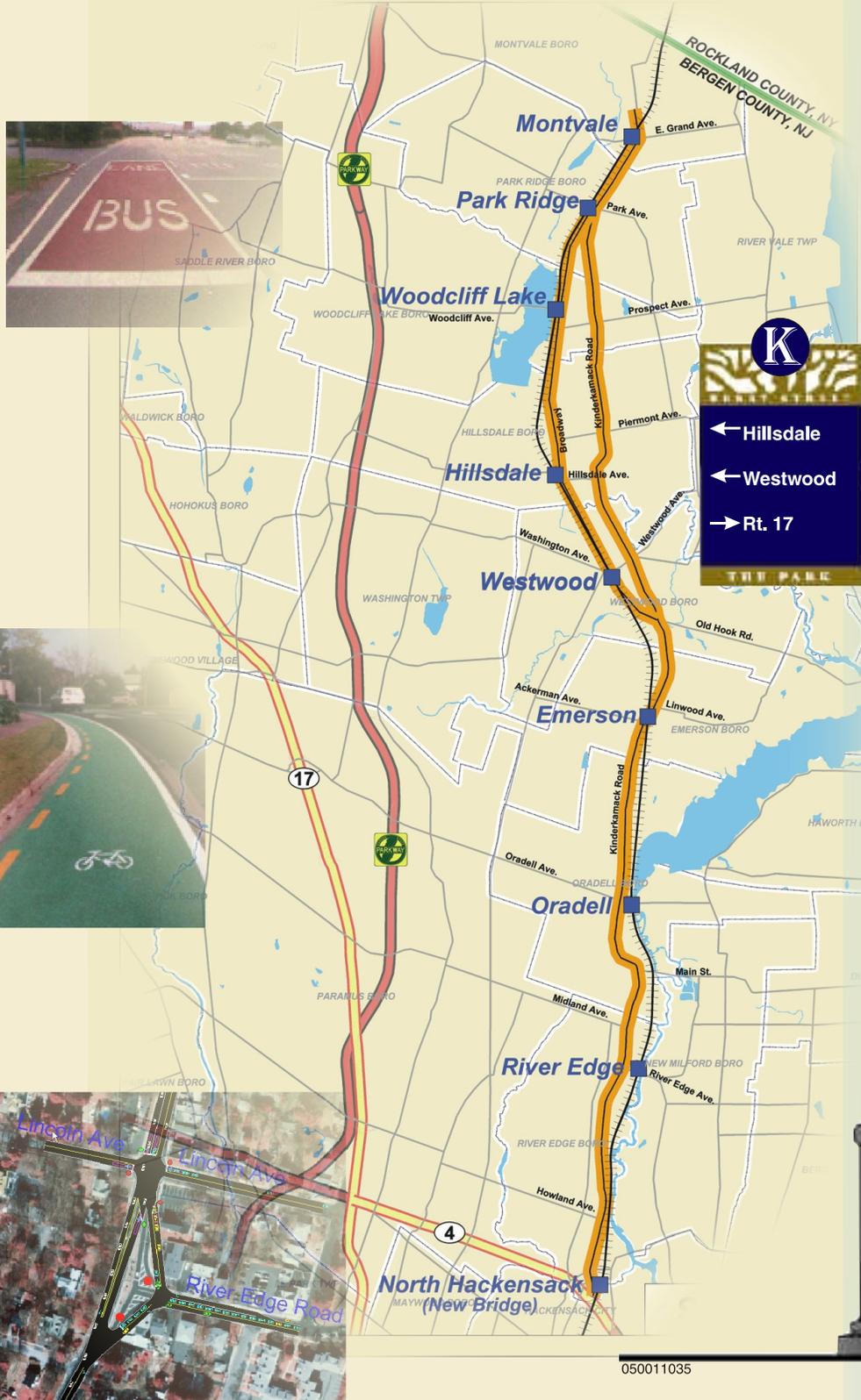




# Kinderkamack Road/Pascack Valley INTERMODAL CORRIDOR STUDY



**K**

← Hillsdale  
← Westwood  
→ Rt. 17

THE PARK

Fallon BERRY

**K**

→ Montvale  
← Oradell  
→ Rt. 17

THE PARK

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## EXECUTIVE SUMMARY

### Study Objectives

Through a competitive Technical Study grant program, under the auspices of the North Jersey Transportation Planning Authority (NJTPA), the Bergen County Department of Planning and Economic Development has undertaken a study of the Kinderkamack Road/Pascack Valley Corridor. This corridor was selected due to its role as the primary north-south commercial travel corridor for the eastern portion of the County, and because it offered a thorough blend of automobile, pedestrian, bicycle, and transit needs as well as a mix of land uses and densities throughout the corridor study area.

The *Kinderkamack Road/Pascack Valley Intermodal Corridor Study* detailed the existing conditions of the corridor, explored alternative options in the area, and developed a “blueprint” of transportation solutions that can be recommended and advanced for inclusion into the Transportation Improvement Program (TIP) and County Capital Improvement Program (CIP). In addition, the effort made to model travel and traffic conditions along this corridor and the resulting blueprint is flexible enough to be used within other travel corridors throughout Bergen County.



The study team examined the existing conditions along the corridor relating to demographic information, land uses, environmental conditions, transit services, and transportation infrastructure. A Synchro/SimTraffic model was created in order to gauge traffic conditions during peak hours and to identify intersections that provide insufficient levels of service. The



model was then used to predict intersection conditions that may exist in future years if no roadway improvements are made. Outreach also proved to be a valuable research tool for this study. A Technical Advisory Committee (TAC) composed of County and municipal officials, public safety officials, transit and other transportation representatives was created in order to discuss existing problems and proposed recommendations. Two public meetings allowed residents an opportunity to participate in the study and offer helpful input and information.



This information gathering effort allowed the study to address both corridor-wide issues and provide analysis of nine focus areas that warranted a more detailed analysis. These nine areas included the busier commercial districts at or near train stations, where a mix of travel modes, land uses, and activities were found to be most prevalent within the Kinderkamack Road/Pascack Valley corridor.

### **Key Findings**

The study identified three overarching issues that confront the entire corridor. Those issues are: (1) vehicular balance, which is a concern relative to vehicular speeds, congestion, and signalization that affect driver behaviors and the safety of all users of the roadway system; (2) pedestrian safety and access; and (3) how NJ TRANSIT bus and train operations could be incorporated into a healthier intermodal relationship. Issues identified in the nine intermodal centers included a need for commercial/transit district identity identification, pedestrian safety and access, illegal or undesirable vehicle movements, intersection configurations, and train-related traffic queues.



### **Recommendations**

The study produced recommendations that, if implemented, have the potential to mitigate or resolve many of the aforementioned issues in the study areas. These recommendations include applying “gateway treatments” to identify and foster safety awareness in intermodal and community centers, comprehensive completion of pedestrian facilities, traffic and train signalization and circulation analysis where necessary, and traffic calming measures where appropriate.

The recommendations made for specific locations within the corridor were incorporated into a “blueprint” plan for improving travel safety and efficiency in the area. The blueprint will also serve as a guide for considering improvements on other corridors throughout Bergen County.



The blueprint for Kinderkamack Road/Pascack Valley Line addresses seven major areas of concern. They include community identity, accident locations and dangerous intersections, sidewalk discontinuity, train-related traffic queues, traffic signalization, off-corridor issues affecting the corridor (either directly or indirectly), and developing an incremental approach to improvement.

# 1. INTRODUCTION

## 1.1. Document Purpose

The County of Bergen has undertaken the *Kinderkamack Road/Pascack Valley Intermodal Corridor Study* to define the transportation challenges in this important travel corridor and to identify multimodal solutions to the identified transportation deficiencies. This document is the final report for this study, and was compiled to detail the existing conditions of the study corridor, explore alternative options in the study corridor, and develop a “blueprint” of transportation solutions. Those strategies supported by the local communities will be promoted for inclusion in various funding streams and programs, as appropriate, including Transportation Improvement Program (TIP) and County Capital Improvement Program (CIP).

These strategies are listed in subsequent chapters of the report, as well as the potential, targeted pedestrian improvements as itemized in the Appendix as part of the Bergen County Department of Planning and Economic Development’s initiative to study improving pedestrian access to transit.

It should be noted that this study is, in essence, a commencement—a “kickoff” to identify improvements of varying size, complexity, and character throughout the corridor, thereby generating a “laundry list” blueprint of recommendations from which to draw future improvements, based upon community support and funding availability. With the aid of constituent municipalities, these may be advanced as appropriate, and with the appropriate combination of funding sources and programmatic inclusion, with an eye toward improving operations on the corridorwide level incrementally, with a series of discrete projects that have independent utility, but overall benefit.

As part of this effort, a model was created to simulate and study travel and traffic conditions along this corridor. Particular attention was paid to develop the tools and outcomes of this effort such that they would be flexible enough to apply to other travel corridors throughout Bergen County.

## 1.2. Study Corridor

The following outlines the physical locational characteristics of the Kinderkamack/Pascack Valley Corridor Study Area.

### 1.2.1. Bergen County

Bergen County is located in the northeastern corner of the State of New Jersey, across the Hudson River from New York City. Once economically tied to New York City, Bergen County has grown into an independent, diverse economy functioning as its own “Edge City”. At 237 square miles, Bergen County occupies only one thirty-third of the State of New Jersey’s landmass, yet has a one of the highest concentrations of employment and population.



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### 1.2.2. Kinderkamack/Pascack Valley Corridor

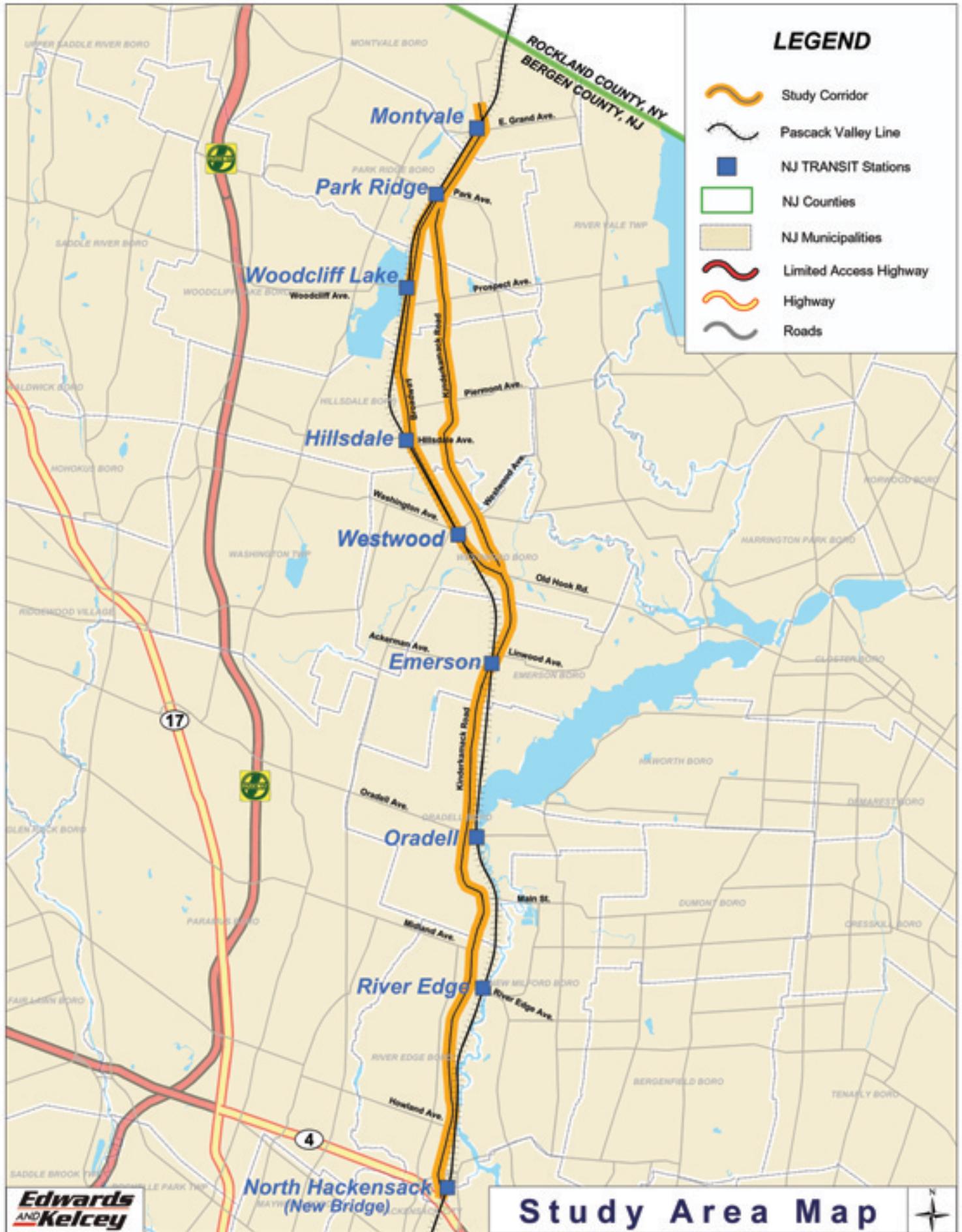
The area under study is the primary north-south transportation corridor for the eastern portion of Bergen County. The corridor includes Kinderkamack Road (County Route 503) from Route 4 to the New Jersey/New York state line, as well as the NJ TRANSIT Pascack Valley Line, which parallels Kinderkamack Road (See Figure 1). The study area is approximately 10 miles in length and from south to north it traverses the communities of:

- Hackensack
- River Edge
- Oradell
- Emerson
- Westwood
- Hillsdale
- Woodcliff Lake
- Park Ridge
- Montvale





# Kinderkamack Road and Pascack Valley Intermodal Corridor Study



### 1.3. Demographic Trends

Bergen County has experienced remarkable changes in population and employment since 1990. Bergen County's population increased 7.1% between 1990 and 2000. During the same time period, employment growth leveled off from the rapid growth of the 1980s. Since 2000, Bergen County has experienced modest levels of growth in both population and employment. Population and employment changes in the study area and in the individual municipalities also exhibit some of these trends. The sections that follow discuss population and employment trends and projections for Bergen County, the study area, and individual municipalities.

#### 1.3.1. Population

Between 2000 and 2005, Bergen County experienced a 2.5% increase in population according to the North Jersey Transportation Planning Authority (NJTPA). During this time period, population in the study area increased by 2.2%, with individual municipalities experiencing varying population growth rates ranging from -0.4% in Westwood to 5.6% in Oradell.

According to the NJTPA, the rate of population growth slowed after 2000. If recent trends continue, NJTPA predicts a 0.7% increase in Bergen County's population between 2005 and 2010 and a 0.8% increase in population within the study area during this same time period. If recent trends continue, between 2005 and 2010, Hillsdale will experience a greater percentage change of population growth than any of the other study area municipalities.

The continuation of recent trends until 2020 would result in a 3.8% increase in Bergen County's population and a 3.5% increase in study area population between 2005 and 2020. Woodcliff Lake would lead the municipalities in population growth with an 8.8% increase in population. The following table outlines recent and projected population changes.

**Table 1: Projected Population Changes - Bergen Co., Project Area, and Local Communities<sup>1</sup>**

	2000	2005	% change	2010	% change from 2005	2020	% change from 2005
Hackensack	42,680	44,090	3.3%	44,480	0.9%	46,040	4.4%
River Edge	10,950	11,000	0.5%	11,000	0.0%	11,000	0.0%
Oradell	8,050	8,500	5.6%	8,540	0.5%	8,540	0.5%
Emerson	7,200	7,280	1.1%	7,310	0.4%	7,550	3.7%
Westwood	11,000	10,960	-0.4%	11,000	0.4%	11,390	3.9%
Hillsdale	10,090	10,060	-0.3%	10,190	1.3%	10,390	3.3%
Woodcliff Lake	5,750	5,810	1.0%	5,880	1.2%	6,320	8.8%
Park Ridge	8,710	9,020	3.6%	9,120	1.1%	9,140	1.3%
Montvale	7,030	7,200	2.4%	7,290	1.3%	7,490	4.0%
<b>Study Area</b>	<b>111,460</b>	<b>113,920</b>	<b>2.2%</b>	<b>114,810</b>	<b>0.8%</b>	<b>117,860</b>	<b>3.5%</b>
<b>Bergen County</b>	<b>884,100</b>	<b>906,600</b>	<b>2.5%</b>	<b>912,600</b>	<b>0.7%</b>	<b>941,000</b>	<b>3.8%</b>

<sup>1</sup> NJTPA, [http://www.njtpa.org/planning/forecasting/forecasting\\_public\\_docs/FinalMCDforecasts.PDF](http://www.njtpa.org/planning/forecasting/forecasting_public_docs/FinalMCDforecasts.PDF)



### 1.3.2. Employment

According to NJTPA, the study area and Bergen County experienced an increase in employment between 2000 and 2005 with increases of 2.8% and 2.0%, respectively. At the municipal level, employment increased from 2000 to 2005 in all the study area municipalities, with Montvale experiencing the most rapid increase at 6.4% during the same time period.

Projections of recent trends suggest that employment levels will continue to rise countywide, but will begin to slow locally within our study area. For example, NJTPA forecasts a 2.9% increase in employment within Bergen County and a 1.9% increase in employment within the study area over the next five years. However, Bergen County's municipalities will not share equally in the predicted growth in employment. Projections indicate that Montvale will experience a 5.4% increase in employment between 2005 and 2010, with most other study area municipalities will experience more conservative growth of half a percent to 1.7%.

If recent trends are assumed to continue until 2020, it is predicted that employment in the study area will increase 6.1% between 2005 and 2020. Employment projections indicate that employment would increase by 8.0% for the county as a whole. Furthermore, variation in employment growth rates for individual municipalities is expected to continue during the 2010 to 2020 time period. The table below highlights recent and projected changes in employment in the study area, the individual towns that comprise the study area, and Bergen County as a whole.

**Table 2: Projected Employment Changes - Bergen Co., Project Area, and Local Communities<sup>2</sup>**

	2000	2005	% change	2010	% change from 2005	2020	% change from 2005
Hackensack	35,340	36,320	2.8%	36,830	1.4%	38,390	5.7%
River Edge	5,170	5,260	1.7%	5,320	1.1%	5,570	5.9%
Oradell	3,460	3,550	2.6%	3,610	1.7%	3,790	6.8%
Emerson	2,650	2,680	1.1%	2,710	1.1%	2,810	4.9%
Westwood	6,580	6,670	1.4%	6,720	0.8%	6,970	4.5%
Hillsdale	3,770	3,790	0.5%	3,810	0.5%	4,000	5.5%
Woodcliff Lake	3,460	3,490	0.9%	3,510	0.6%	3,640	4.3%
Park Ridge	6,480	6,530	0.8%	6,570	0.6%	6,710	2.8%
Montvale	12,780	13,600	6.4%	14,330	5.4%	15,030	10.5%
<b>Study Area</b>	<b>79,690</b>	<b>81,890</b>	<b>2.8%</b>	<b>83,410</b>	<b>1.9%</b>	<b>86,910</b>	<b>6.1%</b>
<b>Bergen County</b>	<b>480,600</b>	<b>490,200</b>	<b>2.0%</b>	<b>504,200</b>	<b>2.9%</b>	<b>529,400</b>	<b>8.0%</b>

### 1.4. Land Use

The Kinderkamack Road/Pascack Valley Corridor is largely built out, with limited availability of parcels of vacant land and areas in need of redevelopment. Most of the Corridor is urbanized

<sup>2</sup> NJTPA, [http://www.njtpa.org/planning/forecasting/forecasting\\_public\\_docs/FinalMCDforecasts.PDF](http://www.njtpa.org/planning/forecasting/forecasting_public_docs/FinalMCDforecasts.PDF)



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although there are areas comprised of lakes, rivers, streams, wetlands, and forest. Such natural features are described in the subsequent section on environmental features. The remainder of this section describes variations in the built environment along the Corridor.

The vast majority of the Corridor's urbanized area is best described as being low to moderate density residential. Along Kinderkamack Road, smaller scale retail commercial development is located at and near intersection approaches. Mixed-use development is prevalent near the NJ TRANSIT Pascack Valley train stations. Because the majority of the municipalities developed around the train stations, the town centers for several municipalities, such as Park Ridge, Hillsdale, Westwood, Emerson and Oradell, are located within the Kinderkamack Corridor. There are also concentrations of office space along Kinderkamack Road. The following describes the land use in the Corridor from the south to the north.

At the southernmost end of the Corridor, where Kinderkamack Road passes under NJ Route 4, commercial development prevails. Land uses along Kinderkamack Road near the intersections with Grand Avenue and Main Street in North Hackensack include low-rise office buildings, one- and two-story structures housing small retail establishments, a restaurant, the North Hackensack commuter rail station and high-rise office buildings. At the more northerly intersection, Kinderkamack Road and Main Street, there are also two single-family residences.

North of Main Street, land use along Kinderkamack Road is primarily single-family residential interspersed with the occasional office park along the Corridor and retail in the vicinity of certain critical intersections. At intersections, land use is usually small-scale retail with small offices rather than residential. One example of such an intersection is at Kinderkamack Road and Midland Avenue. This intersection has a bank, a hardware store, a realtor's office, a dry-cleaning establishment, and several fast-food eateries in addition to a larger office building occupied by Verizon. Most of the study intersections reflect these characteristics. The notable exceptions are intersections immediately adjacent to the NJ TRANSIT Pascack Valley commuter rail line. These intersections, which serve as local business districts within their respective towns, are discussed in more detail below.

Six study intersections serve their communities as town centers. These are the intersection of Kinderkamack Road with Oradell Avenue in Oradell and Linwood Avenue in Emerson, Broadway with Jefferson Avenue in Westwood, Westwood Avenue in Westwood, Hillsdale Avenue in Hillsdale, and Park Avenue in Park Ridge. Each of these intersections is located adjacent to the commuter rail line. The land uses immediately adjacent to these intersections include parks, train stations, and churches in addition to small-scale retail. Residential buildings are typically located within a few blocks of these intersections.

No segments of Kinderkamack Road contain industrial land uses although a few industrial sites exist near Kinderkamack Road. For example, there is an industrial site along the Hackensack River south of New Milford Avenue near Argyle Street in Oradell. Another industrial parcel is located along the Hackensack River, approximately three blocks east of the intersection of Kinderkamack Road and Main Street and Kinderkamack Road and Grand Avenue in North



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Hackensack. These industrial parcels are relatively small in size. In summation, land use development in the Kinderkamack Road/Pascack Valley Corridor is primarily residential and commercial, with a very small amount of industrial.

## 1.5. Environmental Scan

An environmental scan was prepared in conjunction with this effort, to identify potential resources that may be impacted or limit proposed improvements to Kinderkamack Road and the parallel and connecting routes in the Study Area. These features are outlined by topic below.

### Water Courses

The issues in this region of the county are largely attributable to the river valleys of the Pascack Brook and the Hackensack River, each of which feed the reservoir system that provides drinking water for the bulk of the region. Reservoirs in the vicinity of the Kinderkamack Road study area include Oradell Reservoir and the Woodcliff Lake Reservoir. All of these waterways have been designated as Category-One (C1), the highest level of protection by the New Jersey State Department of Environmental Protection (NJDEP), and the State has indicated that there will be a number of preservation initiatives within a specified area of these waterways. These river valleys, already preserved in varying degrees along the watercourses, also provide corridors of open space and recreation opportunities.

### Stormwater and Runoff

Increases in impervious surface in the communities along the Pascack Brook and Hackensack River valleys will ultimately lead to increased generation of stormwater runoff, greatly increasing the potential for erosion, sedimentation, and potential for contamination of the waterways of the area, including the crucial drinking water resources. Communities throughout the region and statewide are in the midst of addressing Stormwater Management Plans under the auspices of the NJDEP.

### Wetlands

There are a number of wetland areas and floodplains that preclude development and/or inclusion of infrastructure, but these often back up to densely populated residential areas and commercial districts within the communities. Wetlands were observed through the State Plan-oriented Cross-Acceptance Process recently undertaken between State, County, and Municipal agencies, and mapped by the New Jersey State Department of Environmental Protection's reconnaissance mapping and other local sources.

### Steep Slopes

The topography of the Pascack Brook and Hackensack River valleys is marked by a number of steep slope areas that may also preclude or limit development or expense of infrastructure. Steep slopes are most prominently displayed along the lower portion of the corridor, where Kinderkamack Road closely parallels the Hackensack River, and in some cases is terraced between neighborhoods located on higher ground above or overlooking the river below at significant grade, such as in River Edge and Oradell. The challenges presented by these steep



slopes, relative to corridor travel, are readily apparent at the intersection of Kinderkamack Road and River Edge Road in the vicinity of the rail station in River Edge.

### **Local Community Impacts**

As noted throughout this study, the Kinderkamack Road/Pascack Valley Intermodal Corridor is marked by the varied landscapes in the communities through which it passes, and the multimodal environment relative to transportation opportunities. The multiple roles being served by Kinderkamack Road and its parallel/connecting routes (most notably, Broadway) lead to a number of populations being considerably impacted by Kinderkamack Road, both positively (including all of the opportunities it provides) and negatively (traffic, safety concerns, etc.). These conditions are outlined below:

### **Varied Landscapes:**

- Residential neighborhoods
- Local CBD/Downtowns and shoppers
- Office complexes
- Transit access
  - Pascack Valley Line rail and station sites
  - Bus routes along Kinderkamack and bus stops
- Walk-to-school routes
- Conservation areas/Environmentally sensitive features
- Parks and recreation areas

### **Multimodal Environment:**

- Intense automobile activity
- Bus routes (NJ TRANSIT local and regional, Private-carrier)
- Commercial traffic (including trucks, which cannot travel on the nearby parallel highways, the Garden State Parkway and the Palisades Interstate Parkway)
- Rail service along NJ TRANSIT's Pascack Valley Line
- Bicycle and pedestrian activity (especially in proximity to the station sites, local business districts, and residential and auxiliary uses, including walk-to-school routes)

## **1.6. Environmental Inventory**

For the purposes of this study, the Kinderkamack Road/Pascack Valley Corridor has been divided into southern, middle, and northern segments. The southern segment of the Corridor passes through North Hackensack, River Edge, and parts of Oradell. The middle portion of the Corridor includes Oradell, Emerson, Westwood, and Hillsdale, while the northern section encompasses Woodcliff Lake, Park Ridge, and Montvale.



This section of the report inventories notable environmental features in each portion of the Corridor from south to north. The features listed include bodies of water like rivers, lakes, reservoirs, and streams; open spaces like parks, golf courses, and cemeteries; and other notable environmental features.

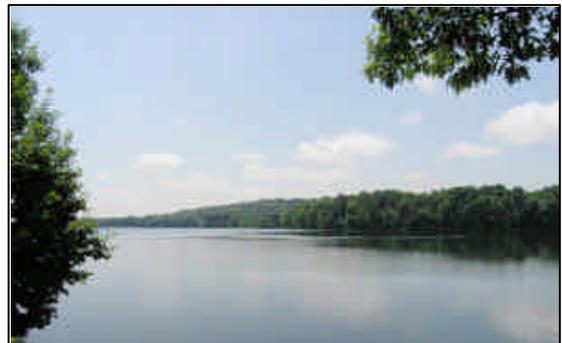
The most notable waterbody in the southern portion of the Corridor is the Hackensack River, which travels in a north-south direction parallel to Kinderkamack Road and to the NJ TRANSIT railroad alignment between Route 4 and Oradell Avenue. Adjacent wetlands and forest provide a buffer between the river and nearby suburban development. Parks include Van Saun County Park and Veteran's Memorial Park in River Edge and a local park on Oradell Avenue in Oradell. The Emerson Golf Club, which is located between the Pascack Valley railroad alignment and the Oradell Reservoir in Oradell, is a forested wetland area.



The middle section of the Corridor has three waterways. These are the Oradell Reservoir, which connects to the Hackensack River to the south, and Musquapsink Creek and Pascack Brook, both of which cross Kinderkamack Road. The Oradell Reservoir is considered to be an environmentally sensitive area because it is a potable water supply source. Open space areas include the Pascack Brook County Park in Westwood, the Hackensack Golf Club in Emerson, Westwood Cemetery in Westwood and Wood Dale County Park, which straddles the border between Hillsdale and Woodcliff Lake.

Key waterways in the northern section of the Corridor include Woodcliff Lake Reservoir, Pascack Brook, Muddy Brook, and Lake Tappan. Edgewood Golf Course and River Vale Golf Course in River Vale and local parks in Park Ridge provide open space in the northern portion of the Corridor.

Aside from Westwood Cemetery and Woodcliff Lake Reservoir, none of these environmental features border Kinderkamack Road or Broadway although the Hackensack River is located in close proximity to Kinderkamack Road through portions of Oradell and River Edge.



## 1.7. Outreach

Two outreach methods were utilized throughout this study: a Technical Advisory Committee (TAC) and several meetings open to the public.

A TAC was created in order to provide technical advice, ideas, and feedback on the project findings and recommendations. The TAC operated in an advisory role and was coordinated by



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the County. It was composed of local officials/administrators, officers from municipal police departments, representatives from transportation operators, and county officials, all of whom brought a wealth of technical expertise and local experience to the project.

### 1.7.1. Technical Advisory Committee (TAC)

#### **TAC Meeting, November 9, 2004**

At this meeting of the Technical Advisory Committee, Representatives from Bergen County Department of Planning and Economic Development provided a description of the Kinderkamack Road/Pascack Valley Intermodal Corridor Study. The emphasis of the study would be related to traffic and pedestrian problems and solutions.

Representatives from Edwards and Kelcey, the project consultants, presented a project overview and led a discussion of the existing corridor conditions including a tour of the corridor by municipality. The presentation closed with conclusions and a discussion by all meeting attendees about the current transportation issues and problems throughout the corridor. The Mayor and the Police Chief from River Edge discussed numerous problems and strategies along Kinderkamack Road within the Borough of River Edge.

Representatives from Montvale were concerned that the intersection of Kinderkamack Road and Grand Avenue was not included in the traffic counting program and the model. These individuals felt that the intersection should be included due to its close proximity to Park Avenue and train-related traffic delays.

Representatives from Oradell stated that the train stops on Oradell Avenue and that the town is considering improvements to the intersection of Kinderkamack Road and Oradell Avenue, including left-turn only lanes at all four approaches. Speed control is necessary along Kinderkamack Road in Oradell and there may also be improvements to the intersection of Kinderkamack Road and Ridgewood Avenue. It was also noted that the Borough has been investigating getting new crosswalk technologies, including lighting within the walkway.

Representatives of the Hillsdale Police Department discussed the possibility of signalized pedestrian crosswalks at several unsignalized intersections along Kinderkamack Road in Hillsdale. They also noted that a traffic signal with pedestrian accommodations is also planned for the intersection of Kinderkamack Road and Washington Avenue.

Westwood was also concerned that the increased number of trains planned for the Pascack Valley Line will create more traffic back-ups within the borough.

Bergen County asked if trucks were a concern along the Kinderkamack Corridor. The following comments were made:

- River Edge does not want to allow trucks to travel on side streets;



- Both Hillsdale and Park Ridge have transfer stations, so there is truck traffic on Kinderkamack Road heading north of these stations and the trucks pass through Montvale to access New York State.

### **TAC Meeting, March 23, 2005**

After introductions were made, representatives of Edwards and Kelcey presented the findings of the traffic analysis, showing the traffic diagrams developed with the data for each study area intersection. The consulting team then offered a demonstration of the SimTraffic software, a traffic simulation package that offers graphical depiction of the traffic as it moves through each intersection. The team then presented how the corridor “blueprint” would be developed. Using the quantitative information gathered and the qualitative input received from the TAC and public meetings, the range of potential improvements in the study corridor would be identified. This range of alternatives would then be screened down to the recommended list. Bergen County Department of Planning and Economic Development gave an overview of the pedestrian analysis undertaken and the nature of improvements to be considered. Edwards and Kelcey distributed a handout summarizing the input received to date from the TAC and public regarding problems and improvement options in the study corridor. The TAC was asked to review the list and kindly provide any additional ideas.

The following outlines the attendees’ questions and remarks specific to communities located within the study area:

### **River Edge**

Questioned about whether the improvements that come out of this study are funded. The County responded that funding would be identified once the list of improvements has been developed. Numerous avenues for funding may be available, including various capital improvement programs, State programs, NJTPA programs, and the County Department of Public Works.

### **Hillsdale**

One of their primary concerns mentioned was related to trucks, specifically Solid Waste Transfer Trailers, creating problems in Hillsdale, primarily along the parallel Kinderkamack Road and Broadway corridors. The Bergen County Utility Authority recently completed a study on the truck routes in the county. The County will seek to provide a copy of this study to the consultant team prior to the final tabulation of recommendations. Unfortunately, truck routes in the county are fixed. Therefore the presence of trucks in the study area cannot be changed under the auspices of this study. However, if there are specific locations where the interface between trucks and another mode, such as pedestrians, is problematic, the study could recommend measures to minimize conflicts with trucks.

### **Park Ridge**

Broadway and Park Avenue at the northernmost end of the Broadway corridor is an unsignalized intersection where there are a number of safety concerns. The Borough believes that the Broadway and Park Avenue intersection already contains a conduit for a traffic signal,



and is in favor of a signal at this location. The Borough had requested a meeting with the County Department of Public Works for further discussion on this matter.

### **Montvale**

A question about the presentation came up, with respect to one location where data collection had not yet been finalized. Arrangements were made by EK to expand the data collection area to include Montvale's area of concern.

### **TAC Meeting, June 9, 2005**

At the June 9 meeting Edwards and Kelcey presented findings and preliminary recommendations for improving safety and circulation along the study corridor. These recommendations were based upon traffic and signal data and model development, as well as input received from previous TAC and public meetings. The preliminary recommendations addressed three overarching issues confronting the entire corridor and the issues embodied at several specific locations. These three issues were identified as: (1) vehicular balance, which is a concern for vehicular speeds, congestion, and signalization that affect driver behaviors and safety of everyone on the roadway system; (2) pedestrian safety and access; and (3) how NJ TRANSIT bus and train operations inhibit safety and efficiency as well as how they could be incorporated into a healthier multimodal relationship.

The presentation then highlighted each of the nine train stations and commercial districts in which these overarching issues created concerns and it offered preliminary recommendations for improvements. The recommendations included providing improved signage and traffic calming measures to increase safety, encouraging further engineering analysis at dangerous or awkward intersections, and introducing shuttles to improve east-west mobility.

### **1.7.2. Public Meetings**

Additional outreach was achieved through public meetings, held at key milestones, throughout the corridor. At these meetings, project findings and recommendations were presented, and interested parties were given a forum for public comment. Notice was provided for these meetings through press releases and advertisements in various local newspapers. In addition, all TAC members, municipal officials, and government offices in the corridor were notified of the meetings. Requests were made to place notice of the meeting on community bulletin boards and to notify local community groups of the upcoming meetings.



These meetings proved vital in helping to focus the ultimate course of the study, and to gauge community input on the issues, findings, and recommendations to be put forth by the study team.

**Public Meeting, February 23, 2005**

The February 23 meeting was held at the Oradell Municipal Building. Approximately 35-50 people were in attendance. Edwards and Kelcey made a presentation displaying the progress of the study and outlining the steps that needed to be undertaken in the future stages of the project. At the time of the meeting traffic count data had been collected and Edwards and Kelcey had begun analysis and the production of a traffic simulation model using SYNCHRO.



Public comments called for an interfacing between modes of travel along the study corridor. Provisions for the safety and efficient flow of automobiles, trucks, buses, trains, bicyclists, and pedestrians was demanded. Attendees acknowledged the mix of land uses and diversity among the communities within the corridor. Traffic congestion in the area was a common complaint. Limited parking facilities and pedestrian access in the train station areas was also a concern.

**Public Meeting, June 9, 2005**

The June 9 meeting was held at the Hillsdale Municipal Building. There was a turnout of approximately 75-80 attendees who were eager to discuss ideas for improving the transportation issues in their communities. After a brief presentation showing what progress has been made since the first public meeting, residents were encouraged to offer their own comments and suggestions.



Corridor-wide issues the residents cited included, first of all, the appropriateness of studying the Kinderkamack Corridor. Responses from Bergen County replied that the mix of communities and land uses it serves, the multimodal environment of the area, and problems with the infrastructure's performance made the area worthy of study.

Attendees also discussed the regional approach the study was taking. Some residents warned that communities in the corridor must be considered individually, as the character and needs of the municipalities are unique to each. Mayor Zeller of Montvale discussed the *Tri-Borough Traffic Study* that is underway, which will analyze traffic circulation in Montvale, Park Ridge, and Woodcliff Lake. He noted that due to limited state and federal resources, regional cooperative efforts, such as the *Kinderkamack Road/Pascack Valley Intermodal Corridor Study*, are necessary in order to secure funding for projects.

The public was also concerned about a number of issues such as sidewalk discontinuity throughout the corridor, which limits pedestrian safety and access to local amenities. Train-related traffic delays were cited as a major issue along Kinderkamack Road and Broadway, especially in the Hillsdale, Oradell, and Montvale areas, where busy intersections are located in close proximity to the train stations. Residents of these communities argued for an examination of signalization near these rail crossings to allow for a safe flow of traffic while trains are in the stations. Adding traffic signals to several intersections and installing cameras to catch and deter red-light runners were other suggestions offered.



Some of the citizens in attendance wished county officials would focus on other problem areas in their communities that are not located within the study area. The findings of this study may be helpful in generating solutions in many of those areas not directly addressed by this study.

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## 2. TRANSPORTATION NETWORK

The following outlines the roadway and various transportation systems operating within the Kinderkamack/Pascack Valley Corridor.

### 2.1. Roadways

Because there are no existing Interstate or State Highways in the study area, local and county roadways serve local, residential, and commercial traffic. Within the study area, Kinderkamack Road functions as the main north-south through route, providing connections to N.J. Route 4 (a major east-west roadway connecting Bergen County to New York City), as well as access to municipal town centers and several stations along NJ TRANSIT's Pascack Valley commuter rail line. At the extreme eastern and western limits of the study area, the Palisades Interstate Parkway and the Garden State Parkway, respectively, serve northbound and southbound non-commercial traffic. East-west travel in this portion of the County is accommodated solely through discontinuous country and local roads that zigzag across the corridor. As such, Kinderkamack Road serves many of these east-west travelers who are seeking to make connections between these discontinuous routes or bypass a congested route by traveling on Kinderkamack Road to an alternate parallel route.

For the purposes of this study, the Kinderkamack Road/Pascack Valley Corridor has been divided into southern, middle, and northern segments. The southern segment of the Corridor passes through North Hackensack, River Edge, and Oradell. The middle portion of the Corridor traverses Oradell, Emerson, Westwood, and Hillsdale while the northern section runs through Woodcliff Lake, Park Ridge, and Montvale. The following paragraphs describe each of the three portions of the Corridor.

#### 2.1.1. Overview of Southern Portion of Corridor

The southern part of the Study Corridor encompasses the portion of Kinderkamack Road between the Route 4 overpass in Hackensack and Oradell Avenue in Oradell. Along most of this stretch of roadway, Kinderkamack Road has one travel lane per direction except at intersections where the road may widen to accommodate turn lanes. The key exception is a short segment near New Milford Avenue. At the approach from the north to its intersection with New Milford Avenue, Kinderkamack Road has three southbound and two northbound lanes, which stands in sharp contrast with the roadway profile just north of this approach, where Kinderkamack Road passes through the downtown commercial district of Oradell. South of this intersection, Kinderkamack Road has two northbound and two southbound travel lanes.

Throughout the southern portion of the Study Corridor, the posted speed limit is either 35 mph or 40 mph. One exception is the segment of roadway between River Edge Road and Gates Lane where the posted speed limit is 30 mph.

#### **Kinderkamack Road and Grand Avenue**

The first major intersection at the southern end of the Corridor is the intersection of Kinderkamack Road and Grand Avenue just north of the Route 4 overpass. This is a four-way



perpendicular intersection. During the summer of 2004, when the intersection surveys were conducted, construction activities were underway at this intersection. Therefore, an intersection plan was obtained in order to document the pre-construction layout of the intersection.



According to the intersection plan, the southern leg of the intersection is 71 feet wide and the northbound approach has a dedicated left-turn lane and two additional lanes that serve through traffic and vehicles turning right. The width of these lanes is 11 feet, 11 feet, and 13 feet, respectively. In the field, only two northbound lanes were observed. NJ TRANSIT buses stopped on Kinderkamack Road near the southeast corner of the intersection; no bus stop signs were observed.

On the intersection plan, the northern leg of the intersection measures roughly 70 feet in width. The southbound approach has a dedicated left-turn lane and two additional lanes that serve through traffic and vehicles turning right. The width of these lanes is 11 feet, 11 feet, and 13 feet, respectively. In the field, only two southbound lanes were observed.

Dimensions on the intersection plan indicated that the eastern and western intersection legs are approximately 50 feet wide. According to the plan, the eastbound and westbound approaches have a left-turn lane and a lane for through and right-turn movements. In the field, one eastbound and one westbound lane were observed.

### **Kinderkamack Road and Main Street**

One block north is the intersection of Kinderkamack Road and Main Street. When the intersection surveys were conducted during the summer of 2004, construction activities were underway at this intersection. Therefore, the intersection plan was obtained in order to document the pre-construction layout of the intersection. According to the plan, the northbound and southbound approaches each have a dedicated left-turn lane and two additional lanes that serve the through and right-turn movements. The northern and southern legs of the intersection both measure 58 feet wide. The southern leg of the intersection has a bus stop on both sides of Kinderkamack Road.



According to the plan, the western leg of the intersection is 42 feet wide; the eastern leg of the intersection is 46 feet wide. The plan shows the eastbound approach with one lane to serve left, through, and right-turn movements. In the field, two eastbound lanes were observed. The plan shows two westbound lanes for left turns and through traffic and a channelized right turn lane. In the field, one lane for left and through movements and a channelized right-turn lane were observed.



**Kinderkamack Road, Lincoln Avenue, and River Edge Road**

Approximately 1.6 miles north of the intersection of Kinderkamack Road and Main Street is the next major intersection – Kinderkamack Road, Lincoln Avenue, and River Edge Road. Kinderkamack Road and Lincoln Avenue form a roughly perpendicular four-way intersection. On Lincoln Avenue, the eastbound and westbound intersection legs involve fairly steep grades. River Edge Road joins the intersection immediately east of and parallel to Kinderkamack Road.



There is a significant slope where River Edge Road meets the intersection of Lincoln Avenue and Kinderkamack Road.

The southern Kinderkamack Road/River Edge Road leg and the northern Kinderkamack Road leg are roughly 60 feet wide. Both Kinderkamack Road and River Edge Road have one northbound lane serving left, through, and right-turn movements. In the southbound direction, Kinderkamack Road has one lane for through and left-turn movements and one lane for right turn movements.

The western leg is 42 feet wide and the eastern leg is 32 feet wide. Both intersection legs have one lane for left, through, and right-turn movements.

**Kinderkamack Road and Midland Avenue**

As it approaches Kinderkamack Road, eastbound Midland Avenue descends down a hill to the T-intersection formed by the two streets. The western leg of the intersection is 72 feet wide; one lane serves left-turning vehicles and one lane serves right-turning vehicles. The southern leg is 55 feet wide and the northern leg is 52 feet wide. In the northbound direction, there are two lanes – one for left turns and one for through vehicles. In the southbound direction, one lane serves right-turns and through vehicles while the other lane serves the through movement exclusively. The southwest corner of the intersection has a bus stop along Kinderkamack Road.



**Kinderkamack Road and Oradell Avenue**

Kinderkamack Road and Oradell Avenue form a four-way intersection. Both the eastern and western legs of Oradell Avenue are approximately 60 feet wide. In the eastbound direction, one lane serves left turns and one lane serves through vehicles and right turns. In the westbound direction, one lane serves left turns and through vehicles while another lane serves through vehicles and right turns. There is a no turn on red prohibition for both eastbound and westbound right-turning vehicles. The southern leg of Kinderkamack Road is 65 feet wide. One northbound lane



serves left, through and right-turning vehicles. The northern leg of Kinderkamack Road is 62 feet in width. In the southbound direction, one lane serves left and through movements and one lane serves right-turning vehicles. The eastbound lane of the eastern intersection leg and the northbound and southbound portions of the southern intersection leg have on-street parallel parking. NJ TRANSIT bus stops are located near the intersection along Oradell Avenue.

### 2.1.2. Overview of Middle Portion of Corridor

The middle portion of the Study Corridor includes the section of Kinderkamack Road between Oradell Avenue in Oradell and Hillsdale Avenue in Hillsdale. Along most of this stretch of roadway, the posted speed limit is either 35 or 40 mph. The exception is a short segment between Allison Way and Jefferson Avenue where the posted speed limit is 30 mph. Except for two stretches of roadway, Kinderkamack Road has one lane per direction through the middle portion of the Corridor. The first exception is located between Soldier Hill Road and Allison Way where two northbound and three southbound travel lanes provide increased capacity in the vicinity of a number of office buildings and corporate campuses. The second location is between Old Hook Road and Jefferson Avenue where two lanes are provided for both northbound and southbound traffic. This is in the vicinity of the expanded intersection at Old Hook Road, where County Routes 502 and 503 come together.

The middle portion of the Corridor also includes the section of Broadway between Old Hook Road and Hillsdale Avenue as well as the segment of Old Hook Road northwest of Kinderkamack Road. Old Hook Road and Broadway provide access to Westwood's and Hillsdale's historic town centers while Kinderkamack Road skirts the edges of the historic districts. With two northbound and two southbound lanes, the portion of Old Hook Road between Kinderkamack Road and Jefferson Avenue/Park Avenue connects Kinderkamack Road to the historic commercial districts while Broadway functions as a local roadway serving adjacent commercial establishments.

#### Kinderkamack Road and Linwood Avenue

The southernmost study intersection in the middle portion of the Corridor is the four-way intersection of Kinderkamack Road and Linwood Avenue. The NJ TRANSIT railroad alignment crosses Kinderkamack Road south of the intersection and Linwood Avenue west of the intersection. The western leg of the intersection is 59 feet wide; the eastbound approach has a dedicated left-turn lane and a lane for vehicles making the through or right-turn maneuver. In addition, there is space for on-street parallel parking. The intersection's eastern leg is 32 feet wide; a



single westbound lane serves left, through and right-turn movements. The southern leg of the intersection is 49 feet wide while the northern leg is 32 feet wide. Both the northbound and southbound approaches have one lane for left, through and right-turn movements. A NJ TRANSIT train station is located near the southwest corner of the intersection. Bus stops for northbound and southbound buses are located in the adjacent segment of Kinderkamack Road.



### **Kinderkamack Road and Old Hook Road**

The four-way intersection of Kinderkamack Road and Old Hook Road is the next major intersection when traveling northbound on Kinderkamack Road through the Corridor. Both the northbound and southbound intersection approaches include a dedicated left-turn lane, a lane for through movements, and a channelized right-turn lane. For both intersection approaches, the left-turn and through lanes are 11 feet wide. The northbound channelized right-turn is 25 feet wide. The southbound channelized right turn is 23 feet wide.

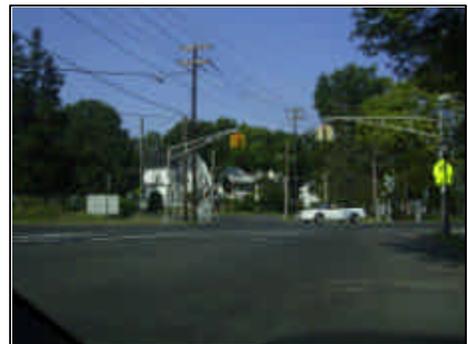


In the eastbound direction, one lane serves left-turn and through movements, a second lane serves through movements while the third lane is reserved for right turning vehicles. According to the intersection plan, the width of these lanes is 10 feet, 11 feet and 11 feet, respectively. In the westbound direction, one lane serves

left-turning vehicles while the second lane serves through movements and right turns. These lanes are 10 feet wide and 11 feet wide, respectively. On-street parking is prohibited on all intersection approaches. A NJ TRANSIT bus stop is located near the northwest corner of the intersection along Kinderkamack Road.

### **Broadway and Jefferson Avenue**

Broadway, Jefferson Avenue, Park Avenue, Old Hook Road and 1<sup>st</sup> Avenue meet to form a five-way intersection at this location. Park Avenue comprises the western leg of the intersection, which is 36 feet wide. The eastern intersection leg, Jefferson Avenue, is 62 feet wide. Broadway and Old Hook Road comprise the northern and southern legs of the intersection respectively; each is 49 feet in width. Park Avenue and 1<sup>st</sup> Avenue form a T-intersection west of the main intersection and the NJ TRANSIT railroad alignment, which runs parallel to Broadway and crosses Park Avenue at the intersection. First Avenue is a local street 36 feet in width; there is one lane per direction. In the northbound direction, only left and right turns are possible.



Northbound Old Hook Road has two lanes: a dedicated left-turn lane and a lane for through and right-turn movements. No stopping or standing is allowed on Old Hook Road. Southbound Broadway has one lane for left-turns, through vehicles, and right-turns. There is parallel parking on the eastern side of the street and drive-in angled parking on the western side of the street. Both the eastbound and westbound approaches have one lane for left-turns, through vehicles, and right-turns. On the western leg of the intersection, the northern side of the street has parallel parking.

### **Broadway and Westwood Avenue**

One block north is the intersection of Broadway, Westwood Avenue, and Washington Street. The western leg of this intersection, Washington Street, is 80 feet wide; parallel parking is located on the northern side of the street. The eastern leg of the intersection, Westwood Avenue, is 49 feet wide; parallel parking is located on both sides of the street. The northern leg of the intersection is 72 feet wide while the southern leg is 82 feet wide. For both the northern and southern legs of this intersection, the eastern side of the street has parallel parking and the western side of the street has drive-in angled parking. The NJ TRANSIT railroad alignment runs



parallel to Broadway and crosses Washington Street at the intersection. The train station is located in the southwest quadrant of the intersection. Bus stops are located in the northwest and southeast sectors of the intersection along Kinderkamack Road.

In both the northbound and southbound directions, Broadway has just one lane to accommodate left turns, through movements, and right turns. On westbound Westwood Avenue, one lane serves left turns, through traffic, and right turns. On eastbound Washington Street, there is a dedicated left-turn lane and a lane for through movements and right-turning traffic. Signage indicates that right turns on red are prohibited. Other signage in the area provides directions to the Garden State Parkway and nearby towns. Due to the presence of two bus stops, a rail station and several businesses along Broadway, the posted speed limit is 25 mph.

### **Broadway and Hillsdale Avenue**

To the north, the next key intersection is Broadway and Hillsdale Avenue. The northern and southern legs of the intersection each are 60 feet wide. In the northbound direction, there are three lanes – a dedicated left-turn lane, a lane for through traffic, and a dedicated right-turn lane. According to the intersection plans, the width of these lanes is 10 feet, 11 feet and 11 feet, respectively. The eastern side of the street has parallel parking. In the southbound direction, the intersection plan shows a 10-foot wide dedicated left-turn lane and a 12-foot wide shared lane for through and right-turning vehicles. Both sides of the street have on-street parallel parking.



The eastern and western legs of the intersection are both 52 feet in width. Eastbound Hillsdale Avenue has a 10-foot wide dedicated left-turn lane, an 11-foot wide through lane, and a 12-foot wide dedicated right-turn lane. Westbound Hillsdale Avenue has a dedicated left-turn lane and a shared lane for through and right-turning vehicles. According to the intersection plans, the width of these lanes is 11 feet and 12 feet, respectively. There is parallel parking on both sides of the street. At this intersection, the NJ TRANSIT railroad alignment runs parallel to Broadway and crosses Hillsdale Avenue at the intersection. The train station is located in the



southwest quadrant of the intersection. A bus stop is located in the northwest portion of the intersection along Kinderkamack Road. The presence of a bus stop, a rail station, and local businesses has resulted in a posted speed limit of 25 mph. Other signage provides directions to surrounding municipalities.

### **Kinderkamack Road and Westwood Avenue**

The convergence of Kinderkamack Road, Westwood Avenue, and Harrington Avenue forms a five-legged intersection. Kinderkamack Road forms the northern and southern legs of the intersection; each is 49 feet wide. The western side of the southern leg of Kinderkamack Road has parallel parking. The western leg of the intersection, a bi-directional segment of Westwood Avenue, is also 49 feet wide. Both sides of the street have parallel parking. Two one-way



streets separated by a small park form the eastern leg of the intersection. North of the park is Westwood Avenue, which is a one-way westbound street in this location. This portion of Westwood Avenue is 52 feet wide. On the southern side of the park, Harrington Avenue carries eastbound traffic. Harrington Avenue is 42 feet in width.

Northbound Kinderkamack Road has one lane for left turns, through movements, and right turns. Signage indicates that right turns on red and stopping/standing are prohibited. Southbound Kinderkamack Road has a dedicated left-turn lane and a shared lane for through and right-turning vehicles. On eastbound Westwood Avenue, vehicles going straight and those making left and right turns share a single lane. A NJ TRANSIT bus stop is located in the northwest corner of intersection along Kinderkamack Road. Another bus stop is located in the northeast corner along Westwood Avenue. Signs state that right turns on red are prohibited. Westbound Westwood Avenue has a dedicated left-turn lane, a through lane, and a dedicated right-turn lane. Additional signage gives directions to nearby municipalities.

### **Kinderkamack Road and Hillsdale Avenue**

Kinderkamack Road and Hillsdale Avenue form a four-legged intersection. The southern leg of the intersection is 60 feet wide. In the northbound direction, there is one lane for left turns, through movements, and right turns. The southbound direction also has one lane for left turns, through movements, and right turns. The eastern leg of the intersection is 52 feet in width; in the westbound direction, there is one lane that serves through movements and left and right turns. The eastbound direction has a right turn lane and a lane for through and left-turn movements. Signage prohibits right turns on red for both eastbound and westbound Hillsdale Avenue traffic.



### 2.1.3. Overview of Northern Portion of Corridor

The northern portion of the Study Corridor includes the section of Kinderkamack Road between Hillsdale Avenue in Hillsdale and the New York State border. Along most of this stretch of roadway, the posted speed limit is either 35 mph or 40 mph. However, from just south of Wayne Street in Montvale to the New York State border, the posted speed limit is 30 mph. By the same token, Kinderkamack Road has one northbound and one southbound travel lane along this stretch of roadway except for one location. Between Franklin Avenue and north of Wortendyke Avenue, Kinderkamack Road has two travel lanes per direction as it approaches the modified rotary-type intersection upon passing through the business district and station area of Montvale and crosses the Pascack Valley Line tracks.

#### **Kinderkamack Road and Prospect Avenue**

Kinderkamack Road and Prospect Avenue comprise the southernmost intersection in the northern portion of the Corridor. All four legs of this perpendicular intersection are approximately 52 feet wide. All four intersection approaches utilize one lane for left turns, through movements, and right turns. NJ TRANSIT bus stops are located on both Kinderkamack Road intersection approaches. Parking on the eastern shoulder of the northbound approach is prohibited. Signs give directions to nearby municipalities.



#### **Kinderkamack Road and Park Avenue**

Further north is the intersection of Kinderkamack Road and Park Avenue. All four legs of this perpendicular intersection are 66 feet wide. The eastern side of the northern leg has on-street parallel parking. Northbound Kinderkamack Road has two lanes; one for left turns and through movements, the other for through movements and right turns. In the southbound direction, Kinderkamack Road has three lanes. One lane serves vehicles making left turns or going straight, the second is reserved for through movements, and the third is reserved for right turns. Eastbound and westbound Park Avenue each has a dedicated left-turn lane and a lane for through and right-turn movements. Most of the signage conveys information about lane assignments and turning prohibitions.



#### **Broadway and Park Avenue**

One block to the west is the intersection of Broadway and Park Avenue. The NJ TRANSIT railroad alignment runs parallel to Broadway and crosses Park Avenue at the intersection. The train station is located in the northwest intersection quadrant. The southeast portion of the

intersection has a NJ TRANSIT bus stop along Broadway; the southwest corner of the intersection has a bus stop along Park Avenue.



Broadway comprises the southern leg of the intersection, which is about 60 feet wide. On-street parallel parking is allowed on the western side of the street. A shopping center driveway comprises the northern leg of the intersection. The eastern and western legs of the intersection are Park Avenue. The western leg is 42 feet wide. On-street parallel parking is allowed on the northern side of the eastern leg of Park Avenue.

The northbound intersection approach has two lanes – a dedicated right-turn lane and a lane for left turns and through traffic. The eastbound approach has two lanes; one serves left turns and through movements while the other serves through movements and right turns. The westbound approach has a left-turn lane and a lane for through movements and right turns.

### **Kinderkamack Road and Grand Avenue**

The intersection of Kinderkamack Road with Grand Avenue and Grand Avenue East in Montvale is the northernmost key intersection in the Corridor. At this intersection Kinderkamack Road splits into two one-way streets. The eastern branch of Kinderkamack Road carries northbound traffic while the western branch carries southbound traffic. The two roads encircle a large park-like area. Grand Avenue and Grand Avenue East cross the park-like area. The convergence of these four streets functions like a traffic circle, in a modified rotary-type intersection configuration. The NJ TRANSIT railroad alignment crosses Grand Avenue and both branches of Kinderkamack Road.



## **2.2. Bus**

Kinderkamack Road is a major through route for bus services. Bus services in the study area are also feeders to the train stations along the Pascack Valley Line (Figure 2).

There are two NJ TRANSIT (NJT) bus routes that operate along the Kinderkamack Corridor. NJT Route 165 operates along Kinderkamack Road from the Westwood NJT Train Station to the intersection with Main Street, in River Edge. NJT Route 165 is the primary bus service along Kinderkamack Road with approximately ten-minute headways during the peak travel hours. The entire length of the bus route operates between Westwood and the Port Authority Bus Terminal in Manhattan, with service in Hackensack, Little Ferry, Ridgefield, Fairview, North Bergen, West New York, and Weehawken. The bus route operates between 4:00 AM and 12:00 AM daily, and includes weekend service. The travel time from the beginning of the route to the end of the route is approximately 75 minutes. In addition, NJT Route 165 offers modified



express service to and from the corridor by way of alternative routings south of the study area, along the New Jersey Turnpike, Route 4, and the Garden State Parkway.

The second NJT bus route that operates along the Kinderkamack Corridor is NJT Route 762, with bus service between Paramus Park Shopping Mall, in Paramus, and the Hackensack Bus Transfer, in Hackensack. Along Kinderkamack Road, NJT Route 762 operates between Oradell Avenue, in Oradell, and Main Street, in River Edge. The bus route operates between 8:00 AM and 10:00 PM, with one-hour headways and no Sunday service. The bus route operates as a shuttle for communities within the service area of the bus route accessing Paramus Park Shopping Mall and the Hackensack Bus Transfer. The travel time from the beginning of the bus route to the end is approximately 40 minutes.



Coach USA, a private bus company, operates several bus lines within and around the Kinderkamack Road/Pascack Valley study area. Route 11A provides daily service to and from Port Authority Bus Terminal in Manhattan along the length of the study area, with stops in Montvale, Park Ridge, Woodcliff Lake, Hillsdale, Westwood, Emerson, Oradell, and River Edge.



The bus route operates between 6:00 AM and 12:00 AM, with twenty-minute headways throughout the day. Route 11C is similar to Route 11A, with the exception that it is a commuter route with no stop within River Edge. Route 11C operates at the same times as Route 11A.

Coach USA Routes 46 & 47 also operate along a stretch of the Kinderkamack Road/Pascack Valley corridor. Route 46 operates between Montvale and Westwood, along Kinderkamack Road, while Route 47 operates within Montvale and Park Ridge before heading west on Park Avenue. Routes 46 & 47 provide service to NJ Route 17 before terminating at Port Authority Bus Terminal. The bus routes operate during the peak periods, with service beginning at 5:00 AM and ending at 10:30 PM. The headways on both routes are approximately 20 minutes. Two other Coach USA bus routes, Route 14ET and Route 14K are east-west bus routes that include stops at the Montvale and Westwood train stations.

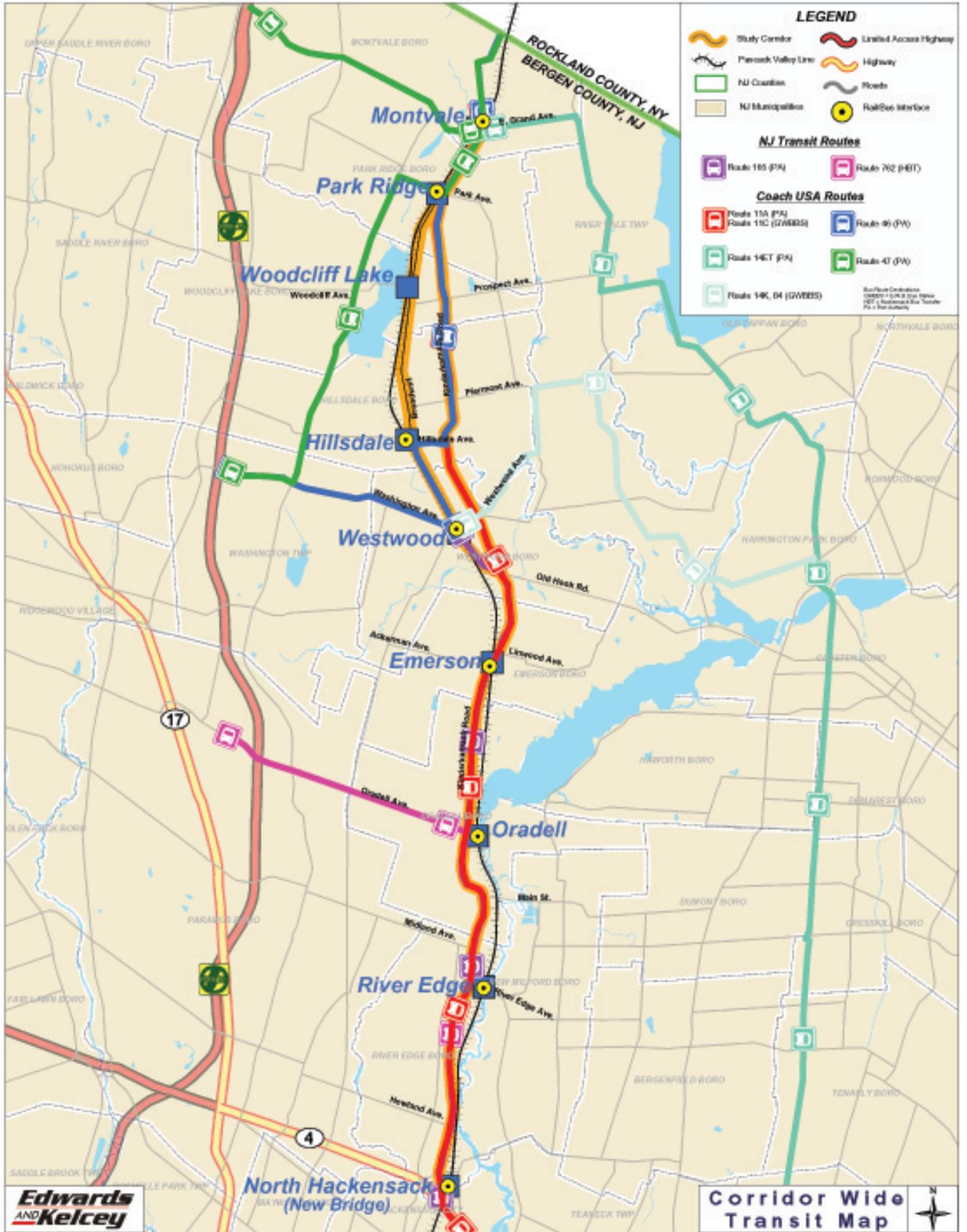
Constraints to providing new and enhanced bus service include:

- High levels of bus ridership
- Absence of new points of access
- High volumes of competing traffic





# Kinderkamack Road and Pascack Valley Intermodal Corridor Study



## LEGEND

- Study Corridor
- Pascack Valley Line
- NJ Counties
- NJ Municipality
- Limited Access Highway
- Highway
- Roads
- Rail/Bus Interface

### NJ Transit Routes

- Route 165 (PA)
- Route 762 (PRT)

### Coach USA Routes

- Route 11A (PA)
- Route 11C (GWERBS)
- Route 146T (PA)
- Route 14K, D4 (GWERBS)
- Route 46 (PW)
- Route 47 (PW)

Bus/Train Connections  
060001 to 060010 are shown  
0601 to 060000 are shown  
PA is for authority

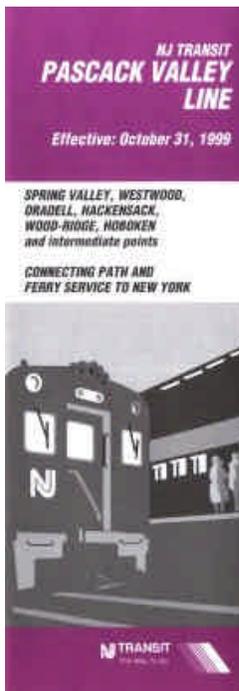
## 2.3. Rail

The following section reviews the passenger rail and freight rail operations currently along the Pascack Valley Line.

### 2.3.1. Passenger Rail

The NJ TRANSIT (NJT) Pascack Valley Line is a commuter rail line that parallels the Kinderkamack Corridor. The Pascack Valley Line is one of three commuter rail lines serving Bergen County and represents the primary rail service for northeastern Bergen County, with service between Spring Valley, NY and Hoboken, NJ. There are a total of 18 rail stations along the Pascack Valley Line, including nine stations within the Kinderkamack Corridor study area. The nine stations include:

- North Hackensack (New Bridge)
- River Edge
- Oradell
- Emerson
- Westwood
- Hillsdale
- Woodcliff Lake
- Park Ridge
- Montvale



The Pascack Valley Line provides service from Spring Valley, NY to Hoboken, NJ during the morning peak hours and provides service from Hoboken, NJ to Spring Valley, NY during the evening peak hours. Off-peak service is not provided. The first morning train leaves Spring Valley, NY at 5:11 AM, while the last morning train leaves at 7:58 AM. The total travel time from Spring Valley, NY to Hoboken is approximately one hour. The first evening train leaves Hoboken at 1:55 PM, while the last evening train leaves at 10:55 PM. The total travel time from Hoboken to Spring Valley, NY is approximately seventy minutes.

The Pascack Valley Line service headways vary during both morning and evening commutes. Included in both morning commute service (inbound service) and evening commute service (outbound service) is Metro North Express service, which bypasses all Bergen County rail stations. There is one Metro North Express train during both inbound and outbound service. There is also additional outbound service before the evening peak period, with train service leaving Hoboken at 1:55 PM.

The Pascack Valley Line provides service to all of the rail stations within the Kinderkamack Corridor, mentioned above. Included in the Pascack Valley Line is a stop at Secaucus Junction,



which allows for transfers to trains destined for New York Penn Station. From the terminus of the line at Hoboken, service is provided to New York City via PATH trains, and ferry service.

A summary of each of the rail stations along the Kinderkamack Corridor is discussed below:

### **North Hackensack (New Bridge)**

The North Hackensack (New Bridge) rail station is located at the corner of Kinderkamack Road and Grand Avenue. There is a large parking lot at the station, which consists of daily parking and permit parking. There are 15 daily parking spaces and 112 permit parking spaces available. Field observations conducted in October of 2004 indicate that the parking lot was filled to approximately 90% capacity. There is signage that indicates additional parking is located on Elizabeth Street and Grand Avenue. There are no pedestrian accommodations at this rail station. Limited parking and station access are rail issues.



### **River Edge**



The River Edge rail station is located on River Edge Avenue, near the intersection of Park Avenue. There is a parking lot at the rail station. There is no signage indicating regulations for parking at the facility. Field observations conducted in October of 2004 indicate that there are 75 spaces available at the parking lot, approximately 50% of which are filled. There are no pedestrian accommodations, nor shelter, located at this rail station. At this station, the Pascack Valley line interfaces with NJT Bus Routes 165 and 762.

### **Oradell**

The Oradell rail station is located on Oradell Avenue, across the street from the Oradell town library. There is parking available for commuters accessing the Oradell rail station at a small lot across the street from the station and at the library parking lot. The small lot is for residents of Oradell only, with 25 parking spaces available. A residential permit is required. The library parking lot contains 125 parking spaces, with parking filled to approximately 60 percent at the time of field observations (10/2004). There are pedestrian crosswalks with signage for commuters walking across Oradell Avenue to access the rail station. At this station, the Pascack Valley line interfaces with NJT Bus Routes 165 and 762. The station is also in close proximity to the Oradell business district.



### **Emerson**

The Emerson rail station is located at the intersection of Kinderkamack Road and Linwood Avenue. There is no parking available at the station, with the exception of on-street parking along Kenneth Avenue, which is across Kinderkamack Road from the rail station. Field observations, conducted in October of 2004, indicate that there are 38 spaces available along Kenneth Avenue and the spaces were filled to capacity. There are no pedestrian accommodations for commuters parking on Kenneth Avenue to access the rail station. Commuters walk across Kinderkamack Road via an at-grade railroad crossing. The Pascack Valley line interfaces with NJT Bus Route 165 at this rail station.



### **Westwood**



The Westwood rail station is located at the intersection of Broadway and Westwood Avenue. The Pascack Valley line interfaces with NJT Bus Route 165 at this rail station. There is a parking lot that services the station, located on a side road between 3<sup>rd</sup> Avenue and Park Avenue. There are sidewalks to accommodate commuters between the lot and the rail station. The parking lot is for residents of Westwood only and there are 29 spaces available. Field observations noted that the parking lot was at capacity. On-street parking is also available along Broadway. The

Westwood rail station is a handicapped accessible rail station.

There is a bus stop, with a bus turn-in lane and bus shelter, located on the southbound side of Broadway, across Washington Street from the Westwood rail station. There is a pedestrian crosswalk across Washington Street. However, the crosswalk is located a short distance from the bus shelter and is underutilized. Field observations note that commuters walk along the at-grade crossing across Washington Street to access the rail station from the bus station.

### **Hillsdale**

The Hillsdale rail station is located at the intersection of Broadway and Hillsdale Avenue. There is a permit only parking lot available to commuters on Washington Avenue, across the street from the rail station, with a walkway and crosswalk to the rail station. Field observations during October of 2004 indicate that the lot was between 50% and 60% capacity. There is a small parking lot containing eight parking spaces available next to the rail station and a parking lot with a daily charge located along the railroad tracks, across the tracks from the rail station. Access to the parking lot is maintained on Hillsdale Avenue. The parking lot contains fifteen spaces and



the lot was filled to capacity upon field observations. There is also evidence of parking at the shopping center, across the street from Washington Avenue.

### **Woodcliff Lake**



The Woodcliff Lake rail station is located at the intersection of Broadway and Woodcliff Avenue. There are two small parking lots at the rail station. Both of the parking lots are permit parking only and upon field observations, it was noted that the parking lots were filled to capacity. There is another parking lot behind a building, close to the rail station. Commuters are parking in this additional lot, as well. There are minimal pedestrian accommodations at the rail station, with a crosswalk across Broadway being the only pedestrian accommodation, and no crosswalk across

Woodcliff Avenue. Repairs are needed along the sidewalk between the rail station and the crosswalk.

### **Park Ridge**

The Park Ridge rail station is located at the intersection of Park Avenue and Broadway, near the Borough Hall. Permit parking is provided for residents only at the intersection of Madison Street and Hawthorne Avenue. The parking lot consists of 100 parking spaces. Field observations, conducted in October of 2004 indicate that the parking was filled to between 80% and 90% capacity.



There is commuter parking along the southbound side of Broadway, parallel to the railroad tracks. Signs indicate that the parking is daily commuter parking with a \$1.00/day charge. Slots are available for the placement of fees. There are 34 spaces available, with 31 spaces filled at time of field observation. There is a footpath across the tracks to access the rail station, but that is the only pedestrian accommodation available.

### **Montvale**

The Montvale rail station is located at the intersection of Kinderkamack Road and Grand Avenue. There are two commuter parking lots near the Montvale station. The first parking lot is located on the southbound side of Kinderkamack Road, across the street from the rail station. The parking lot is for Montvale residents only and is a permit-parking lot. There are no pedestrian accommodations between the lot and the rail station. Field observations from October of 2004 indicate that the parking lot was filled to approximately 40% capacity.



There is a second commuter parking lot on the northbound side of Kinderkamack Road, to the north of the rail station. There is a crosswalk with signage between the lot and the rail station. There are no signs indicating who is permitted to park in the lot and what the parking fees are. However, the parking lot was only filled to approximately 25% capacity.

### **2.3.2. Freight Rail**

The Pascack Valley Line is primarily a commuter rail line having single-track operations along the majority of its length. Norfolk Southern Railroad provides freight service along this line. Norfolk-Southern Corporation was formed in 1982 with the consolidation of the Norfolk and Western Railway and the Southern Railway. On June 1, 1999 Norfolk Southern began operating on 7,000 miles of former Conrail routes. Today on average, Norfolk Southern provides one local round-trip per day serving freight customers along the Pascack Valley Line, with most of these trips located south of Westwood.

## **2.4. Bicycles and Pedestrians**

Enhancing access and mobility for pedestrians is a major goal of this study. A special section has been devoted to improving pedestrian travel in the Kinderkamack Road/Pascack Valley Intermodal Corridor by examining the pedestrian facilities surrounding the nine transit stations in the corridor and seeking ways to improve them. Improvement of these facilities will benefit pedestrian travel by improving access to stations along the rail line and bus network, which in turn will dramatically enhance overall access to the region through transit. Increasing pedestrian access to transit will also benefit communities by reducing demand for parking at stations and reducing local traffic congestion.

To this end, a comprehensive set of data on the pedestrian facilities in each town was recorded. The data was analyzed using Geographic Information Systems (GIS) software to find deficiencies in facilities and infrastructure that negatively impact pedestrian travel. Then, recommendations for specific improvements are made and prioritized such that individual municipalities may gradually enhance pedestrian travel in a manner that consistently improves the whole corridor. The end result upon implementation of a coordinated set of improvements is to make it safer, easier, and more convenient for a person to walk to their local train station in the Kinderkamack Road/Pascack Valley Corridor. The section explaining the approach, methodology, assumptions, data, and analysis that were used to derive these recommendations was developed by the Bergen County Department of Planning and Economic Development and is located in full within the appendices section.



### 3. TRAFFIC

Kinderkamack Road (CR-503) is a major north-south corridor within Bergen County, and provides access to major roadways including I-80, NJ Routes 4 and 17, and portions of southern Rockland County in New York State. In addition to facilitating north-south mobility, Kinderkamack Road acts as a “Main Street” for a number of towns. As a result, conflicting traffic patterns with differing objectives and vehicular movements must coexist within the same stretch of roadway, and ultimately promulgate traffic queues, congestion, and safety concerns.

The development of a simulation model was determined to be an appropriate tool for identifying and then examining the traffic-related issues along the Kinderkamack Corridor.

#### 3.1. Model Development

After considering the strengths and weaknesses of the various available software packages, it was determined that Synchro/SimTraffic was the most appropriate for this analysis. Synchro is based on the Highway Capacity Manual (HCM) methodologies, and can output the same reports as Highway Capacity Software (HCS), including intersection level of service (LOS). Synchro is the data entry and analysis program, and SimTraffic is the animation/simulation program. Synchro has a graphical interface, and permits the analyst to code the network over an aerial photograph or CAD drawing. The presentation of the simulation is also shown on the aerial photograph, and the analyst can pause, slow down, or rewind the simulation at will. These tools were then presented to the County along with the development and usage methodologies, in order that it could be used for additional efforts along Kinderkamack Road and similar corridors throughout the County.



For the purposes of this study, the primary output utilized was the level of service (LOS) at each study intersection. LOS is defined as a “qualitative measure describing conditions within a traffic stream, and their perception by motorists and/or passengers.” LOS is divided into six categories, ranging from LOS A (free-flow traffic) to LOS F (traffic flows break down, with conditions exceeding capacity). The performance measure used to determine LOS at signalized and un-signalized intersections is average delay.

The following sections present the specifics in the development of the traffic model and the results generated.

### 3.1.1. Traffic Counting Program

Turning movement counts were conducted within a three-day period between Tuesday, October 26 and Thursday, October 28, 2004. Turning movement counts were conducted as part of the traffic simulation model task, which is to simulate traffic conditions and movements in the corridor through a use of Synchro/SimTraffic software.

Synchro is based on the Highway Capacity Manual (HCM) methodologies, and can output the same reports as Highway Capacity Software (HCS). Synchro is the data entry and analysis program, and SimTraffic is the animation/simulation program. Synchro has a graphical interface, and permits the analyst to code the network over an aerial photograph or CAD drawing. The presentation of the simulation is also shown on the aerial photograph, and the analyst can pause, slow down, or rewind the simulation at will.

#### **Software Requirements:**

- Synchro/SimTraffic version 6
- Windows 98 or higher, or Windows NT 4 or higher

#### **Hardware Requirements:**

- Pentium 3 or Higher
- 512 MB RAM
- 1 GB Free Hard Drive Space
- High Color (16-Bit) Monitor, 1024x768 or higher recommended

Synchro/SimTraffic is developed by Trafficware Corporation. Information regarding product support and up-to-date versions of the software are available at <http://www.trafficware.com/>.

Turning movement counts were conducted at fifteen selected intersections within the Kinderkamack Corridor. The fifteen intersections were selected as the result of several conversations with the Bergen County Department of Planning and Economic Development. The counts were conducted from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM to determine the AM and PM peak hours. All vehicular and pedestrian movements were counted at each intersection. Vehicular turning movement counts were separated into three classes: cars (including SUVs and pick-ups), trucks, and buses.

Turning movement counts were conducted at the following intersections:

#### **Tuesday, October 26**

- Kinderkamack & Grand Avenue – River Edge
- Kinderkamack & Main Street – River Edge
- Kinderkamack & River Edge Avenue – River Edge
- Kinderkamack & Midland Avenue – River Edge
- Kinderkamack & Oradell Avenue – Oradell



**Wednesday, October 27**

- Kinderkamack & Linwood Avenue – Emerson
- Kinderkamack & Old Hook Road – Westwood
- Broadway & Jefferson Avenue & First Avenue – Westwood
- Broadway & Westwood Avenue & Washington Avenue – Westwood
- Kinderkamack & Westwood – Westwood

**Thursday, October 28**

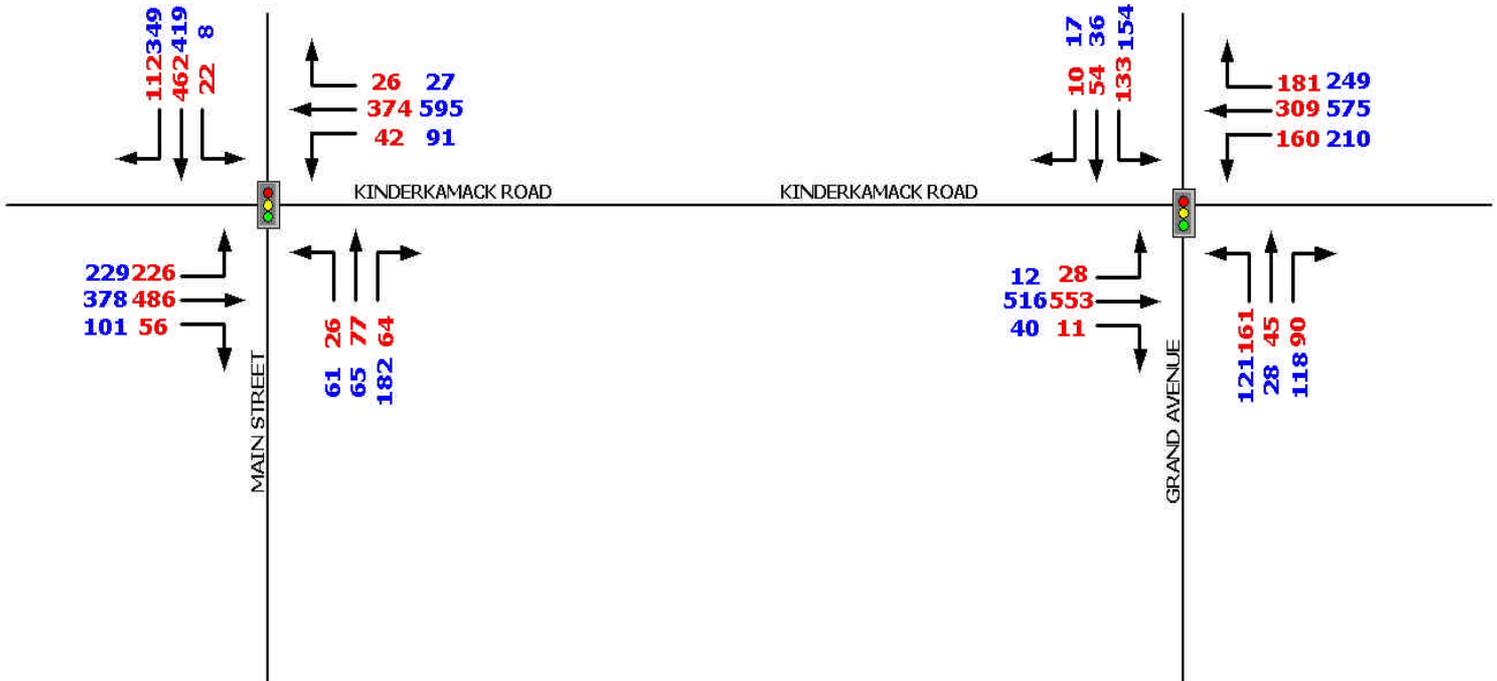
- Broadway & Hillsdale Avenue – Hillsdale
- Kinderkamack & Hillsdale Avenue – Hillsdale
- Kinderkamack & Prospect Avenue – Woodcliff Lake
- Broadway & Park Avenue – Park Ridge
- Kinderkamack & Park Avenue – Park Ridge

Turning movement counts were summarized and analyzed to determine the peak hour of traffic during both the AM and PM peak periods. The turning movement counts at all fifteen intersections were compared and it was determined that the AM peak hour of travel along the Kinderkamack Corridor is from 8:00 AM to 9:00 AM, while the PM peak hour of travel is from 4:45 PM to 5:45 PM. As a result, these AM and PM peak hour turning movement counts have been used to determine the existing and future year conditions throughout the Kinderkamack Corridor. The AM and PM peak hour turning movement counts within the Kinderkamack Corridor are presented in Figures 3 – 7.

Traffic counts and model development of the intersections of Kinderkamack Road & Grand Avenue and Railroad Avenue/Park Street & Grand Avenue, located in Montvale, were conducted separately by the Bergen County Department of Planning and Economic Development as part of their matching effort. These elements were then added into the model for the model runs to simulate and analyze the conditions at the northernmost extent of the corridor.

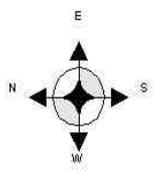
Traffic volumes were collected using manual turning movement counts for the AM and PM Peak periods (7:00 – 9:00 AM and 4:00 – 6:00 PM) during October of 2004. These counts were taken on a non-holiday, Tuesday, Wednesday, or Thursday when most local schools were in full session to ensure that the recorded volumes reflected typical traffic conditions in the area.

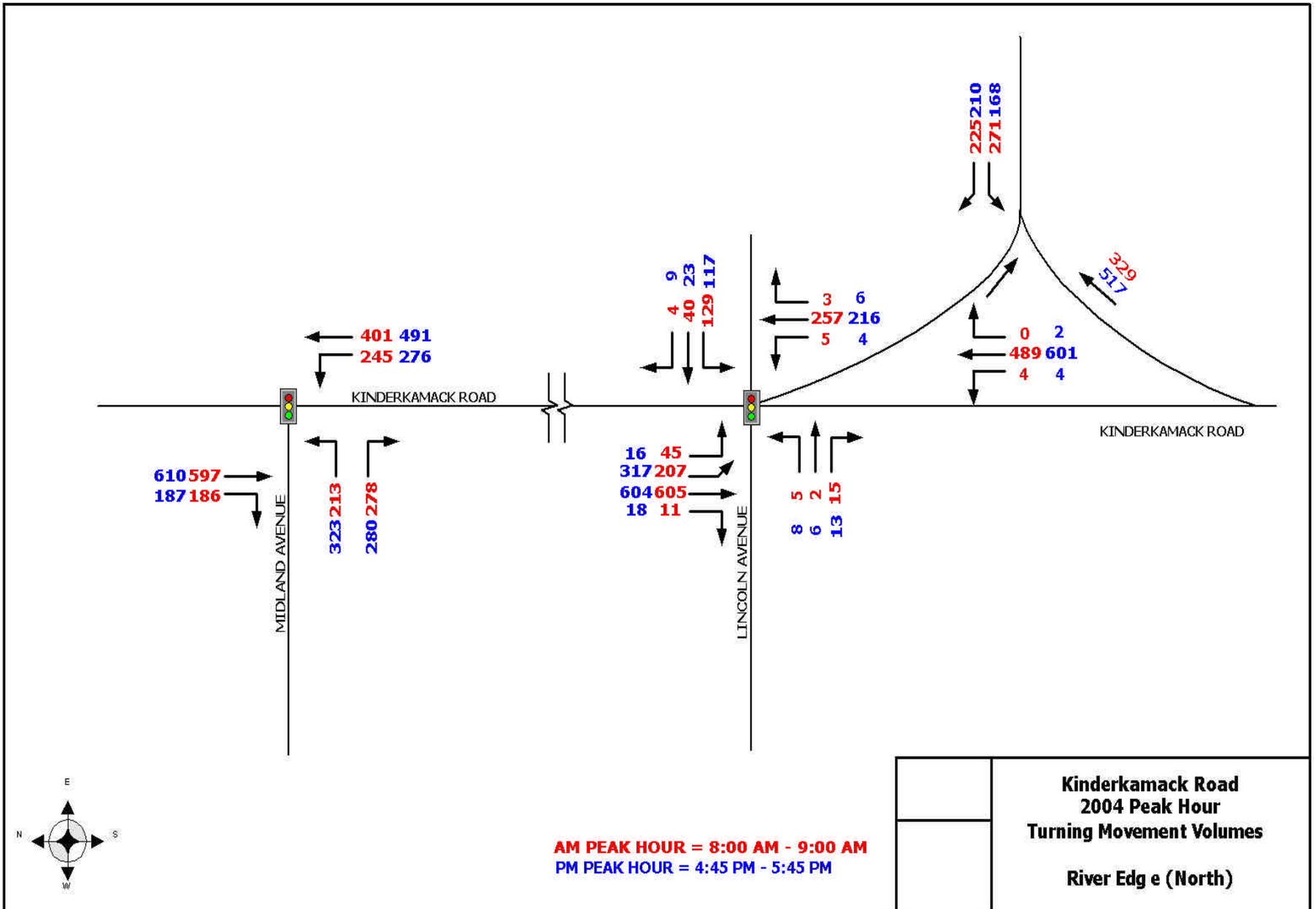


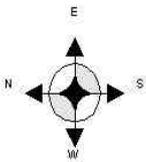
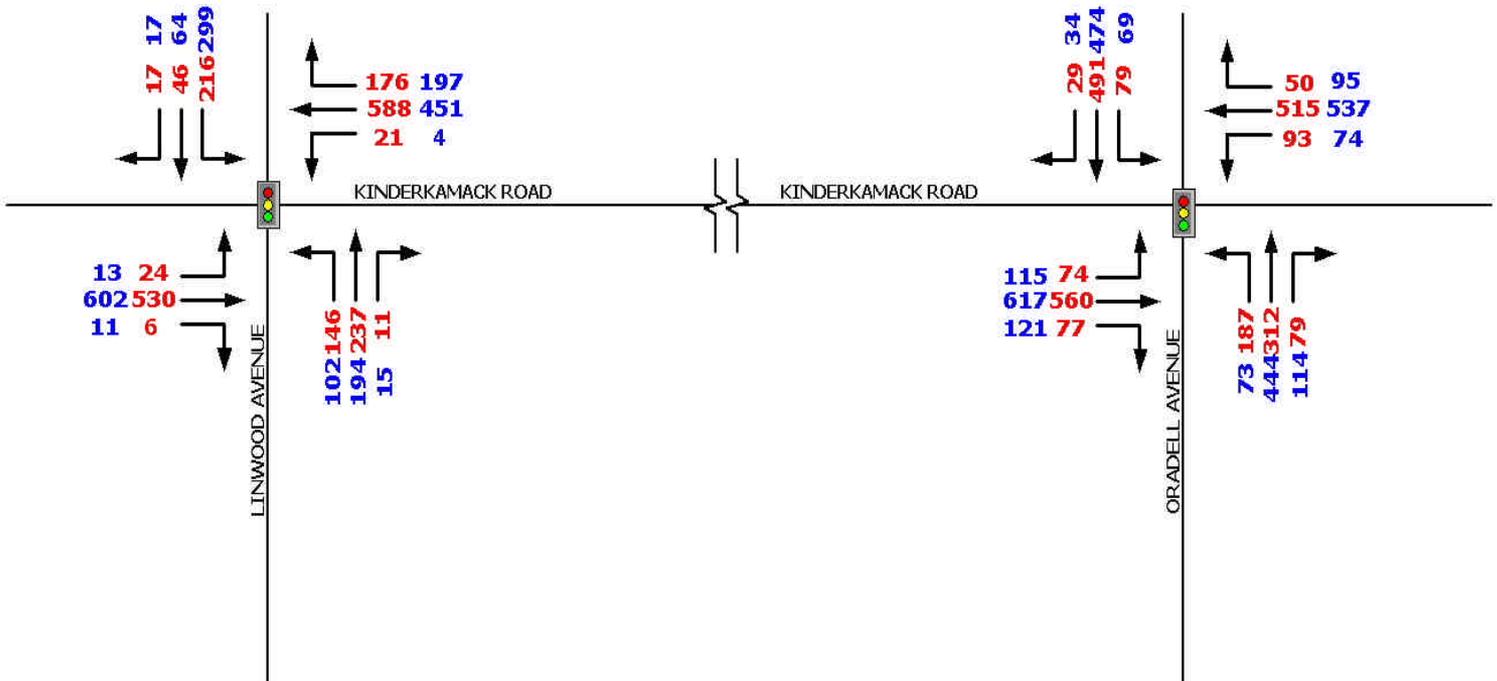


**AM PEAK HOUR = 8:00 AM - 9:00 AM**  
**PM PEAK HOUR = 4:45 PM - 5:45 PM**

**Kinderkamack Road  
 2004 Peak Hour  
 Turning Movement Volumes  
 River Edge (South)**

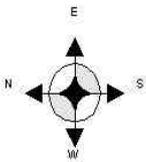
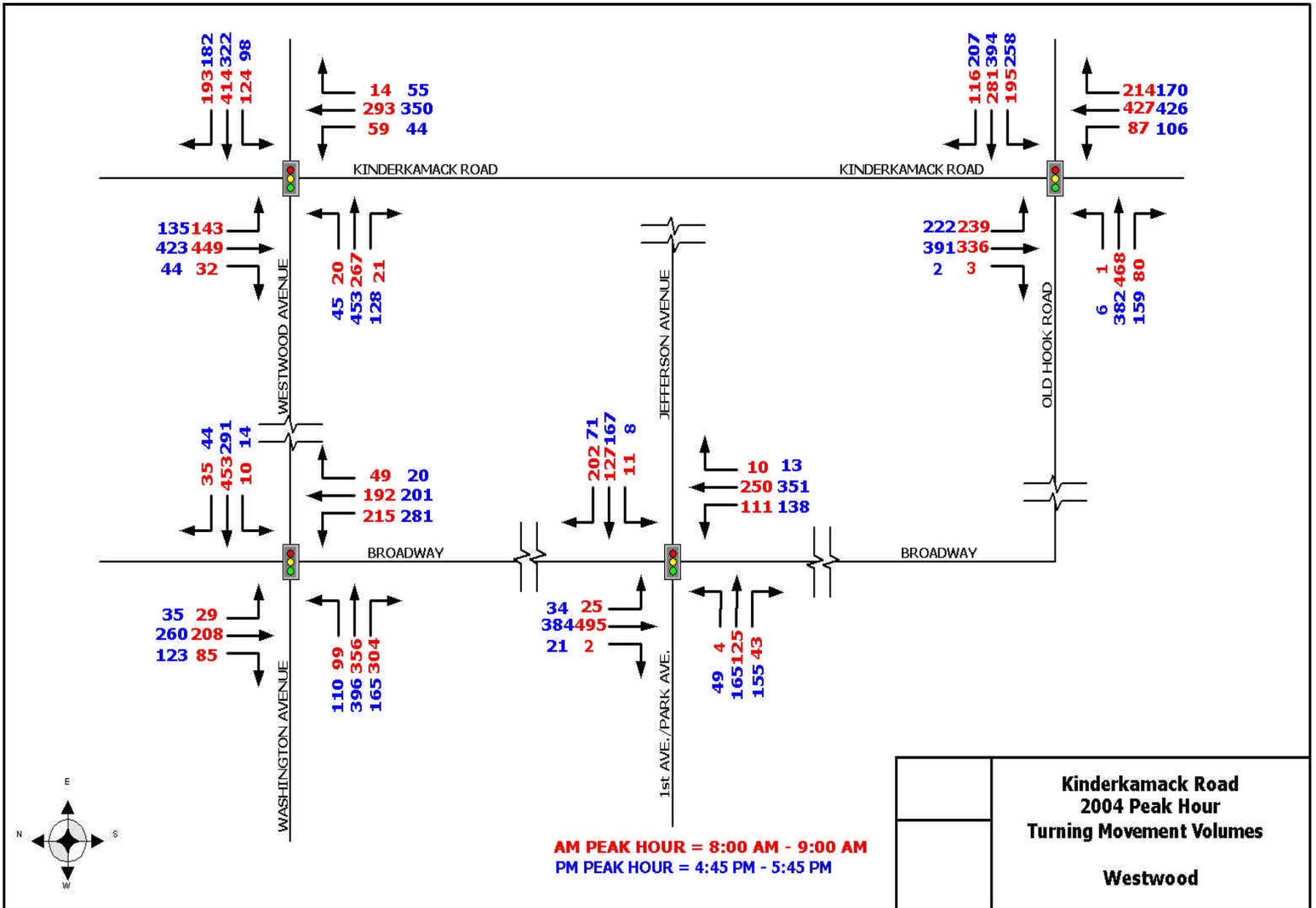




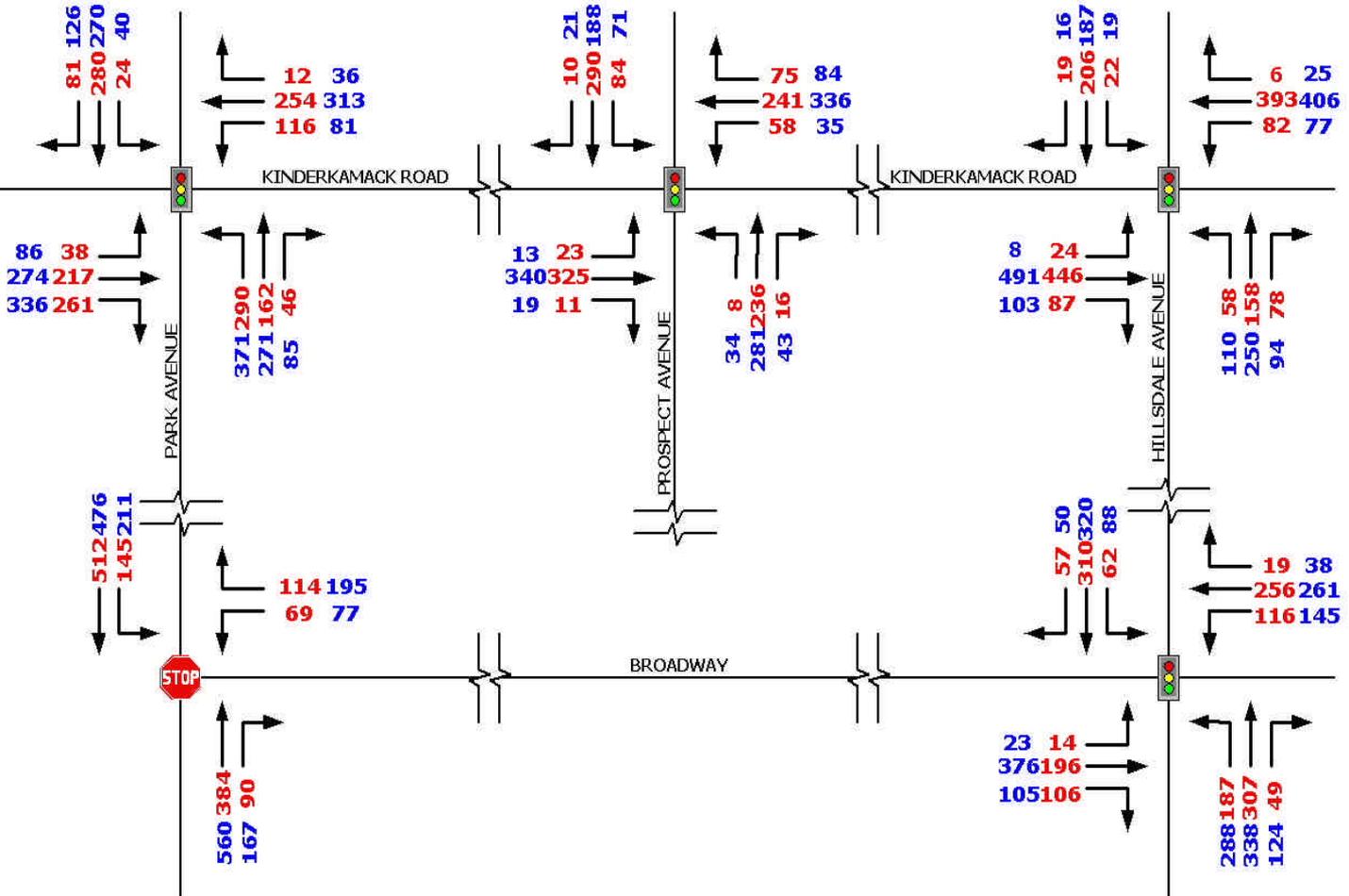
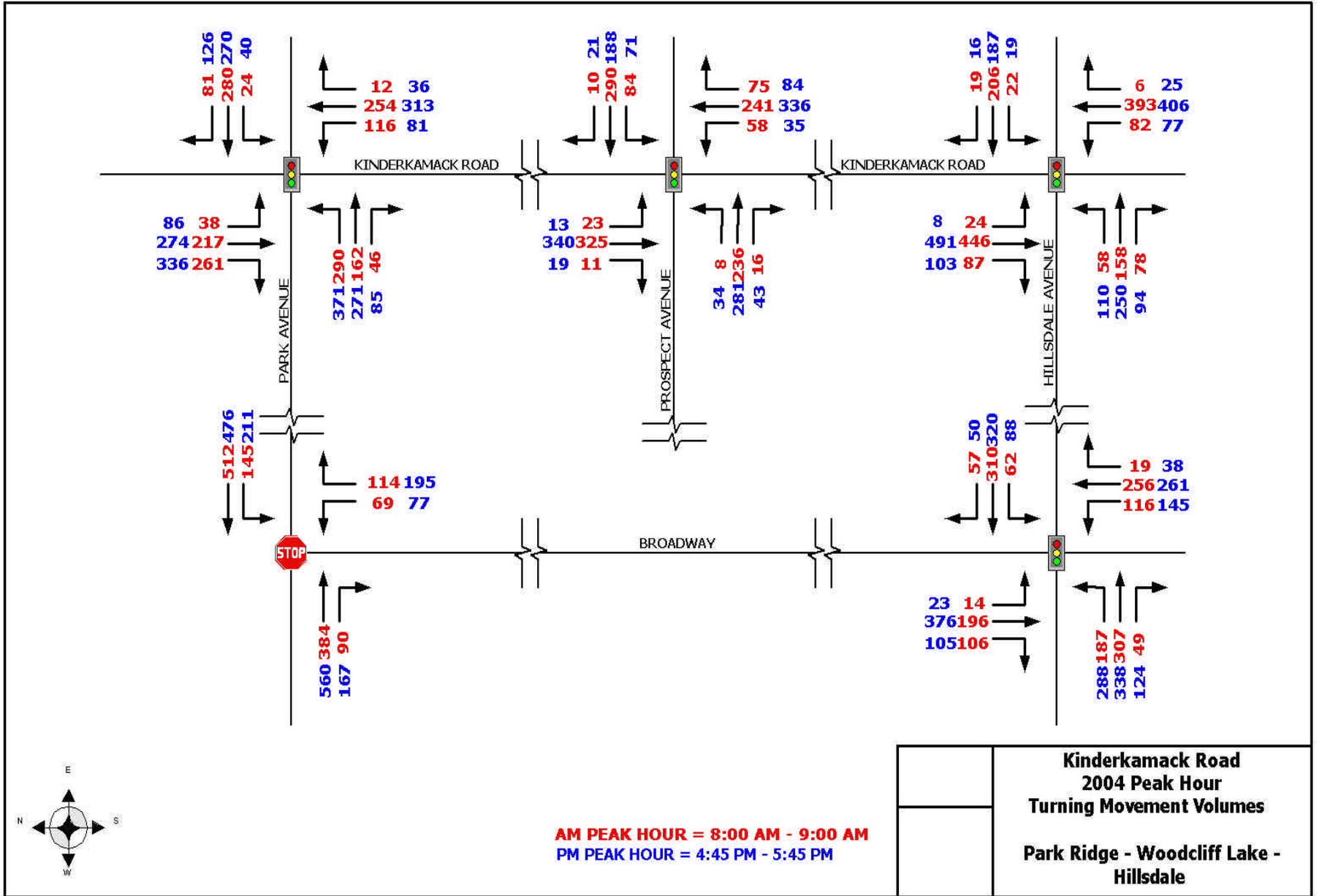


**AM PEAK HOUR = 8:00 AM - 9:00 AM**  
**PM PEAK HOUR = 4:45 PM - 5:45 PM**

	<b>Kinderkamack Road          2004 Peak Hour          Turning Movement Volumes</b>  <b>Emerson - Oradell</b>



**Kinderkamack Road  
 2004 Peak Hour  
 Turning Movement Volumes  
 Westwood**



### 3.2. Existing (2004) Traffic Conditions

Edwards and Kelcey (EK) conducted an analysis of the existing (2004) traffic operations along the study area corridor. Current traffic operations were evaluated along Kinderkamack Road and Broadway at fourteen signalized intersections and one un-signalized intersection for the base year 2004. Bergen County performed an analysis of existing traffic conditions at two additional intersections located in Montvale. The results of the analysis are presented in this section

The analysis of the existing (2004) traffic operations was done for the AM and PM peak hours of travel. The traffic counts that were presented in the previous section were used to conduct the analysis. As was mentioned in the previous section, the AM peak hour of travel is from 8:00 AM to 9:00 AM, while the PM peak hour of travel is from 4:45 PM to 5:45 PM. The traffic counts were input into the Synchro traffic simulation model to analyze the flow of traffic at each of the intersections studied and to determine the LOS at each intersection.

A map of the AM peak hour (8:00 AM to 9:00 AM) LOS, along the Kinderkamack Road/Pascack Valley Corridor is shown in Figure 8, while a map of the PM peak hour (4:45 PM to 5:45 PM) LOS, along corridor is shown in Figure 9. The LOS analyses were done for the fifteen intersections chosen as part of the existing year 2004 traffic conditions summary. A table of the AM and PM peak hour LOS traffic conditions within the study area, by intersection, is shown below.

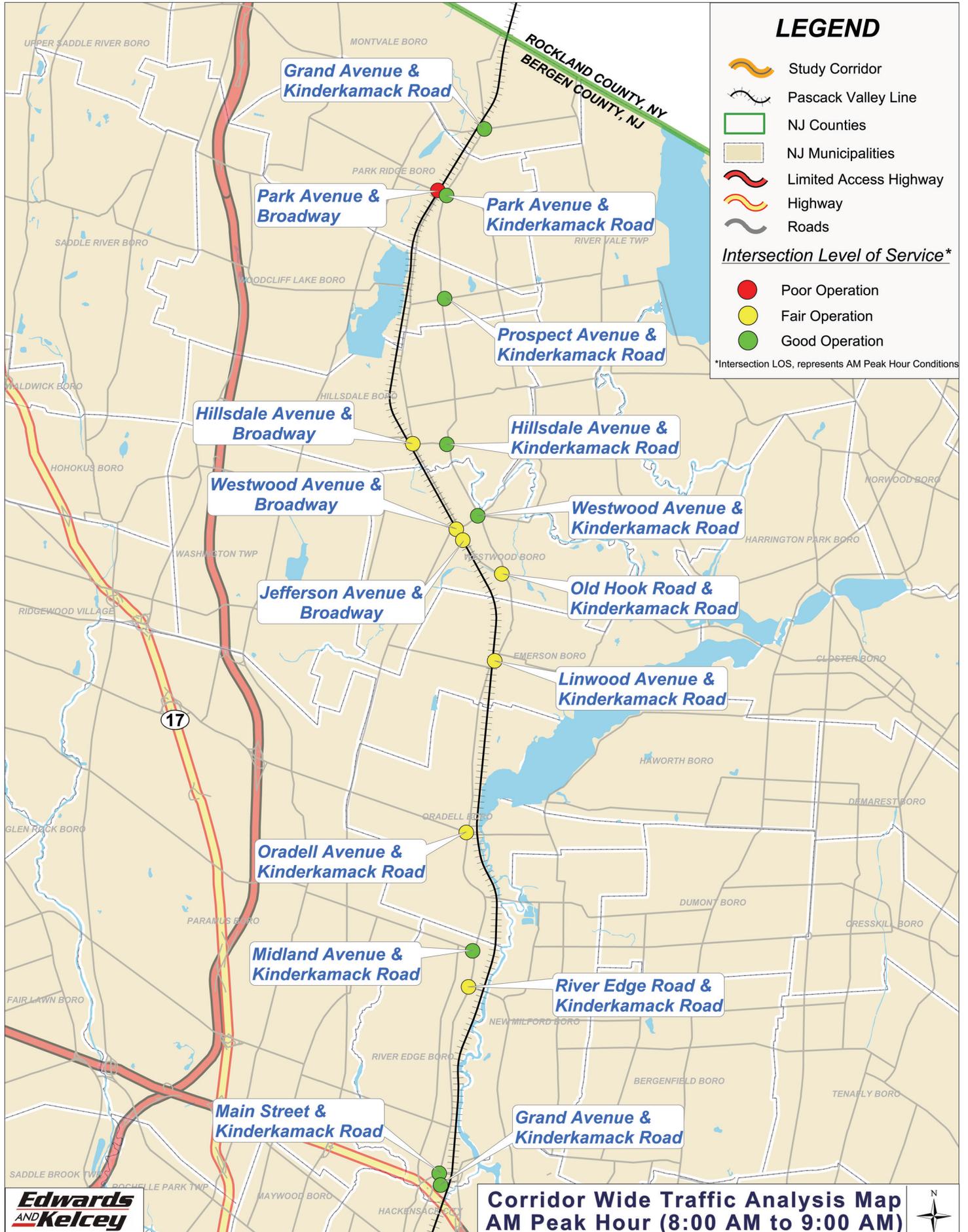
**Table 3: Existing Conditions (2004) Intersection Level of Service (LOS)**

<b>Intersection</b>	<b>Municipality</b>	<b>AM LOS</b>	<b>PM LOS</b>
Kinderkamack Road & Grand Avenue	Montvale	B	B
Railroad Avenue/Park Street & Grand Avenue	Montvale	B	D
Kinderkamack Road & Park Avenue	Park Ridge	B	C
Broadway & Park Avenue (Unsignalized Intersection)	Park Ridge	F	F
Kinderkamack Road & Prospect Avenue	Woodcliff Lake	B	B
Kinderkamack Road & Hillsdale Avenue	Hillsdale	B	C
Broadway & Hillsdale	Hillsdale	C	D
Kinderkamack Road & Westwood Avenue	Westwood	B	D
Broadway & Westwood Avenue/Washington Avenue	Westwood	C	D
Broadway & Jefferson Avenue	Westwood	D	D
Kinderkamack Road & Old Hook Road	Westwood	D	F
Kinderkamack Road & Linwood Avenue	Emerson	C	C
Kinderkamack Road & Oradell Avenue	Oradell	D	D
Kinderkamack Road & Midland Avenue	River Edge	B	B
Kinderkamack Road & River Edge Road	River Edge	D	F
Kinderkamack Road & Main Street	River Edge	B	C
Kinderkamack Road & Grand Avenue	River Edge	B	B



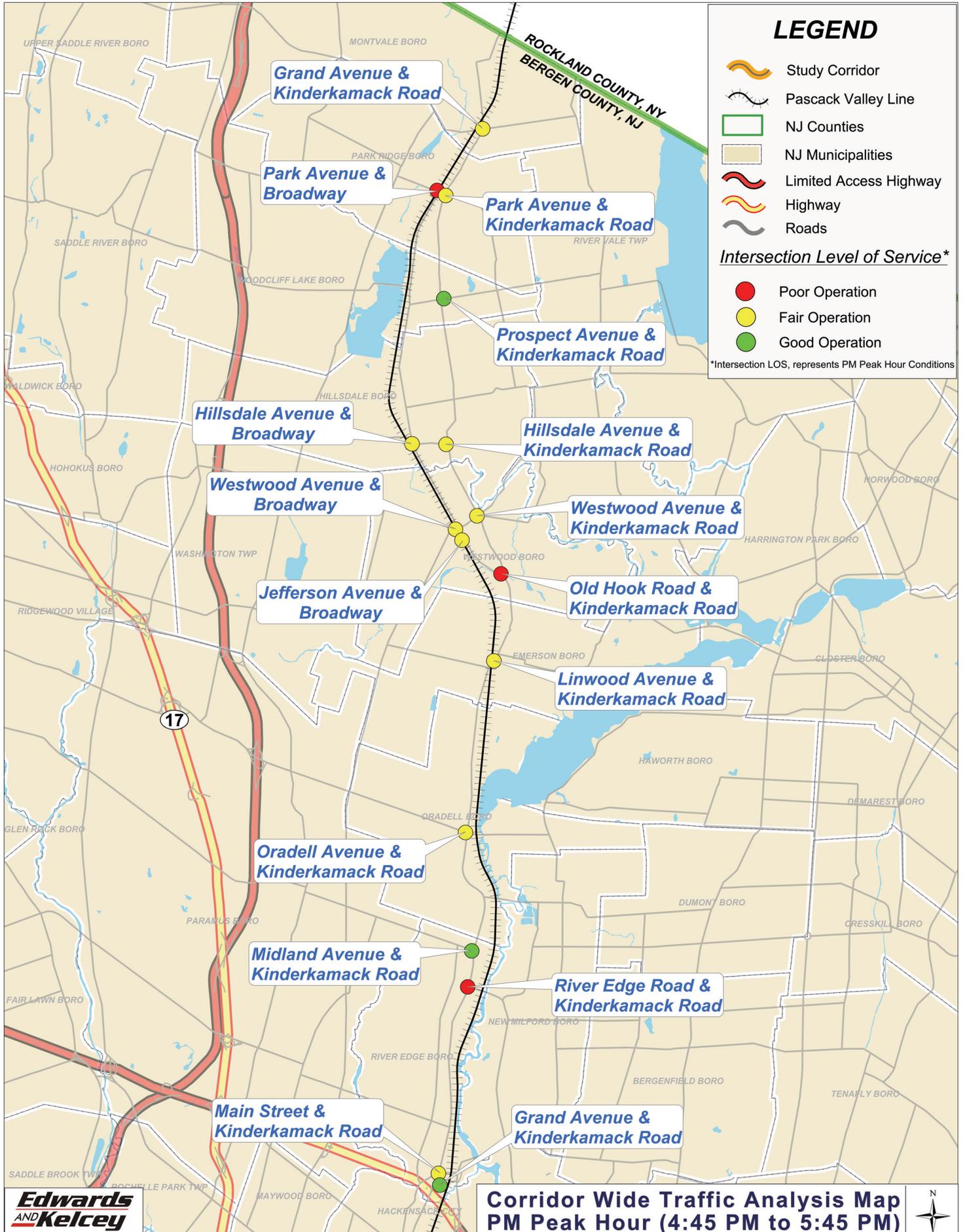


# Kinderkamack Road and Pascack Valley Intermodal Corridor Study





# Kinderkamack Road and Pascack Valley Intermodal Corridor Study



### 3.2.1. AM Peak Hour Conditions

During the AM peak period four signalized intersections were observed operating at an overall LOS of D, and the single unsignalized intersection of Broadway & Park Avenue operated at a LOS of F. The four signalized intersections are, from south to north, River Edge Road/Lincoln Avenue & Kinderkamack Road, Kinderkamack Road & Oradell Avenue, Kinderkamack Road & Old Hook Road, and Broadway & Jefferson Avenue.

The intersection of River Edge Road/Lincoln Avenue & Kinderkamack Road was observed with an overall LOS of D. In particular, the southbound-left turn movement from Kinderkamack Road to River Edge Road maintained a failing level of service of F. This condition can be attributed to the narrow width of the southbound travel lanes, the five-legged and unconventional configuration of the intersection, and the attraction of the soft left-hand turn to the NJ TRANSIT rail station located on River Edge Road.

Kinderkamack Road & Oradell Avenue was observed as maintaining a LOS of D during AM peak period hours. Overall, through movements operated at an acceptable level, with east-west movements operating at a LOS of B and C, and north-south movements operating at a LOS of C and D, respectively. Left-hand turning movements lowered the intersection's overall level of service significantly, with eastbound left-hand turns operating at a LOS of D, and northbound and southbound left-hand turns failing with a LOS of F.

Kinderkamack Road & Old Hook Road demonstrated an undesirable level of service with a LOS of D. This is attributable to major delays observed on both of the westbound movements. The westbound thru/right maintained a LOS of F, and the westbound left movement maintained a LOS of E. Even though higher traffic volumes were observed traveling eastbound during the AM peak period, westbound traffic experienced the worst delay. Some of the operating issues can be attributed to the geometry of the roadway. Westbound thru and right-turning traffic share a single lane, and experience lengthy queuing and significant delays as a result of the narrow roadway.

Lastly the intersection of Broadway & Jefferson Avenue, located south of the Westwood NJ TRANSIT station, operated with a LOS of D. Identifiable by its unusual five movement four-legged approach, this intersection's most severe delays were observed on the northbound and southbound through movements, and the northbound left-hand turning movement onto First Avenue/Park Avenue. Additionally, field observations noted commercial development, identified as a gym/sports club on the southeastern corner of the intersection, was under construction during the data collection effort. In the future this facility may generate additional traffic delays and congestion at Broadway & Jefferson Avenue.

### 3.2.2. PM Peak Hour Conditions

The results of the existing year 2004 traffic analysis conclude that there are two signalized intersections along the Kinderkamack Road/Pascack Valley Corridor that are operating at failing,



or at capacity, during the PM peak hour. The two intersections are Kinderkamack Road & Old Hook Road, in Westwood, and Kinderkamack Road & River Edge Road, in River Edge.

The intersection of Kinderkamack Road and River Edge Road is operating at failing conditions as a result of queuing of traffic at the Kinderkamack Road southbound approach and the River Edge Road westbound approach. The intersection is a complex, five-legged intersection, which also includes Lincoln Avenue. As River Edge Road westbound traffic approaches Kinderkamack Road, there is an un-signalized intersection that is utilized for left-turn movements onto Kinderkamack Road southbound. This unsignalized intersection also creates a backup of traffic, as traffic on River Edge Road eastbound must yield to River Edge Road westbound traffic making the left onto Kinderkamack Road southbound. The left-turn movements onto Kinderkamack Road southbound yield at an un-signalized intersection on Kinderkamack Road to the south of the signalized intersection of Kinderkamack Road, Lincoln Avenue and River Edge Road.

Similar to AM peak period operations, PM peak period operations at the intersection of Kinderkamack Road and Old Hook Road are at failing conditions as a result of significant delays at the Old Hook Road westbound approach. There is a high volume of traffic at this approach with minimal green time, creating a back up, or queuing of traffic. The Kinderkamack Road approaches operate sufficiently at this intersection.

There is one unsignalized intersection that was analyzed as part of the existing year 2004 traffic analyses: the intersection of Broadway and Park Avenue, in Park Ridge. The analysis concludes that the intersection is operating at LOS F, or at capacity conditions. However, the intersection is operating at LOS A, or excellent conditions at the Park Avenue approaches. It is the Broadway approach, unsignalized and controlled by a stop sign, which is operating at level of service F.

### 3.3. Future (2025) No-Build Conditions

In order to examine future conditions along the Kinderkamack Corridor, the Bergen County Department of Planning and Economic Development selected a future horizon year of 2025 and a growth factor of 0.5 percent per year for analysis. The growth rate was derived by comparing previous traffic growth to population and employment forecasts for the area and identified growth rates utilized in other traffic studies for the region. Future year traffic volumes were generated by applying the established 0.5 percent per year growth factor over a twenty-year period, to the traffic volumes collected for this study.

After factoring, future year (2025) traffic volumes were applied to a no-build model. A no-build model is a future year model where roadway improvements or enhancements have not been made. In other words, a no-build model simulates the condition of projected traffic volumes within today's current roadway system. A no-build model can then be built upon to test future roadway improvements and their effect on future traffic conditions.



The following outlines the AM and PM peak period level of service throughout an unimproved Kinderkamack Corridor for the year 2025.

**Table 4: Future No-Build Conditions Intersection Level of Service (LOS)**

Intersection	Municipality	AM LOS	PM LOS
Kinderkamack Road & Grand Avenue	Montvale	B	B
Railroad Avenue/Park Street & Grand Avenue	Montvale	C	D
Kinderkamack Road & Park Avenue	Park Ridge	C	C
Broadway & Park Avenue*	Park Ridge	F	F
Kinderkamack Road & Prospect Avenue	Woodcliff Lake	B	B
Kinderkamack Road & Hillsdale Avenue	Hillsdale	C	C
Broadway & Hillsdale	Hillsdale	C	C
Kinderkamack Road & Westwood Avenue	Westwood	C	F
Broadway & Westwood Avenue/Washington Avenue	Westwood	D	E
Broadway & Jefferson Avenue	Westwood	E	F
Kinderkamack Road & Old Hook Road	Westwood	D	F
Kinderkamack Road & Linwood Avenue	Emerson	D	D
Kinderkamack Road & Oradell Avenue	Oradell	D	E
Kinderkamack Road & Midland Avenue	River Edge	B	C
Kinderkamack Road & River Edge Road	River Edge	F	F
Kinderkamack Road & Main Street	River Edge	B	C
Kinderkamack Road & Grand Avenue	River Edge	C	C

The existing roadway infrastructure throughout the Kinderkamack Corridor will be increasingly taxed given the anticipated future growth within Bergen County. In fact, of the 17 intersections included within the future PM peak period no-build model, more than half operate at a LOS of D or lower, and five demonstrate failing conditions. Interestingly, intersections such as Kinderkamack Road & Main Street and Kinderkamack Road & Grand Avenue in River Edge, and Kinderkamack Road & Grand Avenue in Montvale, that have been recently improved, performed the best in the future no-build scenarios, and demonstrate better future levels of service than many of the intersections in the existing conditions model.

**3.3.1. AM Peak Hour No-Build Conditions**

Expectedly, future AM Peak Hour Conditions closely resemble the existing AM Peak Hour Conditions, with increased congestion and delay. Most intersections either maintained the same level of service or worsened by one or even two levels. Poorly operating intersections continue to be located at Kinderkamack Road & River Edge Road (LOS D to an F), Broadway & Jefferson Avenue (LOS D to an E), and the unsignalized intersection of Broadway & Park Avenue (LOS F). A significant majority of the intersections operating at poor levels of service and delay during the AM peak period is located in the middle and southern portions of the corridor. For example, the intersections analyzed from Oradell to Westwood all maintain a level of service of D or lower. Additionally, within the future year no-build model, this area demonstrates a considerable amount of congestion and queuing.



### 3.3.2. PM Peak Hour No-Build Conditions

Future PM Peak Hour Conditions indicate significant delay and poor levels of service throughout the Kinderkamack Corridor. In particular, poor level of service (LOS D, E, and F) occurs at the intersections located between Oradell and Westwood on Kinderkamack Road and Broadway. Additionally, the close proximity of some of these poorly operating intersections, in particular those in Westwood, may be a cause for concern, attributed to the fact that adjacent poorly operating or failing intersections can create queue interactions, blocking, and subsequent delays that are amplified above and beyond those at isolated intersections. This is significant at the corridor level especially because, left unaddressed, roadway network failures may ultimately occur.

Beyond the central section of the corridor, other failing intersections are located at the intersections of River Edge Road and Kinderkamack Road and Broadway and Park Avenue, and can be attributed to physical design characteristics and a lack of signalization, respectively.

### 3.4. Traffic Related Field Observations of Existing Conditions

Based on site visits, research, and input from the TAC and public meetings, the following intersections and traffic problems or issues have been observed or noted below:

- Kinderkamack Road & River Edge Road: Awkward intersection configuration, with cumbersome turning movements, especially for traffic moving from westbound River Edge Road onto southbound Kinderkamack Road. Steep slopes complicate reconfiguration of the intersection. Many vehicles avoid the intersection, using nearby residential streets to achieve access to Kinderkamack Road.
- Kinderkamack Road & Linwood Avenue: Right-turn movements from Linwood Avenue onto Kinderkamack Road are difficult during many times of day due to traffic volumes on Kinderkamack Road.
- Kinderkamack Road at New Milford Avenue: "No Turn on Red" sign prohibits potentially safe right-turn movements from New Milford Avenue onto Kinderkamack Road, resulting in often longer than necessary queues.
- Kinderkamack Road & Oradell Avenue: Left-turning movements are difficult at this busy intersection, as opposing traffic is often relentless. Left-turn lanes being studied on all four approaches.
- Kinderkamack Road & Veldran Avenue: Vehicles often use Veldran Avenue as an alternative means of access to Kinderkamack Road. This activity creates a safety concern for neighborhood residents.
- Kinderkamack Road between Jefferson Avenue & Westwood Avenue: Lack of signal coordination in this busy commercial district results in long queues and frustrating delays for through traffic.



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- Broadway & Westwood Avenue: Long queues on Broadway resulting from inability to make left turns onto Westwood Avenue have been reported in the area.
  - Kinderkamack Road & Washington Avenue: This busy intersection lacks traffic and pedestrian signals. Turning movement delays lead to often unsafe activity on behalf of drivers trying to take advantage of limited breaks in traffic on Kinderkamack Road.
  - Broadway & Woodcliff Avenue and Highview Avenue: The lack of traffic signals and pedestrian facilities make the area unsafe for pedestrians approaching the train station. The stairs leading down to the station from the east are inadequate. The two intersections are in extremely close proximity and may function better as one.
  - Broadway & Park Avenue: This busy intersection is controlled only by a stop sign on the Broadway approach to Park Avenue. There is community interest in installing a traffic signal.
  - Kinderkamack Road & Grand Avenue: There are frequent delays in the area due to the prohibition of various traffic movements while trains are serving Montvale Station.



## 4. CONSIDERED ALTERNATIVES

### 4.1. Alternatives Development

The Technical Advisory Committee (TAC) is a collaborative body in which Bergen County planning officials, municipal government and safety officials, transit and transportation representatives, and the consultants were able to discuss the findings of each stage of the study and offer comments and suggestions for the project tasks to be completed in the future. Since the Kinderkamack Corridor Intermodal Transportation Study's conception the TAC has met three times. In addition two public meetings have been held at locations central to the corridor, to allow input from members of the communities within the study area. The first meeting drew 35-50 area residents, while 75-80 attended the second. The qualitative data acquired from these five meeting sessions became a valuable asset in achieving both a geographic and characteristic scope for the project.

Base datasets were developed by the study team, and presented to the TAC and the public for initial reaction and feedback. At these meetings, further input was solicited from representatives and residents in order to ensure that a more complete spectrum of issues and strategies would be entertained through the course of the study, not simply those that arose out of a modeling effort and study of traffic conditions. These were fed into an alternatives matrix and screened based upon the model output, field observations, study findings, and further public outreach and advice and input from the TAC. In addition, based upon this, focus areas (termed "intermodal districts") were identified and refined, as described in the following section.

### 4.2. Intermodal District Identification

With the assistance of TAC members and the Bergen County Department of Planning and Economic Development, nine areas of specific focus were identified along the overall Kinderkamack Road/Pascack Valley Intermodal Corridor. These areas are in busy commercial districts and near train stations, where pedestrian activity, potential delays due to train operations or failing traffic signals, and other distractions are high. The nine areas were identified as follows and are illustrated in Figure 10:

- **New Bridge Station District**
  - Kinderkamack Road between Route 4 and Rutgers Lane.
- **River Edge Station District**
  - Kinderkamack Road between Continental Avenue and Gates Avenue
- **Oradell Station/Commercial District**
  - Kinderkamack Road between New Milford Avenue and Mill Lane
- **Emerson Station District**
  - Kinderkamack Road between Demarest Avenue and Orchard Avenue
- **Westwood Commercial District**
  - Kinderkamack Road between Broadway and Grand Street



- Broadway between Kinderkamack Road and Grand Street
- **Hillsdale Station District**
  - Broadway between Harrington Street and Orchard Street
- **Woodcliff Lake Station District**
  - Broadway between Prospect Avenue and north of Highview Avenue
- **Park Ridge Station District**
  - Kinderkamack Road between Woodland Street and Perry Street
  - Broadway between Woodland Street and Park Avenue
- **Montvale Station District**
  - Kinderkamack Road between Hamilton Street and Railroad Avenue

In all of these nine focus areas there were several overarching issues of concern. The first, vehicular balance, is a concern for vehicular speeds, congestion, and signalization that affect driver behaviors and the safety of all users of the roadway system. The second major issue in these areas is pedestrian safety and access. Crosswalks in many of these areas are lacking or insufficient, pedestrian signal heads often do not exist at intersections, and sidewalks are incomplete in many places. Even in areas where pedestrian features exist, the behavior of automobile drivers detracts from pedestrian safety. Finally, NJ TRANSIT operations in the area are a concern. Transit operations are responsible for increasing mobility through the region without automobiles; however they often cause delays to automobiles at the same time.





## 4.3. Planning Tools/Techniques

### 4.3.1. Traffic Calming

Traffic calming measures seek to slow down the flow of automobile traffic in areas where pedestrian activity and other distractions warrant increased safety precautions. There are a variety of techniques that have become popular for traffic calming in the United States and Europe, and could be applied at select locations in the Kinderkamack Corridor. They include:

1. **Lane Narrowing.** This technique involves making travel lanes narrower, resulting in more careful driving.
2. **Roundabouts** are often effective intersection managers in areas where traffic signals are impractical. They also deter fast-moving through traffic by requiring turns and yielding.
3. **Chicanes** are obstructions placed in the roadway that require drivers to maneuver around them.
4. **Short medians** add bends to the roadway encouraging slower motion, and can be landscaped in a manner as to serve a gateway function at the edge of community centers and areas of heightened pedestrian activity.
5. **Bike lanes** can be used as a lane narrowing technique. Their inclusion in the roadway encourages drivers to be mindful of bicyclists and drive safely.
6. **Pedestrian islands** break up the asphalt expanse of an intersection, narrowing the streetscape and providing a mid-crossing refuge for pedestrians.
7. **Speed humps** are speed impediments in the form of raised humps on the road surface. They require that drivers slow down before driving over them or else risk causing damage to their vehicles.
8. **Texture variations** involve altering portions of the road surface texture so that drivers notice a different sensation when driving over them. This increases driver awareness of their surroundings, fostering safer behavior.
9. **Serpentine patterned** streetscapes require a series of bends or turns along a portion of the roadway that requires alert driving and slower speeds.
10. **Chokers** reduce the width of the street over a distance of only several feet so that only one vehicle may pass through at a time. Opposing traffic must yield. This technique is best used in low traffic volume areas.



# Traffic Calming Techniques



1. Lane Narrowing



2. Roundabouts



3. Chicanes

4. Short Medians



5. Bike Lanes

6. Pedestrian Islands



7. Speed Humps

8. Texture Variations

9. Serpentine

Patterned Streetscape

10. Chokers



### 4.3.2. Pedestrian Safety

Many of the focus areas along the corridor exist near train stations and downtown districts. These areas produce high volumes of pedestrian traffic. Unfortunately many elements of streetscape design and transportation policy that insure pedestrian safety and access are lacking in some of these communities. In addition to traffic calming measures there are improvements that can be made to pedestrian facilities in order to heighten walkers' protection. These include provision of sidewalks, buffers, crosswalks, and appropriate pedestrian signalization at intersection locations.

### 4.3.3. Crosswalks

Crosswalks must be present at intersections and other logical locations at which pedestrians must cross the roadway. The crosswalks must be marked in a distinctive and easily visible manner. Techniques using colored striping or surface texture are popular solutions. Oradell has used textured pavers to highlight crosswalks in its commercial district. This technique serves to identify crosswalks to both pedestrians and drivers.



### 4.3.4. Signals and Signage

While the crosswalk itself must be distinguishable from the roadway surface it must also be designated using visible signage. Pedestrian crossing signs in many locales are posted in a more vivid shade of green-yellow than the traditional standard yellow. "Yield for pedestrian" tags are often placed in the center of streets within or near the crosswalks in an effort to catch drivers' attention. Pedestrian signal heads must be present and in proper working order. Signals with pedestrian "walk time" countdowns are popular in many locations. These allow pedestrians to know how much time they have left to cross the street before the signal phase changes.



### 4.3.5. Gateway Treatments

One strategy for increasing safety involves the transformation of a stretch of roadway into a "place." A section of the road can be bounded by gateways, inside which pedestrian and commercial activity abound. Gateways typically consist of unique and ornate signs announcing one's arrival into an area. The signs could be accompanied by landscaping that captures one's attention. The gateway can be placed on a short median in order to calm traffic. These gateway treatments invoke civic pride and bring to a driver's attention that a dense and active community, something other than a typical roadway, exists in the area.



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## 5. CORRIDOR BLUEPRINT

The issues facing the entire Kinderkamack Corridor and the various, intermodal centers are not exclusive to the study area. These problems, in combination with suggestions for improvements and further study, can be incorporated into a “blueprint” plan for improving travel safety and efficiency in the area. The blueprint will also serve as a guide for considering improvements on other corridors throughout Bergen County. The blueprint for Kinderkamack Road/Pascack Valley Line addresses seven major areas of concern. They include community identity, accident locations and dangerous intersections, sidewalk discontinuity, train-related traffic queues, traffic signalization, off-corridor issues, and developing an incremental approach to improvement.

### 5.1. Individual Community Identity

Both the Technical Advisory Committee and citizens attending public meetings stressed the need for recognition of character and problem sets that are unique to each of the communities in the study area. It is important to recognize that the same techniques will not be applicable in each town because of these variations. The New Bridge area, for example, is more urban than Woodcliff Lake. While Kinderkamack Road serves as the principal commercial corridor for Oradell, Broadway serves that function in Hillsdale, while Kinderkamack Road is surrounded mostly by residential land uses. These differences in character call for any improvements to be context-sensitive, or in keeping with the surrounding land uses and needs in each community.

### 5.2. Accident Locations/Dangerous Intersections

Remedies are to be applied to dangerous intersections and areas prone to traffic accidents. Many portions of Kinderkamack Road and Broadway change from nearly highway speeds and width to busy commercial areas bustling with pedestrian activity. Drivers should be given notice of these changes so that they can be prepared to encounter a new driving environment. Techniques for traffic calming and advanced notification would slow driving speeds and heighten driver awareness of obstacles that lie ahead. At the intersection of Washington Avenue and Kinderkamack Road in Hillsdale, for example, a long, straight roadway allows drivers to proceed at high speeds with little consideration for the major intersection that looms ahead. Due to drivers’ tunnel vision there is a high frequency of accidents at this intersection. Rumble strips, signage, flashing yellow lights, and other calming techniques are appropriate in this and other similar situations.

### 5.3. Sidewalk Discontinuity

An important facet of this multimodal study is pedestrian traffic. In order to encourage and accommodate pedestrian activity, provisions for pedestrian safety must be made. Facilities such as sidewalks, crosswalks, pedestrian signals, and traffic calming measures are necessities in creating a safe and attractive pedestrian transportation system. Along many portions of the Kinderkamack Road/Broadway corridor, however, pedestrian facilities are partially or entirely lacking. Perhaps most serious of all deficits is the non-existence of sidewalks in many of the commercial and residential areas. Sections of Kinderkamack Road immediately adjacent to the New Bridge train station lack sidewalks. Another section in Hillsdale near Washington Avenue



also lacks sidewalks. In these areas pedestrians are forced to walk within the busy travel lanes of the roadway, or among weeds and high grass in the often muddy grounds adjacent to the roadway. The substandard travel and safety conditions for pedestrians in these areas, many of whom are school children, are unacceptable. The completion of the pedestrian networks is particularly important in all intermodal center areas. Connecting sidewalk systems and providing safe road crossing facilities for school children are a vital necessity in areas such as Kinderkamack Road in the vicinity of the New Bridge train station.

#### **5.4. Train-Related Traffic Queues**

The close physical proximity of Kinderkamack Road and Broadway to the Pascack Valley Rail Line has resulted in a problem with train-related traffic queues. The Pascack Valley Line runs at grade so road crossings are at grade. This presents a tremendous challenge, especially in areas where train stations are located adjacent to or nearby busy signalized intersections. Citizens of Hillsdale, Oradell, and Montvale have voiced their discontent with these queues and contend that much of the delay could be avoided through proper signal phasing. At these intersections all lights turn red when the train approaches the station. Once passengers have boarded the train and the train has departed from the station, the green light phase is given to the movements that had the green signal prior to the train interruption. For instance, in Hillsdale, if Broadway traffic had a red signal before the train approached, it would maintain red long after the train left, as Hillsdale Avenue traffic would once again receive a green light. This phasing results in delays as long as six minutes along this busy stretch of Broadway. Due to the fact that Broadway does not cross the railroad, green signals for straight and other safe movements should be investigated with NJ TRANSIT, and implemented if deemed appropriate. In addition, reevaluation of the overall signal phasing at such locations may prove to have a positive effect on traffic queuing in the vicinity of these rail crossings.

#### **5.5. Traffic Signalization**

Community members have requested signals or signal modifications at several intersections along the corridor. These include the intersection of Park Avenue and Broadway in Park Ridge (currently unsignalized) and the intersection of Oradell Avenue and Kinderkamack Road in Oradell. The awkward geometry of the intersection of Woodcliff and Highview Avenues with Broadway may also warrant signalization. The signalization and coordination of the traffic signal at the intersection of Lincoln Avenue and River Edge Road at Kinderkamack Road in River Edge is also worthy of examination in order to eliminate an unusually awkward intersection configuration there. Pedestrian signals are warranted at the corner of Westwood Avenue and Kinderkamack Road. Any intersection that seems worthy of a signal must undergo further engineering analysis to determine the need and proper phasing for a signal, and realignment of traffic lanes where necessary.

#### **5.6. Off-Corridor Issues**

The Kinderkamack Road/Broadway corridor does not exist in a vacuum. The roadway network throughout Bergen County affects the demand for travel on the study corridor. Many



community and TAC members recognize some of the areas throughout the county, which if improved, may relieve some of the problems that exist on Kinderkamack Road and Broadway.

These areas include:

- Pascack Road at Hillsdale Avenue, Hillsdale
  - Turning lanes and turning arrow signal heads ought to be studied.
- Pascack Road at Washington Avenue, Hillsdale
- Garden State Parkway at Exit 171, Woodcliff Lake
  - Presently no right turn is allowed onto Glen Avenue. The allowance of this motion would most likely decrease traffic congestion in central Hillsdale
- Forest Avenue
  - Many community members believe this corridor would be a viable through-route alternative to Kinderkamack Road, though the Forest Avenue corridor does not serve the downtown areas Kinderkamack and Broadway serve, and therefore would lack a multimodal element.

## 5.7. Regional/Incremental Approach to Project Implementation

Funding is an important concern for the county, towns and agencies that will be faced with making improvements within the study area. This study is designating areas that warrant consideration for improvements. There will be no wholesale corridor-wide improvements project sponsored by the State or Federal government agencies. Bergen County's 2004 Transportation Summit cited concerns with limited state and federal monies for transportation projects. Solutions generated at the summit included searching for alternative and inventive sources of funding and regionalizing projects. By cooperating with different municipalities within the region, projects grow in scope and hence in priority when it comes to outside funding sources. An example of such cooperation is the *Tri-Borough Transportation Study*, which is presently underway, examining traffic circulation in the communities of Montvale, Park Ridge, and Woodcliff Lake. Transportation relief in this area, during an era of limited federal and state funding and limited community resources, is likely to occur with funding and implementation being provided in a step-by-step, incremental approach on a smaller scale, with heightened regional benefits based on cooperative and collaborative effort.



## 6. INTERMODAL DISTRICT IMPROVEMENT STRATEGIES

### 6.1. New Bridge

The New Bridge Station District spans the length of Kinderkamack Road between Route 4 and Rutgers Lane in Hackensack. Intersections of special interest within this district include Grand Avenue at Kinderkamack Road and Main Street at Kinderkamack Road. A key issue identified in the area includes entry and exit into the parking area in front of the New Bridge train station. The parking lot is located at a busy intersection and the lot's awkward configuration results in traffic queues. The absence of sidewalk links to the station, the lack of visibility, and ineffective crosswalk striping hinders pedestrian access.

Preliminary recommendations for this district center around a redevelopment plan to transform the area around the New Bridge train station into a mixed-use community based on the transit village model promoted in the NJ TRANSIT Village Initiative. A transit village concept will call for the improvement of pedestrian access to the rail station, traffic calming measures, improved parking facilities, and a focus on multimodal collaboration.

#### **Site Specific Improvement Strategies**

- Redevelopment plan based on transit village model
- Create sidewalk connections to train station

### 6.2. River Edge

The River Edge Station District stretches from Continental Avenue north to Grand Avenue along Kinderkamack Road in River Edge Borough. Two intersections of interest in the district are River Edge Road and Lincoln Avenue at Kinderkamack Road and Midland Avenue at Kinderkamack Road. Pedestrian safety issues at these intersections are a concern as well as traffic regulation. The design of the intersection of River Edge Road at Kinderkamack is problematic due to its awkward traffic routing and assignment. Those intersection problems have led to frequent use of side streets through residential neighborhoods as a short-cut off River Edge Road and bypassing the River Edge Road intersection at Kinderkamack Road.

A recommendation for the River Edge Station District involves the signalization and coordination of the traffic signal at the intersection of Lincoln Avenue and River Edge Road at Kinderkamack Road. Reconfigurations of the entry lane from westbound River Edge Road to southbound Kinderkamack Road should be subject to more detailed engineering analysis. The placement of prohibitive signage and enforcement is required to prevent cut-through traffic movement through the adjacent residential neighborhood. In addition signage and striping techniques to calm traffic and increase driver awareness are recommended.

#### **Site Specific Improvement Strategies**

- Signalize intersection of Lincoln Avenue at Kinderkamack Road
- Coordinate the new signal with the signal at River Edge Road at Kinderkamack Road



- Conduct engineering analysis of River Edge Road/Kinderkamack Road intersection
- Restrict through traffic on residential streets adjacent to River Edge Road
- Install signage and striping to increase safety

### 6.3. Oradell

The Oradell Station and Commercial District serves as the community's transit and business hub. Kinderkamack Road's course between New Milford Avenue and Mill Lane has been analyzed, with Oradell Avenue at Kinderkamack Road recognized as a critical intersection. Major issues facing this segment of the corridor include vehicular speeds, pedestrian safety and access, cut-through traffic movements on Veldran Avenue, and train-related traffic delays.

Traffic calming measures are paramount in the Oradell District. A planted center median in combination with neckdowns and effective speed and safety signage are approaches to achieving slower vehicle speeds and enhanced pedestrian safety. Gateway treatments will provide district identification in addition to calming traffic. Prohibitive signage is again necessary to prevent improper use of Veldran Avenue. In order to provide the best options to optimize pedestrian safety in the area, detailed study is recommended. In addition, studies to warrant a left-turn signal at the intersection of Oradell Avenue and Kinderkamack Road, and removing the "No Turn on Red" at New Milford Avenue and Kinderkamack Road are recommended.

#### Site Specific Improvement Strategies

- Install traffic calming apparatus in the commercial area
- Install gateway treatments
- Prohibit through traffic on Veldran Avenue
- Conduct a pedestrian circulation study
- Study left-turn signalization at Oradell Avenue at Kinderkamack Road
- Remove "No Turn on Red" sign on New Milford Avenue at Kinderkamack Road

### 6.4. Emerson

A short distance north of the Oradell Reservoir and Emerson Golf Course is the Emerson Station District. The area spans Kinderkamack Road between Demarest Avenue and Orchard Avenue. Of particular interest is the intersection of Linwood Avenue and Kinderkamack Road. Issues of concern in Emerson include pedestrian safety and access, intersection geometry, train-related traffic queues, and the location of the Emerson train station and parking facility.

Throughout the development of this study, community members have expressed interest in examining the current location, and possible relocation of the commuter rail station. Any relocation effort should be included within a master plan, such as Emerson's current effort to develop a redevelopment plan at the municipal level targeting this area, and should be subject to detailed engineering analysis. Signage should be installed to improve driver awareness. Signage should also be utilized to improve pedestrian safety. Crosswalk striping techniques and linking disconnected sidewalks would also achieve that goal. A transit shuttle would ease access to the train station and foster improved east-west mobility in the Emerson community.



Improvements to the right-turn movement from Linwood Avenue to Kinderkamack Road are necessary and should be subject to detailed engineering analysis.

#### **Site Specific Improvement Strategies**

- Include station location analysis in community master plan
- Install speed control and safety signage
- Install well-marked crosswalks and pedestrian signals
- Operate an east-west shuttle serving the train station

### **6.5. Westwood**

The Westwood Commercial District is a busy commercial center located in the heart of the study corridor. The area spans Kinderkamack Road between Broadway and Grand Street and Broadway between Kinderkamack Road and Grand Street. Principal intersections include Jefferson Avenue at Broadway, Westwood Avenue at Broadway, and Westwood Avenue at Kinderkamack Road. Pedestrian safety and conflicts with vehicular traffic, outdated traffic signals, train-related traffic queues, vehicular speeds, and traffic congestion are issues of concern in this district.

The Westwood Commercial District warrants gateway treatment to foster driver awareness and reduce overall vehicular speeds. Signal heads in the area should be updated and include pedestrian phasing. Pedestrian pathways and wayfinding assistance should be implemented to provide easy access to the train station. Signal coordination between Jefferson Avenue and Westwood Avenue should be examined, as should a left turn lane on northbound Broadway leading to westbound Westwood Avenue. Signage and landscaping could be utilized to accentuate the shift in commercial activity that occurs in Westwood from Kinderkamack Road onto Broadway. Bus and shuttle services that facilitate east-west mobility across the community should be considered as well.

#### **Site Specific Improvement Strategies**

- Introduce gateway treatments
- Replace old signal heads and include pedestrian phasing
- Create easy-to-follow pedestrian pathways to train station
- Coordinate signals between Jefferson Avenue and Westwood Avenue
- Study left turn lane installation on Broadway at Westwood Avenue
- Use signage and landscaping to emphasize the shift in commercial activity from Kinderkamack Road to Broadway
- Operate an east-west shuttle serving the train station

### **6.6. Hillsdale**

The Hillsdale Station District exists along Broadway between Harrington Street and Orchard Street. The principal intersection warranting examination in this area is Hillsdale Avenue at Broadway. Issues of concern include pedestrian crossings between the train station and the business district on the opposite side of Broadway and district identification from the automobile perspective.



Preliminary recommendations on this section of the corridor include improving pedestrian facilities by installing a raised or distinguishable crosswalk between the commuter parking lot and the train station. Signage should be installed to facilitate pedestrian crossing and wayfinding in the area. Gateway treatments should be applied to the borders of the station district to foster driver awareness and district identification. These treatments, in combination with sidewalks, could also be used to encourage safe driving along Washington Avenue's approach to the Kinderkamack Road intersection. In addition, signal phasing schemes should be altered to prevent intersection blockage and excessive delays near the train crossing at Hillsdale Avenue near Broadway.

#### **Site Specific Improvement Strategies**

- Install distinguishable crosswalks
- Add pedestrian signage improving safety near train station
- Introduce gateway treatments
- Improve signal phasing to mitigate train-related delays at the intersection of Hillsdale Avenue and Broadway

### **6.7. Woodcliff Lake**

The Woodcliff Lake Station District is focused around the intersections of Woodcliff Avenue at Broadway and Highview Avenue at Broadway. The pedestrian crossing of Broadway and access to the station via an outdated staircase are concerns. In addition the configuration of the intersection and the geometry limitations surrounding the station are perhaps the most complicated issues to address. Vehicular speeds and parking at the Woodcliff Lake station also warrant consideration.

Intermodal transportation improvements in this district begin with performing a detailed engineering analysis to assess the need for signalization and geometric reconfiguration at the intersection of Woodcliff Avenue and Highview Avenue at Broadway. Pedestrian amenities should be improved by providing safe crossing of Broadway and Woodcliff Avenue to access the train station. Signage could be improved to help motorists navigate the intersection and to heighten driver awareness of the station and pedestrian crossing.

#### **Site Specific Improvement Strategies**

- Study Reconfiguration Highview Avenue and Woodcliff Avenue into one intersection with Broadway
- Improve pedestrian crossing of Broadway near train station
- Replace staircase between Broadway and the train station
- Introduce signage to keep drivers alert

### **6.8. Park Ridge**

The Park Ridge Station District is located along Broadway between Woodland Street and Park Avenue, and along Kinderkamack Road between Woodland Street and Perry Street. The principal intersections of interest in this district are Park Avenue at Broadway and Park Avenue



at Kinderkamack Road. Issues of concern include ease of traffic movement at the intersection of Park Avenue at Broadway and the close proximity between the two intersections of interest. Identification of the district as a commercial and pedestrian area is lacking, and pedestrian safety therefore suffers. Vehicular congestion is also a problem in this district.

Recommendations for improvement in this area include signaling the intersection of Park Avenue at Broadway and coordinating the signal with the signal at Park Avenue and Kinderkamack Road. Gateway treatments should be applied to the area in order to designate it as a transit community and traffic calming measures would increase pedestrian safety. The introduction of transit shuttles would ease east-west mobility in the area.

#### **Site Specific Improvement Strategies**

- Signalize intersection of Park Avenue at Broadway
- Coordinate the new signal with the signal at Park Avenue at Kinderkamack Road
- Introduce gateway treatments
- Operate east-west shuttles

### **6.9. Montvale**

The northern terminus of the study corridor is the Montvale Station District. It is located along Kinderkamack Road between Hamilton Street and Railroad Avenue. The intersection of Grand Avenue and Kinderkamack Road and the traffic circle pattern around the Montvale Station are areas of particular interest. The principal issues worthy of further examination in the area are train-related traffic queues and pedestrian safety and access to the train station.

In order to reduce the train-related queues signal phasing and timing changes at the intersection of Railroad Avenue and Grand Avenue should be considered. Changes such as reducing the green time allotted to westbound (interior) left turns by several seconds, and/or adding several seconds of green time to the southbound through movement may be a solution. Another potential recommendation includes studying the possibility of allowing eastbound right turns on red, which are currently restricted. However, it must be noted that doing so would create a conflict between turning vehicles and pedestrians crossing Grand Avenue during their allotted phase. Additionally, pedestrian wayfinding needs improvement and improved identification at crosswalks will make all crossings in the area equally visible. A gateway treatment on the southbound approach will increase driver awareness.

#### **Site Specific Improvement Strategies**

- Analyze phasing and timing changes at Railroad Avenue and Grand Avenue
- Improve pedestrian wayfinding
- Make all crosswalks in the area visible to drivers and pedestrians
- Introduce gateway treatments on southbound approach



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## 7. FUNDING SOURCES

The following material outlines potential federal and state funding sources available for improvement projects along the Kinderkamack Road/Pascack Valley Intermodal Corridor.

### 7.1. Federal Funding Sources - Overview

The extended versions of the Transportation Equity Act for the Twenty-first Century (TEA-21) offers many sources of Federal funding for transportation projects of nearly all sorts. The municipalities that become involved in various improvement projects should be aware of the available funding sources and which are applicable to the types of projects they wish to pursue.

#### Highway Improvements

TEA-21 authorized the Federal government to provide highway project funding assistance to the states via federal gas tax revenue and granted withdrawals from the Federal Highway Trust Fund, to which the states contribute. In addition state transportation agencies may tap into Surface Transportation Program (STP) funds for highway safety and traffic calming projects.

#### Pedestrian and Bicycle Projects

Bicycle and pedestrian projects are eligible for National Highway Safety (NHS), STP, Congestion Mitigation and Air Quality (CMAQ), Federal Lands, Scenic Byways, and Recreational Trails funds. The Bicycle Transportation and Pedestrian Walkways provisions of Section 217 of Title 23, as amended by TEA-21, describe how Federal-aid funds may be used for bicycle and pedestrian projects. These projects are broadly eligible for all of the major funding programs where they compete with other transportation projects for available funding at the State and MPO levels. TEA-21 allows the allocation of National Highway System funds for bicycle and pedestrian projects that are planned within an Interstate highway corridor. "Hazard Elimination" funds may be used for public bicycle and pedestrian trails and facilities and for traffic calming projects.

#### Transit Projects

Urbanized Area Formula Grants provide transit capital and operating assistance to urban areas with populations of more than 50,000. Approximately \$18 billion is provided to transit agencies for bus and rail vehicle replacements and facility improvements. Capital Investment Programs offer partial funding, usually up to 40 percent of project cost, for large transit projects such as fixed guideway modernization, new starts, and extensions, and bus discretionary spending. TEA-21 also authorized the Clean Fuels Formula Grant Program, which assists transit operators in reducing transit bus emissions, enhancing attainment of air quality standards, and accelerating the introduction of advanced clean fuel transit buses.



## 7.2. Federal Funding Sources – Program Specific

### **Clean Air Transportation Communities - Implementation**

This program provides funding for state, local, multi-state, and tribal agencies involved with climate change and transportation/air quality issues for pilot projects that have a high potential to spur innovations in the reduction of transportation-related emissions and vehicle miles traveled at the local level and throughout the United States. EPA is particularly interested in projects that incorporate smart growth efforts that reduce transportation-related emissions.

### **Climate Change and Transportation/AQ - Planning**

This program provides assistance to tribal, state, local, and multi-state agencies to develop innovative proposals for demonstration projects that will yield measurable reductions in vehicle miles traveled, greenhouse gases, and/or criteria air pollutants in a coordinated fashion at the community level.

### **Livable Communities Initiative**

Provides funding for projects that strengthen the link between transit and communities to provide alternative means of personal mobility, increase capacity when needed, and contribute to the quality of life in communities.

## 7.3. State Funding Sources - Overview

The New Jersey Department of Transportation (NJDOT) offers two programs through which funding for various capital improvements projects are distributed. These programs are the Transportation Capital Program and the Statewide Transportation Improvement Program.

### **Transportation Capital Program**

The Transportation Capital Program (TCP) allocates State and Federal transportation funding for each State fiscal year, July 1 through June 30. NJDOT and NJ TRANSIT are often the beneficiaries, as well as county and municipal agencies. The TCP also produces a document called the Capital Investment Strategy for each fiscal year. The strategy states capital investment goals and long-term strategies for NJDOT and NJ TRANSIT, the framework in which TCP-funded projects will be undertaken.

### **Statewide Transportation Improvements Program**

The Statewide Transportation Improvements Program (STIP) is a Federal-mandated transportation planning process. The program allocates transportation funding for three Federal fiscal years, October 1 through September 30. NJDOT, NJ TRANSIT, county, and municipal agencies are all eligible to receive STIP funding. The STIP is produced as a function of Transportation Improvement Programs (TIPs) arranged in each of the state's three Metropolitan Planning Organizations (MPOs).



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## 7.4. State Funding Sources – Program Specific

### **Bikeways - Implementation**

This program includes addressing bicycle travel needs through the development of bicycle improvements on state and county systems.

### **Discretionary Aid Program - Implementation**

Subject to funding appropriation, a Discretionary Fund is established to address emergencies and regional needs throughout the State. Any county or municipality may apply at any time. These projects are approved at the discretion of the Commissioner of Transportation.

### **Highway Occupancy Permits - Planning**

This program provides municipalities and others a permit to occupy state highway right-of-way. This allows for the use of the state right-of-way for the construction of sidewalks, curbs and curb cuts, driveways, buildings, telephone booths, municipal bus shelters, benches, guide rail, landscaping, etc., or for temporary uses such as banners or detours. Application must be made at the time the work is identified.

### **Highway & Clean Shore Program - Implementation**

Provides inmate labor details, supervised by Correction Officers, to clear litter and debris from public highways, seashore, beaches, and urban vacant lots, and mowing services at major highway interchanges throughout the state.

### **Intergovernmental Affairs - Planning**

Coordinates and aligns state agency activities in the implementation of Smart Growth principles and the State Plan. These agencies include the Departments of Community Affairs, Transportation, Environmental Protection, Commerce and Agriculture, as well as the Governor's Smart Growth Policy Council. Also provides guidance in the facilitation of Smart Growth implementation to counties, municipalities and nongovernmental organizations.

### **Livable Communities Pilot - Planning**

This pilot program will be used for planning, design and implementation of municipal projects to further investments in our transportation infrastructure and to support non-traditional transportation projects developed at the local level to advance community-based needs and goals.

### **Local Aid for Centers of Place - Implementation**

Local Aid for Centers of Place is designed to assist municipalities that have formally participated in the New Jersey State Development and Redevelopment Plan (SDRP) or municipalities identified by the Pinelands Commission. This program provides an opportunity to apply for funds to support non-traditional transportation improvements that advance municipal growth management objectives as outlined in the Planning and Implementation Agenda (PIA) of the municipality.



**Local Bridge Bond Program - Implementation**

Funds are available for the repair or replacement of bridges on the local transportation system and the related roadway work.

**Local Lead Program - Implementation**

This program provides an opportunity for the sub-regions to apply for federal funding for the advancement of projects through final design, right-of-way and/or construction.

**Local Planning Assistance-Bicycle and Pedestrian - Planning**

To provide technical assistance to counties and municipalities that desire to undertake various planning activities for non-motorized modes. Studies undertaken are to be locally-driven planning studies and require a partnership agreement to commit staff and financial resources. This is an extremely competitive program.

**Local Technical Assistance - Planning**

To provide technical transportation assistance in partnership with local governments, focusing on local systems and facilities under local (municipal) control, including developing local circulation plans, access management plans, and Transportation Development Districts.

**Municipal Aid Program - Implementation**

Municipal aid funds are appropriated by the Legislature for municipalities in each county based on a formula considering population and road mileage. Additionally, \$5 million is allotted annually for those municipalities that qualify for Urban Aid, which is based on a formula computed by the Department of Community Affairs.

**New Jersey Economic Development Authority**

This site includes funding information on Smart Growth Predevelopment Funding, Redevelopment Area Bond Financing, Revenue Allocation District Financing, and others.

**New Jersey Urban Site Acquisition Program - Implementation**

Financial assistance to acquire vacant, abandoned properties that are part of a larger comprehensive urban redevelopment effort. The program will identify state and other funding sources for site preparation, construction, and all other aspects of redevelopment.

**New Jersey Pre-development Loan Program - Implementation**

NJ-PLP provides funding to cover various pre-development activities, including feasibility studies, architectural costs, environmental and engineering studies, legal and other related soft costs for development to occur. The program offers the flexibility to structure financing at the early stages of development. NJ-PLP will increase the availability of funding for community economic development projects within the authority of eligible municipalities.



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**Park and Rides - Planning**

Provision of funding assistance and implementation strategies for Park and Ride sites approved by Bureau of Intermodal Planning and Coordination, maintenance of existing leases and monitoring of existing sites for use and maintenance.

**Paying Communities Back Program - Implementation**

Provides inmate labor details in a wide variety of supervised projects. These may include building of children's playgrounds, park cleanup, park restoration, and other related activities.

**Pedestrian Safety - Implementation**

This program includes addressing pedestrian travel needs through the development of pedestrian improvements on state and county systems.

**Real Estate Development Program - Planning**

This program can help businesses needing facilities for manufacturing, distribution or research, and other business purposes. They can help with existing buildings, both as is or improved or cleared sites, and land assemblage being considered for development. Newly constructed facilities in urban areas can usually qualify for 15-year property tax abatement.

**Redevelopment Area Bond Financing - Implementation**

For municipalities seeking to fund needed infrastructure improvements as well as land acquisition, demolition, and brownfield remediation to support new development projects that are located within a formally designated Redevelopment Area and are part of an approved Redevelopment Plan. EDA may issue long-term, low-cost bonds on behalf of municipalities seeking to fund infrastructure improvements and other pre-development costs.

**Ridematching Programs - Planning**

This is a free program to help employers and employees find people with whom to share a ride to work. It may also aid municipalities seeking relief from downtown congestion for private businesses located within their borders.

**Smart Growth Pre-Development Funding**

Short-term financing is offered for pre-development site preparation costs (non-contamination related), such as land assemblage, demolition, removal of materials and debris, and engineering costs. Loans of up to \$1 million are made for up to three years. Borrowers have the option of a fixed or variable below-market interest rate. A personal guarantee and other tangible fixed assets are required as collateral. Loan guarantees also may be available.

**Smart Future Planning Grants - Planning**

Provides funds for planning initiatives that meet Smart Growth objectives, including more livable and sustainable communities. Encouraged proposals include: those consistent with established statewide and regional planning precepts; multiple municipality or county partnerships, so as to effectively address issues that transcend local municipal boundaries. Matching funds are not



required, but applicants are encouraged to seek multiple sources of funding, including offerings of in-house staff time.

**Smart Growth Research - Planning**

Provides planning research for policy determination, planning data and policy analysis, support to implementation outreach; and reviews alternative practices and results.

**Special (Business) Improvement District Challenge Grants - Planning**

Dollar for dollar matching grants up to \$10,000 from DCA to support the technical and professional services needed to establish a Special Improvement District.

**Special (Business) Improvement District Loans - Implementation**

To provide loans up to \$500,000 to make capital improvements within designated downtown business improvement zones.

**Special Improvement Districts (SIDs) - Planning**

Provides assistance to New Jersey's downtown and business centers.

**Sustainable Development Challenge Grant - Planning**

The USEPA solicits proposals for these grants that challenges communities to link environmental protection, economic prosperity and community well-being. It encourages a mix of partners in the community. Two levels of funding between \$30,000 and \$100,000 and \$100,000 to \$250,000. Project examples include sustainable growth, educational ecology, green businesses, community design and redevelopment and sustainable energy use.

**Transit Village Initiative – Planning & Implementation**

The Transit Village Initiative helps to redevelop and revitalize communities around transit facilities to make them an appealing choice for people to live, work and play, thereby reducing reliance on the automobile.

**Transportation and Community Preservation Pilot - Planning**

This program provides funding for planning grants, implementation grants, and research to investigate and address the relationship between transportation and community and system preservation. States, local governments, and metropolitan planning organizations are eligible for discretionary grants to plan and implement strategies that improve the efficiency of the transportation system, reduce environmental impacts of transportation, reduce the need for costly future public infrastructure investments, ensure efficient access to jobs, services, and centers of trade, and examine development patterns and identify strategies to encourage private sector development patterns that achieve these goals.

**Transportation Enhancements - Implementation**

This is funded through a 10 percent set aside of the Surface Transportation Program category of federal funds for projects, which are transportation related. Transportation Enhancement (TE) projects are designed to foster more livable communities, preserve and protect



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environmental and cultural resources and to promote alternative modes of transportation. Funds are available for design, right of way acquisition, and construction.

**Transportation Innovation Fund – Implementation**

Fund limited to providing requisite match for Federal Transit Administration Job Access and Reverse Commute program. Supports development of new or expanded transit projects designed to improve access to work sites and related activities.

**Transportation Management Associations (TMA) Program -Planning**

TMAs are non-profit membership associations that are supported by and work directly with area employers, developers and the public sector to solve transportation and commuting problems. Services include information on park and rides, ridesharing and transit, advice on local and corridor traffic, telecommuting advice, guaranteed rides home, and rideshare matching in conjunction with NJDOT Ridematching Programs.

**Federal Domestic Assistance - Planning**

This government-wide compendium of federal programs, projects, services, and activities, which provide assistance or benefits to the American public. It contains financial and non-financial assistance programs administered by departments and establishments of the federal government.

**Foundation Center - Planning**

The purpose of the Foundation Center is to facilitate connections between grant makers and grant seekers and offers a variety of resources and tools to accomplish this goal. Their mission is to support and improve institutional philanthropy by promoting public understanding and helping grant seekers succeed. To achieve their mission, they: (1) collect, organize, and communicate information on U.S. philanthropy; (2) conduct and facilitate research on trends in the field; (3) provide education and training on the grant seeking process; and (4) ensure public access to information and services through their web, print and electronic publications, five library/learning centers, and a national network of cooperating collections.

**Funders Network for Smart Growth - Planning**

This organization offers a searchable database of approximately 52 private foundations that support various elements of smart growth, including, but not limited to: infill development, infrastructure investments, land use planning, Brownfield redevelopment, historic preservation, habitat protection, environmental education, supporting neighborhoods, transportation, and promoting regional collaboration.

**Office of Research and Policy Development - Planning**

This office is responsible for identifying and pursuing Federal and foundation grant funds to supplement the division's initiatives. This office may be able to provide possible grants that are not commonly known. They also compile information on all municipalities and counties.



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## 8. NEXT STEPS

The overriding thrust behind this Technical Study, *Enhancing Access and Mobility along the Kinderkamack Road/Pascack Valley Intermodal Corridor*, involves improvements to mobility, accessibility, safety, and quality-of-life along the overall Kinderkamack Road corridor, the primary north-south commercial thoroughfare in this tier of the County. The ultimate Study outcome, including all of the data and tools developed for current and future use in partnership between the consultant team and the Bergen County Department of Planning and Economic Development, is the blueprint of coordinated, implementable strategies for improvements and enhancements to Kinderkamack Road, involving all relevant modes of travel.

Those strategies supported by the local communities will be promoted for inclusion in various funding streams and programs, as appropriate, including the Transportation Improvement Program (TIP) and the County Capital Improvement Program (CIP). These strategies are listed in the previous chapter as well as the potential, targeted pedestrian improvements as itemized in the Appendix as part of the Bergen County Department of Planning and Economic Development's initiative to study Improving Pedestrian Access to Transit.

It should be noted that this study is, in essence, a commencement – a “kickoff” to identify improvements of varying size, complexity, and character throughout the corridor, thereby generating a “laundry list” blueprint of recommendations from which to draw future improvements, based upon community support and funding availability. With the aid of constituent municipalities, these may be advanced as appropriate, and with the appropriate combination of funding sources and programmatic inclusion, with an eye toward improving operations on the corridor-wide level incrementally, with a series of discrete projects that have independent utility, but overall benefit.

Aside from the projects mentioned specifically in this report, a number of topical areas that will continue to be addressed have arisen, and warrant further mention here. These include: safety and context-sensitivity, transit, and enhanced design.

### 8.1. Safety and Context-Sensitivity

The communities themselves have proven a most valuable resource throughout the course of this study. Local representatives and residents have been extremely helpful, especially with regard to providing insightful comments about issues and concerns along the course of Kinderkamack Road. A key thrust that emerged from outreach and community involvement was a paramount need to improve safety for all modes of travel in the Kinderkamack Road study area: automobile, commercial (truck) traffic, bus and rail transit, bicycle, and pedestrian, with special attention to improving safety at the interfaces between modes and the presence of neighborhood commercial districts, adjacent residential development, schools, municipal buildings, and other activity centers. As evidenced by the recommendations made, this is to be accomplished through improved circulation, signalization, design, linkages to transit, transit interfaces, bicycle and pedestrian accommodations, and other transportation enhancements in this “intermodal corridor”.



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As discussed previously, the recommendations of this study aim to take into account the context through which the road passes and the varying landscapes from one community to the next, and seek to enhance travel and improve safety for all modes of travel, not simply the automobile. This “context sensitivity” dovetails with the importance of improved safety, especially in light of the nature of the communities served by Kinderkamack Road, Broadway, the Pascack Valley Line, and all transportation resources located in the study area.

As mentioned throughout this study, striking a balance between safety on and off the road, including all vehicular and pedestrian modes and the interfaces between all users, is of paramount importance. In line with comments received regarding improving safety (here, relative to travel speeds on Kinderkamack Road), in our current age it is recognized that widenings – while necessary to accommodate safer traffic movements in some cases – are not the panacea that were once pitched. They may actually have the opposite effect, inducing additional traffic and higher speeds, especially in or near downtown areas and activity centers. It is important that we strike a balance between this traditional engineering approach, with its focus solely on the automobile, and the needs of the local community and areas of intensified activity – including the need for safe pedestrian crossings, reduced automobile speeds, and other strategies discussed in the paragraphs above. Again, sensitivity to the context of the host community is key.

## 8.2. Transit

Many of the comments received throughout the course of the study involved issues and proposals under the auspices of NJ TRANSIT. As a participant in the Technical Advisory Committee, and as such, a recipient of the end product of the study, NJ TRANSIT will continue to be apprised of the issues, and the County Department of Planning and Economic Development will continue to work alongside NJ TRANSIT to facilitate the resolution of the transit-related issues cited during the study.

As host to the Pascack Valley Line, the Kinderkamack communities are also host to certain discrete issues that arise relative to the presence of passenger rail service and infrastructure. These include service and scheduling, parking at stations, infrastructure improvements, gate closures at rail crossings, and freight usage of the corridor.

### 8.2.1. Service and Scheduling

As indicated, the Pascack Valley Line is the site of extremely limited service, generally oriented toward a one-way, peak-hour commute. While the Secaucus Junction has opened up a great number of destinations now available to Pascack Valley users, the limitation on hours of operation and direction of service continue to hamper the transit opportunities to residents and other potential users along this line. Service along the Pascack Valley Line has been slated for enhancement by NJ TRANSIT, including scheduled trains during off-peak hours and weekend service, thereby opening up a broader spectrum of transit options.



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### 8.3. Parking for Pascack Valley Rail Commuters

NJ TRANSIT should note that parking, like other elements of transit planning, should be sensitive and appropriate to the context of the community in which a facility is located; i.e., a large parking deck like the one at Route 17 in Ramsey – along a critical regional highway – is not appropriate in the Kinderkamack Road corridor. However, commuters will seek parking regardless of availability. For communities in the corridor, it may be noted that somewhat expanded parking could help to free up some on-street parking for residents and local businesses, and be easier to control and police.

#### 8.3.1. Infrastructure Improvements and Siding

NJ TRANSIT has indicated that strategically-placed sidings along the Pascack Valley Line would allow for enhanced service, including off-peak and reverse services, to feed into the overall rail network and serve more than just the rush hour commuter in the communities along the line. The Borough of Oradell has stressed the environmental sensitivity of the proposed location of the siding, and effectively defended its position. It is our understanding that NJ TRANSIT is no longer pursuing any siding locations at this location.

#### 8.3.2. Freight

Freight operations along the Pascack Valley Line, as mentioned in the report, are extremely limited, with one freight train per day, on average. NJ TRANSIT representatives have informed the County that there is no plan for expanded freight on this line. The Bergen County Department of Planning and Economic Development will continue to remain apprised of this situation.

### 8.4. Gate Closures at Rail Crossings

Gate closures and blocked intersections have been commented upon throughout the study. The impacts of such closures are immediately obvious, relative to traffic (especially in the rush hours where the bulk of Pascack Valley Line service is scheduled) and, even more importantly, emergency vehicles. With the understanding that Federal regulations, under the auspices of the Federal Rail Administration, have strict guidelines that must be followed in concert with railroad operations relative to grade crossings, the Bergen County Department of Planning and Economic Development will continue to investigate this matter further and to apprise NJ TRANSIT of the situation on behalf of the communities.

### 8.5. Enhanced Design

Specific targeted locations were developed as a part of this study, which could receive further attention as focal points within the corridor. These may be developed further as focused study areas where enhanced design and engineering work may be performed to develop refined strategies and specific improvements (including geometry, safety, signalization, conflicting movements, access, amenities, and associated enhancements), taking the efforts performed as part of this study to the next level.

