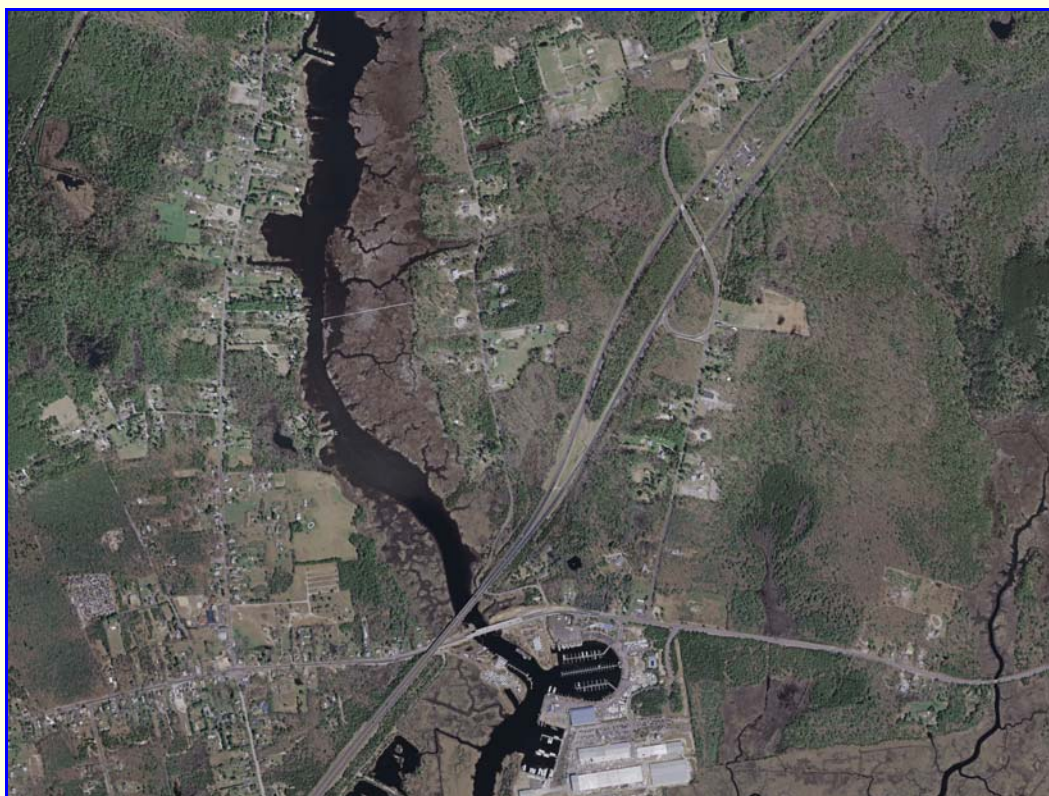


## Technical Memorandum

Assessment of Secondary Impacts  
Associated with the  
Garden State Parkway Widening Project,  
Milepost 30 to 80



December 2007



Delaware Valley Regional Planning Commission  
190 North Independence Mall West, 8<sup>th</sup> Floor  
Philadelphia, PA 19106-1520



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



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

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

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## I. INTRODUCTION

The New Jersey Turnpike Authority and their consultants have prepared several traffic studies and a Secondary Impacts Analysis for the proposed widening of the Garden State Parkway from Interchange 30 to Interchange 80. The Secondary Impacts Analysis was completed in October, 2006. However, the final Traffic Impact Analysis was not completed until July, 2007.

The Pinelands Commission has been designated as the lead agency for the review of Secondary Impacts. This document is intended to help determine the location and magnitude of any potential secondary land use impacts associated with widening the Garden State Parkway. It is, to a large extent, based on the technical information contained in three reports prepared by T&M Associates: *Garden State Parkway Widening Project Milepost 30 to Milepost 80, Transportation Model Analysis* (July 17, 2006), *Secondary Impacts Analysis for the Widening of the Garden State Parkway from Mile Post 30 to Mile Post 80* (October 31, 2006), and *Traffic Impact Analysis, Garden State Parkway Milepost 30 to Milepost 80 Widening* (July 16, 2007).

It also draws heavily from the National Cooperative Highway Research Program (NCHRP) Report 466, *Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects*, NCHRP Report 403, "Guidance for Estimating the Indirect Effects of Proposed Transportation Projects"<sup>1</sup>, and the 2000 Census Transportation Planning Package (CTPP) Journey-to-Work tabulations.

According to NCHRP 466, secondary impacts of transportation projects include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems<sup>2</sup>. Induced growth effects fall into three general categories: (1) effects of projects planned to serve specific land development, (2) effects of projects likely to stimulate complementary land development, and (3) effects of projects likely to influence interregional location decisions<sup>3</sup>.

The Parkway widening is not intended to serve any specific land development, so the first category is not applicable. "Complementary land development" refers to highway-oriented business, such as gas stations, convenience stores, and hotels. According to NCHRP, these types of development are most likely to occur along an existing facility in locations where new interchanges are provided. This is especially true in rural areas where property values were originally low. Since there are no new interchanges proposed as part of the Garden State Parkway widening from milepost 30 to milepost 80, this category of induced growth is also not applicable. Furthermore, much of the complementary land development likely to occur as a consequence of the presence of the Parkway (i.e., highway-oriented businesses such as gas stations, convenience stores and hotels) is already in place either within the 2 existing service areas between Interchanges 80 and 30 (Forked River between Interchanges 74 and 77 and the Atlantic City Service Area between Interchanges 40 and 44) or off the main roadway where higher-intensity development is presently permitted (i.e., Regional Growth Areas, PA1 and PA2).

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<sup>1</sup> Developed for the Transportation Research Board by Lewis Berger & Associates and published by the National Academy Press, Washington D.C., 1998

<sup>2</sup> NCHRP 466, page 2. Definition is from the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act of 1969, as amended (40 CFR 1508.8).

<sup>3</sup> NCHRP 466, page 59.

For transportation projects that influence interregional location decisions, induced growth is attributed to changes in accessibility caused by the project, which influences where development occurs. Accessibility is defined as the ease of movement between places. Accessibility is also defined as the attractiveness of a place as both an origin and destination. NCHRP cites the “widening of a Principal Arterial or above to provide additional through-traffic lanes 1 mile or longer (urban) or 2.5 miles or longer (rural)<sup>4</sup>” as an example of projects with the potential to change local or regional accessibility. It is this type of induced growth effect that may have the potential to lead to secondary land use impacts between mileposts 30 and 80.

Because the Garden State Parkway provides access to many communities located along the New Jersey shore, it is characterized by much higher traffic volumes in the summertime relative to the remainder of the year, especially on weekends. However, average annual traffic volumes, as reported in the *Traffic Impact Analysis*, were deemed to be the most appropriate indication of changes in accessibility that may influence development locations. The change in accessibility for commuter traffic is especially relevant to assess any growth-inducing effects of the Parkway widening.

Of particular concern is the accessibility of Atlantic City from the many interchanges in between mile post 30 and mile post 80. According to the South Jersey Transportation Planning Organization (SJTPO), by the study’s horizon year of 2025, Atlantic City’s employment is forecast to increase to 106,070 jobs<sup>5</sup>. This is an increase of 44,373 or 71.9 percent over the 2000 value. Furthermore, the results of the *Transportation Model Analysis* indicate that there will be a very significant increase in the number of trips into and out of Atlantic City, whether or not the Parkway is widened.

The *Traffic Impact Analysis* reports AM and PM peak hour traffic operation for current (2006) and 2025 No-Build and Build conditions in terms of Levels-of-Service (LOS). Per the Highway Capacity Manual, Level-of-Service is a qualitative measure that characterizes operational conditions within a traffic stream in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. They are given letter designations from A to F with LOS A representing the best operating conditions and LOS F the worst. For freeway and expressway facilities, there is not much difference in operating speed between LOS A and LOS D. LOS E occurs near capacity, and is unstable because there are virtually no useable gaps in the traffic stream. LOS F occurs when vehicular flow breaks down into stop-and-go conditions. There is a huge decrease in operating speed between LOS E and LOS F conditions: from 55 mph or greater to 30 mph or less.

This characteristic of expressway operations provides a convenient method to determine where accessibility is increased between No-Build and Build conditions. Accessibility will be increased for any origin-destination pair that traverses a segment or segments that operate at LOS F under No-Build conditions, but not under Build conditions. For secondary impacts purposes, accessibility will be increased for commuters who live on one side of these areas and work on the other.

The CTPP Journey-to-Work data provide municipality-to-municipality worker flow data, as well as distributions of the time people leave for work (tabulated by place of residence) and the time they arrive at work (tabulated by place of employment). CTPP does not provide detailed data on

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<sup>4</sup> NCHRP 466, page 33.

<sup>5</sup> South Jersey Transportation Planning Organization, *SJTPO Regional Transportation Plan – 2004 Update*, pg III-5.



time-of-day travel by both origin-destination pair. The most recent year for which these data are available is 2000. These data are used to determine “commuter sheds” for each municipality between Interchanges 80 and 30.

According to the *Traffic Impact Analysis*, there is very little congestion on the Garden State Parkway during normal commuting hours. During the morning rush hour, the Parkway operates at LOS A or B for its entire length in the southbound direction between interchanges 80 and 30. Northbound, it operates at LOS A, B, or C between interchanges 30 and 69; at LOS D between interchanges 69 and 74; and at LOS F from interchange 74 to 80. Interchanges 80 to 74 are also the only sections of the Parkway to operate at stop-and-go, or LOS F, conditions during a typical afternoon rush hour. All other sections operate at LOS B or C during the afternoon rush hour, except between interchanges 74 and 69 in the southbound direction, which operate at LOS D. Widening the Parkway to three lanes in each direction will essentially allow a higher volume of traffic to operate in 2025 with about the same level of congestion as today, during the typical morning and afternoon rush hours.

Because there is very little stop-and-go congestion on the Parkway during the current average weekday AM and PM peak hours, residential location decisions are not constrained by travel time along the Parkway. For some people, the additional delay that occurs on summer weekends may deter them from residing in areas where they will need to use the Garden State Parkway to get to work.

Later sections of this document analyze the change in accessibility for workers at individual interchanges. Each interchange was examined for origin-destination pairs where the proposed widening would result in reduced travel times. The CTPP data were then examined to determine the number of people who currently make this commute. This is an indicator of whether or not it is too far away to be attractive even under prevailing, largely congestion-free conditions.

Many other factors influence land use and residential location decisions than just commute times on the Garden State Parkway, such as property values, schools, recreation, crime, and the destinations of other worker(s) in the household. Therefore, it was assumed that only large changes in accessibility between a given origin-destination pair that currently experiences a heavy worker flow between home and work have more than a minor potential to induce secondary land use impacts. For secondary impacts purposes, a heavy worker flow was defined as greater than 5 percent of the employed residents in the area or greater than 500 workers.

In such cases, the land use and designation were examined to determine whether additional development can be accommodated in “desirable” areas in the vicinity of the interchange, or whether additional land use controls should be considered. For this purpose, a detailed review of vacant land within a one-mile radius of each interchange was undertaken, in accordance with the methods described in NCHRP 403 and the *Secondary Impacts Analysis*<sup>6</sup>. These parcels would likely be developed earlier than those located further away from the interchanges.

According to NCHRP 403, several factors should be considered in attempting to evaluate the influence that transportation project are likely to have on land development location decisions. Among those factors that are likely to be most relevant to the proposed widening of the Garden State Parkway are:

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<sup>6</sup> “Where transportation project do influence land development, the general tendency is toward relatively high-density commercial or multi-family residential development near facility nodes: up to 1.6km (1 mile) around a freeway; up to 3.2 to 8 km (2 to 5 miles) along major feeder roadways to the interchange...”, NCHRP 403, p80

- Any effect of a transportation project on land conversion is typically pronounced at first. The influence of highway improvement projects on land use diminishes with successive improvements as each improvement brings successively smaller improvements in accessibility.<sup>7</sup>
- Land-use controls can change over time both as a result of transportation projects and other factors. In theory, zoning influences the amount of development and limits transportation-influenced land development. However, if the marketplace determines a land-development pattern that is inconsistent with local land use control, then pressure to change (weaken) the control is typically brought to bear.<sup>8</sup>

The fact that improved accessibility, as a result of the widening, may lead to increased development pressures may not necessarily be an issue of concern if such associated growth occurs in areas designated to accommodate development – e.g. Regional Growth Areas. However, development pressure may become a concern if it occurs in non-growth areas. According to the Comprehensive Management Plan (Section 7:50-5.35)<sup>9</sup>, Parkway alterations, such as the proposed widening, are only permissible if “*they will not induce changes in the locations, pattern or intensity of land use that would be inconsistent with the Pinelands land use program*”. Consequently, if the proposal to widen the Parkway is shown to have growth inducing effects within a Rural Development, Preservation or Forest Area within the Pinelands, the potential for such impacts must be extinguished or the project would be inconsistent with the Comprehensive Management Plan.

The probability of whether land-use impacts will occur in conjunction with the proposed Parkway widening needs to be weighed with the following considerations:

- No modifications to the configuration of any of the interchanges within the project area are presently proposed (i.e., converting a partial interchange to full north/south access) as part of the widening of the Parkway between mileposts 80 and 30. (Modifications at Interchanges 69 and 67 were approved previously.)
- The widening project is likely to have limited influence on land use relative to the impact that would be likely to occur with the introduction of a new roadway.

## **A. Land Use Designations Inside the Pinelands**

Most of the land in the study area west of the Garden State Parkway is in the State Pinelands Area. Land to the east of the Parkway is either in the Pinelands National Reserve or subject to New Jersey Department of Environmental Protection’s (NJDEP) CAFRA coverage limits. Land use designations within the State Pinelands Area and Pinelands National Reserve include Preservation, Forest, Agricultural Production, Regional Growth, and Rural Development areas; Pinelands Town; Pinelands Village; and Military Facility.

*Preservation Area:* Conventional residential, commercial, and industrial development is largely prohibited within Preservation Areas. In general, only new land uses compatible with the

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<sup>7</sup> NCHRP 403, pg 80

<sup>8</sup> NCHRP 403, pg 81

<sup>9</sup> NJAC 7:50, Implementation Element of Pinelands Comprehensive Management Plan adopted pursuant to the Pinelands Protection Act, N.J.S.A. 13:18A-1 to 29, as amended by the Laws of 1980, Chapter 65, adopted on July 10, 1980

ecology of the central Pine Barrens are allowed. Examples of acceptable activities are forestry, cultivation of berries and native plants, and the operation of recreational facilities, such as campgrounds. The Preservation Area is largely immune from new residential development.

*Forest Area:* These areas generally adjoin the Preservation Area, but also extend far to the south. The same land uses that are permitted in the Preservation Area are permitted in Forest Areas. Municipalities are also given the option of including certain other new uses, such as limited commercial establishments. Each municipality is also assigned a number of new housing units which may be built in its Forest Area.

*Agricultural Production Area:* This designation is designed to accommodate and encourage farming. Housing for farm owners and employees is permitted at a density of one home for every 10 acres. New, non-farm related housing is limited to one home for every 40 acres. Special Agriculture Production areas are also located within the Preservation Area. Land uses in these areas are limited to the cultivation of berries and other native plants, and housing for agricultural employees.

*Regional Growth Area:* These areas were designated in municipalities found to be experiencing development pressure and to be capable of accommodating growth. Densities from 1.0 to 3.5 housing units per acre of developable, sewered land are permitted. Any other land use may be permitted at a municipality's option as long as certain environmental conditions are met.

*Rural Development Area:* These areas represent transition zones between Forest Areas and Regional Growth Areas. Every effort is made to protect the characteristic Pinelands features within these areas while allowing only modest development to occur. Local governments may designate "municipal reserve areas" within Rural Development Areas that can be developed at the same densities as Regional Growth Areas once the adjacent growth areas are saturated and a need for additional housing still exists.

*Pinelands Villages and Pinelands Towns:* These areas represent traditional communities within the Preservation Area. Additional traditional development is allowed under certain rules. Residential development is permitted on minimum one acre lots if not sewered in both Villages and Towns. Pinelands Towns also allow 2 to 4 homes per acre in sewered areas and commercial and industrial uses.

*Military Facilities:* Areas such as Fort Dix, McGuire Air Force Base, Lakehurst Naval Air Engineering Center, and the Federal Aviation Administration Technical Center are designated as Military and Federal Installation Areas. New land uses in these areas are generally permitted if they are in keeping with Preservation Area development standards. Activities essential to national security, however, are exempt from review.

## **B. Land Use Designations Outside the Pinelands**

Land use designations outside the Pinelands are subject to the provisions of The New Jersey State Development and Redevelopment Plan and include the Metropolitan Planning Area (PA1),

Suburban Planning Area (PA2), Rural Planning Area (PA4) and the Environmentally Sensitive Planning Area (PA5).<sup>10</sup> PA1 areas are where the state's larger urban areas are located.<sup>11</sup>

Development in lands to the east of the Parkway, but outside the Pinelands areas, is restricted by CAFRA impervious coverage limits. There are over a dozen different designations that allow impervious coverage of 50 percent or greater. Those with more restrictive limits include Coastal Suburban Planning Areas with Sewers (30 percent), Coastal Suburban Planning Areas without Sewers (5 percent), Coast Fringe Planning Areas (5 percent), Coastal Rural Planning Areas (3 percent), and Coast Environmentally Sensitive Areas (3 Percent).

### **C. Sewer Capacity**

Whether or not a parcel is in or within proximity of the service area of a sewage treatment facility with capacity to accommodate additional demand was considered an important factor in evaluating whether pressure to develop currently vacant land close to an interchange was likely as a result of increased accessibility. Within the Pinelands, three sewage treatment facilities serve the sewer service areas within proximity of the Garden State Parkway Interchanges. The Ocean County Utility Authority operates two of these facilities, one in Berkeley Township (Ocean County Utility Authority Central Sewage Treatment Plan) which serves parcels within the vicinity of Interchanges 80 to 67 and one in Stafford Township (Ocean County Utility Authority South Sewage Treatment Plan) which serves parcels within the vicinity of Interchange 63. The Atlantic County Utilities Authority serves areas in the vicinity of Interchanges 44 through 30. None of the parcels within a one-mile buffer to Interchanges 58 to 48 are within current boundaries of existing sewer service areas. Based on 2006 NJDEP Sewer Service Area mapped data, all development within these areas appear to be designated for on-site septic systems.

According to 2004 data for Sewage Sludge Production by Management Mode from the NJDEP, the Ocean County Central Sewage Treatment Plant has been designed to accommodate a total flow of 32 million gallons per day (gpd). As of 2004, the Plant's existing flow was 20.58 million gpd or 64 percent of capacity. Based on a typical residential demand of 300 gpd, therefore, the plant has the capacity to accommodate a flow from approximately 38,000 additional equivalent dwelling units (EDUs)<sup>12</sup>.

The NJDEP data also indicates that the Ocean County South Sewage Treatment Plant has been designed to accommodate a total flow of 20 mgd. As of 2004, the Plant's existing flow was 6.7 mgd or 34% of capacity. Based on a typical residential demand of 300 gpd, therefore, the plant has the capacity to accommodate a flow from approximately 44,300 additional EDUs.

Finally, the NJDEP data indicates that the facility operated by the Atlantic County Utilities Authority has been designed to accommodate a total flow of 40 mgd. As of 2004, the ACUA plant's existing flow was 30.9 mgd or 77% of capacity. Therefore, the plant has the capacity to accommodate a flow from slightly more than 30,300 additional EDUs.

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<sup>10</sup> Fringe Planning Area (PA3) is predominantly rural landscape that is not prime agricultural or environmentally sensitive land with scattered small communities (State D&RP, p 200). No PA3 areas are within a 1- or 3-mile radius of the Parkway Interchanges within the project area.

<sup>11</sup> Planning Area designations are consistent with Pinelands Management Area designations

<sup>12</sup> Capacity would need to accommodate residential as well as non-residential demand.

Based on the foregoing calculations, the total available treatment capacity from all three plants, as of 2004, was sufficient to accommodate an additional 112,000 EDUs.

#### **D. Wetlands Characteristics**

An assessment of wetlands characteristics was undertaken in conjunction with a determination of the development status of the land within proximity of the Parkway interchanges. Areas around interchanges that had ample vacant land and that are in or within proximity of a sewage treatment plant with existing excess capacity were not considered to be at risk for development if they are covered extensively with wetlands - even if accessibility is significantly increased due to the roadway widening.

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## II. SECONDARY IMPACTS ANALYSIS

Table 1 provides a summary of average daily traffic operations by direction along the Parkway during the AM and PM peak hours under current, No-Build, and Build conditions. The levels-of-service in this table were taken directly from the *Traffic Impact Analysis*. The following locations improve from LOS F conditions under the No-Build Alternative to LOS D or better conditions under the Build Alternative:

### **Northbound, AM peak hour**

- Interchange 69 to Interchange 74

### **Northbound, PM peak hour**

- Interchange 30 to Interchange 36
- Interchange 36 to Interchange 37
- Interchange 48 to Interchange 50

### **Southbound, AM peak hour**

- None

### **Southbound, PM peak hour**

- Interchange 50 to Interchange 48
- Interchange 36 to Interchange 30

Table 2 provides similar comparisons for peak summer weekend (Friday and Sunday peak hours) travel conditions. Although the summer weekend levels-of-service are completely different from the average daily levels, they are primarily experienced by recreational traffic and not likely to lead to permanent changes in land-use within the study area. Although the *Traffic Impact Analysis* considered only a single hour during the AM and PM peaks, it is likely that similar conditions will persist for some time during the “shoulders” of the peaks.

The *Traffic Impact Analysis* also provides levels-of-service for many of the Garden State Parkway on-ramp and off-ramp intersections with state, county, and local roads. The operations at these intersections are an indication of how easily one can access the Parkway from the surrounding area and, conversely, how easily one can access the surrounding area from the Parkway. Because there are no intersections that improve from failing (LOS F) conditions to non-failing conditions as a result of widening the Parkway, the operations of the individual intersections will not have a significant impact on the potential for secondary land-use impacts at any of the Interchanges between mileposts 80 and 30. It should be noted, however, that there are several intersections where improvements (such as installation of traffic signals) will likely be required in the future, whether or not the Parkway is widened.

**Table 1. Level of Service by Time Period and Direction for Peak Hours on a Typical Weekday**

Northbound Parkway Section	Current LOS		2025 No-Build LOS		2025 Build LOS	
	AM	PM	AM	PM	AM	PM
Interchange 30 to 36	B	B	D	F	C	D
Interchange 36 to 37	B	C	D	F	C	D
Interchange 37 to 38	B	C	C	D	C	C
Interchange 38 to 40	B	C	C	D	C	C
Interchange 40 to 44	A	B	C	D	B	C
Interchange 44 to 48	B	B	C	D	B	C
Interchange 48 to 50	B	C	C	F	B	D
Interchange 50 to 52	A	B	C	D	B	C
Interchange 52 to 58	B	B	C	E	B	C
Interchange 58 to 63	B	C	C	D	B	C
Interchange 63 to 67	C	B	C	C	B	B
Interchange 67 to 69	C	C	D	D	C	C
Interchange 69 to 74	D	B	F	C	D	B
Interchange 74 to 77	F	C	F	D	F	C
Interchange 77 to 80	F	C	F	C	F	B

Southbound Parkway Section	Current LOS		2025 No-Build LOS		2025 Build LOS	
	AM	PM	AM	PM	AM	PM
Interchange 80 to 77	B	F	C	F	B	F
Interchange 77 to 74	B	F	C	F	B	F
Interchange 74 to 69	B	D	B	E	A	D
Interchange 69 to 67	B	C	C	D	B	C
Interchange 67 to 63	B	B	C	C	B	C
Interchange 63 to 58	B	B	C	D	B	C
Interchange 58 to 52	A	B	C	E	B	C
Interchange 52 to 50	A	B	C	D	B	C
Interchange 50 to 48	B	C	C	F	B	D
Interchange 48 to 44	B	B	C	D	B	C
Interchange 44 to 40	A	B	C	D	B	C
Interchange 40 to 38	B	B	C	D	C	C
Interchange 38 to 37	B	C	D	E	C	D
Interchange 37 to 36	B	C	C	D	B	C
Interchange 36 to 30	B	B	D	F	C	D

Source: New Jersey Turnpike Authority, 2007



**Table 2. Level of Service by Day and Direction for Peak Hours on an August Weekend**

Northbound Parkway Section	Current LOS		2025 No-Build LOS		2025 Build LOS	
	Friday	Sunday	Friday	Sunday	Friday	Sunday
Interchange 30 to 36	D	E	F	F	F	F
Interchange 36 to 37	D	F	F	F	F	F
Interchange 37 to 38	E	F	F	F	E	F
Interchange 38 to 40	D	E	F	F	F	F
Interchange 40 to 44	C	C	F	F	D	D
Interchange 44 to 48	C	C	F	F	E	E
Interchange 48 to 50	D	D	F	F	E	E
Interchange 50 to 52	C	C	F	F	D	D
Interchange 52 to 58	C	C	F	F	D	D
Interchange 58 to 63	C	C	F	F	D	D
Interchange 63 to 67	C	C	D	D	C	C
Interchange 67 to 69	D	D	F	F	D	D
Interchange 69 to 74	C	D	C	F	C	D
Interchange 74 to 77	C	F	E	F	C	F
Interchange 77 to 80	C	F	D	F	B	D

Southbound Parkway Section	Current LOS		2025 No-Build LOS		2025 Build LOS	
	Friday	Sunday	Friday	Sunday	Friday	Sunday
Interchange 80 to 77	F	F	F	F	F	F
Interchange 77 to 74	F	F	F	F	F	F
Interchange 74 to 69	F	E	F	F	E	D
Interchange 69 to 67	F	F	F	F	E	E
Interchange 67 to 63	D	D	F	F	D	D
Interchange 63 to 58	D	D	F	F	E	E
Interchange 58 to 52	C	C	F	F	C	D
Interchange 52 to 50	C	C	F	F	C	D
Interchange 50 to 48	C	C	F	F	D	E
Interchange 48 to 44	C	C	E	F	C	D
Interchange 44 to 40	B	C	E	F	C	D
Interchange 40 to 38	D	E	F	F	E	F
Interchange 38 to 37	E	F	F	F	F	F
Interchange 37 to 36	D	F	F	F	E	F
Interchange 36 to 30	C	D	F	F	F	F

Source: New Jersey Turnpike Authority, 2007

Following the narrative analysis for each interchange within the project area is a summary of the characteristics of the private, vacant, developable parcels within a one-mile radius of that interchange<sup>13</sup>. This assessment, presented in tabular form, includes details for parcels within the Pinelands and those in the CAFRA area. This information includes a lot count, which is intended to provide an indicator for lot tenure. It also includes a breakdown of the percentage of the area that is within wetlands boundaries and the proportion of the area that is within an existing sewer service area<sup>14 15</sup>. A series of maps are also provided at the end of the report. The maps depict 2 sets of information for lands east and west of the Parkway; the vacant parcels combined with the wetlands boundaries within a one-mile radius of each of the interchanges within the project area, and the management area boundaries for the lands within that one-mile radius.

## **A. Interchange 80 – Beechwood/South Toms River**

Traffic entering the Garden State Parkway at this interchange in the southbound direction during an average weekday currently experiences LOS A or LOS B conditions for the entire length of the Parkway to Interchange 30 during the AM peak period. In 2025, under the No-Build Alternative, AM peak period conditions would become mostly LOS C until Interchange 38 and mostly LOS D between interchanges 38 and 30. These levels-of-service would improve to B and C, respectively, under the Build Alternative.

During the PM peak, southbound traffic currently experiences LOS F conditions from interchange 80 to interchange 74 and LOS D conditions from Interchange 74 to Interchange 69. South of Interchange 69, the Parkway operates at LOS B or C to Interchange 30 during a typical weekday. In 2025, under the No-Build Alternative, PM peak period conditions will deteriorate to LOS F between Interchanges 50 and 48 and between Interchanges 36 and 30. Elsewhere, the Parkway operates at mostly LOS D or E. The addition of a third southbound lane would improve PM peak period conditions to LOS C or D south of Interchange 74. However, the Parkway would continue to operate at LOS F between Interchange 80 and 74.

There is not a significant change in accessibility towards Atlantic City or other southern destinations for people who reside in the vicinity of Interchange 80 and commute towards the south during the morning rush hour as a result of widening the Parkway. Under the No-Build Alternative, there is no congestion in the southbound direction during the AM peak period of a typical weekday. Therefore, widening the Parkway does little to improve travel times for these commuters. For those who live near Interchange 80 and commute to work in the southbound direction during the PM peak, there is a significant improvement in traffic operations between

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<sup>13</sup> For the purpose of the land use analysis, vacant lands were considered to include parcels that were 99% or more undeveloped. For areas within the Pinelands the calculation of vacant developable land is based on the Commission's 2004 lot status layer that is, in turn, derived from "Mod IV" data from the NJ Department of Treasury's Division of Taxation. Inside the Pinelands, "vacant developable land" encompasses parcels designated as either "vacant" or "vacant-committed" (those parcels where a development application has been approved but where development has yet to occur). The source of information for the estimate of vacant acres outside the Pinelands is the 2002 NJDEP Land Use/Land Cover data. The Land Use/Land Cover use categories that were considered vacant-developable included Agriculture (code 2000), Forest (code 4000), Urban, Other Urban or Built Up Land (Code 1700), Wetlands (code 6000), and Barren Land (code 7300 and 7600).

<sup>14</sup> For the purpose of this analysis, if a portion of a lot overlapped a sewer service area boundary the entire parcel was considered to have sewer service accessibility and therefore was considered within the respective sewer service area.

<sup>15</sup> It is important to note that the interchange details for areas within sewer service boundaries are based on sewer service area boundaries as of 2006 obtained from NJDEP

Interchanges 50 and 48. Consequently, accessibility increases for points south of Interchange 48 (i.e., Atlantic County), and the traffic backups that occur in this location under the No-Build Alternative are not present under the Build Alternative.

Within the municipalities that surround Interchange 80 (South Toms River and Beachwood boroughs and Berkeley and Dover townships), less than one percent of the employed residents work in Atlantic County. Even with strong employment growth in Atlantic County, it is unlikely that many of the new workers would choose to live in the vicinity of Interchange 80. Of those, only the second shift workers who would commute to work during the afternoon peak period and third-shift workers who commute home from work during the AM peak period would experience reduced travel times as a consequence of widening the Garden State Parkway between Interchanges 30 and 80. Therefore, the widening project would have only a very low potential to create secondary land use impacts at Interchange 80. A summary of the accessibility changes for commutes from Interchange 80 is provided in the Table 3.

**Table 3. Accessibility Changes for Commutes from Interchange 80**

<b>Commutes From Int 80:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	None	0	0.00%
<b>Southbound, PM Peak</b>	Improves for commutes to Atlantic County	29	0.05%
<b>Northbound, AM Peak</b>	N/A	----	----
<b>Northbound, PM Peak</b>	N/A	----	----
<b>Totals:</b>		29	0.05%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

There are a variety of land use designations in the vicinity of Interchange 80. They include Forest, Rural Development, Agricultural Production, and Regional Growth areas within the Preservation Area and Coastal Environmentally Sensitive and Coastal Suburban Planning areas outside of the Preservation Area. The vast majority of the vacant land inside the Pinelands Area is within a regional growth area, while most of the vacant land outside of the Pinelands Areas is designated as Suburban Planning Areas (PA2). An analysis of the land uses within a one-mile radius of the Interchange is shown below.

**Table 4. Vacant Land within a One-Mile Radius of Interchange 80**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots	11		5			381		397
Vacant Acres	29.7		68.4			243.9		342.0
Pct. Sewer	93.2%		100.0%			99.9%		99.4%
Pct. Wetlands	41.4%		0.0%			6.7%		8.3%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		670		5	675
Vacant Acres		117.4		30.7	148.1
Pct. Sewer		100.0%		99.4%	99.9%
Pct. Wetlands		34.8%		61.4%	40.3%

Source: Pinelands Commission, 2007

## B. Interchange 77 - Berkeley

Average weekday southbound traffic entering the Parkway at Interchange 77 experiences the same changes in accessibility as southbound traffic entering at Interchange 80. That is, AM peak period traffic operates with no congestion under both the No-Build and Build Alternatives. PM peak period traffic experiences LOS F conditions between Interchanges 50 and 48 and between Interchanges 36 and 30 under the No-Build Alternative. These are improved to LOS D under the Build Alternative. Workers who live in the vicinity of Interchange 77 include only Berkeley Township and Beachwood Borough residents. Less than one percent of these work in Atlantic County and would experience increased accessibility with a widened Parkway.

In contrast, 25 percent of Berkeley Township and Beachwood Borough employed residents work in Dover Township and an additional 11 percent work in Lakewood and Brick townships. Together, these three townships are forecast to add nearly 17,000 new jobs between 2000 and 2025. Therefore, increases in accessibility from Interchange 77 towards the north may generate secondary land use impacts.

Northbound traffic entering the Parkway at Interchange 77 currently operates at LOS F in the AM peak period and LOS C in the PM peak. Under the No-Build Alternative, traffic will continue to operate at LOS F and C in the AM and PM peaks, respectively. Under the Build Alternative, AM peak conditions remain at LOS F, but PM peak conditions improve to LOS B.

Although the volume-to-capacity ratio (v/c) associated with the LOS F conditions is reduced from 1.87 in the No-Build Alternative to 1.11 in the Build Alternative, northbound AM peak period traffic accessing the Parkway at Interchange 77 will still have to endure failing conditions and congestion between Interchanges 77 and 80. In addition, according the Travel Demand Model outputs, traffic volumes are higher north of Interchange 80 than between Interchanges 77 and 80. Therefore, congested travel conditions will persist for some distance beyond Interchange 80 under both No-Build and Build Alternatives. Consequently, the widening project would have only a very low potential to create secondary land use impacts at Interchange 77, as summarized in Table 5.

**Table 5. Accessibility Changes for Commutes from Interchange 77**

Commutes From Int 77:	Accessibility Changes	Affected Workers (2000)	Percent of Employed Residents
Southbound, AM Peak	None	0	0.00%
Southbound, PM Peak	Improves for commutes to Atlantic County	7	0.04%
Northbound, AM Peak	None	0	0.00%
Northbound, PM Peak	None	0	0.00%
<b>Totals:</b>		7	0.04%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

The area surrounding interchange 77 on the west side of the Parkway is primarily designated as either Preservation or Forest areas, although there is some land within an Agricultural Production Area. East of the Parkway, the land within the Pinelands National Reserve is designated as either Regional Growth or Forest areas. Outside of the National Reserve area are Coastal Suburban Planning and Coastal Environmentally Sensitive areas.

The following tables summarize the land uses inside and outside the Pinelands Area within a one-mile radius of Interchanges 77S and 77N. There is vacant land within Regional Growth Areas and Suburban Planning areas near Interchange 77S. However, the vacant land surrounding Interchange 77N is characterized by Forest and Preservation areas within the Pinelands. There is a mix of Suburban Planning and Environmentally Sensitive (PA5) areas outside the Pinelands.

**Table 6. Vacant Land within a One-Mile Radius of Interchange 77S**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots			51			46		97
Vacant Acres			21.3			39.0		60.3
Pct. Sewer			0.0%			100.0%		64.7%
Pct. Wetlands			2.8%			71.4%		47.2%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		2,226			2,226
Vacant Acres		326.4			326.4
Pct. Sewer		100.0%			100.0%
Pct. Wetlands		15.3%			15.3%

Source: Pinelands Commission, 2007

**Table 7. Vacant Land within a One-Mile Radius of Interchange 77N**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							Total
	Ag	Federal	Forest	Village	Pres	RGA	RDA	
No. of Lots			7		199			206
Vacant Acres			1.1		253.2			254.3
Pct. Sewer			0.0%		0.0%			0.0%
Pct. Wetlands			0.0%		17.9%			17.8%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		1,373		28	1,401
Vacant Acres		368.7		120.1	488.8
Pct. Sewer		100.0%		73.2%	93.4%
Pct. Wetlands		2.3%		94.2%	24.9%

Source: Pinelands Commission, 2007

### C. Interchange 74 - Forked River/Waretown, Lacey

Lacey Township surrounds interchange 74. Between No-Build and Build alternatives, there are no changes in accessibility in the southbound direction during the AM peak. Average weekday southbound traffic entering the Parkway at Interchange 74 during the PM peak period and traveling past Interchange 48 experiences changes in accessibility under the Build Alternative compared to the No-Build Alternative. However, just over 2 percent of Lacey Township employed residents work in Atlantic County and only those who commute to work in PM peak would benefit from this change in accessibility.

About 19 percent of Lacey Township employed residents work in Dover Township, and another 9 percent work in Brick or Lakewood Townships. These workers would benefit from changes in accessibility to the north. Under both No-Build and Build alternatives the Parkway would operate at LOS F conditions in the northbound direction between Interchanges 74 and 80 during the AM peak period. During the PM peak, it would operate at LOS D between Interchange 74 and 77 and at LOS C between 77 and 80. These would improve to LOS C and B, respectively, under the Build Alternative. In neither peak period is the change in accessibility significant. The difference in operating conditions during the AM and PM peaks is not significant enough to result in large differences in travel times and therefore one would expect only a very low potential for secondary land use impacts at Interchange 74 as a result of the Garden State Parkway widening project. Accessibility changes for commutes from Interchange 74 are summarized in Table 8.

**Table 8. Accessibility Changes for Commutes from Interchange 74**

Commutes From Int 74:	Accessibility Changes	Affected Workers (2000)	Percent of Employed Residents
Southbound, AM Peak	None	0	0.00%
Southbound, PM Peak	Improves for commutes to Atlantic County	20	0.17%
Northbound, AM Peak	None	0	0.00%
Northbound, PM Peak	None	0	0.00%
<b>Totals:</b>		20	0.17%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

The area surrounding interchange 74 on the west side of the Parkway is designated as either Preservation or Forest areas. East of the Parkway, most of the land is within the Pinelands National Reserve and designated as either Regional Growth or Forest areas, although a small portion is within a Rural Development Area. Outside the Pinelands vacant land is located within the Coastal Suburban Planning (PA2) and Coastal Environmentally Sensitive (PA5) Planning areas.

**Table 9. Vacant Land within a One-Mile Radius of Interchange 74**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							Total
	Ag	Federal	Forest	Village	Pres	RGA	RDA	
No. of Lots			1,259		619			1,878
Vacant Acres			105.5		497.4			602.9
Pct. Sewer			0.0%		0.0%			0.0%
Pct. Wetlands			33.1%		16.9%			19.7%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		1,580		8	1,588
Vacant Acres		331.3		28.5	359.9
Pct. Sewer		99.8%		100.0%	99.8%
Pct. Wetlands		0.9%		81.9%	7.3%

Source: Pinelands Commission, 2007

## **D. Interchange 69 - Route 532 Waretown/Forked River**

Interchange 69 is located in Ocean Township. In 2000, the Township was home to 2,877 employed residents. Only 4 percent of Ocean Township's employed residents work in Atlantic County. The improved accessibility in the PM peak period in the southbound direction under the Build Alternative would not significantly benefit residents in the vicinity of this interchange.

Of the Ocean Township residents who commute towards the north, the most prevalent destinations are Dover Township (13 percent) and Lacey Township (12 percent). Another 6 percent work in Berkeley and Brick townships. Changes in accessibility in the northbound direction would benefit these commuters.

In the No-Build Alternative, during the AM peak period, the Parkway operates at LOS F between Interchanges 69 and 74, and continues at LOS F to Interchange 80. Under the Build Alternative, operations improve to LOS D between Interchanges 69 and 74. Thus, the widening of the Parkway reduces travel times between Interchanges 69 and 74 and makes the Interchange 69 area a more attractive place to live for people who work in Lacey Township. The combination of the Parkway widening and the new interchange ramps that serve traffic to and from the north have the potential to cause secondary land use impacts at Interchange 69.

The commute from Ocean Township to Lacey Township will have the largest relative reduction in travel time with a widened Parkway. In 2000, 356 people made this commute; 250, or about 70 percent of these left for work during the AM peak period. Lacey Township had 5,450 jobs in 2000 and is projected to add 1,260 more by 2025<sup>16</sup>. More of these workers are likely to locate in areas surrounding Interchange 69 if the Garden State Parkway is widened.

Commuters returning home from work in Cape May County during the PM peak period will benefit from improved traffic operations between Interchanges 30 and 37. However, less than one percent of Ocean Township's employed residents work in Cape May County. Therefore, the improved operations between Interchanges 30 and 37 are not expected to contribute much additional development pressure in the areas around interchange 69.

Nevertheless, just over 9 percent of the commuters residing near Interchange 69 will be affected by the increase in accessibility that would result from widening the Parkway. As Table 10 suggests, this could potentially result in secondary land use impacts.

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<sup>16</sup> North Jersey Transportation Planning Authority, Access and Mobility 2030, Appendix B: NJTPA 2030 Final Population, Employment, and Household Forecasts, page Emp-10, June 2005.



**Table 10. Accessibility Changes for Commutes from Interchange 69**

Commutes From Int 69:	Accessibility Changes	Affected Workers (2000)	Percent of Employed Residents
Southbound, AM Peak	None	0	0.00%
Southbound, PM Peak	Improves for commutes to Atlantic County	11	0.38%
Northbound, AM Peak	Improves for commutes to Lacey Township	250	8.69%
Northbound, PM Peak	None	0	0.00%
<b>Totals:</b>		261	9.07%
<b>Potential for Secondary Land Use Impacts:</b>			<b>Yes</b>

Source: DVRPC, 2007

The vacant land within a one-mile radius of the interchange is designated as Forest Area within the Pinelands and Environmentally Sensitive (PA5) outside the Pinelands. Increased pressure for development within these areas due to secondary impacts would not be consistent with the Comprehensive Management Plan. Table 11 summarizes the vacant land within a one-mile radius of Interchange 69.

**Table 11. Vacant Land within a One-Mile Radius of Interchange 69**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							Total
	Ag	Federal	Forest	Village	Pres	RGA	RDA	
No. of Lots			59					59
Vacant Acres			665.2					665.2
Pct. Sewer			0.0%					0.0%
Pct. Wetlands			40.6%					40.6%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		2		785	787
Vacant Acres		0.3		501.5	501.9
Pct. Sewer		100.0%		94.3%	94.3%
Pct. Wetlands		13.0%		27.4%	27.4%

Source: Pinelands Commission, 2007

## **E. Interchange 67 - Route 554 Barnegat/Chatsworth**

Interchange 67 is in Barnegat Township. This is a partial interchange that has previously been approved for reconstruction as a full interchange by adding new ramps to serve traffic to and from the south. Only 4 percent of Barnegat Township's employed residents work in Atlantic County. The improved traffic conditions in the southbound direction during the PM peak period between Interchanges 50 and 48 as a result of widening the Parkway would have very little impact on land uses at Interchange 67.

The improved traffic conditions during the AM Peak period in the northbound direction between Interchanges 69 and 74 with the Parkway widening will make it easier for Barnegat Township residents to commute toward the north. As was the case with Interchange 69, the greatest relative benefit would be to those who work in Lacey Township.

Although the current commute from Barnegat to Lacey Township is congestion free, only 245, or about 4 percent, of Barnegat's employed residents work in Lacey Township. About 68 percent of these are first-shift workers who leave for work during the AM peak period. Although the number of workers who reside near Interchange 67 that would benefit from widening the Parkway is similar to the number residing near Interchange 69, they represent only about 3 percent of the total employed residents at this interchange.

The most prevalent northerly work locations for Barnegat Township workers are Dover and Lakewood townships, which together account for about 16 percent of Barnegat's employed residents. Although commutes to these areas would be subject to less congestion with a widened Parkway, they would still experience LOS F conditions from Interchange 74 through Interchange 80 and beyond.

Commuters returning home from work in Cape May County during the PM peak period will benefit from improved traffic operations between Interchanges 30 and 37. However, less than one percent of Barnegat Township's employed residents work in Cape May County. Therefore, the improved operations between Interchanges 30 and 37 are not expected to contribute development pressure in the areas around interchange 67.

Accessibility changes from Interchange 67 and the number and percentages of affected workers are shown in Table 12. Due to the relatively small percentage of affected workers, widening the Garden State Parkway does not appear to have the potential to result in secondary land use impacts in the vicinity of Interchange 67.

**Table 12. Accessibility Changes for Commutes from Interchange 67**

Commutes From Int 67:	Accessibility Changes	Affected Workers (2000)	Percent of Employed Residents
Southbound, AM Peak	None	0	0.00%
Southbound, PM Peak	Improves for commutes to Atlantic County	23	0.37%
Northbound, AM Peak	Improves for commutes to Lacey Township	167	2.70%
Northbound, PM Peak	None	0	0.00%
<b>Totals:</b>		190	3.07%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

However, even if the reduced congestion between interchanges 69 and 74 were to lead to additional development pressures in the vicinity of Interchange 67, there appears to be sufficient land suitable for development to accommodate it. All of the 761 vacant acres within a one-mile radius of Interchange 67 is designated as a Regional Growth Area or Suburban Planning Area PA2 and all of this vacant land is located within a sewer service area.

**Table 13. Vacant Land within a One-Mile Radius of Interchange 67**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots						294		294
Vacant Acres						616.9		616.9
Pct. Sewer						100.0%		100.0%
Pct. Wetlands						1.8%		1.8%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		23			23
Vacant Acres		145.2			145.2
Pct. Sewer		100.0%			100.0%
Pct. Wetlands		0.7%			0.7%

Source: Pinelands Commission, 2007

## F. Interchange 63 - Route 72

Interchange 63 is located in Stafford Township. About 7 percent of Stafford Township’s 9,912 employed residents commute to Atlantic County. Data is not available on the number of these resident workers who leave during the PM peak period. However, it is known that about 8 percent of all Stafford Township employed residents are second-shift workers who leave for work during the PM peak period (between 2:00 and 6:00 PM) and that about 10 percent of Atlantic County workers arrive at work during the PM peak period. Therefore, only 8 to 10 percent of the Stafford Township residents who commute to Atlantic County would benefit from the improved traffic conditions in the southbound direction during the PM peak between Interchanges 50 and 48 as a result of widening the Parkway. This is unlikely to lead to additional development pressures in the area surrounding Interchange 63.

The improved traffic conditions during the AM Peak period in the northbound direction between Interchanges 69 and 74 with the Parkway widening will make it easier for Stafford Township residents to commute toward the north. Again, the greatest relative benefit would be to those who work in Lacey Township, which is less than three percent of Stafford’s employed residents. Those who work beyond Lacey Township will encounter LOS F conditions under both the No-Build and Build Alternatives.

Commuters returning home from work in Cape May County during the PM peak will benefit from improved traffic operations between Interchanges 30 and 37. However, less than one percent of Stafford Township’s employed residents work in Cape May County. Only about 2 percent of the total employed resident workers who live in the vicinity of Interchange 63 would be affected by the accessibility changes that would result from widening the Garden State Parkway. Therefore, one would expect only a very low potential for secondary land use impacts, as summarized in Table 14.

**Table 14. Accessibility Changes for Commutes from Interchange 63**

<b>Commutes From Int 63:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	None	0	0.00%
<b>Southbound, PM Peak</b>	Improves for commutes to Atlantic County	47	0.47%
<b>Northbound, AM Peak</b>	Improves for commutes to Lacey Township	182	1.84%
<b>Northbound, PM Peak</b>	None	0	0.00%
<b>Totals:</b>		229	2.31%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

**Table 15. Vacant Land within a One-Mile Radius of Interchange 63**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots			6			184		190
Vacant Acres			59.4			425.4		484.7
Pct. Sewer			77.5%			97.8%		95.3%
Pct. Wetlands			22.1%			1.5%		4.0%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		13		26	39
Vacant Acres		102.5		379.7	482.2
Pct. Sewer		99.8%		100.0%	100.0%
Pct. Wetlands		0.6%		18.6%	14.7%

Source: Pinelands Commission, 2007

### G. Interchange 58 - Route 539 Tuckerton/Trenton

Interchange 58 is located in Little Egg Harbor Township. Most of the developed area of Little Egg Harbor Township is located approximately 3.5 miles from Interchange 58. Because of the geometry of Little Egg Harbor Township, most of its residents would use Interchange 58 to go north on the Garden State Parkway, but would likely use Interchange 50 to travel south on the Parkway.

If new development was to occur closer to Interchange 58, those residents would likely use Interchange 58 to go south on the Parkway. Under current conditions, southbound traffic operates at LOS A during the AM peak period and at LOS B during the PM peak period between Interchanges 58 and 52. In 2025, under the No-Build Alternative, traffic will operate at LOS C in the AM peak and at LOS E in the PM peak. These conditions will be improved to LOS B and LOS C, respectively, under the Build Alternative.

Although LOS E conditions do not necessarily represent stop-and-go conditions, LOS E is an unstable condition that could easily become LOS F with only a slight increase in traffic volumes.

About 35 percent of Little Egg Harbor’s employed residents work in Atlantic County. A little less than half of these people work in Atlantic City and the remainder are distributed throughout Atlantic County with Egg Harbor and Galloway Townships the most prevalent destinations. Although a large percent of Little Egg Harbor Township’s employed residents work in Atlantic County, the vast majority are first-shift workers who commute to work during the AM peak. About 7 percent of Little Egg Harbor Township employed residents leave for work during the PM peak period.

Less than two percent of Little Egg Harbor Township’s employed residents work in Lacey or Berkeley Townships. The improved traffic conditions during the AM Peak period in the northbound direction between Interchanges 69 and 74 with the Parkway widening should have only very minor secondary land use impacts in the area surrounding Interchange 58.

Commuters returning home from work in Cape May County during the PM peak period will benefit from improved traffic operations between Interchanges 30 and 37. However, less than one percent of Little Egg Harbor Township’s employed residents work in Cape May County. Therefore, the improved operations between Interchanges 30 and 37 are not expected to contribute development pressure in the areas around interchange 58. Table 16 summarizes the accessibility changes for commutes from Interchange 58.

**Table 16. Accessibility Changes for Commutes from Interchange 58**

<b>Commutes From Int 58:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	None	0	0.00%
<b>Southbound, PM Peak</b>	Improves for commutes to Atlantic County	165	2.38%
<b>Northbound, AM Peak</b>	Improves for commutes to Lacey Township	45	0.65%
<b>Northbound, PM Peak</b>	None	0	0.00%
<b>Totals:</b>		210	3.03%
<b>Potential for Secondary Land Use Impacts:</b>			<b>Yes</b>

Source: DVRPC, 2007

In the case of Interchange 58, the determination of the potential for secondary impacts cannot solely be based on numerical analysis. Because this is an attractive place to live for Atlantic County and Atlantic City workers, several other factors contribute to the conclusion that induced land-use impacts are likely in this location. These factors include the high percentage and relatively high number of Little Egg Harbor Township’s employed residents - 35% - who work in Atlantic City and County. The proportion of such workers is sharply greater than for any location north of Interchange 58. *(For example, the proportion of employed residents who work in Atlantic County using the two Interchanges immediately to the north, 63 and 67, is 7% and 4% respectively.)* Furthermore, as noted above, the southbound PM peak traffic conditions from Interchange 58 are borderline failure under the No-Build Alternative, but operate at LOS C under the Build Alternative. Finally, development in the regional growth and rural development areas east of the Parkway may result in growth pressures extending into the Preservation Area west of the Parkway.

West of the Parkway, the land surrounding Interchange 58 is within the Preservation Area. East of the Parkway, land designations include Rural Development, Regional Growth, Forest and

Pinelands Town areas. Vacant land within a one-mile radius of Interchange 58 is shown in Table 17.

**Table 17. Vacant Land within a One-Mile Radius of Interchange 58**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							Total
	Ag	Federal	Forest	Village	Pres	RGA	RDA	
No. of Lots					7			7
Vacant Acres					50.4			50.4
Pct. Sewer					0.0%			0.0%
Pct. Wetlands					11.4%			11.4%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				Total
	PA1	PA2	PA4	PA5	
No. of Lots			172	1	173
Vacant Acres			392.4	0.2	392.6
Pct. Sewer			0.0%	0.0%	0.0%
Pct. Wetlands			6.5%	100.0%	6.6%

Source: Pinelands Commission, 2007

Within a one-mile radius of the interchange, there are 180 vacant lots. The vast majority of these, 172 lots, are within a Rural Planning Area (PA4) outside the Pinelands. There is one vacant 0.2 acre lot in an Environmentally Sensitive Area (PA5) outside the Pinelands and seven lots totaling 50.4 acres in a Preservation Area inside the Pinelands. There is no sewer service for any of these vacant lots. There is no vacant land designated as Suburban Planning or Regional Growth areas within one mile of Interchange 58.

In addition to evaluating the extent to which sewer and wetlands boundaries overlapped the vacant land areas in proximity to the Interchanges, an assessment was conducted to determine whether any lands identified as vacant are included within boundaries of lands purchased by the NJDEP Green Acres Program. Based on this assessment, approximately 58 of the 392 acres (14.8%) of vacant land in Planning Area 4 within a one-mile radius of Interchange 58 have been purchased under this program.<sup>17</sup>

Due to the very large expected growth in Atlantic City employment; the large percentage of Little Egg Harbor Township residents who work in Atlantic City; the potential for southbound, PM peak traffic to deteriorate into stop-and-go conditions under the No-Build Alternative, but not under the Build Alternative; and the absence of vacant land designated for growth; it is crucially important that plans be put into effect to direct any future development in this area to areas that are consistent with the Pinelands and CAFRA land use plans.

## H. Interchanges 52 and 50 - New Gretna

Interchanges 52 and 50 are located in Bass River Township, Burlington County. Over 40 percent of Bass River Township's employed residents work in Atlantic County. However, in

<sup>17</sup> Source: NJDEP State Owned, Protected Open Space and Recreation Areas in New Jersey, Edition: 2007

2000, Bass River Township had only 762 employed resident workers. Only 69 of these leave for work during the PM peak period.

Very few Bass River Township residents commute to work toward the north. Only 24 percent (181) of the employed residents commute to all of Ocean County. Less than two percent work in Cape May County. The improved traffic operations between Interchanges 30 and 37 during the PM peak would have a negligible impact on Bass River Township development patterns.

Very few Bass River Township workers would experience reduced travel times as a consequence of widening the Garden State Parkway between Interchanges 30 and 80. Therefore, the widening project would have only a very low potential to create secondary land use impacts at Interchanges 52 or 50, as summarized in Table 18.

**Table 18. Accessibility Changes for Commutes from Interchanges 52 and 50**

<b>Commutes From Ints 52 &amp; 50:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	None	0	0.00%
<b>Southbound, PM Peak</b>	Improves for commutes to Atlantic County	28	3.67%
<b>Northbound, AM Peak</b>	Improves for commutes to Lacey Township	2	0.26%
<b>Northbound, PM Peak</b>	None	0	0.00%
<b>Totals:</b>		30	3.93%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

The land surrounding Interchanges 52 and 50 includes Forest, Pinelands Village, and Preservation areas. There is also a small portion of land designated as a Rural Development Area. Approximately 1.2 of the 207 acres of vacant land in Planning Area 5 within a one-mile radius of Interchange 52 have been purchased under the NJDEP Green Acres program. Tables 19 and 20 display a summary of the vacant land within a one-mile radius of Interchanges 52 and 50, respectively.



**Table 19. Vacant Land within a One-Mile Radius of Interchange 52**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots			3	22	3		5	33
Vacant Acres			66.8	203.7	31.2		16.0	317.7
Pct. Sewer			0.0%	0.0%	0.0%		0.0%	0.0%
Pct. Wetlands			89.2%	40.8%	91.4%		10.5%	54.4%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		7		11	18
Vacant Acres		97.3		207.3	304.6
Pct. Sewer		0.0%		0.0%	0.0%
Pct. Wetlands		39.6%		89.0%	73.2%

**Table 20. Vacant Land within a One-Mile Radius of Interchange 50**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots			12	52	15			79
Vacant Acres			48.8	150.0	407.5			606.3
Pct. Sewer			0.0%	0.0%	0.0%			0.0%
Pct. Wetlands			99.8%	19.7%	96.5%			77.8%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots				37	37
Vacant Acres				110.2	110.2
Pct. Sewer				0.0%	0.0%
Pct. Wetlands				99.7%	99.7%

Source: Pinelands Commission, 2007

**I. Interchanges 48, 44, and 40 - Port Republic/Smithville, Route 575 Pomona, US 30 White Horse Pike East**

Interchanges 48, 44, and 40 are all partial interchanges that only serve traffic movements to and from the north. These interchanges are used primarily by trips originating in Port Republic City, Galloway Township, and Abescon City.

Currently, northbound traffic operates at LOS D or better between Interchange 40 and Interchange 74 in both the AM and PM peaks. North of Interchange 74, northbound traffic currently operates at LOS F conditions in the AM peak period and LOS C in the PM peak. Under the No-Build Alternative, new LOS F conditions will exist between interchanges 48 and 50 during the PM peak and between interchanges 69 and 74 during the AM peak. Both of these will be improved to LOS D under the Build Alternative.

Only small percentages of Port Republic City (2 percent), Galloway Township (3 percent), and Absecon City (1 percent) employed residents work in Ocean County. Only the second-shift

workers who commute to work during the PM peak period and the third-shift workers who return home from their jobs in Ocean County during the AM peak would experience improved travel conditions. Consequently, the widening project would have only a very low potential to create secondary land use impacts at Interchanges 48, 44, and 40. Table 21 summarizes the accessibility changes for commutes from these interchanges.

**Table 21. Accessibility Changes for Commutes from Interchanges 48, 44, and 40**

<b>Commutes From Ints 48, 44 &amp; 40:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	Improves for return home trips from Ocean County	19	0.10%
<b>Southbound, PM Peak</b>	None	0	0.00%
<b>Northbound, AM Peak</b>	None	0	0.00%
<b>Northbound, PM Peak</b>	Improves for commutes to Ocean County	38	0.20%
<b>Totals:</b>		57	0.30%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

There are numerous and varied land use designations surrounding these interchanges. Most of the land around Interchange 48 is in Preservation or Forest areas. The land west of Interchange 44 is mostly in a Rural Development Area, but there are also Forest, Agricultural Production, and Regional Growth areas. The land west of Interchange 40 includes Federal/Military Facilities, Pinelands Village, Regional Growth and Rural Development Areas. CAFRA areas are located east of Interchanges 44 and 40, with land designations ranging from Coastal Environmentally Sensitive to Coastal Suburban Planning areas.

Vacant land within a one-mile radius of each of these interchanges both inside and outside the Pinelands areas are summarized in Tables 22, 23, and 24.

**Table 22. Vacant Land within a One-Mile Radius of Interchange 48**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots			1	6				7
Vacant Acres			6.2	90.0				96.2
Pct. Sewer			0.0%	0.0%				0.0%
Pct. Wetlands			100.0%	98.6%				98.7%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots			10	5	15
Vacant Acres			87.1	42.8	129.9
Pct. Sewer			0.0%	0.0%	0.0%
Pct. Wetlands			67.9%	97.7%	77.7%

Source: Pinelands Commission, 2007

**Table 23. Vacant Land within a One-Mile Radius of Interchange 44**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots							134	134
Vacant Acres							364.5	364.5
Pct. Sewer							0.0%	0.0%
Pct. Wetlands							11.4%	11.4%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots		1	42	5	48
Vacant Acres		48.0	143.6	112.1	303.7
Pct. Sewer		100.0%	10.7%	53.8%	40.7%
Pct. Wetlands		0.0%	14.4%	73.4%	33.9%

Source: Pinelands Commission, 2007

**Table 24. Vacant Land within a One-Mile Radius of Interchange 40**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots		2				469		471
Vacant Acres		141.4				174.3		315.8
Pct. Sewer		100.0%				96.1%		97.8%
Pct. Wetlands		58.1%				5.0%		28.8%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots	39	2			41
Vacant Acres	33.8	2.3			36.1
Pct. Sewer	85.4%	0.0			86.3%
Pct. Wetlands	24.6%	0.0%			23.0%

Source: Pinelands Commission, 2007

## J. Atlantic City Service Plaza

Although not technically an interchange, this service plaza is used to access the Garden State Parkway southbound from Jimmy Leeds Road. This service plaza is located in the center of Galloway Township. Currently, southbound traffic from this area operates at LOS C or better during both the AM and PM peak periods. Under the No-Build Alternative, operations deteriorate to LOS F conditions during the PM peak between Interchanges 36 and 30. Under the Build Alternative, operations improve to LOS D.

Galloway Township residents who commute past Interchange 30 (i.e., to Cape May County) during the PM peak would benefit from the proposed Parkway widening. Just over two percent of Galloway Township’s employed residents work in Cape May County. Therefore, there is only a very low potential for undesirable secondary land impacts in the vicinity of the Atlantic City Service Plaza. Table 25 displays a summary of the accessibility changes for commutes from the service plaza area.

**Table 25. Accessibility Changes for Commutes from Atlantic City Service Plaza**

<b>Commutes From A.C. Service</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	None	0	0.00%
<b>Southbound, PM Peak</b>	Improves for commutes to Cape May County	30	0.20%
<b>Northbound, AM Peak</b>	None	0	0.00%
<b>Northbound, PM Peak</b>	None	0	0.00%
<b>Totals:</b>		30	0.20%
<b>Potential for Secondary Land Use Impacts:</b>			<b>No</b>

Source: DVRPC, 2007

### K. Interchange 38 - Atlantic City Expressway

Interchange 38 connects two limited-access facilities, the Atlantic City Expressway and the Garden State Parkway. This interchange does not provide any direction access between the Garden State Parkway and adjacent land uses. The nearest access points along the Atlantic City Expressway are approximately two miles away at Absecon Avenue to the west and at North New Road to the east. Traffic from these areas wishing to travel north or south is just as likely to use Parkway Interchanges 37 or 36. Vacant land within a one-mile radius of this interchange is summarized in Table 26. Inside the Pinelands, land is designated as a Regional Growth Area; outside the Pinelands, vacant land is designated as PA1 (Metropolitan Planning Area).

**Table 26. Vacant Land within a One-Mile Radius of Interchange 38**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots						170		170
Vacant Acres						403.1		403.1
Pct. Sewer						100.0%		100.0%
Pct. Wetlands						4.0%		4.0%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots	246				246
Vacant Acres	111.6				111.6
Pct. Sewer	99.7%				99.7%
Pct. Wetlands	9.9%				9.9%

Source: Pinelands Commission, 2007

### L. Interchanges 37 and 36 - Washington Ave/Pleasantville, US 40/322

Interchange 37 is a partial interchange serves traffic movements to and from the north. Less than a mile away, Interchange 36 is a full interchange serving all traffic movements. These interchanges are used primarily by trips originating in Egg Harbor Township and Pleasantville, Northfield, and Linwood cities. For all of these municipalities, the most prevalent work destination is Atlantic City. Between 23 and 49 percent of the employed residents in these municipalities work in Atlantic City. While the growth in Atlantic City employment will likely lead to more residential development in this area, that would not be considered a secondary impact of widening the Parkway.

The residents of these municipalities who commute to either Ocean or Cape May counties will, however, experience improved traffic conditions with a widened Parkway. The improvement for those commuting to Ocean County will occur between Interchanges 48 and 50 during in the PM peak period. For those commuting southbound to Cape May County during the PM peak, the improvement will occur between Interchange 36 and 30. Those returning from work in Cape May County northbound to this area during the PM peak will also see improved traffic operations between Interchanges 30 and 37.

Less than one percent of employed residents of Egg Harbor Township, Pleasantville, Northfield, or Linwood cities commute to Ocean County. Only one percent of Pleasantville City’s employed

residents commute to Cape May County. For Northfield and Linwood cities, this value rises to four percent and six percent, respectively. Nevertheless, there were less than 200 residents of each of these cities who commuted to Cape May County in 2000.

For Egg Harbor Township, 5 percent, or just over 800 employed residents commuted to Cape May County in 2000. Of these, both those who commute to work and those who return home from work during the PM peak will benefit from improved traffic operations under the Build Alternative.

While it is not known how many of these Cape May workers commuted to work during the PM peak, it is known that about 9 percent of all Egg Harbor Township resident workers leave for work during the PM peak period. It is likely that the majority of Egg Harbor Township’s employed residents who work second shift, work in Atlantic City.

Accessibility changes from interchanges 37 and 36 and the number and percentages of affected workers are shown in the tabulation below. Although only a relatively small percentage of workers are affected, the absolute number is large enough that widening the Garden State Parkway appears to have the potential to result in secondary land use impacts in the vicinity of these Interchanges 37 and 36, as summarized in Table 27.

**Table 27. Accessibility Changes for Commutes from Interchanges 37 and 36**

<b>Commutes From Ints 37 &amp; 36:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	None	0	0.00%
<b>Southbound, PM Peak</b>	Improves for commutes to Cape May County	102	0.35%
<b>Northbound, AM Peak</b>	None	0	0.00%
<b>Northbound, PM Peak</b>	Improves for commutes to Ocean County and return home trips from Cape May County	790	2.68%
<b>Totals:</b>		892	3.03%
<b>Potential for Secondary Land Use Impacts:</b>			<b>Yes</b>

Source: DVRPC, 2007

Most of the township, however, is designated as a Regional Growth Area, which is an area of existing growth or is capable of accommodating growth influences.

All of the land within a 3.2 mile radius west of these interchanges is designated at either Federal/Military or Regional Growth areas. CAFRA areas with land designations ranging from Coastal Environmentally Sensitive to Coastal Metropolitan Planning areas are located east of the Parkway. The tabulations below demonstrate that there is a significant amount of vacant land designated Regional Growth Area or Metropolitan Planning Area (PA1) within one-mile of each of these interchanges. However, there are three vacant, sewerred lots within Environmentally Sensitive Areas that should not be developed. Tables 28, 29, and 30 provide a summary of the vacant land surrounding these interchanges.

**Table 28. Vacant Land within a One-Mile Radius of Interchange 37**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots						129		129
Vacant Acres						244.1		244.1
Pct. Sewer						100.0%		100.0%
Pct. Wetlands						20.2%		20.2%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots	234				234
Vacant Acres	68.2				68.2
Pct. Sewer	100.0%				100.0%
Pct. Wetlands	0.0%				0.0%

Source: Pinelands Commission, 2007

**Table 29. Vacant Land within a One-Mile Radius of Interchange 36A**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots						119		119
Vacant Acres						336.6		336.6
Pct. Sewer						63.4%		63.4%
Pct. Wetlands						42.3%		42.3%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots	206			1	207
Vacant Acres	57.3			0.9	58.2
Pct. Sewer	100.0%			100.0%	100.0%
Pct. Wetlands	0.0%			81.5%	1.2%

Source: Pinelands Commission, 2007

**Table 30. Vacant Land within a One-Mile Radius of Interchange 36**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							
	Ag	Federal	Forest	Village	Pres	RGA	RDA	Total
No. of Lots						134		134
Vacant Acres						442.8		442.8
Pct. Sewer						44.1%		44.1%
Pct. Wetlands						49.4%		49.4%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots	67			2	69
Vacant Acres	18.2			5.3	23.5
Pct. Sewer	100.0%			100.0%	100.0%
Pct. Wetlands	0.0%			97.0%	21.9%

Source: Pinelands Commission, 2007

### M. Interchange 30 - Somers Point/Downtown Ocean City

Interchange 30 is a partial interchange that serves traffic movements to and from the north. Traffic movements to and from the south are accommodated at Interchange 29. Interchange 30 is located in Somers Point City, although it also serves trips originating in portions of Longport Borough, and Ocean City (and to a lesser extent, Egg Harbor Township). Residents of these municipalities who commute toward the north during the PM peak period experience LOS F conditions between Interchanges 30 and 37 under the No-Build Alternative, but LOS D under the Build Alternative.

About 24 percent of Somers Point City's 5,673 employed residents work in Atlantic City and 10 percent work in Egg Harbor Township. Another 4 percent work in Galloway Township, Port Republic City and municipalities in Ocean County.

About 26 percent of Longport Borough's 476 employed residents work in Atlantic City and 8 percent work in Egg Harbor Township. Another 3 percent work in Galloway Township.

About 12 percent of Ocean City's 7,368 employed residents work in Atlantic City and 6 percent work in Egg Harbor Township. Another 2 percent work in Galloway Township.

Thus, a combined 28 percent of the 13,517 employed residents in the municipalities surrounding Interchange 30 commute towards the north to destinations along the Garden State Parkway. Those who leave for work during the PM peak period would experience improved traffic operations if the Parkway were widened. This total for these three municipalities is about 558). Many of these second-shift workers are likely to work in Atlantic City, due to the 24-hour nature of that city. Therefore, there is the potential for the Parkway widening to create secondary land use impacts in the vicinity of Interchange 30, as summarized in Table 31.



**Table 31. Accessibility Changes for Commutes from Interchange 30**

<b>Commutes From Int 30:</b>	<b>Accessibility Changes</b>	<b>Affected Workers (2000)</b>	<b>Percent of Employed Residents</b>
<b>Southbound, AM Peak</b>	N/A	----	----
<b>Southbound, PM Peak</b>	N/A	----	----
<b>Northbound, AM Peak</b>	None	0	0.00%
<b>Northbound, PM Peak</b>	Improves for commutes to portions of Atlantic County and Ocean County	558	4.13%
<b>Totals:</b>		558	4.13%
<b>Potential for Secondary Land Use Impacts:</b>			<b>Yes</b>

Source: DVRPC, 2007

The land surrounding Interchange 30 is outside the boundaries of the Pinelands Area and the Pinelands National Reserve; however, it is within the boundaries of Egg Harbor Township. The Township has recently completed a community design plan that proposes two specific implementation strategies that are likely to be affected by the potential for secondary impacts as a consequence of the Parkway widening project:

- That zoning densities within the areas around Interchange 30 be reduced in order to promote compact mixed use centers within the Regional Growth Areas of the municipality; and
- That a new half interchange should be developed on the Garden State Parkway at the intersection of Ocean Heights Avenue to provide better access to and from the north.

In view of the Township's plan and the strategies that focus on the area in the vicinity of Interchange 30, Egg Harbor Township should be advised of the potential for secondary impacts that are likely to arise in conjunction with the Parkway widening proposal. These impacts should be considered when the Township conducts more detailed planning for this area.

**Table 32. Vacant Land within a One-Mile Radius of Interchange 30**

Land Use Analysis	Vacant Acres in Management Areas Inside Pinelands							Total
	Ag	Federal	Forest	Village	Pres	RGA	RDA	
No. of Lots								0
Vacant Acres								0.0
Pct. Sewer								0.0%
Pct. Wetlands								0.0%

Land Use Analysis	Vacant Acres in Planning Areas Outside Pinelands				
	PA1	PA2	PA4	PA5	Total
No. of Lots	10			26	36
Vacant Acres	1.6			36.6	38.2
Pct. Sewer	100.0%			100.0%	100.0%
Pct. Wetlands	1.4%			99.2%	95.1%

Source: Pinelands Commission, 2007

### III. CONCLUSIONS

Based on the foregoing analysis, the potential for secondary land use impacts associated with the widening of the Garden State Parkway is relatively minor and limited. However, induced land use impacts associated with widening the Garden State Parkway are likely to occur in the areas surrounding Interchanges 30, 36, 37, 58, and 69. The highest potential for such impacts occurs at Interchanges 30, 36, and 37 as the major activity center of Atlantic City becomes more accessible if the Parkway is widened. Egg Harbor Township, Somers Point City, and Ocean City are all currently desirable places to live for Atlantic City employees. As Atlantic City employment increases in the next 20 years, new workers will want to locate in these municipalities. A widened Parkway will allow easier commutes for these workers and further increase the desirability of these municipalities.

Egg Harbor Township's Livable Community Plan for the Interchange 30 area presents an opportunity to mitigate undesirable secondary land use impacts in this area associated with the Parkway widening. Any increase in growth pressure experienced at interchanges 36 and 37 are likely to occur within Regional Growth Areas within the Pinelands which, according to the Pinelands Comprehensive Management Plan, are areas of existing growth or lands which are capable of accommodating growth influences.

Little Egg Harbor Township is also a very attractive place to live for Atlantic City workers. Consequently, the determination of secondary impacts at Interchange 58 cannot be based solely on a numerical analysis. There are several factors which, in combination, warrant special attention at this location. First, the level of service at Interchange 58 under the Build versus the No-Build Alternative will improve markedly. Second, a high percentage and relatively high number of Little Egg Harbor Township's employed residents work in Atlantic County and City, which is expected to add a very large number of new jobs in the near future. The proportion of such workers - 35% - is considerably greater than for any location north of Interchange 58. Third, development in the regional growth and rural development areas east of the Parkway may result in growth pressures extending into the Preservation Area west of the Parkway. Finally, any additional development in the vicinity of Interchange 58 would occur in the Forest or Preservation areas within the Pinelands or the PA5 areas outside the Pinelands.

The Parkway widening at Interchange 69 may also induce secondary land use impacts in Ocean Township that would occur in the Forest or Preservation Areas.

A summary of the potential for secondary land use impacts for all Garden State Parkway interchanges between mileposts 30 and 80 is provided in Table 33.

**Table 33. Summary of Potential Secondary Impacts**

<b>Location</b>	<b>2000 Employed Resident Workers Served by Interchange</b>	<b>Number Affected by Accessibility Changes due to Parkway Widening</b>	<b>Percent Affected by Accessibility Changes due to Parkway Widening</b>	<b>Potential for Secondary Impacts</b>
<b>Interchange 80</b>	58,011	29	0.05%	No
<b>Interchange 77</b>	15,651	7	0.04%	No
<b>Interchange 74</b>	11,799	20	0.17%	No
<b>Interchange 69</b>	2,877	261	9.07%	Yes
<b>Interchange 67</b>	6,193	190	3.07%	No
<b>Interchange 63</b>	9,912	229	2.31%	No
<b>Interchange 58</b>	6,928	210	3.03%	Yes
<b>Interchanges 52 &amp; 50</b>	762	30	3.93%	No
<b>Interchanges 48, 44, &amp; 40</b>	19,029	57	0.30%	No
<b>A. C. Service Plaza</b>	14,807	30	0.20%	No
<b>Interchanges 37 &amp; 36</b>	29,448	892	3.03%	Yes
<b>Interchange 30</b>	13,517	558	4.13%	Yes

Source: DVRPC, 2007

# **Assessment of Secondary Impacts Associated with the Garden State Parkway Widening Project, Milepost 30 to 80**

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**Geographic Area Covered:** The Garden State Parkway corridor from Milepost 30 in Somers Point City, Atlantic County to Milepost 80 in South Toms River Borough, Ocean County, New Jersey.

**Key Words:** Secondary Impacts, Garden State Parkway, Land Use, Accessibility, CTPP, Journey-to-Work, Traffic Impact Analysis.

## **ABSTRACT**

This document is intended to help determine the location and magnitude of any potential secondary land use impacts associated with widening the Garden State Parkway from Milepost 30 to 80. These impacts include growth-inducing effects and other effects related to induced changes in the pattern of land use. Induced growth is attributed to changes in accessibility caused by the project, which influences where development occurs. This analysis show that the potential for secondary land use impacts associated with the widening of the Garden State Parkway is relatively minor and limited. However, induced land use impacts are likely to occur in the areas surrounding Interchanges 30, 36, 37, 58, and 69.

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