					6 - Listed as potential transportation center	
					7 - Park and ride study completed	
					8 - Park and ride plan completed	
					9 - Park and ride study in progress	

County: Burlington

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox. Vacant Land	Status on State/Local Plans	Recommendations
24. Delran	US 130 & CR 636	1	c,v,b	N(409)	P - 2/hr OP - 2/hr	189	Res, Com	<1		Recommended for focused analysis and site selection. Potential demand is sufficient, US 130 has limited access in this area, and vacant land exists on the south side of the interchange.
25. Burlington	US 130 & CR 541	1	c,v,b	N(419), N(409), N(458)	P - 6/hr OP 4/hr	109	Com	<1		Recommended for focused analysis and site selection. Potential demand is sufficient, but vacant parcels are scarce. A joint-use site that can also serve transit might be a better option. Park and ride development should be coordinated with transportation center development in Burlington City.
26. Florence	US 130 & NJ Turnpike Ext.	1,3	c,v,b	N(409)	P - 1/hr OP - 1/hr	60	Res, Ind, Otr	<1		Recommended for focused analysis and site selection based on potential demand. Park and ride development should be coordinated with any plans to improve the interchange.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	b - bus r - rail	R - Reeder, Inc B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Otr - other		D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

County: Burlington

Area No., <u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox... Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
27. Bordentown	US 206 & NJ Turnpike	1,3	c,v		66	66	Com, Otr	<1		Recommended for focused analysis and site selection. Vacant land should be available near the old toll booth location.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
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							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Camden

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox. Vacant Land	Status on State/Local Plans	Recommendations
10. Winslow	NJ 73 & AC Expressway	1,3	c,v,b	N(551), N(316), N(555)	P - 2/hr OP - 2/hr	34	Otr.	<1	NJ9	Recommended for further analysis to examine external trips. Potential demand is sufficient, but the pine barrens environment may be a problem in site selection. Transit opportunities and the results of the current NJDOT study should also be considered.
11. Berlin	NJ 73 & CR 561	1,3	c,v,b	N(554)	P - 2/hr OP - 1/hr	204	Res, Com	<1	NJ9	Recommended for focused analysis and site selection. Potential demand is high and vacant land can be found nearby. This project should be developed to include transit and it should be coordinated with NJDOT studies.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	b - bus r - rail	R - Reeder, Inc B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Otr - other		D - DVRPC C - County

- 1 - Potential service restoration corridor
- 2 - Potential regional rail corridor
- 3 - Existing transit service area or corridor
- 4 - Potential transit opportunity corridor
- 5 - Listed as potential park and ride site
- 6 - Listed as potential transportation center
- 7 - Park and ride study completed
- 8 - Park and ride plan completed
- 9 - Park and ride study in progress

County: Camden

<u>Area No., Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox.. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
14. Bellmawr	NJ 42 & NJ Turnpike	1,3	c,v	N(400)	P - 3/hr OP - 3/hr	66	Com, Otr	<1	NJ9	There is sufficient demand to warrant consideration of park and ride development as part of any future plan to relocate Turnpike exit 3 from NJ 168 to NJ 42.
15. Bellmawr	I-295 & NJ 168	1,3	c,v,b	N(400)	P - 3/hr OP - 3/hr	74	Res, Com	>1	NJ9	Recommended for focused demand analysis and site selection. This is a densely developed area; a joint-use lot may be a good option. Development of this area should be coordinated with development in areas 13 and 14 which share the same market area. Results of NJDOT's current study should also be considered.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Camden

<u>Area No., Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
16. Cherry Hill	NJ 70 & NJ 41	1,3	c, v, b	N(457), N(406), N(455)	P - 7/hr OP - 4/hr	334	Com, Res	<1	NJ9	Recommended for focused analysis and site selection. Potential demand is very high and park and ride development should be included in the current Rt 70 reconstruction plans and coordinated with NJDOT studies. This project should be moved forward so that it can be included in the reconstruction.
18. Pennsauken	US 130 & NJ 73	1,3	c, v, b	N(409), N(419)	P - 3/hr OP - 2/hr	186	Com, Ind	>1	NJ9	Recommended for focused analysis and site selection. Potential demand is high, but the dense industrial development and wetlands may present a problem in locating suitable parcels. Plans should be coordinated with NJDOT studies.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	table in demand analysis section of the report.	Res - residential	>1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial		N - NJ TRANSIT
3 - tolls	b - bus	R - Reader, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Camden

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox.. Vacant Land	Status on State/Local Plans	Recommendations
69. Brooklawn	NJ 47 & US 130	1,3	c,v,b	N(401), N(402), N(410), N(408), N(412)	P - 5/hr OP - 4/hr	212	Res, Com	<1	Local Plans	Recommended for focused demand analysis and site selection. This site has high potential demand. Though it is on the border of being too close to major employment centers for park and ride development, the level of transit service should attract patrons. Not many vacant parcels are nearby; a joint-use lot may be the best option.
70. Cherry Hill	NJ 70 & I-295	1,3	c,v,b	N(406)	P - 3/hr OP - 2/hr	309	Res, Com, Ind	<1	NJ9	Recommended for focused demand analysis and site selection. Potential demand is very high and vacant parcels are in close proximity. This project should be moved forward to be included in reconstruction plans for Rt. 70. NJDOT studies and transit park and ride should also be considered.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Protected Demand	Local Land Use	Proximity of Vacant Land	Status/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial	distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT
	r - rail	B - Carl R. Beiber			Otr - other		PA - PennDOT
		M - Martz Trailways					D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
		() - denotes SEPTA and NJ TRANSIT route numbers					3 - Existing transit service area or corridor
							4 - Potential transit opportunity corridor
							5 - Listed as potential park and ride site
							6 - Listed as potential transportation center
							7 - Park and ride study completed
							8 - Park and ride plan completed
							9 - Park and ride study in progress

County: Camden

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox. Vacant Land	Status on State/Local Plans	Recommendations
73. Cherry Hill	NJ 70 & CR 644	1,3	c,v,b	N(406)	P - 3/hr OP - 2/hr	95	Res, Com	<1	NJ9	Recommended for focused demand analysis and site selection. Potential demand is sufficient, and the county has identified possible sites. This project should be moved forward to be included in reconstruction plans for Rt. 70. The results of NJDOT's current study and transit park and ride should be considered in the site selection.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/State/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool b - bus	N - NJ TRANSIT R - Reeder, Inc	OP - off-peak		Com - commercial Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	r - rail	B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Otr - other		D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

County: Gloucester

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox., Vacant Land	Status on	
									State/ Local Plans	Local Plans
1. Logan	I-295 & US 130	1	c,v		17		Res, Com, Otr	<1		Not recommended for further analysis due to poor local access and insufficient demand. An examination of external trips and an investigation of the intersection of US 322 & NJ 44 may reveal better opportunities.

2. Woolwich	US 322 & NJ Turnpike	1,3	c,v		25		Res, Otr	<1		Recommended for focused demand analysis and site selection. Potential demand is low, but external trips should be examined, and informal park and ride occurs there now. This project needs to consider the results of the current NJDOT study and the Turnpike Authority's plans for a cross-county route.
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Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Table in demand analysis section of the report.	Res - residential	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant		PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
		SU - Susquehanna Trailways					2 - Potential regional rail corridor
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County: Gloucester

Area No., <u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
3. Greenwiche	I-295 & CR 551 Spur	1	c,v,b	N(402)	P - 2/hr OP - 0/hr	60	Res, Com, Otr	<1		Recommended for focused demand analysis and site selection. Potential demand is sufficient, but a vacant parcel may be difficult to locate.
4. Harrison	NJ 45 & US 322	1,3	c,v,b	N(410)	P - 2/hr OP - .5/hr	38	Res, Com	<1	D7	Recommended for focused demand analysis and site selection. Potential demand is low, but locating along the bus route, possibly at a joint-use facility may attract more patrons.
5. Mantua	NJ 55 & CR 553	1,3	c,v,b	N(408), N(313)	P - 1/hr OP - < 1/hr	163	Res, Com, Otr	<1		Recommended for focused demand analysis and site selection. Potential demand is high and vacant land is in close proximity. Transit could also be included.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Vac - vacant		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Otr - other		PA - PennDOT
		M - Martz Trailways					D - DVRPC
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		P - Pottstown Urban Transit					1 - Potential service restoration corridor
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County: Gloucester

Area No., Municipality	Focal Intersection	Trip Factors	Rideshare Options	Current Transit Routes	Average Transit Frequency	Projected Demand	Local Land Use	Prox.. Vacant Land	Status on State/Local Plans	Recommendations
6. Harrison	US 322 & NJ 55	1,3	c,v	N(408), N(313)	P - 1/hr OP - 1/hr	102	Otr	<1	D7	Recommended for focused demand analysis and site selection. Potential demand is sufficient and vacant parcels are in close proximity.
7. Deptford	NJ 47 & NJ 55	1,3	c,v,b	N(408), N(313)	P - 1/hr OP - 1/hr	306	Res, Com, Otr	<1	D7	Recommended for engineering and construction. Site selection was analyzed in a 1987 DVRPC study. Potential demand is very high and local and express transit could be included.
8. Washington Twp.	NJ 42 & NJ 168	1,3	c,v,b	N(400), N(551), N(315)	P - 6/hr OP - 4/hr	402	Res, Com	<1	NJ9	Recommended for focused demand analysis and site selection. Potential demand is very high and transit service is frequent. The area has been under investigation by NJ TRANSIT for a number of years. and NJDOT has a consultant under contract to so a site selection, access, environmental impact, and a concept plan.

Trip Factors	Rideshare Options	Current Transit Routes	Transit Frequency	Projected Demand	Local Land Use	Proximity of Vacant Land	Status/Local Plan
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential	>1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Ind - industrial		N - NJ TRANSIT
3 - tolls	b - bus	R - Reeder, Inc			Com - commercial		NJ - NJDOT
	r - rail	B - Carl R. Beiber			Vac - vacant	<1 - less than 1 mile distant	PA - PennDOT
		M - Martz Trailways			Otr - other		D - DVRPC
		CP - Capitol Trailways					C - County
		P - Pottstown Urban Transit					1 - Potential service restoration corridor
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							6 - Listed as potential transportation center
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County: Gloucester

Area No., <u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
9. Franklin	NJ 55 & US 40	1,3	c,v		13 Otr	<1				Recommended for further analysis of external trips before considering site selection.
12. West Deptford	I-295 & CR 667	1,3	c,v,b	N(402)	P - 2/hr OP - 0/hr	174	Com, Ind, Otr	<1		Recommended for focused demand analysis and site selection. Potential demand is high and vacant land is in close proximity. There may also be an opportunity to establish a joint-use lot. Use by transit patrons would require a diversion of the route.
13. Deptford	NJ 55 & Deptford Ctr Rd	1,3	c,v,b	N(408) N(313)	P - 1/hr OP - <1/hr	349	Otr	<1		Recommended for focused demand analysis and site selection. Potential demand is very high and joint use opportunities may be available at or near the Deptford Mall. Using the mall could open more transit park and ride options. This project should be coordinated with transportation center development.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT D - DVRPC
3 - tolls	b - bus r - rail	R - Reeder, Inc B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Otr - other		C - County 1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

County: Gloucester

Area No., <u>Municipality</u>	Focal <u>Intersection</u>	Trip <u>Factors</u>	Rideshare <u>Options</u>	Current Transit <u>Routes</u>	Average Transit <u>Frequency</u>	Projected <u>Demand</u>	Local Land <u>Use</u>	Prox.. Vacant <u>Land</u>	Status on State/ Local <u>Plans</u>	<u>Recommendations</u>
75. Woodbury	NJ 45 & Cooper St.	1,3	c, v, b	N(401) N(402) N(410) N(412)	P - 7/hr OP - 3/hr	307	Res, Com, Otr	<1	D7 NJ9	Recommended for implementation at the site along Railroad Avenue that was selected by the county and NJDOT, and has been approved by the Woodbury City Council. Sufficient demand exists and the lot may feed passengers to the existing transit routes on NJ 45.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/State/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA N - NJ TRANSIT
2 - restricted parking	v - vanpool b - bus	N - NJ TRANSIT R - Reeder, Inc	OP - off-peak		Com - commercial Vac - vacant	< 1 - less than 1 mile distant	NJ - NJDOT PA - PennDOT
3 - tolls	r - rail	B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Otr - other		D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

County: Mercer

Area No., <u>Municipality</u>	<u>Focal Intersection</u>	<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Average Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Prox. Vacant Land</u>	<u>Status on State/Local Plans</u>	<u>Recommendations</u>
28. Washington	I-195 & NJ Turnpike	1,3	c,v	N(600) N(606)	P - 3/hr OP - 3/hr	164	Res, Com	<1		Recommended for focused demand analysis and site selection. Potential demand is high, but local access is better at the I-195/NJ 33 interchange.
44. Lawrence	US 1 & I-295	1,3	c,v,b	N(600) N(606)	P - 3/hr OP - 3/hr	10	Res, Com	<1		Recommended for further demand analysis to examine external trips. Focal intersection is located within 10 miles of downtown Trenton and may be a better area for creating satellite parking for commuters headed in that direction.
71. Hamilton	I-295 & I-195	1,3	c,v			83	Res, Com, Otr	<1		Recommended for focused demand analysis and site selection. Potential demand is sufficient and examination of external trips could add more. This project should be included in construction plans for the interchange, though local access is better from US 206.

<u>Trip Factors</u>	<u>Rideshare Options</u>	<u>Current Transit Routes</u>	<u>Transit Frequency</u>	<u>Projected Demand</u>	<u>Local Land Use</u>	<u>Proximity of Vacant Land</u>	<u>Status/Local Plan</u>
1 - excessive distance	c - carpool	S - SEPTA	P - peak	Taken from table in demand analysis section of the report.	Res - residential Ind - industrial	> 1 - over 1 mile distant	S - SEPTA
2 - restricted parking	v - vanpool	N - NJ TRANSIT	OP - off-peak		Com - commercial	< 1 - less than 1 mile distant	N - NJ TRANSIT
3 - tolls	b - bus r - rail	R - Reeder, Inc B - Carl R. Beiber M - Martz Trailways CP - Capitol Trailways P - Pottstown Urban Transit SU - Susquehanna Trailways () - denotes SEPTA and NJ TRANSIT route numbers			Vac - vacant Otr - other		NJ - NJDOT PA - PennDOT D - DVRPC C - County
							1 - Potential service restoration corridor 2 - Potential regional rail corridor 3 - Existing transit service area or corridor 4 - Potential transit opportunity corridor 5 - Listed as potential park and ride site 6 - Listed as potential transportation center 7 - Park and ride study completed 8 - Park and ride plan completed 9 - Park and ride study in progress

APPENDIX B

Park and Ride Area No.		Trenton		Cherry Hill		Camden		West Trenton/Ewing		Princeton		Center City		West Philadelphia		Kensington/Allegheny/Frankford		King of Prussia		Paoli/Malvern/Exton		Total
		Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	
1	GL130/295	0	54	2	26	4	20	0	58	0	68	7	21	2	25	0	25	1	28	1	27	17
2	GL322/NJTPK	0	55	3	24	7	20	0	59	0	69	11	21	2	25	1	25	0	33	1	33	25
3	GL551sp/295	0	51	6	21	15	16	0	55	0	65	32	17	4	24	1	21	1	31	1	31	60
4	GL322/45	0	53	5	22	11	19	0	57	0	67	17	20	3	24	1	24	0	37	1	37	38
5	GL553/55	1	50	22	18	43	17	0	54	0	64	79	18	11	24	4	22	2	41	1	17	163
6	GL322/55	1	52	15	21	28	20	0	56	0	66	45	21	8	25	3	25	1	42	1	18	102
7	GL47/55	2	45	52	14	85	13	1	49	0	61	136	14	20	19	7	18	2	42	1	43	306
8	GL42/168	3	44	90	13	104	14	1	48	1	58	164	16	25	21	9	20	3	37	2	45	402
9	GL40/55	0	61	2	31	3	32	0	65	0	75	7	34	1	37	0	37	0	55	0	54	13
10	CA73/ACX	1	51	10	26	7	31	0	55	0	65	13	33	2	37	1	37	0	54	0	62	34
11	CA73/561	3	40	79	12	44	18	1	44	1	54	59	21	10	24	5	24	1	42	1	49	204
12	GL667/295	1	46	20	16	46	11	0	50	0	60	91	13	10	16	4	16	1	36	1	35	174
13	GL55/DeptCtrRd	4	41	109	10	0	9	2	45	1	55	188	10	29	14	11	14	3	32	2	39	349
14	GL42/NJTPK	4	40	0	9	0	8	2	44	1	54	0	9	38	12	15	13	4	30	2	37	66
15	CA168/295	4	38	0	7	0	7	1	42	1	52	0	9	43	13	18	13	5	31	2	37	74
16	NJ41/70	7	32	0	1	0	8	3	36	1	46	253	10	38	14	25	13	5	32	2	53	334
17	BR537/73	8	28	0	3	0	8	3	32	1	42	186	11	25	15	0	8	3	32	1	41	227
18	CA130/73	6	27	0	5	0	8	2	31	1	41	152	10	21	14	0	6	3	31	1	40	186
19	BR70/73	8	31	0	5	91	14	3	35	1	45	139	16	17	20	13	23	2	38	1	46	275
20	BR541/70	5	29	43	12	16	20	2	33	1	42	37	23	4	27	3	21	1	44	0	53	112
21	BR206/70	3	30	10	18	4	26	1	34	1	42	8	29	1	33	1	27	0	50	0	59	29
22	BR38/295	14	24	0	8	47	15	5	28	2	38	86	17	10	21	11	20	1	39	1	47	177
23	BR541/38	16	21	30	14	13	22	5	25	2	35	21	24	3	28	3	21	1	46	0	54	94
24	BR636/130	15	21	49	10	36	14	6	25	2	34	60	17	9	21	10	16	1	37	1	45	189
25	BR541/130	24	15	23	16	14	21	8	19	3	29	26	23	4	27	5	20	1	39	1	50	109
26	BR130/NJTPKX	29	11	5	21	3	27	8	15	6	24	7	29	1	33	1	14	0	43	0	55	60

Potential Demand and Distances to Selected Regional Employment Centers from Proposed Park and Ride Areas

Park and Ride Area No.	Location	Trenton		Cherry Hill		Camden		West Trenton/Ewing		Princeton		Center City		West Philadelphia		Kensington/Allegheny/Frankford		King of Prussia		Paoli/Malvern/Exton		Total
		Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	
27	BR206/NJTPK	41	10	2	26	1	32	12	14	5	21	3	34	1	38	1	31	0	48	0	60	66
28	ME195/NJTPK	109	12	1	37	1	42	30	16	21	15	2	43	0	47	0	40	0	57	0	69	164
29	BU332/95	145	10	2	33	2	32	0	5	13	19	43	32	6	34	7	27	4	38	2	51	224
30	BU413/1	0	8	3	30	3	29	0	8	10	21	98	29	13	31	17	24	7	37	3	49	154
31	BU276/95	70	12	4	25	5	25	28	13	6	25	149	24	19	27	27	20	7	36	3	47	318
32	BU413/95	100	10	4	24	5	29	44	10	9	23	149	26	20	29	27	21	9	36	4	47	371
33	BU1/276	38	16	6	22	7	21	21	16	4	29	254	21	32	23	53	16	10	31	4	42	429
34	PH1/63	19	19	9	19	11	18	11	19	2	32	434	18	56	20	103	13	12	28	5	39	662
35	BU63/95	20	19	7	18	9	18	8	20	2	33	559	17	45	20	83	12	8	31	3	42	544
36	PHNEAIR	9	25	14	13	20	12	5	25	1	38	932	12	132	14	0	7	22	26	10	37	1145
37	MO611/276	1	25	1	23	2	20	1	23	0	37	73	19	11	20	12	15	10	21	3	33	114
38	BU202/263	2	22	0	38	0	35	2	18	0	28	12	34	2	34	1	30	6	32	2	43	27
39	BU32/202	2	20	0	44	0	42	2	16	0	21	2	41	0	42	0	36	1	41	0	51	7
40	BU202/611	3	32	0	46	1	43	2	28	1	34	19	42	3	41	3	38	10	33	3	44	45
41	MO202/309	1	33	1	32	1	27	1	30	0	42	41	25	7	24	6	23	43	17	11	28	112
42	MO309/276	2	31	2	26	4	18	1	29	0	42	166	17	31	16	25	14	45	15	13	26	289
43	MO476/276/9	1	37	1	27	3	19	1	35	0	48	140	17	29	14	15	16	0	9	42	21	232
44	ME1/295	0	7	1	38	1	42	0	8	0	7	5	43	1	46	1	38	1	52	0	64	10
45	MO63/9	1	40	0	40	1	31	0	37	0	48	30	29	5	27	4	28	58	14	16	24	115
46	BU152/309	1	41	0	48	0	40	0	37	0	46	11	38	2	36	2	36	12	24	4	32	32
47	BU663/9	0	50	0	57	0	49	0	45	0	53	4	47	1	45	0	45	3	30	1	36	9
48	MO29/663	0	53	0	57	0	49	0	49	0	58	3	47	1	44	0	45	4	28	2	32	10
49	MO73/29	0	51	0	45	0	37	0	45	0	56	12	34	2	31	1	34	41	14	14	20	70
50	MO100/73	0	60	0	57	0	49	0	57	0	67	3	47	1	43	0	47	9	26	6	26	19
51	MO663/RDG	0	61	0	55	0	48	0	58	0	69	7	46	1	40	0	44	21	22	19	19	48
52	MO422/LEWIS	0	54	0	38	0	39	0	51	0	62	11	36	2	33	1	37	47	15	25	16	86

Park and Ride Area No.		Trenton		Cherry Hill		Camden		West Trenton/Ewing		Princeton		Center City		West Philadelphia		Kensington/Allegheny/Frankford		King of Prussia		Paoli/Malvern/Exton		Total
		Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	
53	MO422/TWPLN	0	52	0	47	1	36	0	50	0	61	19	34	4	30	1	34	94	12	59	14	178
54	MO29/GMTWN	0	50	0	45	1	32	0	49	0	59	28	29	6	26	2	30	0	8	78	12	115
55	MO422/JEGYPT	0	48	0	43	1	29	0	45	0	58	33	27	7	23	2	27	0	5	75	12	118
56	CH30/352	0	57	0	40	1	32	0	55	0	69	26	29	6	25	2	31	70	12	0	1	105
57	CH30/100	0	62	0	45	1	37	0	60	0	74	20	34	4	29	1	36	51	16	0	4	77
58	CH100/76	0	63	0	47	0	38	0	61	0	75	11	36	2	32	1	38	31	18	0	6	45
59	CH30/82	0	72	0	54	0	37	0	70	0	83	11	43	2	39	1	46	21	27	183	14	218
60	CH30/10	0	82	0	66	0	54	0	79	0	92	4	52	1	48	0	55	6	35	39	24	50
61	CH1/41	0	79	0	59	0	49	0	78	0	91	9	46	2	42	1	50	2	36	9	24	23
62	CH202/926	0	61	0	44	1	33	0	61	0	74	33	29	9	25	2	33	32	20	204	11	281
63	DE1/202	0	62	0	40	1	31	0	61	0	74	22	28	5	24	1	32	9	21	49	14	87
64	DE322/452	0	59	1	35	2	27	0	42	0	55	88	24	19	20	4	28	12	22	29	18	155
65	DE476/30	0	44	1	27	4	19	0	43	0	56	205	16	52	12	11	18	0	8	101	14	374
66	DE476/3	1	45	3	24	9	16	0	44	0	57	424	13	0	9	21	16	76	11	56	17	590
67	DE476/BALT	1	50	3	25	9	18	0	49	0	62	379	15	115	11	15	20	46	18	49	19	617
68	DE476/95	1	51	3	24	8	18	0	51	0	64	305	16	90	12	13	20	29	21	32	22	481
69	CA47/130	3	40	144	10	0	6	1	44	1	67	0	7	41	10	16	11	4	28	2	35	212
70	CA295/70	9	32	0	2	0	9	3	36	2	50	234	12	32	16	23	15	4	11	2	42	309
71	ME195/295	0	4	4	32	2	36	0	8	56	15	15	37	2	41	2	34	1	50	1	62	83
72	CH1/272	0	97	0	73	0	66	0	95	0	109	3	63	0	60	0	67	1	53	3	41	7
73	CA70/644	7	33	0	3	0	6	3	37	1	50	0	9	48	13	28	11	6	30	2	39	95
74	BU13/276	79	10	7	21	6	25	29	16	7	24	110	27	14	30	19	22	5	40	3	52	279
75	GL45/534	1	44	46	14	95	10	1	44	0	58	134	11	20	14	7	15	2	32	1	39	307
Totals		826		845		840		260		167		6894		1249		714		934		1198		13927