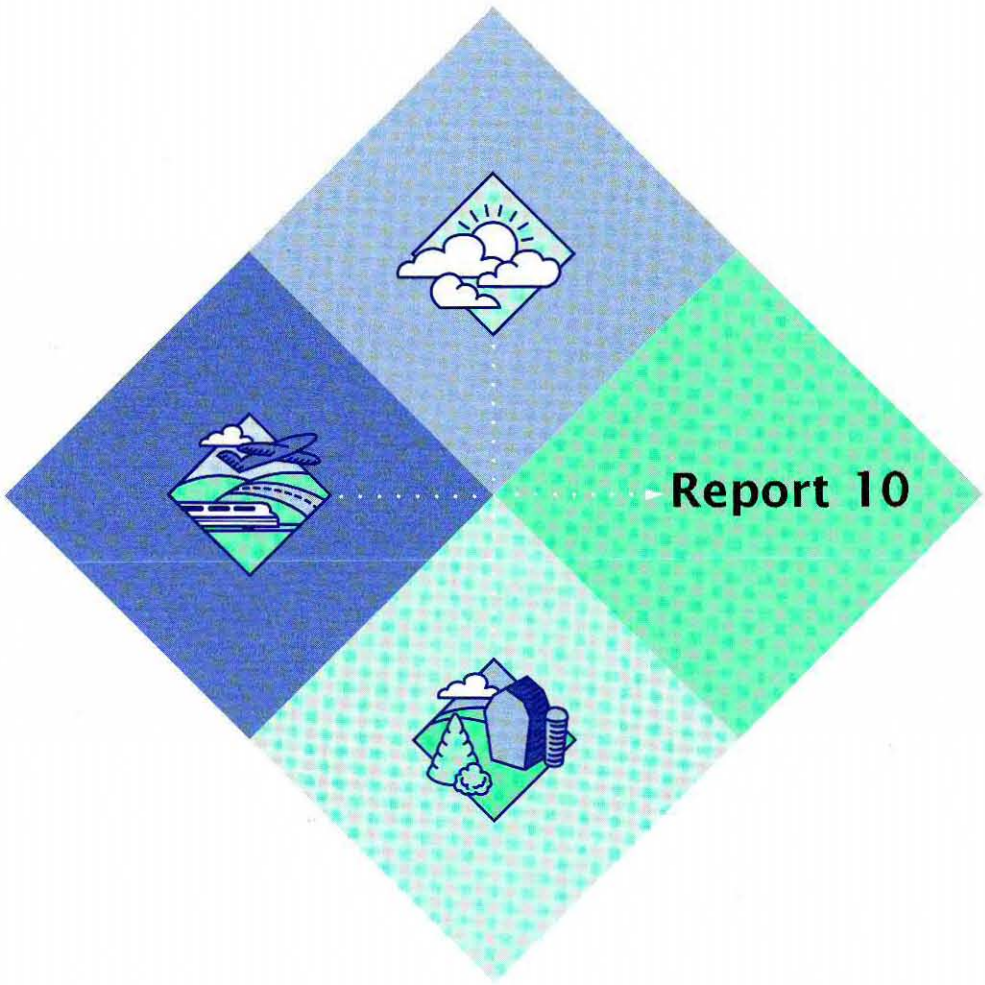


Transportation Centers: Concept and Evaluation

DIRECTION 2020

A Region on the Rise

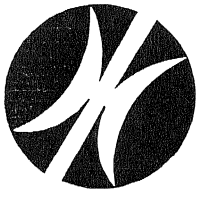
DELAWARE VALLEY REGIONAL PLANNING COMMISSION

TRANSPORTATION CENTERS:
Concept and Evaluation

Delaware Valley Regional Planning Commission
The Bourse Building
21 South 5th Street
Philadelphia, PA 19106
October 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.



The DVRPC logo is adapted from the official seal of the Commission and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River flowing through it. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey. The logo combines these elements to depict the areas served by DVRPC.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: October 1993
TRANSPORTATION CENTERS: Concept and Evaluation 2020 Report #10	*Publication No.* *93027*

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:

Transit, land use, integration, activity area, guidelines, existing transportation center, emerging transportation center, potential transportation center, urban core, urban fringe, suburban core, suburban fringe, unlinked boards and leaves, vehicle trips, passenger amenities, vehicle storage, mode, operator, core highway network

ABSTRACT

This report defines the concept of a transportation center that will meet the needs of the region, defines guidelines that can be used in planning transportation centers, and compiles an inventory of existng, emerging, and potential transportation centers within the DVRPC region. Recommendations for further action are given for each type of transportation center as well as for each individual transportation center.

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EXECUTIVE SUMMARY

Transportation centers are transit facilities integrated into a well-developed activity area such that transit patrons can move easily between transit services and surrounding land uses, negating the need for a single occupant vehicle (SOV). Their net effect on the region's transportation system is to reduce the number of SOV's, which reduces travel demand and vehicle miles traveled (VMT). They are defined and discussed in this report to promote their adoption in the DVRPC region as a congestion management strategy to reduce travel demand and improve air quality, as a land use planning tool to maximize opportunities for new development in conjunction with existing and proposed transportation investments, and as a means to better integrate land use and transportation services. To develop the definitions and guidelines, data were gathered from local transit operators and compared with guidelines established in other parts of the United States.

Three types of transportation centers are defined: existing, emerging and potential. These types are delineated according to the developmental stage of the center. Existing centers are fully developed, emerging centers have either the transportation or land use element fully developed, and potential centers have neither element fully developed.

Four types of activity areas are defined: urban core, urban fringe, suburban core and suburban node. The density and types of development found in each activity area affects the amount and type of transit service that should be offered at a transportation center. In the DVRPC region, urban cores can be found in downtown Philadelphia, Camden and Trenton. Urban fringe areas are just outside of the central business district (CBD), such as in Upper Darby or Frankford. Suburban core areas are established downtowns in suburban boroughs such as Norristown and West Chester. Suburban node areas are large development clusters outside a town or city CBD, such as a shopping mall or large office park.

All transportation centers must contain a transit element and a land use element. The transit element should offer at least five different transit routes that incorporate radial, circumferential and feeder service, and attract at least 1000 unlinked boards and leaves per day. The adjacent land use should include a mix of uses such as retail, residential, and office or other high density employment development. The two elements should be linked with pedestrian facilities and circulating shuttle services, where needed.

Forty-five existing, emerging and potential transportation centers were identified in the DVRPC region. Each center was evaluated with regard to the transit service offered, the adjacent land uses and the connections that exist between the two. Comparisons and recommendations were made by center type. Recommendations were also made for each individual center. Spatial distribution of centers within the region was also discussed.

Twenty-one of the centers evaluated were classified as emerging transportation centers. Approximately one-half of them are rail stations that need improved passenger amenities or better integration with the adjacent land uses. Six of these are regional shopping malls that need more transit service and better integration. The majority of the region's emerging transportation centers are in suburban locations.

Fourteen centers were identified as potential transportation centers. All of these centers need improvements in the transit and land use elements. They are all also located in suburban areas. The emphasis for improvements at potential centers should be on coordinating development with provision of transit services.

Future development of transportation centers in the DVRPC region will depend on a cooperative effort that includes, state, county, local and transit officials. Each agency must be willing to communicate its priorities and needs and then commit resources to implementation. Transportation centers can be an excellent means of allowing communities to continue to grow by concentrating development, while controlling traffic problems.

INTRODUCTION

This study was begun as part of a multi-year effort by the Delaware Valley Regional Planning Commission (DVRPC) to investigate strategies which reduce travel demand through congestion management techniques that complement and promote the use of high occupancy vehicles (HOV's). Transportation centers were conceived as sites where transit services and high activity land uses are concentrated and integration of the two is an integral facet of the site design.

This analysis of transportation center development was conducted as a continuation of that work and as an element of the Year 2020 Transportation Plan. As incorporated in the goals of DVRPC's Direction 2020 long range plan, transportation centers can:

1) Encourage land use patterns that enhance community character, provide for a mix of residential, commercial, employment and recreational opportunities and link these activities to transportation facilities,
2) Reduce traffic congestion through a reduction of single occupant vehicles (SOV's) by better integrating automobile and public transportation links, encouraging changes in commuters' travel habits and improving the efficiency of existing transportation facilities and services,
3) Improve the region's air quality by reducing the number of SOV's and promoting alternative travel modes, and
4) Improve accessibility to and efficiency of the region's transportation network and ensure the safety and security of the system's users.

The purpose of this study is to define the concept of a transportation center that will meet the needs of the DVRPC region, develop a set of guidelines against which existing and future centers can be measured, and compile an inventory of existing and future transportation centers. The goal is to provide guidance to transportation providers and land use planners that will enable them to enhance existing centers, identify improvements for emerging centers, develop new centers that will ultimately reduce travel demand by SOV's, foster more compact land use patterns and promote a sense of place amidst suburban sprawl.

To accomplish these tasks, input was requested from the Southeastern Pennsylvania Transportation Authority (SEPTA), NJ Transit Corporation (NJT), the Pennsylvania Department of Transportation (PennDOT), the New Jersey Department of Transportation (NJDOT), the Port Authority Transit Corporation (PATCO) division of the Delaware River Port Authority (DRPA), and the DVRPC member counties. The transit data presented in Appendix B and used as the basis for the evaluations and recommendations were supplied by SEPTA, NJ TRANSIT, and PATCO. Much of the data collected by SEPTA and NJ TRANSIT were collected specifically for this study. In addition, existing literature on transit centers, activity centers, and integrating land use and transportation was reviewed.

This report begins with two basic discussions -- definitions and guidelines. The definition section describes how a transportation center functions, the three different types of transportation centers that can be found in the DVRPC region, and the four different types of activity areas in which they are located. The guidelines discussion explains the elements necessary for a transportation center to operate properly. The region's transit operators provided transit service

data that are compared with transportation center standards that have been established elsewhere in the United States. The outcome of this comparison is a set of guidelines that could be applied to transportation centers in the DVRPC region. If quantitative guidelines could not be developed, as in the case of land use/development guidelines, descriptive (qualitative) guidelines are offered. It is not the intention of this discussion to set hard and fast rules for defining a transportation center; rather it is intended as a planning framework.

The final section of this report discusses transportation center development in the DVRPC region. Forty-five locations (see Table 1, page 16; Figure I, page 17) were chosen for a preliminary evaluation. They were evaluated based on:

- the amount of transit service they receive,
- the number of daily unlinked boards and leaves,
- the passenger amenities offered,
- the type of land uses surrounding the center,
- the type of integration that exists between the different travel modes,
- the modes of integration that exist between transportation facilities and adjacent land uses.

Each center was classified by type and activity area. Comparisons between centers and recommendations offered were based on center type. Each individual center was also evaluated and recommendations were developed. The individual evaluations are found in Appendix A.

DEFINITION

Transportation centers are transit facilities located in high activity areas which promote overall system linkage and convenient transfer, not only between various transportation modes, but also between the transportation services and the surrounding land uses. They function as hubs for moving people and goods into, out of, and through the activity areas they serve. They are different from park and ride lots, intermodal facilities, transfer centers and transit stops in that they are significant as both an origin and a destination throughout the day and they are linked directly to the surrounding land uses. Transportation centers range in size from large, heavily-used urban facilities which incorporate many modes to small suburban facilities served by only one mode. Three types of transportation centers for the DVRPC region are identified based on the completeness of the center. They are described below.

> **Existing centers** meet the minimum transportation service and land use integration guidelines set for determining whether or not a site can be considered a transportation center.
>
> **Emerging centers** have either sufficient development or sufficient transportation services, but do not have sufficient quantities of both elements or need to have those elements better integrated.
>
> **Potential centers** have insufficient transit service and development, but they are recognized by local, regional, state and transit agencies as places in which growth and transportation should be concentrated and coordinated.

Transportation centers can be located in various types of activity areas which must have sufficient development to attract patrons throughout the day. These activity areas are divided into the following categories found within the DVRPC region.

> An **urban core** area is best described as the central business district (CBD) of a major city. Land uses are generally commercial (retail and office) and the development density is very high. The majority of the buildings are multistory and are either attached or very closely spaced. Transportation services in an urban core are multi-modal with more pedestrian and transit access than auto access. The only three urban core activity areas in the DVRPC region are the Philadelphia CBD, the Trenton CBD, and the Camden CBD.
>
> An **urban fringe** area is located in or very near a major city, outside of the CBD, but in a well-established neighborhood. The land uses are similar to the urban core, but with a higher mix of residential space. The development density may also be similar to the urban core area, but the average building height is lower. Transportation services are not necessarily multi-modal in urban fringe areas, but they act as connecting points between suburban transit services and the urban core area. Consequently, transportation centers located in the urban fringe area attract a large number of patrons transferring between transit routes. Within the DVRPC region, Darby, Upper Darby, Frankford, and Olney are examples of urban fringe areas.

A **suburban core** area is located in the CBD of a small city, borough or developed portion of a large township well outside of the urban core. These locations are traditionally county seats, but may include other existing boroughs. Land uses are generally retail and office with a high mix of residential. Development density is not as high as the urban core, but many buildings are attached. The average building height is lower than an urban core area. Access to a transportation center in the suburban core is most easily accomplished by walking or transit, though park and ride facilities are usually included in the scenario if the transportation center is located near a train station or large retail development with off-street parking. Norristown, Chester City, West Chester and Woodbury are examples of suburban core areas.

Suburban node areas are development clusters located outside a town or city CBD. Most often they are centered around shopping malls or large office developments, or were designed as a planned unit development (PUD). The land use in a suburban node area may include a combination of retail, office, and residential space, but is sometimes limited to any one of these uses. Development density is light to medium. While the majority of the parcels may be developed, the buildings are low and local set back requirements have placed them far from the road front and from one another. Transportation centers in these areas are traditionally accessed by auto or transit. The malls at Cherry Hill, King of Prussia and Deptford are examples of suburban node areas.

Any of the different types of transportation centers can be located in any of these land use settings. They are related in that the type of area dictates the nature of the transit services provided and the modes used to integrate the two. Transportation centers represent an important element in overall community development and planning in that they can provide a focus for concentrating new development, building community identity, encouraging mixed uses and maximizing opportunities for new real estate development in conjunction with existing and proposed transportation investments, particularly transit, creating mutually reinforcing linkages. These consequences lead to larger societal benefits of lower energy consumption, improved air quality, and conservation of land and other natural resources.

GUIDELINES

To properly serve an activity area and to be considered an existing transportation center, each facility should offer a minimum level of transit service and attract a minimum amount of use. in association with the land uses that surround it. Guidelines are given below which can be used to measure whether or not these minimums are being met. They can also be used to determine a site's potential as a transportation center or as a guide for programming improvements and planning future investments.

The guidelines are divided into two major categories: *Transportation* and *Land Use Integration.* The values offered are both qualitative and quantitative. Most of them are based on transportation and development standards in the DVRPC region and some are based on two reports, "Planning and Designing a Transit Center Based Transit System: Guidelines and Examples from Case Studies in Twenty-Two Cities," completed by the University of Washington (UW) in 1980, and "Current Research and Issues: Suburban Mixed-Use Centers and Transportation," prepared by the MSM Regional Council, Princeton, NJ, in 1989.

Transportation Guidelines

Three major transit agencies operate local and commuter service in the DVRPC region. SEPTA operates bus, trolley, commuter rail and high speed rail services throughout Bucks, Chester, Delaware, Montgomery and Philadelphia counties, extending into Mercer County and the state of Delaware. NJ TRANSIT, which dominates transit in the state of New Jersey, offers bus and rail services in Camden, Gloucester, Burlington and Mercer counties, with route crossing into Center City, Philadelphia. PATCO runs one high speed rail line between Center City, Philadelphia and Lindenwold, Camden County. In addition, local bus service is operated by Krapf's Transit in Chester County, Pottstown Urban Transit (PUT) in Montgomery County, and New Jersey Southern in Burlington County. Suburban Transit in Mercer County and Atlantic Express Coachways, Inc. in Burlington County provide express service to New York City. Other inter-city bus service is supplied by Greyhound Lines, Inc., Carl R. Beiber Tourways, Martz Trailways, Carolina Trailways, Susquehanna Trailways and Capital Trailways. Inter-city rail service to destinations outside of the DVRPC region is provided by AMTRAK. The guidelines given below are proposed for adaptation by the three major operators: SEPTA, NJ TRANSIT and PATCO.

Transit Service - A minimum level of transit service must be available at a transportation center. Based on current operating levels in the region and the UW study, a minimum of five transit lines should serve a transportation center. Their schedules should be timed such that patrons can transfer between the lines in a timely manner. Such scheduling can be accomplished by making local routes a uniform length, and by using timed-transfers (pulse scheduling) wherever possible.

Establishing headways of less than 15 minutes during the peak hour(s) and less than 30 minutes during the off-peak hours would be the optimum scheduling scenario; however, that frequency is impractical for most of the suburban routes currently operating in the DVRPC region. A more

realistic limit would be no more than 20 minutes during the peak hours and 60 minutes during the off-peak hours. In locations where a transportation center serves a high volume transit corridor such as Market Street in Center City, Philadelphia, scheduling should aim for a combined minimum available headway of less than 15 minutes during the peak period and 30 minutes or less during the off-peak period. The important point is that patrons making transfers should not feel that they are spending too much time waiting for the next vehicle.

In total, a minimum of 110 transit vehicle trips should be made to or from a transportation center in a day with at least 25 percent of these trips occurring during the peak hour(s). This level was suggested by the UW study and is reasonable for the DVRPC region when compared with the number of vehicle trips currently serving the region's existing transportation centers.

It is not necessary for a transportation center to be served by multiple transit modes; however each additional mode enhances the utility of the center. Limiting transportation center development to sites with both rail and bus service eliminates key areas in the suburban part of the region. What is more important is how well the routes that serve the transportation center serve the activity center.

A transportation center needs to be served by transit routes that take passengers into and out of the activity center as well as circulate them through it. Consequently, there needs to be a mix of local, radial and circumferential routes. The local routes serve as a circulator or feeder service taking patrons from employment centers or residences to the transportation center to take advantage of a transportation or commercial service offered at the center. The radial routes carry patrons from the transportation center to the Philadelphia CBD, or to a location from which they can easily reach the Philadelphia CBD. Circumferential routes carry passengers from one activity center to another without having to pass through the CBD. These routes are especially important in terms of suburb to suburb travel.

Other Modes - A transportation center should also be served by taxi or other demand-responsive service, include bicycle facilities, and be easily and safely accessed by pedestrians. In suburban areas where large parking lots make pedestrian access difficult, pedestrian paths need to be designated. When a new center is designed, as much consideration should be given to pedestrian access as to vehicular access.

Transit Usage - At a minimum, a transportation center should generate 1000 daily unlinked boards and leaves. This number was suggested by the UW study as the lowest level necessary for a regional transportation center, and it

falls in line with current levels at existing and emerging transportation centers in the DVRPC region.

Multiple Operators - It is important that all of the operators within an activity area, whether local or long distance carriers, be included in the planning process of a transportation center. Not only does this promote better integration of transit services, but it brings different ideas into the planning process.

Parking - Not all transportation centers need to include parking, particularly those in urban centers. Of course, each of the region's transportation centers will have different needs. At some locations, the inclusion of parking may not be appropriate because it will detract from transit usage. On the other hand, a park and ride lot can be a major attraction at a suburban transportation center. Generally, a park and ride facility in a transportation center should include at least 100 spaces. In addition, a safe location for secured bicycle storage should be included.

Facility Services/ Amenities - A transportation center should facilitate the use of transit by housing all of the necessary passenger services (ticketing, information, waiting area, security) and comforts (rest rooms, concessions) in one structure. All transportation centers should be fully handicapped accessible. From a marketing standpoint, the physical structure which houses the passenger services and amenities should be easily identifiable and visually pleasing. Adequate signing on the local highway system should facilitate highway and pedestrian access.

Vehicle Storage Facilities - The amount of space needed at a transportation center for storing vehicles that are either laid over or loading/unloading passengers depends on the available land, the types of transit service being provided, and the availability of other nearby storage facilities. The minimum that needs to be provided is at least one space per vehicle for the maximum number of vehicles that will be stopping at the transportation center simultaneously during the peak period. Planning for adequate future space is particularly important at transportation centers which are served predominantly by buses and use a timed-transfer scheduling system.

Core Highway Network - A transportation center should be located within one mile of easy access to a major arterial highway. The highway provides a faster route for transit service to regional destinations and facilitates access for those who wish to reach the center by auto or other transportation mode.

Land Use Integration Guidelines

Land Use Mix - A transportation center succeeds fully when it is part of an overall plan that takes into account the function of the neighboring properties as well as the center itself. The UW study recommended that transportation centers be situated at busy locations with adequate trip generators and attractors to create day-long transit usage. Land uses that should be included are residential, retail, employment centers, health facilities and services, educational centers, and entertainment and recreational opportunities. The activity areas in the DVRPC region designated as existing transportation centers display such characteristics.

Residential, retail and employment land uses are considered primary as they generate the most consistent trips. Appropriate densities established for residential and employment development to support transit in DVRPC's 1992 report, "Transit Potential in the Pennsylvania Counties," were 3.0 persons per acre and 2.5 jobs per acre, respectively. Significant employment centers include office, industrial and research parks and government centers. The UW study suggested an area of 300,000 square feet of gross leasable space as an adequately sized retail development to support a transportation center. According to the 1987 Edition, "Book of Business Lists," printed by the *Philadelphia Business Journal*, the smallest mall situated in the vicinity of a proposed or existing transportation center in the DVRPC region is Exton Square Mall (located one mile from the rail station) with 444,166 square feet of gross leasable area (GLA). The largest is the combination of The Plaza at King of Prussia (1,508,056 square feet GLA) and The Court at King of Prussia (962,573 square feet GLA) with a current total of 2,470,629 square feet GLA, and a planned expansion to 2,900,000 +/- square feet GLA. Based on this comparison, if a shopping mall is to be the focus of a transportation center it should have at least 500,000 square feet of gross leasable space immediately adjacent to the transit services.

Health, education and recreation, are secondary land uses. They cannot generate enough consistent daily person trips to solely support a transportation center, but they can enhance its use. Health facilities and services include large hospitals and medical service buildings, education centers include colleges and universities, and entertainment and recreation opportunities include theaters, sports arenas, amusement parks and multi-plex cinemas.

Determining the exact mix of land uses that can support a transportation center is difficult. However, when a greater variety of land uses are available in a densely developed setting, a large share of commute trips will arrive in some manner other than driving alone. Of particular importance to employees and commuters are retail and convenience services.

Including high density multi-family residential development in the mix of a transportation center provides a commuting base from which transit trips can originate. It also encourages employees to live within walking distance to work, thereby promoting the inclusion of pedestrian facilities in site design and reducing traffic congestion and VMT.

Modes of Integration -

The best mode of integrating transportation and land use is walking. It costs the patron nothing, contributes no pollution to the region's air, and does not affect transit scheduling. Therefore, the service area of a transportation center should be considered the geographic area located within a reasonable walking distance of the transit services offered. This reasonable walking distance is affected by topography, available pedestrian facilities, sense of safety and security, visual interest, physical condition of the individual as well as factors similar to those which influence mode choice: available parking, driving costs, and speed and efficiency of the transit service used.

In an urban environment, the reasonable walking distance may extend from one to 10 blocks, depending on the individual, but the typical limit is five blocks, or one-half mile. Walking is usually a favored mode of travel in an urban environment because limited parking and traffic congestion discourage auto usage, pedestrian facilities (sidewalks, crosswalks) are available and surrounding structures are generally designed to be visually interesting. Perception of safety and security vary depending on the neighborhood.

In a suburban environment, the reasonable walking distance does not usually extend beyond one-third of a mile, or three blocks. Buildings are traditionally spaced far apart and are separated by large parking lots and busy highways, without pedestrian facilities. The spacing of the structures also fosters a perception that distances are longer compared to the compact, ordered appearance of a city. Consequently, suburban transportation centers with low to medium density development should identify an area of influence containing primary and secondary land uses that can be linked to the transportation center

The area of influence needs to be served by a circulating transit system which is quick, easy, and safe. A feeder bus, shuttle bus or other rideshare arrangement is needed which will take patrons to destinations or other transit services located between one-half and one mile of the transportation center. To extend the circulating service beyond one mile would decrease the degree of coordination that could be achieved with other transit services.

Ideally, new development in any transportation center should be concentrated in the center's service area, to make it convenient to

pedestrians. In addition, pedestrian facilities such as bridges or covered paths which may induce patrons to walk should be constructed. Ramps, curb cuts and other handicapped accessible facilities must be included in site design. Parking requirements for new developments should be deferred or reduced in lieu of transit and pedestrian-friendly designs or be constructed within the new structure. Adequate signage should be installed which directs patrons from the transportation center to other transportation facilities or to the major destinations, such as large employers or retailers, which are served by the transportation center.

Development Potential -

Transportation centers need to be located on sites with adequate land to contain all of the necessary passenger and transit vehicle facilities as well as one or more of the primary land uses previously discussed. If the site does not now fully meet the minimum guidelines, it needs to be assessed as to whether or not it has the potential to be developed as such in the future.

Assessing development potential also includes determining whether or not all of the agencies involved in the transportation center are willing to commit resources to building and maintaining it. There are negative factors, or barriers, to transportation center development against which all of the interested parties need work. The following list proposes some means for surmounting these impediments.

Barrier	Solution
Lack of support from local officials or community groups.	Local concerns may stem from the fear that a transportation center will increase local traffic, bring in too many people from "outside", or detract from the character of an area. Whatever the reason, the result is a community that says, "Not in my back yard," (NIMBY). These fears may be allayed by designing a center which discourages auto usage, working with local officials to restrict transit vehicle movements to certain streets, working with local employers to help them develop programs which encourage their employees to use the center, develop and present a comprehensive plan for the center which includes security and maintenance measures, work with community leaders to develop a center which fits into the community's perception of itself and does not violate the spirit of its master plan, and work with community groups that favor the center to promote its continued development.

Lack of appropriate zoning to allow transportation center development.

In most suburban locations, zoning needs to be developed which allows high density development with limited parking in conjunction with transit facilities. The new zoning can be added to a municipality's code/ordinance through an amendment or by developing an overlay district that can be applied within an existing zone.

The need for increased transit service versus systemwide fiscal difficulties.

Because transportation centers require a land use element, opportunities exist for sharing the cost of development with the private sector through joint development agreements and value capture arrangements. In many cases, transit agencies already own land adjacent to the stations which may be appropriate for associated development. Transportation management associations (TMA's) may also be a source of support since they organize out of the need to improve transportation in high activity areas. On the public funding side of the issue, federal funding of transit was increased through the Intermodal Surface Transportation Efficiency Act (ISTEA). In addition to the operating and planning appropriations that have traditionally been available to operators, authorization for a small pool of funds for transportation enhancements was created that can be tapped for improvements to transit stations.

The need to provide increased transit service and amenities to attract ridership and adjacent development.

One of the problems associated with providing transit services has always been determining the point at which it is cost-efficient to increase that service. With falling revenues and the trend toward cutting federal subsidies during the last decade, transit operators have not been able to follow the theory that new transit service will generate new development, hence new ridership. Designating transportation centers provides operators with the opportunity to offer new services that can generate new demand. They can work with local business and community leaders to promote the service and develop ridership. Local employers may even provide subsidies for new service until sufficient ridership is attracted.

EVALUATION OF EXISTING CONDITIONS

Forty-five sites throughout the region were selected for evaluation as transportation centers. They were chosen based on a review of DVRPC's Year 2010 Regional Development Strategy, which identifies different types of centers and growth areas; SEPTA's "Vision of the Future" booklet, which identifies potential transit corridors and transportation centers, and New Jersey's state development and redevelopment plan, "Communities of Place." Most of the sites evaluated are included in at least one of those publications. Those that are not were added as the result of discussions with regional and county planning officials. This list should not be considered complete and inclusive. As the region continues to develop and change, sites may be added or deleted. Transportation center development should not be considered a static concept that is narrowly defined and implemented.

To conduct the evaluation, daily passenger boards and leaves and total daily vehicle trips at each center were provided by SEPTA, NJ TRANSIT, and PATCO; unfortunately, similar data from the long distance carriers, AMTRAK and Greyhound, and from Pottstown Urban Transit, were not available in a compatible format. Total daily vehicle trips for those carriers were taken from transit schedules issued by other operators. This data was used to determine whether or not an activity area meets the minimum guidelines established for transportation center designation. A visit was made to each site to determine the type of activity area in which it is situated, the adjacent land uses and the modes and degree of transportation to land use integration that currently exist. Table 1 lists the 45 transportation centers, the category into which each falls, and the type of activity area in which each is located. Their locations are shown in Figure I.

All of the transit data is presented by center and transit route in Appendix B. The land use data cannot be quantified; however, qualitative descriptions are provided as a basis for comparison. The accumulation of the field observations, transit data and recommendations for each center are located in Appendix A. The following discussion compares the region's transportation centers by type and by spatial distribution.

Existing Transportation Centers

Table 2 shows the transit characteristics of the transportation centers classified as existing transportation centers. Table 3 indicates the types of land uses that generate activity at each of the centers. With the exception of the Norristown and Chester Transportation Centers, which are located in suburban core areas, the region's existing transportation centers are located in urban areas. Five of the ten existing centers are located in urban core areas. This similarity stems from the fact that urban areas and large suburban CBD's have the development densities that support transit. Consequently, the transit operators have maintained and improved the facilities in these areas as local agencies and interests have worked to keep the activity areas economically viable.

Each location meets the minimum levels of transit service deemed necessary for an existing transportation center. As is typical of an urban core transportation center, where radial and feeder services intersect, the Market East Station and Suburban Station centers offer the greatest number of daily vehicle trips and unlinked passenger boards and leaves. Market East Station also serves as the crossroads for transit services from New Jersey, and for long distance service

Table 1 Transportation Centers in the DVRPC Region

Map No.	Center Name	Type of Center	Type of Activity Area
1	Doylestown Rail Station	potential	suburban core
2	Neshaminy Mall	emerging	suburban node
3	Oxford Valley Mall	emerging	suburban node
4	Downingtown Rail Station	potential	suburban node
5	Exton Rail Station	potential	suburban node
6	Paoli Rail Station	emerging	suburban core
7	Phoenixville	potential	suburban core
8	West Chester	emerging	suburban core
9	Chester Transportation Center	existing	suburban core
10	Darby	emerging	urban fringe
11	Granite Run Mall	potential	suburban node
12	Media	emerging	suburban core
13	69th Street Terminal	existing	urban fringe
14	Springfield Mall	emerging	suburban node
15	Ardmore Rail Station	emerging	suburban node
16	Fort Washington Rail Station	emerging	suburban node
17	Jenkintown Rail Station	emerging	urban fringe
18	King of Prussia Mall	emerging	suburban node
19	Lansdale Rail Station	emerging	suburban core
20	Norristown Transportation Center	existing	suburban core
21	Plymouth Meeting Mall	emerging	suburban node
22	Pottstown	emerging	suburban core
23	Willow Grove Rail Station	emerging	suburban core
24	Fern Rock Transportation Center	emerging	urban fringe
25	Frankford Terminal	existing	urban fringe
26	Market East Station	existing	urban core
27	Olney Terminal	existing	urban fringe
28	Philadelphia International Airport	emerging	urban fringe
29	Suburban Station	existing	urban core
30	30th Street Station	existing	urban core
31	Wissahickon Transfer Center	emerging	urban fringe
32	Burlington City	potential	suburban core
33	Moorestown Mall	potential	suburban node
34	Mount Holly	potential	suburban core
35	Camden Transportation Center	existing	urban core
36	Cherry Hill Mall	emerging	suburban node
37	Echelon Mall	potential	suburban node
38	Haddonfield Station	emerging	suburban core
39	Lindenwold PATCO Station	emerging	suburban node
40	Deptford Mall	potential	suburban node
41	Glassboro	potential	suburban core
42	Woodbury	potential	suburban core
43	Princeton Junction Rail Station	emerging	suburban node
44	Quakerbridge Mall	potential	suburban node
45	Trenton Rail Station	existing	urban core

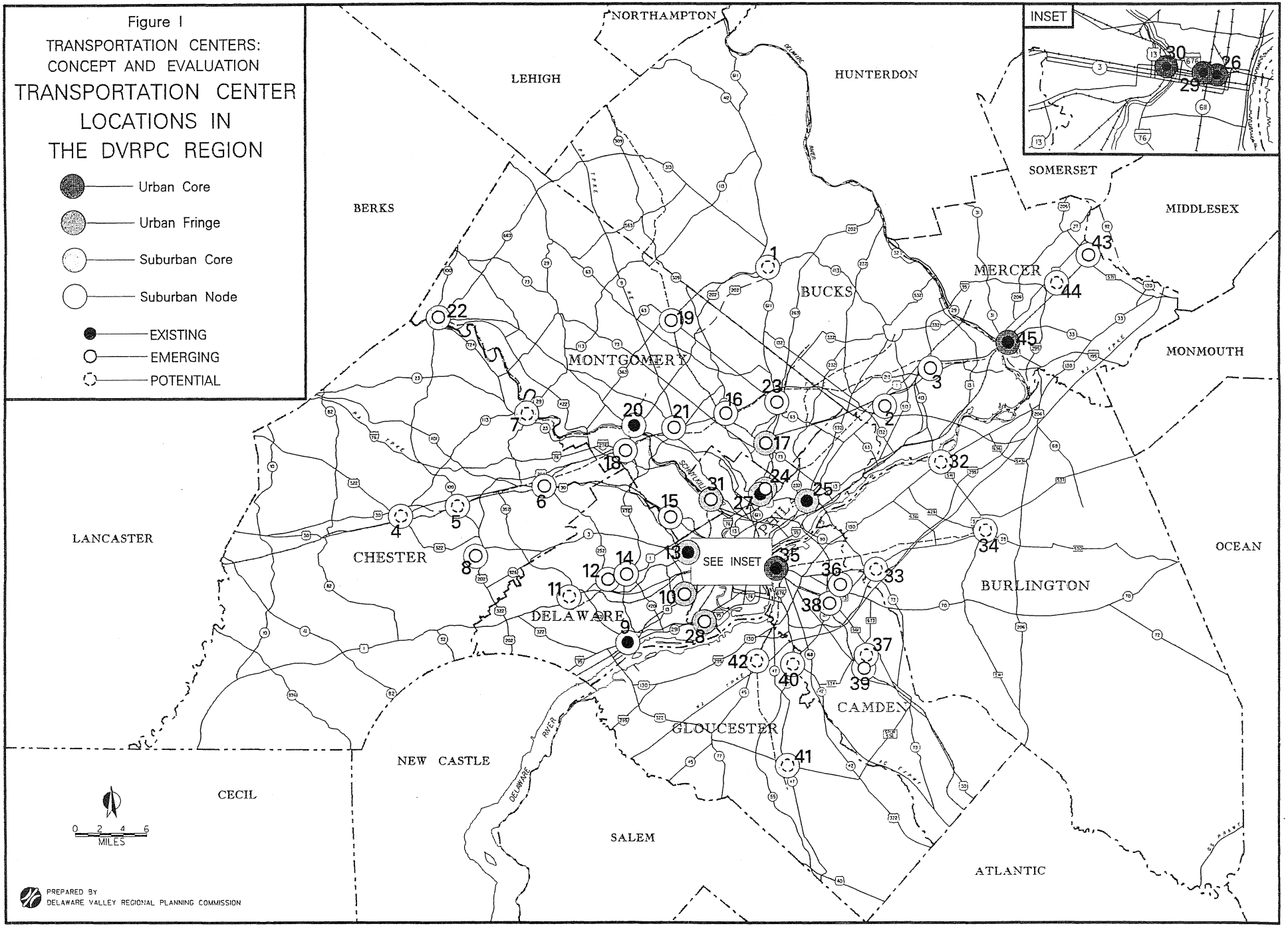
Figure I
TRANSPORTATION CENTERS:
CONCEPT AND EVALUATION
TRANSPORTATION CENTER
LOCATIONS IN
THE DVRPC REGION
Urban Core
Urban Fringe
Suburban Core
Suburban Node
EXISTING
EMERGING
POTENTIAL
INSET
NORTHAMPTON
LEHIGH
HUNTERDON
SOMERSET
BERKS
MIDDLESEX
MERCER
BUCKS
MONMOUTH
MONTGOMERY
LANCASTER
CHESTER
SEE INSET
OCEAN
BURLINGTON
DELAWARE
CAMDEN
GLOUCESTER
NEW CASTLE
CECIL
SALEM
ATLANTIC
DELAWARE RIVER
0 2 4 6
MILES
PREPARED BY
DELAWARE VALLEY REGIONAL PLANNING COMMISSION

via Greyhound/Trailways and other private carriers. As regional AMTRAK stations, the 30th Street Station and the Trenton Rail Station offer significantly more transit service than is indicated in Table 2. The Norristown and Chester Transportation Centers offer the lowest level of transit service, but they each attract at least 4000 boards and leaves per day. All of the existing transportation centers incorporate service from two or more modes, one of which is bus. The Suburban Station transportation center includes four modes: bus, commuter rail, rapid transit, and light rail; the 30th Street Station transportation center includes a fifth mode: inter-city rail. All of these centers also offer the full range of passenger amenities and services, and staging areas for waiting transit vehicles.

The degree of integration between different transportation services is good at all of the existing transportation centers. There are maps and signs inside the stations showing which corridors lead to which rail lines. Outside of the center structures, bus shelters and signs designate where the different bus lines stop. Deficiencies exist at the Market East, Suburban Station, and 30th Street Station centers when trying to move between rail transit and bus transit. For example, no signs direct patrons exiting buses on Market Street to the Market East Station inside the Gallery. Likewise, patrons exiting trains inside Market East are not specifically directed to bus service on Market Street, only to Market Street, 11th Street or 10th Street.

Table 2 Transit Characteristics of Existing Transportation Centers

Map No.	Center Name	County	No. of Routes	Total Vehicle Trips	Min. Headway	Total Boards/ Leaves
9.	Chester Transportation Center	Delaware	9	481	15	4,568
13.	69th Street Terminal	Delaware	19	1,789	4	51,235
20.	Norristown Transportation Center	Montgomery	8	372	15	4,406
25.	Frankford Terminal	Philadelphia	16	2,756	4	82,728
26.	Market East Station*	Philadelphia	33	3,645	4	110,251
27.	Olney Terminal*	Philadelphia	10	1,951	4	70,780
29.	Suburban Station*	Philadelphia	29	4,676	3	224,014
30.	30th Street Station*	Philadelphia	18	2,425	3	46,077
35.	Camden Transportation Center*	Camden	24	1,312	6	10,374
45.	Trenton Rail Station*	Mercer	7	491	15	9,912

* Does not include data for AMTRAK, Greyhound/Trailways or small private operators.

Each center has an appropriate mix of the necessary land uses to support a transportation center. Only the Market East and Suburban Station Transportation Centers have all of these land uses within one-half mile. The Market East Station, Suburban Station, 69th Street Terminal, and Chester Transportation Centers have walkways, pedestrian bridges, tunnels, escalators or stairs that either lead patrons directly into office or retail establishments or facilitate passage over or under busy streets. At the Chester, Norristown, Olney, 30th Street, Camden, and Trenton transportation centers, secondary land uses are located within one mile of the center, which may be beyond a reasonable walking distance for some people. They can be accessed via taxi or a short bus ride.

Table 3 Land Uses Generating Activity at Existing Transportation Centers

Map No.	Center Name	Development Density	Land Uses Res.	Ret.	Off.	Health	Educ.	Enter
9.	Chester Transportation Center	high	✓	✓	✓	X	X	-
13.	69th Street Terminal	high	✓	✓	✓	-	-	✓
20.	Norristown Transportation Center	high	✓	✓	✓	X	-	-
25.	Frankford Terminal	high	✓	✓	-	✓	-	-
26.	Market East Station	high	✓	✓	✓	✓	✓	✓
27.	Olney Terminal	high	✓	✓	✓	✓	X	X
29.	Suburban Station	high	✓	✓	✓	✓	✓	✓
30.	30th Street Station	high	✓	✓	✓	✓	✓	✓
35.	Camden Transportation Center	high	✓	✓	✓	✓	X	X
45.	Trenton Rail Station	high	✓	✓	✓	X	-	-

✓= land use is within one-half mile of the transportation center
X= land use is within one mile of the transportation center
- = land use is further than one 1 from the transportation center
Res.= Residential, Ret.= Retail, Off.= Office, Educ.= Educational, Enter.= Entertainment and recreation

Emerging Transportation Centers

Table 4 shows the transit characteristics of the transportation centers determined to be emerging transportation centers. Table 5 indicates the types of land uses that generate activity at each of these centers. The majority (17 out of 22) of the region's emerging transportation centers are in suburban locations. They are situated at rail stations in established town centers and at regional shopping malls. Of the five transportation centers classified as situated in the urban fringe, three are located in Philadelphia. The other two are located in heavily developed areas of Delaware and Montgomery counties close to Philadelphia.

All of the emerging transportation centers, except Pottstown and Princeton Junction Rail Station, are served by at least 110 daily vehicle trips. Only five of the 22 emerging transportation centers generate fewer than 1000 daily boards and leaves; however, one-half (11 out of 22) are served by fewer than five transit routes, and 11 have minimum headways that exceed 15 minutes. The only centers that falls below the minimum levels in all three areas are the Cherry Hill Mall and Pottstown. The centers that meet the minimum levels in all three areas are Paoli Rail Station, Darby, Ardmore Rail Station, Willow Grove Rail Station, Fern Rock Transportation Center, Wissahickon Transfer Center, and Lindenwold PATCO Station. Only the Fern Rock Transportation Center, Philadelphia International Airport, and the Princeton Junction Rail Station offer an adequate level of passenger amenities.

All of the emerging transportation centers, except Philadelphia International Airport, which lacks retail and residential development, incorporate at least two of the three primary land uses. The only other center without adjacent retail development is Princeton Junction Rail Station. Five of the centers have no office development in the surrounding land use mix, and six centers are influenced by any of the secondary land uses, mainly in the form of multi-plex cinemas.

Table 4 Transit Characteristics of Emerging Transportation Centers

Map No.	Center Name	County	No. of Routes	Total Vehicle Trips	Min. Headway	Total Boards/ Leaves
2.	Neshaminy Mall	Bucks	4	241	30	1,077
3.	Oxford Valley Mall	Bucks	5	151	30	784
6.	Paoli Rail Station*	Chester	5	176	12	2,500
8.	West Chester*	Chester	5	198	20	747
10.	Darby	Delaware	6	495	5	3,307
12.	Media	Delaware	4	221	20	2,106
14.	Springfield Mall	Delaware	5	334	15	903
15.	Ardmore Rail Station*	Montgomery	6	295	15	2,581
16.	Fort Washington Rail Station	Montgomery	4	164	30	1,248
17.	Jenkintown Rail Station	Montgomery	4	168	20	1,474
18.	King of Prussia Mall*	Montgomery	6	255	20	1,884
19.	Lansdale Rail Station	Montgomery	3	126	20	1,397
21.	Plymouth Meeting Mall	Montgomery	4	218	10	1,717
22.	Pottstown*	Montgomery	1	14	60	41
23.	Willow Grove Rail Station*	Montgomery	5	330	10	2,431
24.	Fern Rock Transportation Center	Philadelphia	9	1,042	3	9,670
28.	Philadelphia International Airport	Philadelphia	3	195	20	2,076
31.	Wissahickon Transfer Center	Philadelphia	10	906	6	5,001
36.	Cherry Hill Mall	Camden	4	177	20	850
38.	Haddonfield PATCO Station	Camden	4	354	3	4,668
39.	Lindenwold PATCO Station*	Camden	6	474	3	12,473
43.	Princeton Junction Rail Station*	Mercer	1	124		6,444

* Does not include data for AMTRAK, Greyhound/Trailways or small private operators.

Fourteen of the 21 emerging transportation centers are surrounded by medium to high residential, retail or office development densities; however, they cannot be termed existing transportation centers because they lack integration. The deficiencies occur not only with integration between transportation and land use, but also between different transportation services. Simple aids such as signs directing patrons from trains to buses are missing. Many of the transportation centers located in town centers need signs to direct patrons to major employers, government offices, or other important structures that are within walking distance of the center. At suburban node locations, short distance shuttle services need to be implemented to take patrons to destinations beyond walking distance from the center. Such services would be particularly useful at locations such as the Oxford Valley Mall or the King of Prussia Mall, both of which are surrounded by thousands of square feet of industrial and business park development that cannot be accessed by walking.

Table 5 Land Uses Generating Activity at Emerging Transportation Centers

Map No.	Center Name	Development Density	Land Use Mix Res.	Ret.	Off.	Health	Educ.	Enter.
2.	Neshaminy Mall	low to medium	✓	✓	-	X	-	✓
3.	Oxford Valley Mall	medium to high	✓	✓	✓	X	-	✓
6.	Paoli Rail Station	high	✓	✓	✓	-	-	✓
8.	West Chester	high	✓	✓	✓	X	X	-
10.	Darby	medium to high	✓	✓	-	-	-	-
12.	Media	high	✓	✓	✓	-	-	-
14.	Springfield Mall	medium	✓	✓	-	X	-	-
15.	Ardmore Rail Station	high	✓	✓	✓	-	X	✓
16.	Fort Washington Rail Station	low to medium	✓	✓	✓	✓	-	-
17.	Jenkintown Rail Station	high	✓	✓	✓	-	-	-
18.	King of Prussia Mall	medium	✓	✓	✓	-	-	-
19.	Lansdale Rail Station	high	✓	✓	✓	-	-	-
21.	Plymouth Meeting Mall	medium	✓	✓	✓	-	-	✓
22.	Pottstown	high	✓	✓	✓	-	-	-
23.	Willow Grove Rail Station	medium to high	✓	✓	✓	-	-	-
24.	Fern Rock Transportation Center	high	✓	✓	-	X	-	-
28.	Philadelphia International Airport	medium	-	-	✓	-	-	-
31.	Wissahickon Transfer Center	medium	✓	✓	-	-	-	-
36.	Cherry Hill Mall	high	✓	✓	✓	-	-	✓
38.	Haddonfield PATCO Station	high	✓	✓	✓	-	-	-
39.	Lindenwold PATCO Station	medium	✓	✓	✓	X	-	-
43.	Princeton Junction Rail Station	low	✓	-	✓	-	-	-

✓= land use is within one-half mile of the transportation center
X= land use is within one mile of the transportation center
- = land use is further than 1 mile from the transportation center
Res.= Residential, Ret.= Retail, Off.= Office, Educ.= Educational, Enter.= Entertainment and recreation

Potential Transportation Centers

Table 6 shows the transit characteristics of the transportation centers classified as potential transportation centers. Table 7 indicates the types of land uses that generate activity at each of the centers. All of the region's potential transportation centers are in suburban areas. Seven are situated in core areas and seven are in node areas. These areas are designated as potential centers because they lack both the transit and land use characteristics that support a transportation center, yet they are recognized by either a transit operator or government agency as locations where transportation and future development should be concentrated. Most of these locations were included in either SEPTA's "Vision of the Future" booklet, New Jersey's State Development and Redevelopment Plan, "Communities of Place", or DVRPC's "2010 Regional Development Strategy."

The center with the most unlinked boards and leaves is Exton, but the station is difficult to reach and is surrounded by light residential development that cannot support a transportation center. The potential transportation centers with the highest densities of development are Doylestown,

Table 6 Transit Characteristics of Potential Transportation Centers

Map No.	Center Name	County	No. of Routes	Total Vehicle Trips	Min. Headway	Total Boards/ Leaves
1.	Doylestown*	Bucks	2	72	30	704
4.	Downingtown*	Chester	2	42	30	824
5.	Exton*	Chester	3	62	30	899
7.	Phoenixville	Chester	2	34	60	172
11.	Granite Run Mall	Delaware	4	111	60	683
32.	Burlington City	Burlington	2	126	15	367
33.	Moorestown Mall	Burlington	3	118	30	337
34.	Mount Holly	Burlington	2	79	30	n/a
37.	Echelon Mall	Camden	3	97	15	233
40.	Deptford Mall	Gloucester	3	75	60	178
41.	Glassboro	Gloucester	3	83	20	184
42.	Woodbury	Gloucester	4	127	20	397
44.	Quakerbridge Mall	Mercer	4	161	20	217

* Does not include data for AMTRAK, Greyhound/Trailways or small private operators.
n/a= data not available

Table 7 Land Uses Generating Activity at Potential Transportation Centers

Map No.	Center Name	Development Density	Land Use Mix Res.	Ret.	Off.	Health	Educ.	Enter.
1.	Doylestown	high	✓	✓	✓	-	-	✓
4.	Downingtown	medium	✓	✓	✓	-	-	-
5.	Exton	low	✓	-	-	-	-	-
7.	Phoenixville	high	✓	✓	✓	✓	-	-
11.	Granite Run Mall	low to medium	✓	✓	-	-	-	✓
32.	Burlington City	high	✓	✓	✓	-	-	-
33.	Moorestown Mall	medium	✓	X	-	-	-	✓
34.	Mount Holly	high	✓	✓	✓	-	-	-
37.	Echelon Mall	medium to high	✓	✓	✓	-	-	-
40.	Deptford Mall	medium	-	✓	-	-	-	✓
41.	Glassboro	high	✓	✓	✓	-	✓	✓
42.	Woodbury	high	✓	✓	✓	✓	-	-
44.	Quakerbridge Mall	medium	-	✓	✓	-	-	-

✓= land use is located within 1/2 mile of the transportation center
X= land use is located within 1 mile of the transportation center
- = land use is further than 1 mile from the transportation center
Res.= Residential, Ret.= Retail, Off.= Office, Educ.= Educational, Enter.= Entertainment and recreation

Phoenixville, Woodbury, Burlington City, Mount Holly and Glassboro. These locations are all well-established suburban core areas; three locations are county seats. Doylestown has the highest number of unlinked boards and leaves (704) as the terminus of the R5 regional rail line. Working with local officials, community and business groups to increase the transit market in these centers should be a top priority in phasing center growth and service augmentation.

Spatial Distribution

The issue of spatial distribution is complex because many factors are involved in deciding where to locate transportation centers. The two primary factors which effect spacing are development density and transit service. Examining the existing centers in the DVRPC region, Center City Philadelphia can support three transportation centers located within a two mile stretch of Market Street because of the very high density of development and the extensive transit network. By contrast, the region's remaining existing transportation centers are scattered around the perimeter of Philadelphia and in business districts of towns where development density is not as high.

When planning the future development of emerging and potential centers, a regional perspective on their effectiveness is needed. Locating two centers too close together can create unwanted competition for the land uses and transportation services offered, leading to route overlap, scheduling difficulties, and duplication of services or insufficient service at one or both locations. Consequently, the effectiveness of each center is weakened, resulting in inefficient use of resources and diminished growth potential. All of the agencies involved in transportation center development in the region need to work together to decide how the region's service areas are going to be spaced; therefore, any plan formulated to guide future transportation center development should include discussions on transit service routing and scheduling and impacts on the neighboring transportation centers.

Emerging and potential transportation centers evaluated in this study which may be too close are Fern Rock and Olney, Lindenwold and Echelon, and Media and Springfield Mall. Whether or not one location from each of these pairs should take precedence as a transportation center or whether there are sufficient development potential and transit resources to support both will need to be determined by the agencies involved. Below is a simple comparison of each pair that can be used in the decision-making process.

Olney/Fern Rock -- The Fern Rock and Olney transportation centers are about one mile apart. Olney is considered an existing transportation center while Fern Rock is considered an emerging transportation center. Both centers meet the minimum criteria for number of transit routes, total vehicle trips per day and unlinked boards and leaves. The transit services offered by each center are distinct. Olney is served by 10 SEPTA bus routes connecting the Broad Street Subway to locations in Center City, South Philadelphia, northeast Philadelphia, Montgomery County and Bucks County, as well as long distance carriers traveling to Kutztown, Allentown and Bethlehem. Fern Rock is served by five SEPTA bus routes connecting the Broad Street Subway to locations in Center City, South Philadelphia, northeast Philadelphia and North Philadelphia. However, Fern Rock is also served by three SEPTA regional rail lines which connect the Broad Street Subway to locations in Bucks, Montgomery and Mercer counties.

The reason that Fern Rock is not considered an existing transportation center is its lack of a land use link. The surrounding land uses are essentially residential, generating predominantly peak hour use of the center. The unlinked boards and leaves not generated by local residents are generated by patrons transferring between transit services, who are passing through regardless of local land use. On the other hand, Olney has primary land uses located within one-quarter mile of the center which attract patronage throughout the day. If new development is encouraged at Fern Rock, will it be at the expense of Olney or will it bring new development to the entire area? Drawing land uses from Olney could reduce the attractiveness of that center as a destination, consequently reducing patronage and its ability to support transit.

Echelon/Lindenwold -- Echelon and Lindenwold are about one and one-half miles apart. Lindenwold is considered an emerging transportation center, while Echelon is considered a potential transportation center. Lindenwold, as the terminus of the PATCO Hi Speed Line and a station on NJ TRANSIT's Atlantic City rail line, exceeds the minimum guidelines for transit

Table 8 Comparison of Proximate Transportation Center Locations

Transportation Factors

Map No.	Center Name	County	No. of Routes	Total Vehicle Trips	No. of Modes	Total Boards/ Leaves
27.	Olney Terminal*	Philadelphia	10	1,951	2	70,780
24.	Fern Rock Transportation Center	Philadelphia	9	1,042	3	9,670
37.	Echelon Mall	Camden	3	97	1	233
39.	Lindenwold PATCO Station	Camden	6	206	3	11,674
12.	Media	Delaware	4	221	3	2,106
14.	Springfield Mall	Delaware	5	334	2	903

* Does not include data for AMTRAK, Greyhound/Trailways or small private operators.

Land Use Factors

Map No.	Center Name	Development Density	Land Uses Res.	Ret.	Off.	Health	Educ.	Enter.
27.	Olney Terminal	high	✓	✓	✓	-	-	-
24.	Fern Rock Transportation Center	high	✓	✓	-	X	-	-
37.	Echelon Mall	medium to high	✓	✓	✓	-	-	✓
39.	Lindenwold PATCO Station	medium	✓	✓	✓	X	-	✓
12.	Media	high	✓	✓	✓	-	-	-
14.	Springfield Mall	medium	✓	✓	-	X	-	-

✓= land use is located within 1/2 mile of the transportation center
X= land use is located within 1 mile of the transportation center
- = land use is further than 1 mile from the transportation center
Res.= Residential, Ret.= Retail, Off.= Office, Educ.= Educational, Enter.= Entertainment and recreation

a station on NJ TRANSIT's Atlantic City rail line, exceeds the minimum guidelines for transit service at a transportation center. Echelon falls short of the minimum guidelines in all transit service categories; however, it is surrounded by a well-rounded mix of development for supporting a transportation center. Lindenwold is bounded on one side by a 3000-car parking lot and on the other by PATCO's only storage yard and maintenance facility. Unless local officials and PATCO are willing to change that configuration, allowing high density development to occur closer to the station, then the transportation/land use integration that is such an integral element of a transportation center will not evolve. Choosing Echelon as the transportation center location, though, requires a commitment on the part of local officials and transit operators to make major investments in feeder and circulator bus service connecting the mall, office and housing development to the rail station.

Media/Springfield Mall -- Media and the Springfield Mall are approximately two miles apart. Both locations are categorized as emerging transportation centers. Transit service at Media includes one regional rail line with service to Philadelphia and Warminster, two SEPTA bus lines to Chester, Granite Run Mall, King of Prussia and the 69th Street Terminal and one light-rail line to the 69th Street Terminal. The Springfield Mall is served by the same light-rail line to the 69th Street Terminal, four SEPTA bus routes to Chester, the 69th Street Terminal and various locations within Delaware County. Media falls just below the minimum guidelines recommended for number of transit routes (4 vs. 5) while Springfield Mall is below the minimum guidelines recommended for unlinked boards and leaves (903 vs. 1,000).

Media is classified as an emerging transportation center because it lacks connectivity between the various transit services and it lacks a physical location at which the full range of passenger amenities are offered. The Springfield Mall is considered an emerging transportation center because it also lacks connectivity between transit services (bus to trolley), it does not generate sufficient unlinked boards and leaves, and it lacks a physical structure at which the full range of passenger amenities are offered. The Springfield Mall is surrounded by a large parking lot, which backs onto a branch of Crum Creek. The potential for expanding development around the mall and the rail line appear to be limited. Media, on the other hand, is a well-developed county seat; however, the high density of development poses a hindrance to finding a physical location for a transportation center. Each location offers a unique type of land use (county services vs. retail), but the retail site needs to attract a greater variety of usages. The issue that must be addressed is whether or not sufficient development exists or can be built at the Springfield Mall to justify its development as a transit hub at the same time that Media is a transit hub. Can both sites offer distinct transit services as well as land use mixes sufficient to attract day-long transit usage?

RECOMMENDATIONS

Specific recommendations are offered for each center in Appendix A, but general recommendations by transportation center type are given below. These recommendations are based on common deficiencies noted during field observations.

Existing - Improved signage is needed to direct patrons between the different transit services, particularly when going from below-grade rail service to at-grade bus service. Information as to where different bus and trolley routes can be boarded is also needed. Enhancing signage will assist the new riders that the regional transit system needs to attract in order to help lower the region's VMT and improve air quality.

Emerging - Many of the locations categorized as emerging transportation centers need only to be formalized to be existing centers. These locations are mainly rail stations in established towns that currently meet the minimum guidelines recommended for transit service and land use mix, but need better connections to surrounding land uses and improved passenger amenities at the station locations. Their formalization would constitute an agreement on the part of the transit operator(s), the county and the municipality to approve and promote denser development and transit supportive initiatives at these sites, to work together toward coordinated growth and to invest resources in their improvement and maintenance. These locations include Ardmore, Lansdale, Paoli, Haddonfield PATCO, Jenkintown and Willow Grove.

Other emerging centers have sufficient development and transit service, but lack a physical location that can be easily identified by prospective patrons and that can house the passenger amenities. These centers include King of Prussia, Media and Plymouth Meeting.

Finally, a group of emerging transportation centers lacks the land use link needed to support a center and/or do not attract more than 1,000 daily unlinked boards and leaves. These centers include Lindenwold PATCO, Fern Rock, Princeton Junction, Wissahickon Transfer Center, Darby, Philadelphia International Airport, Fort Washington, Springfield Mall, Cherry Hill Mall, Oxford Valley Mall, West Chester, and Pottstown.

All of the emerging transportation centers could be formalized or designated as transportation centers at any point in their development as long as all agencies involved in their development and operation agree not only on their designation, but more importantly to invest time and resources in their coordinated, orderly completion and management. Coordinated work associated with transportation center formation, particularly at emerging centers, includes identifying parcels where additional land development or redevelopment may occur and the types of land uses that may occupy them, investigating all opportunities for timed-transfer route scheduling, and incorporating pedestrian and bicycle-friendly ingredients into site design or redesign.

Potential - All of the potential transportation centers need to attract more daily unlinked boards and leaves. The centers that are located in activity areas with low to medium density development need to create a plan which details where new development and redevelopment need to occur, the density that will be encouraged, and the type of land use most desired. Toward this end, parcels of land within walking distance of the potential centers need to be inventoried,

as the basis for a development strategy. Zoning ordinances need to be reviewed to insure that they are compatible with transportation center development, and techniques developed for alleviating conflicts. Options for future transit service need to be evaluated with equal regard for system coordination and land use support. Transit, pedestrian and bicycle-friendly site design standards should be developed and encouraged in new developments and included within local zoning ordinances and land development regulations.

Future Transportation Center Development

Because of the problems that arise from varying levels of jurisdiction associated with transportation centers, the future development of transportation centers in the DVRPC region depends on the actions of a variety of transit, state, county and local agencies. These interests need to work together to develop an action plan which defines where a center will be located, what facilities will be contained within the it, what level of transit services will be offered, and who will operate those services, and the development density that will be allowed. The following goals should be achieved when executing an action plan for a transportation center.

Interagency Cooperation

1. **Communication** -- Involve all interested parties, and/or parties that would have jurisdiction over any aspect of the transportation center, in planning and implementation.

2. **Consensus** -- Obtain an agreement from all parties on the location and scope of the transportation center, including the dynamics of the transportation/land use links (development density and design).

3. **Commitment** -- Procure an investment of resources from all of the parties that could affect the success or failure of the transportation center for maintenance as well as implementation.

4. **Coordination** -- Organize all interested parties as participants in the development process with one agency selected as the lead agency.

Design Development

5. Conduct a survey of the land uses and zoning of the parcels contained within the service area of the transportation center. Identify existing high employment concentrations. Identify sites with a potential for new development or redevelopment that would enhance usage of a transportation center.

6. Review the spatial relationship of local land uses to the transportation system and identify where the linkage could be improved.

7. Review journey-to-work or origin-destination data to determine new transit route markets that may be tapped by future traditional or non-traditional transit service.

8. Review transit routes operating at the transportation center. Determine how the schedules can be optimized to better serve the land uses which attract patrons to the center.

9. Identify other transportation services that could use the center, and how all of the services can be interfaced.

10. Identify facility improvements that must be made to provide the maximum comfort to the patrons and accommodate the vehicles using the transportation center.

11. Identify zoning anomalies that would hinder transportation center development. Consider amendments to zoning ordinances, land development regulations and comprehensive plans to facilitate transportation center development.

12. Develop a sketch plan that shows the proposed layout of the transportation center, including vehicle storage, access points, and circulation movements.

13. Investigate joint development/value capture techniques and other funding strategies.

14. Develop a schedule for constructing improvements and altering transit service.

CONCLUSIONS

Planning, designing and implementing transportation centers provides a means to promote growth in the region while managing increased travel demand. From a transportation perspective, transportation centers represent a focal point from which transit services can be routed and scheduled more effectively, particularly in the suburbs, to capture a larger percentage of the region's travel market. On the land use side, transportation centers are a means of promoting compact land use patterns and discouraging the sprawl that has characterized suburban development over the past 20 years. Concentrating development and linking it to transportation services also improves the efficiency with which other services and infrastructure needs can be provided. Larger societal benefits can include lower energy consumption, improved air quality and conservation of land and other natural resources.

An evaluation of 45 prospective transportation center locations in the DVRPC region showed that 10 meet the minimum transportation and land use guidelines for designation as an existing transportation center. Of these 10, eight are located in urban core areas and two are located in suburban core areas.

Twenty-one of the locations evaluated meet either the minimum transportation guidelines or the minimum land use integration guidelines, but not both; therefore, they are designated as emerging transportation centers. Seven of the twenty-one locations are in urban fringe areas. Six are in suburban core areas, and nine are in suburban node areas. The majority of the emerging transportation centers need improved integration between existing transportation services and land uses.

Fourteen of the 45 locations meet neither the minimum transportation nor the minimum land use guidelines, thus they are designated as potential transportation centers. These locations afford the best opportunity for applying solid land use and transportation planning principles while the transportation centers are being implemented.

The greatest obstacles that must be surmounted in planning and developing transportation centers in the DVRPC region are gaining a consensus of regional, state, county, local and transit agencies on where transportation centers will be located, what development densities will be allowed, and how they will be operated and devising innovative funding strategies. To transcend these barriers and proceed with implementation, all of these agencies will need to communicate and to work together toward establishing transportation centers that are mutually beneficial.

Work must proceed cautiously to ensure that investments are cost-effective and warranted. Construction of a transportation center facility where sufficient demand does not exist does not create the deficient demand. Capital investments should not be made until local governments have committed to changing ordinances and creating an atmosphere for success, and the area has reached a critical mass to generate sufficient demand.

APPENDIX A

TRANSPORTATION CENTER EVALUATION

SITE:	1. Doylestown Rail Station
LOCATION:	W. Ashland St., Doylestown, Bucks County
CENTER TYPE:	Potential
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	78
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	704 (SEPTA only)
OTHER MODES:	Private auto, taxi, shuttle bus, pedestrian
OPERATORS:	SEPTA, Susquehanna Trailways, Trans-Bridge Lines
NUMBER OF OFF-STREET PARKING SPACES:	61
FACILITY SERVICES/AMENITIES:	Ticketing, information, concessions, waiting area, public telephone, handicap accessibility, public address
VEHICLE STORAGE:	No extra storage capacity or staging area for buses
CORE NETWORK CONNECTIONS:	Located within one mile of US Route 202 &PA 611 SEPTA R5 rail line to Philadelphia &Downingtown SEPTA 55 bus route to the Broad Street Subway (Olney Terminal) Susquehanna Trailways bus route to New York, Allentown & Williamsport Greyhound bus routes to Philadelphia & Scranton
LAND USE MIX:	Residential, retail, office, multi-screen movie theater
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	The central business district can be reached by pedestrians; however the hilly terrain may deter such a movement. Parking lot for auto access
RECOMMENDATIONS/COMMENTS:	• Upgrade the rail station to offer more passenger amenities. • Improve vehicular and pedestrian access. • Increase circumferential and feeder bus routes. • Determine where new development may occur and how it can be integrated with the transportation center.

TRANSPORTATION CENTER EVALUATION

SITE:	2. Neshaminy Mall
LOCATION:	Bristol Rd. near I-276 & US 1, Bensalem, Bucks County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	241
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	1077
OTHER MODES:	Private automobile, taxi, bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Mall amenities: rest rooms, security, a public telephone, concessions, and handicap accessibility
VEHICLE STORAGE:	Space available in the mall parking lot, but not at the entrance where passengers load
CORE NETWORK CONNECTIONS:	Located within one mile of US 1 & I-276 SEPTA 14, 20, 58, 130 bus routes to the Market-Frankford Subway-Elevated rail line &the Oxford Valley Mall
LAND USE MIX:	Retail, residential, institutional, multi-screen movie theater
DENSITY:	Low to medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Direct access to the mall from the bus, pedestrian crosswalk from the mall to Genardi's, no other connections
RECOMMENDATIONS/COMMENTS:	• Increase destinations of circumferential bus service • Provide passenger amenities • Determine where new development may occur and how to integrate it with the transportation services

TRANSPORTATION CENTER EVALUATION

SITE:	3. Oxford Valley Mall
LOCATION:	Woodburne Rd. near the interchange of I-95 & US 1, Middletown, Bucks County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	5
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	151
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	784
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Mall amenities: rest rooms, security, public telephone, concessions, and handicap accessibility
VEHICLE STORAGE:	Space available in the mall parking lot, but not at the entrance where passengers load
CORE NETWORK CONNECTIONS:	Located within one mile of I-95 & US 1 SEPTA 14, 127, 128, 129, 130 bus routes to the Market-Frankford Subway-Elevated rail line, Trenton, Bristol, Torresdale, & the Neshaminy Mall
LAND USE MIX:	Office, retail, recreation
DENSITY:	Medium to high
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons disembark from buses at the mall entrance, no connections to offices on the mall perimeter are evident.
RECOMMENDATIONS/COMMENTS:	• Add pedestrian facilities to connect the mall with offices on the perimeter • Increase feeder bus service • Provide all passenger amenities • Develop bus service to connect the mall with proposed rail service in Woodburne

TRANSPORTATION CENTER EVALUATION

SITE:	4. Downingtown Rail Station
LOCATION:	Viaduct Ave. & Lancaster Ave. (Bus. US 30), Downingtown, Chester County
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	65
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	824 (SEPTA only)
OTHER MODES:	Private auto, taxi, shuttle bus, walking
OPERATORS:	SEPTA, Krapf's Transit, AMTRAK, Greyhound/Trailways
NUMBER OF OFF-STREET PARKING SPACES:	233
FACILITY SERVICES/AMENITIES:	Waiting area, concessions, handicap accessibility
VEHICLE STORAGE:	no staging area for buses
CORE NETWORK CONNECTIONS:	Located within one mile of US 30 SEPTA R5 rail line to Philadelphia & Doylestown Krapf's Transit bus line to Coatesville & West Chester AMTRAK rail line to Harrisburg Greyhound 186 bus route to Harrisburg
LAND USE MIX:	Residential, retail
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access is fair, parking provided for auto access.
RECOMMENDATIONS/COMMENTS:	• Increase passenger amenities • Upgrade station building • Increase circumferential and feeder bus service • Determine where future development may occur and how it may be tied to the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	5. Exton Rail Station
LOCATION:	Crest Ave. near US 30, West Whiteland, Chester County
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	5
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	74
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	899 (SEPTA only)
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA, KRAPF's, AMTRAK, Greyhound (all serve the Exton area, but not necessarily the rail station)
NUMBER OF OFF-STREET PARKING SPACES:	202
FACILITY SERVICES/AMENITIES:	Waiting area, concessions, telephone, handicap accessibility
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of US 30 SEPTA R5 rail line to Philadelphia & Doylestown SEPTA 92 bus route to West Chester, Paoli & King of Prussia Krapf's Transit bus line to Coatesville & West Chester Greyhound 186 bus route to Harrisburg AMTRAK rail line to Harrisburg
LAND USE MIX:	Residential
DENSITY:	Low
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Some pedestrian access, but the immediate area is only lightly developed. Parking lot available for auto access
RECOMMENDATIONS/COMMENTS:	• Upgrade station to offer more passenger amenities • Add feeder and circumferential bus service • Determine where new development may occur and how to integrate it with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	6. Paoli Rail Station
LOCATION:	Valley Rd. near US 30, Tredyffrin, Chester County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	7
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	12
NUMBER OF DAILY VEHICLE TRIPS:	201
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	2500 (SEPTA only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA, AMTRAK
NUMBER OF OFF-STREET PARKING SPACES:	550
FACILITY SERVICES/AMENITIES:	Waiting area, ticketing, information, public telephone, concessions, security
VEHICLE STORAGE:	Small staging areas for buses that connect with trains
CORE NETWORK CONNECTIONS:	Located within one mile of US Route 30 SEPTA R5 rail line to Philadelphia & Doylestown AMTRAK rail line to Harrisburg & New York SEPTA 92, 105, 118, 206 bus routes to King of Prussia, Great Valley, Philadelphia, West Chester & 69th Street Terminal
LAND USE MIX:	Retail, office
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Sidewalks and stairways, parking lot for auto access
RECOMMENDATIONS/COMMENTS:	• Improve signage between modes • Upgrade station to include more passenger amenities • Increase circumferential and feeder bus service

TRANSPORTATION CENTER EVALUATION

SITE:	7. Phoenixville
LOCATION:	Starr St. & PA 29
CENTER TYPE:	Potential
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	2
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	60
NUMBER OF DAILY VEHICLE TRIPS:	34
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	172
OTHER MODES:	Private auto, pedestrian, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	none
VEHICLE STORAGE:	none
CORE NETWORK CONNECTIONS:	Located within two miles of US 422 SEPTA 98 & 99 bus routes to Plymouth Meeting Mall, Willow Grove, Norristown, Ambler, Royersford, & King of Prussia.
LAND USE MIX:	Residential, retail, office, health
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Sidewalks
RECOMMENDATIONS/COMMENTS:	Phoenixville was selected as a potential transportation center because of its significance as a town center. To be upgraded, a location would need to be selected, access improved, transit service increased and strong land use/transportation links developed.

TRANSPORTATION CENTER EVALUATION

SITE:	8. West Chester
LOCATION:	W. Market St. or Market and Railroad Sts., West Chester, Chester County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	5
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	198
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	747 (SEPTA only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA, Krapf's Transit
NUMBER OF OFF-STREET PARKING SPACES:	15 at the rail station
FACILITY SERVICES/AMENITIES:	Waiting area, public telephone, concessions at the rail station; none elsewhere
VEHICLE STORAGE:	None at the Market St. location; the rail station has limited space depending on park and ride size
CORE NETWORK CONNECTIONS:	Located within one mile of US 202 & PA 3 SEPTA 92, 104, 117, 119 bus routes to King of Prussia, 69th Street Terminal & Chester City Krapf's Transit bus service to Coatesville
LAND USE MIX:	Residential, retail at rail station and W. Market St.; office also at W. Market St.
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Sidewalks
RECOMMENDATIONS/COMMENTS:	• Select one of the two sites • Add passenger amenities • Increase circumferential bus service • Improve integration between transportation and land use

TRANSPORTATION CENTER EVALUATION

SITE:	9. Chester Transportation Center
LOCATION:	6th & Welsh Sts., Chester, Delaware County
CENTER TYPE:	Existing
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	9
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	15
NUMBER OF DAILY VEHICLE TRIPS:	481
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	4568
OTHER MODES:	Pedestrian, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Rest rooms, tickets, information, security, public address system, public telephone, waiting area, concessions, handicap accessibility
VEHICLE STORAGE:	Adequate staging area set aside for buses
CORE NETWORK CONNECTIONS:	Located within one mile of US 13, I-95 & PA 291 SEPTA R2 rail line to Philadelphia, Wilmington & Warminster SEPTA 37, 109, 113, 114, 116, 117, 118, 119 bus routes to West Chester, Philadelphia, 69th Street Terminal, Marcus Hook, Granite Run Mall & King of Prussia
LAND USE MIX:	Retail, office
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access to the surrounding land uses is very good. Transfer between buses and trains can take place right at the center. Auto access is obscure and unmarked.
RECOMMENDATIONS/COMMENTS:	• Investigate opportunities for developing new employment sites that can be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	10. Darby
LOCATION:	Main & 9th Sts., Darby, Delaware County
CENTER TYPE:	Emerging
AREA TYPE:	Urban fringe
NUMBER OF TRANSIT ROUTES:	6
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	5
NUMBER OF DAILY VEHICLE TRIPS:	495
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	3307
OTHER MODES:	2
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Waiting area, public telephone, concessions
VEHICLE STORAGE:	Staging area for buses available
CORE NETWORK CONNECTIONS:	Located within one mile of US 13 SEPTA 11 & 13 subway-surface lines to Philadelphia SEPTA 46, 113, 114 & 115 bus routes to Philadelphia, Overbrook, Marcus Hook, Chester, Delmar Village & Ardmore
LAND USE MIX:	Retail
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Walking
RECOMMENDATIONS/COMMENTS:	• Construct and enclosed waiting area that includes the full range of passenger amenities • Determine where new development may occur and how to integrate it with transportation services • Site lacks sufficient land use; operates mainly as a transfer center

TRANSPORTATION CENTER EVALUATION

SITE:	11. Granite Run Mall
LOCATION:	US 1 & PA 352, Middletown, Delaware County
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	60
NUMBER OF DAILY VEHICLE TRIPS:	111
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	683
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Benches near the mall entrance where the bus stops; mall amenities: rest rooms, concessions, security, handicap accessibility, public telephone
VEHICLE STORAGE:	Space in the mall parking lot, but not along the interior travel lanes
CORE NETWORK CONNECTIONS:	Located within one mile of US 1 SEPTA 110, 116, 117, 119 bus routes to Chester, West Chester & 69th Street Terminal
LAND USE MIX:	Retail, residential
DENSITY:	Light to medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Bus stops located along the access road to allow patrons to disembark closer to stores outside of the mall and the bus stops right at the mall
RECOMMENDATIONS/COMMENTS:	• Increase transit service • Improve passenger amenities • Investigate opportunities for future developments and how they can be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	12. Media
LOCATION:	Rail station at Orange St. & Media Station Rd. or Rt. 101 trolley terminus, Orange & State Sts., Media, Delaware County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	221
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	2106
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	218 (rail station), 0 at Orange & State Sts.
FACILITY SERVICES/AMENITIES:	Waiting area and public telephone at trolley stop; waiting area, concessions, tickets, information, rest rooms at rail station
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of US 1 SEPTA R3 rail line to Philadelphia & West Trenton SEPTA 101 light-rail line to 69th Street Terminal SEPTA 110 & 118 bus routes to King of Prussia, 69th Street Terminal, Granite Run Mall, & Chester
LAND USE MIX:	Retail, residential at rail station; retail, residential, office at the trolley stop
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access to all land uses from both locations and parking available for auto access
RECOMMENDATIONS/COMMENTS:	• Select a location convenient to both rail lines • Establish a facility that offers all passenger amenities • Increase feeder bus service

TRANSPORTATION CENTER EVALUATION

SITE:	13. 69th Street Terminal
LOCATION:	69th & Market Sts., Upper Darby, Delaware County
CENTER TYPE:	Existing
AREA TYPE:	Urban fringe
NUMBER OF TRANSIT ROUTES:	19
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	4
NUMBER OF DAILY VEHICLE TRIPS:	1789
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	51235
OTHER MODES:	Pedestrian, taxi, shuttle bus, private auto
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	182
FACILITY SERVICES/AMENITIES:	Tickets, information, rest rooms, concessions, security, waiting area, public telephone, public address system, handicap accessibility
VEHICLE STORAGE:	Staging area provided for buses
CORE NETWORK CONNECTIONS:	Located on PA 3 SEPTA Market-Frankford Subway-Elevated rail line to northeast Philadelphia SEPTA Route 100 high-speed line to Norristown SEPTA 101 & 102 light-rail lines to Media & Sharon Hill
LAND USE MIX:	Retail, office
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian bridge over Market Street, at-grade pedestrian access as well
RECOMMENDATIONS/COMMENTS:	This is a good example of a functioning transportation center. Transit routes provide circumferential service to other suburban locations as well as radial service to Philadelphia. All passenger amenities are provided. Movement between transit routes is well-marked. Surrounding land uses are easily reached on-foot.

TRANSPORTATION CENTER EVALUATION

SITE:	14. Springfield Mall
LOCATION:	Baltimore Pk. & PA 320, Springfield, Delaware County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	5
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	15
NUMBER OF DAILY VEHICLE TRIPS:	334
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	903
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Waiting area
VEHICLE STORAGE:	Buses wait near the bus shelters, but extra space is not provided
CORE NETWORK CONNECTIONS:	Located on Baltimore Pk & within one mile of I-476 SEPTA Route 101 light-rail line to Media & 69th Street Terminal SEPTA 107, 109, 110, 111 bus routes to 69th Street Terminal, Chester, & Granite Run Mall
LAND USE MIX:	Retail, residential
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Shelters are located along the mall circulation road. Patrons must walk to the mall from there, but no cross walks are provided.
RECOMMENDATIONS/COMMENTS:	• Provide cross walks for patrons going to the mall • Improve integration between the two transportation services • Offer a greater variety of destinations with circumferential bus service • Determine where new development may occur and how it may be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	15. Ardmore Rail Station
LOCATION:	Anderson & Coulter Aves., Lower Merion, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	8
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	15
NUMBER OF DAILY VEHICLE TRIPS:	311
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	2581 (SEPTA only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA, AMTRAK
NUMBER OF OFF-STREET PARKING SPACES:	155
FACILITY SERVICES/AMENITIES:	Waiting area, tickets, information, concessions, public telephone
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of US 30 SEPTA R5 rail line to Philadelphia & Doylestown SEPTA 44, 103, 105, 106 & 115 bus routes to Philadelphia, 69th Street Terminal, Delmar Village & Darby AMTRAK rail service to Philadelphia, New York & Harrisburg
LAND USE MIX:	Retail, office
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Surrounding land uses can be accessed easily on foot, parking available for auto access
RECOMMENDATIONS/COMMENTS:	• Upgrade station facilities to offer all passenger amenities • Increase circumferential and feeder bus service to service a wider variety of destinations

TRANSPORTATION CENTER EVALUATION

SITE:	16. Fort Washington Rail Station
LOCATION:	Summit Ave. near Pennsylvania Ave., Whitemarsh, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	164
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	1248
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	186
FACILITY SERVICES/AMENITIES:	Tickets, information, public telephone, concessions
VEHICLE STORAGE:	Small staging area for buses available
CORE NETWORK CONNECTIONS:	Located within one mile of PA 309 SEPTA R5 rail line to Philadelphia, Doylestown & Downingtown SEPTA 94, 98, & 201 bus routes to Chestnut Hill, Montgomery Mall, Plymouth Meeting Mall, Willow Grove & the Fort Washington Office Center
LAND USE MIX:	Retail, light residential
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian paths and stairs provided for access to adjacent land uses along with a park and ride lot
RECOMMENDATIONS/COMMENTS:	• Upgrade the station to offer all passenger amenities • Increase transit frequency • Investigate opportunities for future development and how it may be integrated with the transportation center • Increase feeder bus service to local business/industrial parks

TRANSPORTATION CENTER EVALUATION

SITE:	17. Jenkintown Rail Station
LOCATION:	West Ave., Jenkintown, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	168
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	2474
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	511
FACILITY SERVICES/AMENITIES:	Waiting area, public telephone, rest rooms, information, tickets, concessions, public address system
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	SEPTA R2, R3, R5 rail lines to Philadelphia, Wilmington, Chester, Warminster, West Trenton, Doylestown & Downingtown SEPTA X bus route to Chestnut Hill
LAND USE MIX:	Office, residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access via an underground passage and sidewalks, park and ride lot for autos
RECOMMENDATIONS/COMMENTS:	• Upgrade rail station to include all passenger amenities • Increase feeder bus routes • Improve integration between existing transportation and land use

TRANSPORTATION CENTER EVALUATION

SITE:	18. King of Prussia Mall
LOCATION:	US 202 & N Gulph Rd., Upper Merion, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	9
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	313
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	1884 (SEPTA only)
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA, Greyhound
NUMBER OF OFF-STREET PARKING SPACES:	7500 mall parking spaces
FACILITY SERVICES/AMENITIES:	Bench at bus stop; mall amenities: waiting area, rest rooms, public telephone, security, concessions, handicap accessibility
VEHICLE STORAGE:	Space available in mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of US 202, I-76 & I-276 SEPTA 92, 95, 99, 118, 124, 125 & 205 bus routes to West Chester, Plymouth Meeting Mall, Norristown, Royersford, Chester, Philadelphia & Valley Forge Greyhound bus routes to New York, Philadelphia & Harrisburg
LAND USE MIX:	Retail, residential, office
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access from the buses to the mall; parking area provided for mall users
RECOMMENDATIONS/COMMENTS:	• Improve passenger amenities • Improve visibility of the transportation center • Establish feeder bus service between the mall and area business parks

TRANSPORTATION CENTER EVALUATION

SITE:	19. Lansdale Rail Station
LOCATION:	Main & Walnut Sts., Lansdale, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	3
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	126
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	1397
OTHER MODES:	Pedestrian, auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	291
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, security, concessions, public telephone, public address system, rest rooms, handicap accessibility
VEHICLE STORAGE:	Limited staging area available
CORE NETWORK CONNECTIONS:	SEPTA R5 rail line to Philadelphia, Doylestown & Downingtown SEPTA 94 & 96 bus routes to Montgomery Mall, Chestnut Hill, Norristown & Telford
LAND USE MIX:	Retail, office, residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access to surrounding land uses is easy, park and ride lot provided for autos, but access is difficult
RECOMMENDATIONS/COMMENTS:	Lansdale could make a good transportation center, but its proximity to an adjacent Conrail line could pose a problem. • Provide more circumferential and feeder bus service • Upgrade the rail station to offer all passenger amenities • Evaluate the effect of the Pennbrook station on the Lansdale station

TRANSPORTATION CENTER EVALUATION

SITE:	20. Norristown Transportation Center
LOCATION:	DeKalb & Lafayette Sts., Norristown, Montgomery County
CENTER TYPE:	Existing
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	8
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	15
NUMBER OF DAILY VEHICLE TRIPS:	372
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	4406
OTHER MODES:	Pedestrian, shuttle bus, taxi
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Tickets, information, security, concessions, waiting area, public telephone, public address system, handicap accessibility, rest rooms
VEHICLE STORAGE:	Staging areas for buses and some rail vehicles provided
CORE NETWORK CONNECTIONS:	Located within one mile of US 202 SEPTA R6 rail line to Philadelphia, & Cynwyd SEPTA 91, 93, 96, 97, 98, & 99 bus routes to Eagleville, Graterford, Pottstown, Telford, Conshohocken, Plymouth Meeting Mall, Willow Grove, & Royersford
LAND USE MIX:	Office, retail, residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access to surrounding land uses is easy
RECOMMENDATIONS/COMMENTS:	The station/center structure provides good integration between the various transit services, and offers the full range of passenger amenities. • Improve integration between the center and county offices

TRANSPORTATION CENTER EVALUATION

SITE:	21. Plymouth Meeting Mall
LOCATION:	Germantown Pk. & Hickorytown Rd., Plymouth, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	10
NUMBER OF DAILY VEHICLE TRIPS:	218
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	1717
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Mall amenities: rest rooms, security, concessions, public telephone, handicap accessibility
VEHICLE STORAGE:	Space available in the mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of I-476, I-276 & PA 9 SEPTA 27, 95, 98, & L bus routes to Philadelphia, King of Prussia, Willow Grove & the Olney Terminal
LAND USE MIX:	Retail, office, residential
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons can disembark from buses right at the mall; a covered pedestrian path connects the mall with Ikea; parking is provided for mall users
RECOMMENDATIONS/COMMENTS:	• Increase feeder bus service • Improve passenger amenities • Improve integration between transportation and the land uses along the perimeter of the mall • Develop connecting bus service to the proposed Cross County Metro station

TRANSPORTATION CENTER EVALUATION

SITE:	22. Pottstown Rail Station
LOCATION:	Queen & Hanover Sts., Pottstown, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	5
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	114
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	41 (SEPTA only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA, Pottstown Urban Transit (PUT), Capitol Trailways
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Former rail station now houses small businesses
VEHICLE STORAGE:	Depends on redevelopment plans for the rail station site
CORE NETWORK CONNECTIONS:	Located within one mile of US 422
LAND USE MIX:	Office, retail
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Would have adequate pedestrian and auto access
RECOMMENDATIONS/COMMENTS:	Most of the existing transit service is centered on the intersection of Hanover and High Streets. This intersection does not have the room to accommodate a transportation center. The rail station is also a good site, particularly if rail service is restored to Pottstown and because of its location with regard to US 422. There is vacant land around the station that could be developed in conjunction with the transportation center.

TRANSPORTATION CENTER EVALUATION

SITE:	23. Willow Grove Rail Station
LOCATION:	Davisville & Easton Rds., Upper Moreland, Montgomery County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	8
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	10
NUMBER OF DAILY VEHICLE TRIPS:	344
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	2431 (SEPTA only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA, Greyhound, Capital Trailways, Susquehanna Trailways
NUMBER OF OFF-STREET PARKING SPACES:	127
FACILITY SERVICES/AMENITIES:	Waiting area, concessions, handicap accessibility, public telephone
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of PA 611 SEPTA R2 rail line to Wilmington, Philadelphia, & Warminster SEPTA 22, 55, 98, 210 bus routes to Olney Terminal, Warminster, Doylestown & Plymouth Meeting Mall Greyhound/Trailways bus routes to New York, Philadelphia & Harrisburg
LAND USE MIX:	Retail, office
DENSITY:	Medium to high
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access could be better; park and ride lot available
RECOMMENDATIONS/COMMENTS:	• Upgrade the rail station to offer all passenger amenities • Provide feeder bus service • Improve integration between existing transportation and existing land uses

TRANSPORTATION CENTER EVALUATION

SITE:	24. Fern Rock Transportation Center
LOCATION:	Nedro Ave., Philadelphia
CENTER TYPE:	Emerging
AREA TYPE:	Urban fringe
NUMBER OF TRANSIT ROUTES:	9
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	3
NUMBER OF DAILY VEHICLE TRIPS:	1042
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	9670
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	660
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, security, concessions, public telephone, handicap accessibility
VEHICLE STORAGE:	Staging areas provided for buses
CORE NETWORK CONNECTIONS:	Located within one mile of PA 611 SEPTA 16, 28, 57, 70 & C bus routes to Center City, South Philadelphia, West Oak Lane, Fox Chase, Holmesburg, Kensington & Pleasant Hill SEPTA Broad Street Subway to South Philadelphia SEPTA R2, R3 & R5 regional rail lines to Warminster, West Trenton, Doylestown & Center City
LAND USE MIX:	Residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian, auto
RECOMMENDATIONS/COMMENTS:	The transit element of this transportation center is adequate, but right now it is mainly a transfer center. • Investigate opportunities for new retail and/or employment development and how it can be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	25. Frankford Terminal
LOCATION:	Frankford Ave. & Bridge St., Philadelphia
CENTER TYPE:	Existing
AREA TYPE:	Urban fringe
NUMBER OF TRANSIT ROUTES:	16
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	4
NUMBER OF DAILY VEHICLE TRIPS:	2756
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	82728
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	579
FACILITY SERVICES/AMENITIES:	Tickets, information, rest rooms, public telephone, security, concessions, handicap accessibility
VEHICLE STORAGE:	Staging areas provided for buses
CORE NETWORK CONNECTIONS:	Located within one mile of US 1 SEPTA Market-Frankford Subway-Elevated rail line to Center City & 69th Street Terminal SEPTA 3, 5, 8, 14, 19, 20, 24, 26, 58, 66, 67, 73, 84, 88 & R to Strawberry Mansion, South Philadelphia, Olney, Neshaminy Mall, Oxford Valley Mall, Torresdale, Franklin Mills, Bethayres, Fox Chase, Germantown, Port Richmond, Holmesburg, Pennypack Woods & East Falls
LAND USE MIX:	Retail, residential, health
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian and auto access are both easy
RECOMMENDATIONS/COMMENTS:	This is an example of a functioning transportation center with good circumferential and radial transit routes.

TRANSPORTATION CENTER EVALUATION

SITE:	26. Market East Station
LOCATION:	8th thru 11th & Market Sts., Philadelphia
CENTER TYPE:	Existing
AREA TYPE:	Urban core
NUMBER OF TRANSIT ROUTES:	52
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	4
NUMBER OF DAILY VEHICLE TRIPS:	3819
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	110251
OTHER MODES:	Pedestrian, taxi, shuttle bus
OPERATORS:	SEPTA, PATCO, NJ TRANSIT, Greyhound/Trailways, Beiber, NJ Southern Coachways
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, concessions, security, rest rooms, public telephone, handicap accessibility
VEHICLE STORAGE:	Staging area available at the Greyhound Station, and a bus lane accommodates buses loading and unloading on Market St.; on other streets, transit vehicles block traffic when stopping on other streets
CORE NETWORK CONNECTIONS:	Located within one mile of I-676 & I-95 SEPTA regional rail lines to all corners of the region SEPTA Market-Frankford Subway-Elevated rail line to NE Philadelphia & Upper Darby SEPTA bus routes to all parts of Philadelphia & the suburbs Greyhound & Trailways bus routes to major US cities NJ TRANSIT bus routes to destinations all over New Jersey PATCO Hi Speed Line to Lindenwold
LAND USE MIX:	Retail, office, residential, health, education, recreation
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Walkways take pedestrian directly into office buildings and the Gallery
RECOMMENDATIONS/COMMENTS:	Improve signage directing patrons from trains to buses.

TRANSPORTATION CENTER EVALUATION

SITE:	27. Olney Terminal
LOCATION:	Broad & Olney Sts., Philadelphia
CENTER TYPE:	Existing
AREA TYPE:	Urban core
NUMBER OF TRANSIT ROUTES:	15
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	4
NUMBER OF DAILY VEHICLE TRIPS:	1961
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	70780 (SEPTA only)
OTHER MODES:	Pedestrian, taxi, shuttle bus
OPERATORS:	SEPTA, Beiber
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Waiting area, tickets, information, public telephone, security, concessions, handicap accessibility
VEHICLE STORAGE:	Staging areas provided for buses
CORE NETWORK CONNECTIONS:	Located on PA 611 SEPTA Broad Street Subway between Olney & South Philadelphia SEPTA 4, 6, 8, 18, 22, 26, 55, C & L bus routes to Fort Washington, West Oak Lane, Frankford, Fox Chase, Cedarbrook, Warminster, Germantown, Willow Grove, Doylestown, Center City & Plymouth Meeting Beiber Tourways to Reading, Kutztown, Allentown & Bethlehem
LAND USE MIX:	Retail, office, residential, health
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access to surrounding land uses is easy
RECOMMENDATIONS/COMMENTS:	This is an example of a functioning transportation center with good circumferential, feeder and radial transit service.

TRANSPORTATION CENTER EVALUATION

SITE:	28. Philadelphia International Airport
LOCATION:	PA 291, Philadelphia
CENTER TYPE:	Emerging
AREA TYPE:	Urban fringe
NUMBER OF TRANSIT ROUTES:	3
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	195
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	2076
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Rest rooms, tickets, information, concessions, security, public telephone, public address system, handicap accessibility
VEHICLE STORAGE:	Bus stops are located in the loading/unloading zones
CORE NETWORK CONNECTIONS:	Located within one mile of PA 291 & I-95 SEPTA R1 rail line to Center City SEPTA 37 & 108 bus routes to Chester & 69th Street Terminal
LAND USE MIX:	Transportation, industrial
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian access from transit vehicles directly to the airport terminal
RECOMMENDATIONS/COMMENTS:	The airport constitutes a different kind of transportation center because of the 24 hour air travel opportunities; usage is very high. Integration between the various transit modes is good, but on-site bus information needs to be provided. The role of the airport as a center from which shuttle service to area employers radiates needs to be more clearly defined. Pricing of the rail service makes it expensive for commuter use.

TRANSPORTATION CENTER EVALUATION

SITE:	29. Suburban Station
LOCATION:	Broad thru 17th Sts. & Market St. thru JFK Blvd.
CENTER TYPE:	Existing
AREA TYPE:	Urban core
NUMBER OF TRANSIT ROUTES:	30
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	3
NUMBER OF DAILY VEHICLE TRIPS:	4684
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	224014 (SEPTA only)
OTHER MODES:	Pedestrian, taxi, shuttle bus
OPERATORS:	SEPTA, NJ Southern Coachways
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, rest rooms, security, concessions, public telephone, handicap accessibility
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of I-76 & I-676
LAND USE MIX:	Retail, office, residential, health, recreation
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons can access offices and retail stores directly from the station
RECOMMENDATIONS/COMMENTS:	This is a good example of a functioning transportation center with direct access to high density employment. Underground signs directing patrons to bus service could be better.

TRANSPORTATION CENTER EVALUATION

SITE:	30. 30th Street Station
LOCATION:	30th & Market Sts., Philadelphia
CENTER TYPE:	Existing
AREA TYPE:	Urban core
NUMBER OF TRANSIT ROUTES:	62
NUMBER OF TRANSIT MODES:	5
MINIMUM AVAILABLE HEADWAY (minutes):	3
NUMBER OF DAILY VEHICLE TRIPS:	2573
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	46077 (SEPTA only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA, NJ Southern Coachways, AMTRAK
NUMBER OF OFF-STREET PARKING SPACES:	Adjacent private parking
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, concessions, security, rest rooms, public telephone, public address system, handicap accessibility
VEHICLE STORAGE:	Storage area available for rail vehicles
CORE NETWORK CONNECTIONS:	Located within one mile of I-76 & I-676 SEPTA regional rail lines to all corners of the region SEPTA Market-Frankford Subway-Elevated rail line to Frankford SEPTA 9, 30, 31, 124 & 125 bus routes to Center City, Overbrook, King of Prussia & Valley Forge NJ Southern Coachways to Willingboro, NJ AMTRAK intercity rail service (43 routes) to major US cities
LAND USE MIX:	Office, education, residential, retail
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons are within an easy walk of most of the surrounding land uses
RECOMMENDATIONS/COMMENTS:	30th Street is a transportation center more by virtue of its importance as the regional AMTRAK stop and major SEPTA rail stop than for its integration with surrounding land uses. However, the station does provide easy access to Drexel University and the Post Office complex.

TRANSPORTATION CENTER EVALUATION

SITE:	31. Wissahickon Transfer Center
LOCATION:	Ridge Ave & Sumac St., Philadelphia
CENTER TYPE:	Emerging
AREA TYPE:	Urban fringe
NUMBER OF TRANSIT ROUTES:	9
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	6
NUMBER OF DAILY VEHICLE TRIPS:	906
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	5001
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Waiting area, public telephone, concessions, handicap accessibility
VEHICLE STORAGE:	Room available for buses to pull off of the highway, turnaround and wait, but only for a couple
CORE NETWORK CONNECTIONS:	Located within one mile of I-76 SEPTA 1, 9, 27, 38, 61, 65, 85, 124, 125 & R bus routes to 69th Street Terminal, Center City, Plymouth Meeting Mall, East Falls, Bala Cynwyd, Manayunk, Roxborough, Parkside & King of Prussia
LAND USE MIX:	Retail, residential
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons can walk to nearby retail establishments, but terrain makes walking to residences difficult
RECOMMENDATIONS/COMMENTS:	• Improve integration between existing transit and land use • Construct a station that offers all passenger amenities • Investigate whether or not opportunities for future development exist and how they can be integrated with the transportation center • Improve the center's visibility

TRANSPORTATION CENTER EVALUATION

SITE:	32. Burlington City
LOCATION:	Broad & High Sts., Burlington, Burlington County
CENTER TYPE:	Potential
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	2
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	126
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	367
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	None
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of US 130 & the Burlington-Bristol Bridge NJ TRANSIT 419 & 409 bus routes to Philadelphia & Trenton
LAND USE MIX:	Retail, office, residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Walking
RECOMMENDATIONS/COMMENTS:	• Select a site for the center • Provide all passenger amenities • Increase transit services This could be an important center if the rail line that runs down the center of Broad St. is ever reactivated.

TRANSPORTATION CENTER EVALUATION

SITE:	33. Moorestown Mall
LOCATION:	Rt. 38 & Lenola Rd., Moorestown, Burlington County
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	3
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	118
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	337
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Waiting area, mall amenities: rest rooms, concessions, security, public telephone, handicap accessibility
VEHICLE STORAGE:	Room in mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 38 & NJ 73 NJ TRANSIT 407, 413 & 457 bus routes to Camden, Philadelphia, Mt. Holly & Cherry Hill
LAND USE MIX:	Retail, residential
DENSITY:	Light to medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons can go directly from buses into the mall
RECOMMENDATIONS/COMMENTS:	• Increase feeder bus service between the mall and local business/industrial parks • Improve passenger amenities • Investigate opportunities for future development and how they can be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	34. Mount Holly
LOCATION:	CR 537 & CR 541, Mount Holly, Burlington County
CENTER TYPE:	Potential
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	2
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	79
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	not available
OTHER MODES:	Pedestrian, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	0
FACILITY SERVICES/AMENITIES:	Waiting areas at bus stops along Main St.
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 38 NJ TRANSIT 317 & 413 bus routes to Burlington City, Philadelphia & Asbury Park
LAND USE MIX:	Retail, office, residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	All land uses are within easy walking distance of the central intersection
RECOMMENDATIONS/COMMENTS:	As the county seat, Mt. Holly is a good candidate for a transportation center. Unfortunately, the streets are narrow and crowded, making the space needed to establish a transportation center scarce. This location would also need to receive much more transit service to be considered a transportation center.

TRANSPORTATION CENTER EVALUATION

SITE:	35. Camden Transportation Center
LOCATION:	Broadway & Mickle Blvd., Camden, Camden County
CENTER TYPE:	Existing
AREA TYPE:	Urban core
NUMBER OF TRANSIT ROUTES:	25
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	2
NUMBER OF DAILY VEHICLE TRIPS:	1367
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	10374
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT, PATCO, Greyhound
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Tickets, information, rest rooms, public telephone, security, concessions, handicap accessibility
VEHICLE STORAGE:	Bus pullovers provided on Broadway
CORE NETWORK CONNECTIONS:	Located within one mile of I-676 & the Benjamin Franklin Bridge PATCO Hi Speed line to Lindenwold NJ TRANSIT 313/315, 317, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 412, 413, 419, 450, 451, 452, 453, 457, 551 & 555 bus routes to places all over South Jersey Greyhound 120 & 182 bus routes to New York, Pittsburgh & Philadelphia
LAND USE MIX:	Retail, office, residential, health
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons can easily walk to the surrounding land uses; structured parking is available.
RECOMMENDATIONS/COMMENTS:	This is an example of a functioning transportation center built with the cooperation of city and transit agencies interested in keeping downtown Camden economically viable. Social problems and the need for redevelopment are the stumbling blocks to increasing use of the center.

TRANSPORTATION CENTER EVALUATION

SITE:	36. Cherry Hill Mall
LOCATION:	NJ 38 & Haddonfield Rd., Cherry Hill, Camden County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	177
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	850
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Waiting area, mall amenities: rest rooms, concessions, public telephones, security, handicap accessibility
VEHICLE STORAGE:	Space available in the mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 38 NJ TRANSIT 404, 405, 450 & 455 bus routes to Philadelphia, Camden, Deptford Mall & Moorestown Mall included as a flagstop on Greyhound's 120 bus route to New York
LAND USE MIX:	Retail, office
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons disembark from buses right at the mall
RECOMMENDATIONS/COMMENTS:	Cherry Hill is a very large township with a large population and a lot of employment. The mall is a natural attraction for a transportation center. • Improve passenger amenities • Increase feeder bus service • Integrate transit service to the mall with area employment sites • Develop connecting service to the proposed NJT rail station at the Garden State Racetrack

TRANSPORTATION CENTER EVALUATION

SITE:	37. Echelon Mall
LOCATION:	CR 678 & CR 670, Voorhees, Camden County
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	3
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	30
NUMBER OF DAILY VEHICLE TRIPS:	97
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	233
OTHER MODES:	Private auto, taxi, shuttle bus, pedestrian
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Benches, mall amenities: rest rooms, public telephones, security, concessions, handicap accessibility
VEHICLE STORAGE:	Space in mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of US 30 NJ TRANSIT 403, 451 & 459 bus routes to Philadelphia, Berlin, Lindenwold, Camden & Camden County College
LAND USE MIX:	Retail, residential, office
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons disembark from the bus right at the mall; a traffic signal and cross walk ease pedestrian movement to the Camden County Library across the street
RECOMMENDATIONS/COMMENTS:	The Echelon Mall is part of a planned unit development with the elements that should make a good transportation center. The main weakness is that it is so far removed from the PATCO Hi Speed line. Shuttle services may already be operated by the developer. • Improve passenger amenities • Increase feeder bus service and connecting service to PATCO stations

TRANSPORTATION CENTER EVALUATION

SITE:	38. Haddonfield PATCO Station
LOCATION:	NJ 41, Haddonfield, Camden County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	2
MINIMUM AVAILABLE HEADWAY (minutes):	3
NUMBER OF DAILY VEHICLE TRIPS:	354
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	4668
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT, PATCO
NUMBER OF OFF-STREET PARKING SPACES:	1201
FACILITY SERVICES/AMENITIES:	Tickets, information, public telephone, public address system, security, concessions
VEHICLE STORAGE:	Bus lane provided on the north side of the station
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 41 PATCO Hi Speed line to Philadelphia & Lindenwold NJ TRANSIT 454, 455, 457 bus routes to Lindenwold, Cherry Hill Mall, Deptford Mall, Camden & Moorestown Mall
LAND USE MIX:	Retail, office, residential
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Surrounding land uses are within easy pedestrian access, parking available for auto acces
RECOMMENDATIONS/COMMENTS:	• Increase circumferential bus service • Improve passenger amenities • Formalize the site as a transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	39. Lindenwold PATCO Station
LOCATION:	US 30 & CR 673, Lindenwold, Camden County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	7
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	3
NUMBER OF DAILY VEHICLE TRIPS:	484
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	12473 (NJ TRANSIT & PATCO only)
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT, PATCO, AMTRAK
NUMBER OF OFF-STREET PARKING SPACES:	3318
FACILITY SERVICES/AMENITIES:	Tickets, information, security, concessions, public telephone, public address system, rest rooms
VEHICLE STORAGE:	Space for rail cars; buses use a bus/taxi lane
CORE NETWORK CONNECTIONS:	Located within one mile of US 30 NJ TRANSIT rail line to Atlantic City NJ TRANSIT 403, 454, 459 & 554 bus routes to Camden, Philadelphia, Haddonfield, Echelon Mall, Camden County College, Berlin & Atlantic City
LAND USE MIX:	Retail, office, residential
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Distances between the station and the surrounding land uses makes pedestrian access difficult, parking available for auto access
RECOMMENDATIONS/COMMENTS:	The station is bounded on one side by the PATCO maintenance facility and on the other side by a 3000 car parking lot. Unless development is allowed in one of these areas, the type of transportation/land use integration that should occur at a transportation center will never be realized.

TRANSPORTATION CENTER EVALUATION

SITE:	40. Deptford Mall
LOCATION:	CR 544 & CR 621
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	3
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	60
NUMBER OF DAILY VEHICLE TRIPS:	75
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	178
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Waiting area, mall amenities: rest rooms, public telephones, concessions, security, handicap accessibility
VEHICLE STORAGE:	Space in the mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 55, NJ 42 & NJ 41 NJ TRANSIT 400, 401 & 455 bus routes to Camden, Philadelphia, Turnersville, Woodbury & Cherry Hill Mall
LAND USE MIX:	Retail, recreation
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons disembark from buses right at the mall entrance
RECOMMENDATIONS/COMMENTS:	• Increase feeder bus service • Improve passenger amenities • Provide pedestrian paths to land uses along the perimeter of the mall • Investigate opportunities for future non-retail development and how it may be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	41. Glassboro
LOCATION:	Girard Ave & University Blvd, or Main & High Sts, Glassboro, Gloucester County
CENTER TYPE:	Potential
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	3
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	83
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	184
OTHER MODES:	Private auto, pedestrian, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Abandoned rail station building and platform at Girard & University; no amenities at Main & High
VEHICLE STORAGE:	None at either site, but vehicles lay over at the former IGA site about one mile away
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 47 & US 322 NJ TRANSIT 408, 412 & 313 bus routes to Philadelphia, Woodbury, Vineland & Cape May
LAND USE MIX:	Retail, residential; also educational at Girard & University
DENSITY:	Medium to high
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	pedestrian and auto access to Rowan College and local residences from Girard & University; pedestrian access to local businesses and residences from High & Main
RECOMMENDATIONS/COMMENTS:	• Select a site for the transportation center • Provide all passenger amenities • Develop circumferential and feeder bus service • Investigate opportunities for future development and how they can be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	42. Woodbury
LOCATION:	NJ 45 & CR 644 or NJ 45 & CR 534, Woodbury, Gloucester County
CENTER TYPE:	Potential
AREA TYPE:	Suburban core
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	15
NUMBER OF DAILY VEHICLE TRIPS:	127
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	397
OTHER MODES:	Pedestrian, private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Waiting area, public telephone
VEHICLE STORAGE:	None
CORE NETWORK CONNECTIONS:	Located within one mile of NJ 45 NJ TRANSIT 401, 402, 410 & 412 bus routes to Philadelphia, Camden, Salem, Bridgeton, Glassboro & Pennsville
LAND USE MIX:	Retail, residential, office; health at the 45/644 location
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Pedestrian
RECOMMENDATIONS/COMMENTS:	Each location has advantages and disadvantages. The 45/534 location is in the heart of the Woodbury CBD, close to county offices and retail development. All of the bus service in Woodbury passes this location, but no space is available for constructing a facility to house passenger amenities. The other location is further north, away from the CBD, but near a major hospital, has room for construction of a passenger facility, and for development that can be tied directly to the transportation center.

TRANSPORTATION CENTER EVALUATION

SITE:	43. Princeton Junction Rail Station
LOCATION:	CR 571 & Wallace Rd., West Windsor, Mercer County
CENTER TYPE:	Emerging
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	13
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	
NUMBER OF DAILY VEHICLE TRIPS:	105
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	6444 (NJ TRANSIT only)
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT, AMTRAK
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, rest rooms, concessions, security, public telephone, public address system, handicap accessibility
VEHICLE STORAGE:	Standing area for vehicles meeting the trains
CORE NETWORK CONNECTIONS:	NJ TRANSIT Northeast Corridor service to Trenton & New York AMTRAK Northeast Corridor service (11 routes) to Trenton, New York, Philadelphia & other major eastern US cities Dinky rail service into Princeton Borough
LAND USE MIX:	Office, residential
DENSITY:	Light
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	There is no existing adjacent development.
RECOMMENDATIONS/COMMENTS:	This station has adequate transit usage, but there appears to be a need for more ridesharing opportunities to get patrons from the train station to the office developments in the US 1 corridor. The surrounding land is undeveloped for the most part. Attention needs to be given to investigating opportunities for new development that can be tied directly to the rail station.

TRANSPORTATION CENTER EVALUATION

SITE:	44. Quakerbridge Mall
LOCATION:	US 1 & CR 533, Lawrence, Mercer County
CENTER TYPE:	Potential
AREA TYPE:	Suburban node
NUMBER OF TRANSIT ROUTES:	4
NUMBER OF TRANSIT MODES:	1
MINIMUM AVAILABLE HEADWAY (minutes):	20
NUMBER OF DAILY VEHICLE TRIPS:	161
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	217
OTHER MODES:	Private auto, taxi, shuttle bus
OPERATORS:	NJ TRANSIT
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Waiting area, mall amenities: rest rooms, public telephone, concessions, security, handicap accessibility
VEHICLE STORAGE:	Space in the mall parking lot
CORE NETWORK CONNECTIONS:	Located within one mile of US 1 & I-295 NJ TRANSIT 600, 605 & 609 bus routes to Trenton, Princeton Forrestal Village, Princeton, Mercer Mall & Mercer County College
LAND USE MIX:	Retail, office
DENSITY:	Medium
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons disembark from buses right at the mall; no pedestrian paths to guide them to uses along the perimeter
RECOMMENDATIONS/COMMENTS:	• Improve passenger amenities • Expand transit service • Investigate opportunities for future development and how they can be integrated with the transportation center

TRANSPORTATION CENTER EVALUATION

SITE:	45. Trenton Rail Station
LOCATION:	Clinton & Fairview Aves., Trenton, Mercer County
CENTER TYPE:	Existing
AREA TYPE:	Urban core
NUMBER OF TRANSIT ROUTES:	46
NUMBER OF TRANSIT MODES:	3
MINIMUM AVAILABLE HEADWAY (minutes):	
NUMBER OF DAILY VEHICLE TRIPS:	577
NUMBER OF DAILY UNLINKED BOARDS AND LEAVES:	9914 (NJ TRANSIT & SEPTA only)
OTHER MODES:	Pedestrian, taxi, shuttle bus
OPERATORS:	NJ TRANSIT, AMTRAK, SEPTA
NUMBER OF OFF-STREET PARKING SPACES:	
FACILITY SERVICES/AMENITIES:	Tickets, information, waiting area, public telephone, concessions, public address system, security, handicap accessibility
VEHICLE STORAGE:	Minimal
CORE NETWORK CONNECTIONS:	NJ TRANSIT Northeast Corridor rail service to New York & Newark AMTRAK eastern intercity rail service to New York, Philadelphia, Washington & other major eastern cities SEPTA R7 rail service to Philadelphia & Chestnut Hill NJ TRANSIT 409, 601, 604, 606, 608 & 609 bus routes to Philadelphia, Princeton, Quakerbridge Mall, downtown Trenton, Hamilton, Lambertville, Trenton State College & Mercer County College
LAND USE MIX:	Office
DENSITY:	High
MODES OF LAND USE/ TRANSPORTATION INTEGRATION:	Patrons can easily walk to surrounding land uses, limited parking available for auto access (parking expansion scheduled for the near future)
RECOMMENDATIONS/COMMENTS:	This is a functioning transportation center. • Review bus service to determine if usage can be increased

APPENDIX B

Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
1–Doylestown	Bucks	Greyhound	Bus		4	unk	unk	unk	unk	unk	unk	unk	
		Susq. Trlwys	Bus	7138	2	unk	unk	unk	unk	unk	unk	unk	
		Septa	Bus	55	38	60	60	60	60	+	35	71	
			Bus	TOTAL	44						35	71	
		Septa	Rail	R5	34	60	60	60	60	–	209	389	
			All	TOTAL	78						244	460	704
2–Neshaminy Mall	Bucks	Septa	Bus	14	131	30	30	30	60	0	283	344	
				20	26	0	60	60	60	0	61	37	
				58	60	30	30	30	60	0	121	124	
				130	24	60	60	60	0	0	55	52	
			All	TOTAL	241						520	557	1077
3–Oxford Valley Mall	Bucks	Septa	Bus	14	60	30	30	30	60	0	139	148	
				127	20	60	60	60	0	0	40	43	
				128	23	60	60	60	0	0	95	100	
				129	24	60	60	60	0	0	65	95	
				130	24	60	60	60	0	0	22	37	
			All	TOTAL	151						361	423	784
4–Downingtown	Chester	Krapf	Bus	A	26	60	60	60	–	–	15	15	
		Septa	Rail	R5	16	25	+	30	–	–	395	399	
		Amtrak	Rail	Hrbrg	14	unk	unk	unk	unk	unk	unk	unk	
				Other	9	unk	unk	unk	unk	unk	unk	unk	
			Rail	TOTAL	39						395	399	
			All	TOTAL	65						410	414	824
5–Exton	Chester	Krapf	Bus	A	20	60	60	60	–	–	53	52	
		Septa	Bus	92	26	60	60	60	–	–	71	54	
			Bus	TOTAL	46						124	106	
		Septa	Rail	R5	16	25	+	30	–	–	321	348	
		Amtrak	Rail	Hrbrg	11	unk	unk	unk	unk	unk	unk	unk	
				Other	1	unk	unk	unk	unk	unk	unk	unk	
			Rail	TOTAL	28						321	348	
			All	TOTAL	74						445	454	899
6–Paoli Rail Station	Chester	Septa	Bus	92	26	60	60	60	0	0	43	33	
				105	25	60	60	60	0	0	7	4	
				118	34	30	60	30	0	0	12	36	
				206	11	30	0	60	0	0	90	35	
			Bus	TOTAL	96						152	108	
		Septa	Rail	R5	80	12	30	12	60	0	1101	1139	
		Amtrak	Rail	Other	11	unk	unk	unk	unk	unk	unk	unk	
				Hrbrg	14	unk	unk	unk	unk	unk	unk	unk	
			Rail	TOTAL	105						1101	1139	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
			All	TOTAL	201						1253	1247	2500
7–Phoenixville	Chester	Septa	Bus	98	2	+	–	–	+	–	3	0	
				99	32	60	60	60	60	–	99	70	
			All	TOTAL	34						102	70	172
8–West Chester	Chester	Septa	Bus	92	26	60	60	60	0	0	93	82	
				104	99	20	20	20	60	0	315	220	
				117	24	60	60	60	0	0	15	10	
				119	25	60	60	60	0	0	6	6	
		Krapf	Bus	A	24	60	60	60	–	–	unk	unk	
			All	TOTAL	198						429	318	747
9–Chester Transp Ctr	Delaware	Septa	Bus	37	56	30	60	30	60	0	210	162	
				109	113	15	20	15	60	0	394	305	
				113	68	30	30	30	60	0	447	248	
				114	63	30	30	30	60	0	404	362	
				116	23	60	60	60	0	0	57	70	
				117	28	60	60	60	0	0	281	141	
				118	36	30	60	30	0	0	215	152	
				119	41	60	60	60	60	0	245	160	
			Bus	TOTAL	428						2253	1600	
		Septa	Rail	R2	53	20	60	20	60	0	313	402	
			Rail	TOTAL	53						313	402	
			All	TOTAL	481						2566	2002	4568
10–Darby	Delaware	Septa	Bus	46	26	60	60	60	0	0	60	27	
				113	78	15	30	15	60	0	483	436	
				114	63	30	30	30	60	0	236	194	
				115	26	60	60	60	0	0	198	226	
			Bus	TOTAL	193						977	883	
		Septa	Rail	11	228	8	10	6	20	0	695	543	
				13	74	5	40	7	45	0	86	123	
			Rail	TOTAL	302						781	666	
			All	TOTAL	495						1758	1549	3307
11–Granite Run Mall	Delaware	Septa	Bus	110	28	60	60	60	+	0	114	130	
				116	14	0	60	0	0	0	4	8	
				117	28	60	60	60	0	0	96	92	
				119	41	60	60	60	60	0	122	117	
			All	TOTAL	111						336	347	683
12–Media	Delaware	Septa	Bus	110	28	60	60	60	+	0	39	23	
				118	36	30	60	30	0	0	123	90	
			Bus	TOTAL	64						162	113	
		Septa	Rail	101	106	20	30	20	60	0	401	421	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service (Minutes) AM Peak	Midday	Frequency PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
				R3	51	20	60	20	60	0	544	465	
			Rail	TOTAL	157						945	886	
			All	TOTAL	221						1107	999	2106
13–69th Street	Delaware	Septa	Bus	1	16	30	0	30	0	0	27	37	
				21	113	10	20	10	30	0	755	586	
				65	177	10	15	10	20	0	1769	1517	
				103	54	20	60	20	60	0	309	304	
				104	153	7	20	7	30	0	2013	1641	
				105	54	30	30	30	0	0	602	397	
				106	27	30	60	30	0	0	254	201	
				107	40	20	60	20	60	0	245	299	
				108	43	20	30	15	60	0	717	703	
				109	113	15	20	15	60	0	986	892	
				110	67	15	30	15	60	0	608	491	
				111	43	20	60	15	0	0	334	322	
				112	47	20	60	20	+	0	638	489	
				113	78	15	30	15	60	0	693	529	
				120	17	60	60	0	+	0	116	142	
			Bus	TOTAL	1042						10066	8550	
		Septa	Rail	100	182	7	20	7	30	0	3111	2942	
				101	123	6	20	6	45	0	1882	1768	
				102	110	10	20	10	45	0	1086	1090	
				M1	332	4	8	4	12	15	10370	10370	
			Rail	TOTAL	747						16449	16170	
			All	TOTAL	1789						26515	24720	51235
14–Springfield Mall	Delaware	Septa	Bus	107	28	40	60	60	0	0	46	33	
				109	113	15	20	15	60	0	167	180	
				110	56	30	30	30	A	0	90	96	
				111	31	60	60	60	0	0	32	38	
			Bus	TOTAL	228						335	347	
		Septa	Rail	101	106	20	30	20	60	0	112	109	
			Rail	TOTAL	106						112	109	
			All	TOTAL	334						447	456	903
15–Ardmore Station	Montgomery	Septa	Bus	44	63	15	30	20	60	0	132	77	
				103	54	20	60	20	60	0	119	86	
				105	54	30	30	30	0	0	74	86	
				106	27	30	60	30	0	0	60	48	
				115	24	60	60	60	0	0	36	19	
			Bus	TOTAL	222						421	316	
		Septa	Rail	R5	73	20	30	20	60	0	997	847	
		AMTRAK	Rail	Hrbrg	8	unk	unk	unk	unk	unk	unk	unk	
				Other	8	unk	unk	unk	unk	unk	unk	unk	
			Rail	TOTAL	89						997	847	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
			All	TOTAL	311						1418	1163	2581
16–Fort Washington	Montgomery	Septa	Bus	94	28	60	60	60	0	0	29	28	
				98	31	60	60	60	60	0	14	14	
				201	31	30	60	30	0	0	70	70	
			Bus	TOTAL	90						113	112	
		Septa	Rail	R5	74	20	30	15	60	0	504	519	
			Rail	TOTAL	74						504	519	
			All	TOTAL	164						617	631	1248
17–Jenkintown	Montgomery	Septa	Bus	X	14	60		60			2	0	
			Bus	TOTAL	14						2	0	
		Septa	Rail	R2	42	30	60	30	60		472	444	
				R3	44	30	60	30	60		271	341	
				R5	68	20	30	20	60		485	459	
			Rail	TOTAL	154						1228	1244	
			All	TOTAL	168						1230	1244	2474
18–King of Prussia TC	Montgomery	Septa	Bus	92	26	60	60	60	0	0	41	40	
				95	30	60	60	60	0	0	56	50	
				99	58	30	30	30	60	0	375	385	
				118	34	30	60	30	0	0	49	35	
				124	53	20	60	20	60	0	255	174	
				125	54	20	60	20	60	0	180	244	
		Greyhound	Bus		31	unk	unk	unk	unk	unk			
		Cap Trlwys	Bus		20	unk	unk	unk	unk	unk			
		Martz	Bus		7								
			All	TOTAL	313						956	928	1884
19–Lansdale Station	Montgomery	Septa	Bus	94	24	60	60	60	0	0	2	0	
				96	28	60	60	60	0	0	53	41	
			Bus	TOTAL	52						55	41	
		Septa	Rail	R5	74	20	30	20	60	0	660	641	
			Rail	TOTAL	74						660	641	
			All	TOTAL	126						715	682	1397
20–Norristown TC	Montgomery	Septa	Bus	91	19	60	0	60	0	0	45	65	
				93	29	60	60	60	0	0	199	149	
				96	27	60	60	60	0	0	141	90	
				97	34	60	60	60	60	0	255	139	
				98	33	60	60	60	60	0	337	230	
				99	58	30	30	30	60	0	492	420	
			Bus	TOTAL	200						1469	1093	
		Septa	Rail	100	124	15	20	15	35	0	553	561	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
				R6	48	35	60	30	60	0	365	365	
			Rail	TOTAL	172						918	926	
			All	TOTAL	372						2387	2019	4406
21–Plymouth Meeting	Montgomery	Septa	Bus	27	55	20	60	25	60	0	123	98	
				95	30	60	60	60	0	0	67	58	
				98	33	60	60	60	60	0	256	227	
				L	100	10	20	20	30	0	408	480	
			All	TOTAL	218						854	863	1717
22–Pottstown	Montgomery	Septa	Bus	93	14	60	60	60	–	–	26	15	
		PUT	Bus	SS	62	30	30	30	30	–	unk	unk	
				NE	17	30	60	60	60	–	unk	unk	
				CM	13	60	60	60	60	–	unk	unk	
		Cap. Trail.	Bus	7128	8	unk	unk	unk	unk	unk	unk	unk	
			All	TOTAL	114						26	15	41
23–Willow Grove	Montgomery	Septa	Bus	22	94	15	30	15	60	60	438	423	
				55	133	10	20	15	35	0	358	339	
				98	31	60	60	60	60	0	74	49	
				210	26	60	60	60	0	0	76	19	
		Greyhound	Bus	96	4	unk	unk	unk	unk	unk	unk	unk	
		Cap. Trail.	Bus	7146	6	unk	unk	unk	unk	unk	unk	unk	
		Sus. Trail.	Bus	7138	4	unk	unk	unk	unk	unk	unk	unk	
			Bus	TOTAL	298						946	830	
		Septa	Rail	R2	46	30	60	30	60	0	303	352	
			Rail	TOTAL	46	30	60	30	60	0	303	352	
			All	TOTAL	344						1249	1182	2431
24–Fern Rock	Philadelphia	Septa	Bus	16	6	+	0	B	0	0	23	80	
				28	60	30	30	30	45	0	308	256	
				57	92	15	30	15	45	0	454	541	
				70	209	3	20	10	25	0	807	732	
				C	121	10	24	10	30	0	118	116	
			Bus	TOTAL	488						1710	1725	
		Septa	Rail	M2	394	8	12	8	11	15	5137	0	
				R2	46	30	60	25	60	0	549	549	
				R3	45	30	60	30	60	0	0	0	
				R5	69	30	60	30	60	0	0	0	
			Rail	TOTAL	554						5686	549	
			All	TOTAL	1042						7396	2274	9670
25–Frankford Terminal	Philadelphia	Septa	Bus	3	172	10	15	10	22	0	1679	1525	
				5	151	10	20	10	32	0	1329	1043	
				8	86	10	30	20	0	0	669	926	
				14	286	7	7	7	20	60	5010	3937	
				19	67	20	30	15	0	0	740	751	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
				20	199	11	10	10	30	90	2780	2135	
				24	124	12	20	12	45	0	1319	1067	
				26	71	15	25	20	0	0	279	228	
				58	215	10	10	10	22	0	2595	2405	
				66	385	4	7	5	17	30	4557	4691	
				67	147	15	30	10	30	0	1283	1002	
				73	119	15	20	15	37	0	1296	740	
				84	73	15	30	30	60	0	840	843	
				88	125	10	30	12	45	0	778	634	
				R	204	8	15	10	25	30	2037	2282	
			Bus	TOTAL	2424						27191	24209	
			Rail	M1	332	4	8	4	12	15	15664	15664	
			Rail	TOTAL	332						15664	15664	
			All	TOTAL	2756						42855	39873	82728
26–Market East	Philadelphia	Septa	Bus	12	98	20	30	15	45		594	456	
				17	289	4	8	5	17	30	2712	2196	
				33	283	4	7	5	22	30	3165	2754	
				38	112	15	15	15	50	0	989	814	
				44	116	10	15	10	60	0	624	548	
				47	203	10	10	10	20	45	2734	2139	
				48	200	5	10	6	25	0	1868	1516	
				61	148	8	20	10	30	0	878	793	
				121	7	+	0	+	0	0	26	95	
		NJT	Bus	400	57	15	20	15	30	60	120	34	
				401	39	60	60	20	30	+	36	24	
				402	19	30	N/A	30	N/A	N/A	41	26	
				403	41	15	30	15	30	30	50	37	
				404	33	15	40	20	60	60	64	12	
				406	38	20	35	15	60	60	53	23	
				407	43	20	40	30	60	60	75	37	
				408	21	20	60	25	N/A	N/A	75	19	
				409	43	15	30	15	30	60	187	49	
				410	33	30	60	40	+	N/A	26	12	
				412	36	30	60	30	60	N/A	49	15	
				413	26	30	60	30	+	+	66	45	
				419	32	20	60	30	60	60	72	26	
		NJ Southerr	Bus	9X	8	unk	unk	unk	unk	unk	unk	unk	
		Greyhound	Bus	96	32	unk	unk	unk	unk	unk	unk	unk	
				182	14	unk	unk	unk	unk	unk	unk	unk	
				174	6	unk	unk	unk	unk	unk	unk	unk	
				186	2	unk	unk	unk	unk	unk	unk	unk	
				166	2	unk	unk	unk	unk	unk	unk	unk	
				122	16	unk	unk	unk	unk	unk	unk	unk	
				120	43	unk	unk	unk	unk	unk	unk	unk	
		Martz	Bus	7201	7	unk	unk	unk	unk	unk	unk	unk	
		Beiber	Bus	301	2	unk	unk	unk	unk	unk	unk	unk	
				303	2	unk	unk	unk	unk	unk	unk	unk	
				305	2	unk	unk	unk	unk	unk	unk	unk	
				307	2	unk	unk	unk	unk	unk	unk	unk	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
				309	2	unk	unk	unk	unk	unk	unk	unk	
		Capitol T	Bus	7140	6	unk	unk	unk	unk	unk	unk	unk	
				7142	8	unk	unk	unk	unk	unk	unk	unk	
				7143	8	unk	unk	unk	unk	unk	unk	unk	
		Carolina T	Bus	7300	8	unk	unk	unk	unk	unk	unk	unk	
				7301	4	unk	unk	unk	unk	unk	unk	unk	
			Bus	TOTAL	2091						14504	11670	
		Septa	Rail	23	217	7	12	8	17	0	1417	1438	
				M1	664	4	8	4	12	15	22763	22763	
				M3	134	10	16	11	20	0	1650	1650	
				R1	74	30	30	30	30	0	9709	9709	
				R2	59	30	60	25	60	0	Total	for	
				R3	61	20	60	20	60	0	all	trains	
				R5	97	12	30	15	60	0	given	above	
				R6	49	35	60	30	60	0			
				R7	56	20	60	20	60	0			
				R8	49	25	60	25	60	0			
		Patco	Rail		268	1 to 6	11	2 to 6	12	40	6373	6605	
			Rail	TOTAL	1728						41912	42165	
			All	TOTAL	3819						56416	53835	110251
27–Olney Terminal	Philadelphia	Septa	Bus	4	3	A	0	B	0	0	29	15	
				6	332	7	10	7	12	60	3977	3485	
				8	86	10	30	20	0	0	924	745	
				18	309	4	15	4	15	0	5120	5851	
				22	95	15	30	15	60	60	1337	994	
				26	174	10	15	10	30	0	2265	2702	
				55	135	10	20	15	35	0	2438	1562	
				C	175	5	17	5	22	0	0	0	
				L	248	5	10	5	20	60	4093	3403	
		Beiber	Bus	301	2	unk	unk	unk	unk	unk	unk	unk	
				303	2	unk	unk	unk	unk	unk	unk	unk	
				305	2	unk	unk	unk	unk	unk	unk	unk	
				307	2	unk	unk	unk	unk	unk	unk	unk	
				309	2	unk	unk	unk	unk	unk	unk	unk	
				TOTAL	1567						20183	18757	
		Septa	Rail	M2	394	8	12	8	11	15	15920	15920	
			Rail	TOTAL	394						15920	15920	
			All	TOTAL	1961						36103	34677	70780
28–Philadelphia Airport	Philadelphia	Septa	Bus	37	59	20	60	20	60		147	176	
				108	62	30	30	30	60		158	200	
			Bus	TOTAL	121						305	376	
		Septa	Rail	R1	74	30	30	30	30		642	753	
			Rail	TOTAL	74						642	753	
			All	TOTAL	195						947	1129	2076

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
29–Suburban Station	Philadelphia	Septa	Bus	2	143	10	20	10	30	0	845	706	
				12	98	20	30	15	45	0	431	391	
				17	289	4	8	5	17	30	1057	1448	
				27	120	6	30	6	32	0	699	543	
				31	104	15	30	15	45	0	758	468	
				32	157	7	15	10	30	0	732	718	
				33	283	4	7	5	22	30	1524	1694	
				38	112	15	15	15	50	0	595	335	
				44	116	10	15	10	60	0	746	632	
				48	200	5	10	6	25	0	642	565	
				76	106	0	10	10	0	0	34	72	
				121	7	+	0	+	0	0	79	10	
				124	53	20	60	20	60	0	265	167	
				125	54	20	60	20	60	0	374	179	
				C	261	7	17	7	22	0	0	0	
		NJ Southerr		9X	8	unk	unk	unk	unk	unk	unk	unk	
			Bus	TOTAL	2111						8781	7928	
		Septa	Rail	10	230	8	10	6	20	30	3301	2397	
				11	233	8	10	6	20	0	3303	2505	
				13	349	3	10	3	20	30	5754	4740	
				34	293	3	10	3	20	0	4507	3680	
				36	280	5	10	5	20	30	3553	2713	
				M1	332	4	8	4	12	15	31445	31445	
				M2	394	8	12	8	11	15	32691	32691	
				R1	74	30	30	30	30	0	21290	21290	
				R2	65	30	60	25	60	0	Total	for	
				R3	61	20	60	20	60	0	all	trains	
				R5	102	12	30	15	60	0	given	above	
				R6	52	35	60	30	60	0			
				R7	59	20	60	20	60	0			
				R8	49	25	60	25	60	0			
			Rail	TOTAL	2573						105844	101461	
			All	TOTAL	4684						114625	109389	224014
30–30TH Street Station	Philadelphia	Septa	Bus	9	135	7	25	6	40	0	255	327	
				30	40	30	45	30	0	0	75	103	
				31	104	15	30	15	45	0	207	160	
				124	53	20	60	20	60	0	89	139	
				125	54	20	60	20	60	0	115	136	
		NJ Southerr	Bus	9X	8	unk	unk	unk	unk	unk	unk	unk	
			Bus	TOTAL	394						741	865	
		Septa	Rail	10	230	8	10	6	20	30	845	965	
				11	233	8	10	6	20	0	873	1291	
				13	349	3	10	3	20	30	1487	2341	
				34	293	3	10	3	20	0	1070	1630	
				36	280	5	10	5	20	30	1029	1526	
				M1	332	4	8	4	12	15	9003	9003	
				R1	74	30	30	30	30	0	6704	6704	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
				R2	65	30	60	25	60	0	Total	for	
				R3	61	20	60	20	60	0	all	trains	
				R5	102	12	30	15	60	0	given	above	
				R6	52	35	60	30	60	0			
				R7	59	20	60	20	60	0			
				R8	49	25	60	25	60	0			
		AMTRAK	Rail	ALL	140	30	30	30	30	60	unk	unk	
			Rail	TOTAL	2179						21011	23460	
			All	TOTAL	2573						21752	24325	46077
31–Wissahickon	Philadelphia	Septa	Bus	1	31	25	0	30	A	0	69	61	
				9	147	7	25	6	40	0	318	239	
				27	126	6	30	6	30	0	289	252	
				38	54	30	30	30	45	0	110	115	
				61	137	8	20	10	30	0	454	467	
				65	180	10	15	10	25	0	639	646	
				124	53	20	60	20	60	0	100	127	
				125	54	20	60	20	60	0	139	131	
				R	124	12	30	20	30	0	449	396	
			All	TOTAL	906						2567	2434	5001
32–Burlington City	Burlington	NJT	Bus	419	60	20	60	30	60	60	59	50	
				409	66	25	30	20	6	60	138	120	
			All	TOTAL	126						197	170	367
33–Moorestown Mall	Burlington	NJT	Bus	407	43	–	40	60	60	+	95	81	
				413	38	30	60	30	+	–	54	52	
				457	37	30	30	30	60	–	28	27	
			All	TOTAL	118						177	160	337
34–Mount Holly	Burlington	NJT	Bus	317	18	+	+	+	+	+	unk	unk	
				413	61	30	60	45	–	–	unk	unk	
			Bus	TOTAL	79								
35–Camden Transp Ctr	Camden	NJT	Bus	313/315	12	+	+	+	+	+	7	2	
				317	16	+	+	+	+	–	5	0	
				400	106	20	20	15	30	60	453	265	
				401	41	60	60	40	30	+	86	111	
				402	13	60	N/A	60	N/A	N/A	37	21	
				403	79	15	30	20	60	60	215	128	
				404	74	20	40	20	60	60	351	354	
				406	76	20	35	20	60	60	348	295	
				407	72	20	40	40	60	60	251	177	
				408	33	40	60	+	+	–	114	93	
				409	36	60	60	60	60	60	104	78	
				410	27	30	60	40	+	N/A	92	43	
				412	28	30	60	60	60	–	105	83	
				413	46	30	60	30	+	–	135	73	
				419	55	20	60	30	60	60	154	142	
				450	40	40	45	45	60	–	137	147	
				451	29	45	60	40	–	–	74	36	

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service AM Peak	Service Midday	Frequency PM Peak	(Minutes) Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
				452	51	30	30	30	30	–	486	219	
				453	45	30	30	30	–	–	212	113	
				405	49	45	40	35	60	60	151	207	
				457	38	30	60	30	60	60	84	51	
				551	74	30	30	30	30	60	211	200	
				555	4	60	–	60	–	–	28	35	
		Greyhound	Bus	120	55								
				TOTAL	1099						3840	2873	10374
		Patco	Rail		268	1 to 6	11	2 to 6	12	40	1946	1715	
			Rail	TOTAL	268						1946	1715	
			All	TOTAL	1367						5786	4588	10374
36–Cherry Hill Mall	Camden	NJT	Bus	404	67	25	40	30	60	60	225	160	
				450	35	30	45	45	60	–	73	43	
				455	33	60	60	60	60	60	68	47	
				405	42	–	40	40	60	60	138	96	
			All	TOTAL	177						504	346	850
37–Echelon Mall	Camden	NJT	Bus	403	36	60	60	40	60	–	42	38	
				451	29	40	60	40	60	–	46	39	
				459	32	60	60	60	60	–	34	34	
			All	TOTAL	97						122	111	233
38–Haddonfield Patco	Camden	NJT	Bus	454	15	60	–	60	–	–	18	25	
				455	33	60	60	60	60	+	89	102	
				457	38	30	60	30	60	–	101	86	
			Bus	TOTAL	86						208	213	
		Patco	Rail		268	3 to 8	11	3 to 5	12	40	2124	2123	
			Rail	TOTAL	268						2124	2123	
			All	TOTAL	354						2332	2336	4668
39–Lindenwold Patco	Camden	NJT	Bus	403	80	15	30	20	+	+	183	154	
				454	16	60	–	60	–	–	12	4	
				459	33	30	60	50	60	–	141	151	
				554	55	30	60	30	60	60	211	151	
			Bus	TOTAL	184						547	460	
		Patco	Rail		268	3 to 8	11	4 to 5	12	40	5397	5270	
		NJT	Rail	AC Line	22	45	60	+	+	–	363	436	
		AMTRAK	Rail	AC Line	4	–	60	+	–	–	unk	unk	
			Rail	TOTAL	294						5760	5706	
			All	TOTAL	478						6307	6166	12473
40–Deptford Mall	Gloucester	NJT	Bus	400	27	60	60	60	60	–	36	30	
				401	16	–	+	+	60	–	35	30	
				455	32	60	60	60	60	60	17	30	
			All	TOTAL	75						88	90	178

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Center	Location County	Operator	Type of Service (Rail or Bus)	Route Designation	Total Trips	Service Frequency (Minutes) AM Peak	Midday	PM Peak	Evening	Owl	Unlinked Ridership Boards	Leaves	Total Unlinked Boards and Leaves
41–Glassboro	Gloucester	NJT	Bus	313	7	+	+	+	+	+	5	0	
				408	42	40	60	40	+	+	78	40	
				412	34	30	60	60	60	–	40	21	
			All	TOTAL	83						123	61	184
42–Woodbury	Gloucester	NJT	Bus	401	42	30	60	60	60	+	71	45	
				402	19	30	N/A	30	N/A	N/A	59	44	
				412	33	30	60	40	+	N/A	59	33	
				410	33	30	60	30	60	–	44	42	
			All	TOTAL	127						233	164	397
43–Princeton Jct.	Mercer	NJT	Rail	Dinky Shtl	42	60	60	60	60	–	unk	unk	
		NJT	Rail	NEC	82	30	30	30	30	30	3788	3771	
		AMTRAK	Rail	All	23	60	+	30	–	–	unk	unk	
			All	TOTAL	147						3626	2818	6444
44–Quakerbridge Mall	Mercer	NJT	Bus	600	26	60	60	60	60	–	2	15	
				603	52	–	30	30	+	–	27	56	
				605	22	–	60	60	60	–	8	21	
				609	61	30	30	30	30	–	30	58	
			All	TOTAL	161						67	150	217
45–Trenton Rail Station	Mercer	NJT	Bus	409	39	40	60	25	60	90	28	7	
				601	54	30	30	30	30	–	28	31	
				604	36	25	60	30	–	–	–	0	
				606	70	30	30	20	60	90	25	18	
				608	73	20	30	20	60	60	20	19	
				609	87	20	20	20	30	40	32	35	
			Bus	TOTAL	359						133	110	
		NJT	Rail	NEC	82	30	30	30	30	30	3788	3771	
		AMTRAK	Rail	ALL	86	45	60	30	60	+	unk	unk	
		Septa	Rail	R7	50	15	60	20	60	60	1100	1010	
			Rail	TOTAL	218						4888	4781	
			All	TOTAL	577						5021	4891	9912

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APPENDIX C

Creating a Transportation Center Action Plan

As with any project, it is important to have a blueprint, or a plan of action, to direct and focus the activities associated with transportation center development. A transportation center action plan describes the location and existing conditions of the site, and the activities that need to be performed to develop it.

A transportation center can evolve from a variety of origins. An existing development or transit transfer point can be approaching a critical mass which would make a transportation center viable or a new development can be designed to include transit linkage. Whatever the origin, a transportation center action plan would be used at a site where interest in and a concept for transportation center development exists. Consequently, the first step of the plan involves gathering information about the existing conditions of the proposed site, including transit services, land use, zoning, and potential operational or implementation problems.

Transportation center development requires interagency coordination and cooperation; therefore, contact groups need to be formed which afford relevant agencies and individuals the opportunity to comment on the development process. These groups should be stratified based on the level of input they should have. The first level comprises agencies or individuals that control planning and development of the transportation center, such as the county, municipality, state DOT or primary transit operator. The second level is made up of agencies or individuals who would be involved in funding or operations, such as secondary transit operators or the local business association. Finally, a third level would include agencies or individuals who might be peripherally effected by the transportation center, such as a community or environmental group. The topics addressed by these groups would include service needs, facility design, land use mix, and local impact, among other issues.

A market analysis/feasibility study needs to be performed as part of transportation center development. The purpose of the analysis would be to identify the type and level of transit service that should operate, the types and densities of land uses that would be most compatible with the existing land use mix and with the proposed transit service, and what level of success can be expected with the proposed service and development parameters. Input from the working groups should guide the alternatives that are examined in the study.

After the market analysis/feasibility study has identified the best development/land use mix and transit service type for the transportation center, then the transportation center can be designed. Specifics of the design include transit service parameters, physical layout of access points, parking, and buildings, and a program for implementing improvements.

As the preliminary design is developed, an environmental assessment must be conducted. This assessment determines adverse impacts, if any, on the local social and ecological systems and constraints that may need to be placed on the development. The environmental assessment also ascertains what actions are needed to mitigate adverse effects. Under the guidance of the

environmental assessment, the final design can proceed.

Transportation centers operate on the basis of linking land use and transit; therefore, each transportation center must include adjacent development containing retail, office, and residential land uses. Most transit agencies do not have the authorization to build any structures other than a transit station, which may contain leasable retail or office space. To achieve the density required to support a transportation center, other development has to be tied to the transit service. In most cases, some development exists already, but is not directly linked to the transit services. If the development does not exist, then a third party needs to be attracted to the transportation center. When a transit operator makes a commitment to a site as a transportation center, the immediate area becomes more desirable for development. Consequently, developers are attracted to the area and new office, retail and residential development can be built which feeds directly to the transportation center. The developer can look forward to a better return on investment because of the increased accessibility to the site, and the transit agency can look forward to additional revenue through negotiation of joint-development or shared expense lease agreements, in addition to increased farebox revenues.

A transportation center does not come into existence overnight. The process requires planning and orderly development; therefore, a phased schedule for implementing and constructing improvements needs to be formed. This schedule establishes thresholds that must be reached before each investment is made, and how investments are to be funded. As part of the schedule, commitments are secured from all agencies and parties that will be involved in transportation center development.

Finally, a marketing plan also needs to be produced. The purpose of the marketing plan is to make the general public aware of its existence and the services offered, and to attract lessees to the leasable office, retail or residential space. The transportation center will not succeed if it is not used.

With all the pieces drawn together, the action plan is implemented. Transit services are altered, based on the feasibility and design studies, to meet the needs and purpose of the transportation center, and land use links and new development are constructed.

The following outline organizes these activities into a format that can be easily adapted to any location. For each activity, a lead agency can be chosen, though in most instances, the primary transit operator is the lead agency.

Using this outline format, an action plan for creating a transportation center at the Fort Washington Rail Station is presented. In this plan, SEPTA is designated as the lead agency, with additional participants suggested where possible. The activities are based on information that was gathered during the evaluation conducted as part of this concept study and on site-specific information gathered from the Montgomery County Tax Assessor's office and a field view.

Transportation center development is usually an evolutionary process. Factors such as private development interest or local opposition can guide the speed or sequence of transportation center planning. Improvements may need to be made to increase usage of the Fort Washington Rail Station and establish it as a transportation hub in this section of Montgomery County before a transportation center can be planned or implemented. Consequently, the actual activities to develop a site may not necessarily occur in the order presented. However, the order proposed in the generic outline and in the Fort Washington plan is a logical course for transportation center development to follow.

Transportation Center Action Plan
Outline Format

I. Inventory existing conditions
Lead Agency:

A. Locate candidate sites for the transportation center

B. Describe existing transit services

C. Identify current land uses and zoning

D. Identify nearby property owners

E. Identify existing site deficiencies

II. Organize interested parties into contact groups (based on the level of involvement).
Lead Agency:

A. Group I: parties that control development of the transportation center

B. Group II: parties that share the cost and/or operation of the transportation center

C. Group III: parties with other interests in the transportation center

III. Develop an agenda of issues for discussion by contact groups.
Lead Agency:

A. Transit service needs

B. Land use and zoning needs

C. Community concerns

IV. Conduct a market area analysis & feasibility study
Lead Agency:

A. Determine the potential success of the proposed transportation center using the best land use mix.

B. Ascertain the mutual benefits to transit and area property owners of transportation center development

Transportation Center Action Plan
Outline Format (continued)

V. Design the transportation center
Lead Agency:

A. Establish service parameters

B. Design the physical layout of the transportation center

C. Develop a program of improvements

VI. Conduct an environmental assessment.
Lead Agency:

VII. Solicit interest from developers.
Lead Agency:

VIII. Develop a phased plan for implementing improvements
Lead Agency:

A. Create an implementation schedule.

B. Establish a funding scenario.

C. Secure commitments from public and private concerns.

IX. Develop a marketing plan to promote use of and support for the transportation center, combining resources of agencies with similar interests.
Lead Agency:

X. Implement improvements

Transportation Center Action Plan
Fort Washington Rail Station

Lead Agency: SEPTA is designated as the lead agency for all activities unless otherwise noted.

I. Existing Conditions

A. **Location**: East (outbound) side of the R-5 SEPTA regional rail line, accessed from Summit Ave. between Bethlehem Pike and Township Line Road, identified as Block 51, Lots 20, 21 and 22 in Whitemarsh Township, Montgomery County

General Description: The Fort Washington Rail Station is located in a suburban fringe type of activity area. The rail line is situated below the grade of the adjacent highway network. The station currently contains 186 parking spaces with overflow parking along Summit Avenue. Vehicular access to the station is directed by trailblazing signs from Bethlehem Pike to Summit Avenue. Circulation through the parking lot follows one two-way travel lane which ends in a cul-de-sac for turnarounds.

Transit service at the rail station currently consists of SEPTA's R-5 regional rail line, one 200-series bus route that connects passengers to the Fort Washington Office Center, and the 94 and 98 bus routes that go to Chestnut Hill, the Montgomery and Plymouth Meeting Malls, and Willow Grove. No data is currently available on other intermodal connections that are being made. The bus routes currently generate 225 unlinked boards and leaves per day while the rail line generates 1023.

Development in the vicinity of the rail station is light, consisting mostly of small retail establishments or offices. The parcels (Tax lots 12 and 56) immediately adjacent to the rail station are currently vacant and zoned as a commercial retail district. These parcels are the only level land adjacent to the station on the same side of the tracks as the existing station. They are privately-owned by a single property owner.

Deficiencies: Vehicular access is difficult because of the sharp change in grade and the poor geometry of the station entrance and the intersection of Summit Avenue and Bethlehem Pike. No staging area for buses or other waiting vehicles is available. The station does not have bicycle racks. More parking is needed. The ability to expand parking is limited by the amount of property currently owned by SEPTA. Circulation within the lot is difficult because of the cul-de-sac. There is no large employment or retail concentration within walking distance of the station.

Nearby property owners: EF & Eileen Hansen, Frederick & Marlene Livezey, Winston Carey et al Trustees, PAR Management Corporation, CONRAIL, Michael & Marjorie Whitman, Richard & Ursula Michel, Henrietta D. Theel, William & Nancy Cressman, Frank & Sara Tredman, 451 Associates, Horst & Tabea Schepian, Mary & Anna Krosky, Pokras Investment Company, Mark Teichman & Howard Russeck, and Louis Arnholt, Jr.

II. Discussion/work groups

A. Group I:
Whitemarsh Township
Montgomery County
PennDot
PTATMA

B. Group II:
all Group I participants
Montgomery County paratransit
adjacent property owners: EF & Eileen Hansen, Frederick & Marlene Livezey,

C. Group III:
all Group II participants
Whitemarsh Business Association
Whitemarsh Citizens Council
Montgomery County Private Industry Council
Historical Society of Fort Washington
Highlands Historical Society
Fort Washington Office Park
Fort Washington Chamber of Commerce
R5 & Route 201 transit patrons

III. Agenda of issues

A. Issues from the inventory of existing conditions
property acquisition
vehicular access
pedestrian access
circulation within the parking lot
compatibility of commercial retail district zoning to a transportation center
bicycle facilities
intermodal facilities
potential development density

B. Other issues to be determined

IV. Conduct a market area analysis & feasibility study

A. Determine the best land use to mix with current retail and small office development

B. Ascertain the mutual benefits to transit and land use of transportation center development

V. Design the transportation center

A. Investigate opportunities for new bus service/connections
Explore timed-transfer or pulse scheduling options
Analyze fare transfer options

B. Determine the locations of all structures (including existing station, if used), vehicle waiting areas, and passenger waiting areas

C. Improve current conditions and plan future improvements

VI. Conduct an environmental assessment.

A. Review previous assessments

B. Discern any changes that have occurred

C. Determine remedial steps that must be taken

VII. Solicit interest from developers.

A. Contact potential developers directly.

B. Conduct solicitations through PTATMA and the Fort Washington Chamber of Commerce.

C. Begin negotiations on funding/joint development agreements.

VIII. Develop a phased plan for implementing improvements

A. Create an implementation schedule.

B. Establish a funding scenario.

C. Secure commitments from public and private concerns.

IX. Develop a marketing plan to promote use of and support for the transportation center, combining resources of agencies with similar interests, such as local business organizations, PTATMA and Whitemarsh Township.

X. Implement improvements

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TRANSPORTATION CENTERS:
Concept and Evaluation

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October 1993